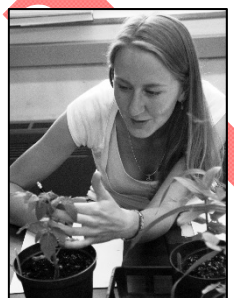
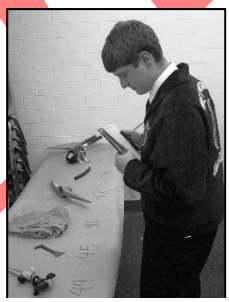
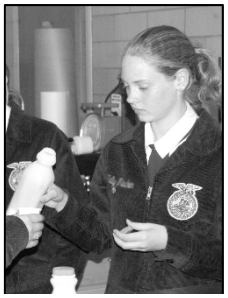
West Virginia
2019 Career Development Events
Rules and Regulations

2018 Sweepstakes Winner
Wirt County High School



Horse Evaluation Contest – April 27, 2019
Spring Events –June 4 & 5, 2019
Dairy Cattle Evaluation – August 11, 2019
Fall Events – September 10 & 11, 2019

Welcome Letter

Agricultural and Extension Education
School of Design and Community Development
Davis College of Agriculture, Natural Resources and Design
West Virginia University
Morgantown, West Virginia

January 2, 2019

Dear Agriculture Teachers and Students:

We extend to each of you a cordial invitation to attend the Ninety-fifth Annual *State Agriculture Career Development Events* to be held on the campus of West Virginia University, Potomac State College, and Jackson's Mill on April 27, June 4 & 5, August 11, and September 10-11, 2019.

All events will be registered and scored with the Judgingcard.com system. There will be no provision for late registrations. All Scantron data will be scanned and submitted online. No changes can be made to team and student numbers, therefore incorrect team and student numbers will result in the student being disqualified from the event. Please see page 4 for more details. It will be valuable to you and your students to visit the AGEE homepage to access the CDE Rules and Regulations which includes scantron sheets and other contest materials. **You can access the CDE homepage at** https://aged.wvu.edu/**.**

The Rules and Regulations posted on the website will be considered the "OFFICIAL" source of information for the contest. All contests will be scored with official SCANTRONs. Students must possess two #2 pencils and a firm substance on which to write. They should also have something to protect their Scantron sheets from the weather.

- ***All chaperones attending the 2019 Career Development Events must be formally approved by their local Boards of Education.***
- The **basic entry fee cost per team is $10.00** (make checks payable to WVU – CDE Fund) for each team registered. An additional fee will be assessed for the Floriculture, Meats, and Poultry contests. *Schools will be charged for teams registered as opposed to teams competing*.
- ***Rule Change for 2019:*** Once a contest has started, there will be no communication among contestants until the contest has been completed and all score cards have been turned in. If a contestant is observed talking at any time he/she has a scantron in hand, the group leader will record the student's name, school and contestant number and give it to the contest coordinator and/or the results tabulator. This individual will be disqualified from the contest.

If you have **specific questions about a contest**, please *call the Contest Coordinator*. Phone numbers for contest coordinators are located in the back of the Ag Teachers Directory.

Sincerely,

Harry N. Boone, Jr.
Professor and Chair

Deborah A. Boone
Professor

Jessica M. Blythe
Assistant Professor

Emily Perdue
Assistant Professor

Stacy A. Gartin
Professor

Kerry S. Odell
Associate Professor

Jason D. McKibben
Assistant Professor

Haley Rosson
Assistant Professor

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Registration Location and Deadlines

	Equine	Spring Events	Dairy	Fall Events
Registration Deadline	April 12 11:59 PM	May 24 11:59 PM	August 2 11:59 PM	August 30 11:59 PM

Registration Sites:

All registrations are completed on the https://www.judgingcard.com/ web site.

For the 2019 judging season the following procedures will be in place. They include:

1. All CDE registrations will be submitted through judgingcard.com
2. All CDE scoring will be done via the judgingcard.com system
3. You will use your chapter number supplied by the National FFA Organization for your team number
4. Because this is an online service, deadlines will be strictly enforced. (There will not be an opportunity for late registrations.)
5. The scantrons will be scanned and entered into the system. There will be no changes made to scantron information by WVU. That includes names, team numbers, and/or student numbers.
6. PLEASE NOTE the new scantrons.

Please note the instructions for registering your teams:

1. Log on to judgingcard.com using your AET login and password
2. It is the same username and password you use for the AET recordbook system.
3. Once you are logged in, you click the icon for "Registration & Information"
4. Then bump to the correct month on the calendar and click the link for the correct contest.
5. Finally, you click "Online Registration" at the top and register.
6. You need to register your team and include names of the individual students. (You must include student names to complete the registration.)

Scantron Scoresheet Directions

Must be given by Coordinators at the Beginning of each Contest

DIRECTIONS:

IMPORTANT!!!!

1. Students must possess a #2 pencil or a mechanical pencil with similar type lead. They must also have a hard surface to write on. All numbers, names, and answers must be DARK. If bubbles are not DARK and completely filled there is a chance that the Scantron Reader may not correctly read their answers, thus they may receive no points.
2. Students must not fold, bend, or roll the edges of the Scantron sheet. If they are using clipboards, students should not lift the Scantron sheet or they will bend the top portion of it. They should depress the clip and remove the sheet from the bottom of the clipboard to mark the back side if necessary.
3. Group leaders should check periodically to see that the students are placing his/her answers in the appropriate category or section of the Scantron sheet.

EXAMPLE: Make certain that they darken in the correct placing for the class they are evaluating…DON'T MARK CLASS 1 if you are starting with CLASS 2. All possible sections for placing each class are located from top to bottom under each CLASS.

Contest Coordinators must provide the ANSWER KEY to Dr. Boone in room 4417of the Ag Science Building as soon as possible so he can set the Scoring Program. Coordinators must indicate the order for TIE BREAKERS (1^{ST}, 2^{ND}, 3^{RD}, etc.).

2019 State Career Development

Events Parking

ALL BUSES

Must be PARKED

at the Evansdale Crossing or the Coliseum

Other Vehicles
must pay and park
in the PAID LOT next to the
WVU Water Tower

The Davis College can/will not provide parking passes for CDEs.

(Ticketing and/or Towing Regulations will be enforced.)

Rules, Regulations and Recognition

1. The teacher must complete all registration information online (judgingcard.com) for each contest (see page 4 for deadlines). Teams not properly registered will be declared ineligible to participate.
2. Late registrations will not be allowed.
3. A final registration/check-in of teams will take place. The check in will be used to provide each contestant with a name badge/contestant number. This badge must be worn at all times during the contest (unless it poses a safety hazard). Changes in team members will be taken care of by the contestants filling out the scantron cards properly. Teams will report directly to the designated contest location.
4. A team shall consist of four students (except the Meats Evaluation is limited to 3 participants). See the first section of each respective contest or the "Maximum Number of Participants per Team" section to determine the number of scores that will count as the team score.
5. Check the program of events so that you will avoid scheduling the same student(s) for two contests which may overlap due to unforeseen circumstances.
6. Students may compete in a Career Development Event even if their school does not have a full team (3 or 4 members). If a school has less than 3 team members, the students are only eligible for individual awards. A school may enter only one team (maximum 4 students) per event. (Passed 11/6/2006)
7. All chaperones attending the Career Development Events must be formally approved by the local Board of Education.
8. Any student who fails to correctly enter his/her team and student numbers on the Scantron sheets will be disqualified from the event.
9. The *National FFA Bulletin on Career Development Events* will serve as an excellent reference in preparing teams for competition.
10. All exam questions will be taken from the past five years of exams used in the National FFA Organization's contests.

Use of Technology in WV Career Development Events

1. The use of all electronic devices are prohibited once the career development events starts. If an event requires the use of calculators, the event coordinator will provide exact specifications on the type(s) of devices (including functions) that will be permitted.

2. If a contestant is observed using an electronic device during a contest (student has his/her Scantron in hand), the group leader will record the student's name, school and contestant number and give it to the contest coordinator and/or the results tabulator. This individual will be disqualified from the contest.

Use of Reference Materials in WV Career Development Events

1. Students participating in West Virginia Career Development Events are prohibited from bringing reference materials, paper, and/or other aids into the contest area unless the materials/aids are specified by the event coordinators in the official rules and regulations. The exception, all students are permitted to use a standard clipboard. Cover sheets will be provided for all contestants in all contests. Contestants participating in contests with oral reasons will be provided two sheets of unlined white paper to take notes.

2. Failure to comply with this regulation will result in the elimination of the entire team from competition. A letter will be sent to the school principal and superintendent by the state staff detailing the reasons for the dismissal.

Communication among Contestants

1. Once a contest has started, there will be no communication among contestants until the contest has been completed and all score cards have been turned in. If a contestant is observed talking at any time he/she has a scantron in hand, the group leader will record the student's name, school and contestant number and give it to the contest coordinator and/or the results tabulator. This individual will be disqualified from the contest.

ELIGIBILITY

Student must be a current high school student (9th, 10th, 11th, and 12th grade students), enrolled in secondary agriculture, and an FFA member to be eligible to participate in the Career Development Events (Exception: students who recently graduated from high school (May-June of current year) are eligible to compete in the June events as well as the Dairy Evaluation Contest in August.). Middle school students are eligible to compete only in the 7th & 8th Grade Agriscience and the Middle School Food Science Contests. Students are eligible to participate in the same contest four years.

Secondary students of agriculture meeting the following requirements are eligible for officially designated National FFA Career Development Events.

1. The student is a bona fide dues paying FFA member in good standing with the local chapter, state association and the National Organization at the time of his or her selection and at the time of the Nation Career Development Events in which he or she competes.
2. The student, at the time of his/her selection as a state/national team member, must be:
    i. a high school student (or a recent graduate),
    ii. enrolled in at least one course for an agricultural occupation and/or following a planned course of study, including a supervised agricultural experience program the objective of which is related to the field of agriculture.
3. The State Supervisor of Agricultural Education must certify that contestants are eligible. If an ineligible student is entered in any contest, the team of which that student is a member shall be declared ineligible.

4. Teams and/or schools or teachers/coaches will not visit the WVU livestock facilities or greenhouse with **60 days of the event**.
5. No advisor or coach will be allowed in the livestock pavilion or within 300 feet of penned livestock while students are judging, unless his/her assistance is needed to help facilitate the contest.
6. A school must enter a minimum of six contests to be eligible for the Sweepstakes Award. The sweepstakes award will be based upon the cumulative team placing standings in the high six contests. In case of a tie, the team with the most first places, then second places, etc., will win. *Winning the sweepstakes award does not denote the best secondary agriculture program in WV.*
7. The sweepstakes year will run from July 1 to June 30 with the Sweepstakes award presented at the Spring CDE Awards ceremony.
8. Student participation in all Career Development Events is limited to four years.
9. Members of first place State teams may not participate in the same contest again.

AWARDS

All announcements of winners and presentation of awards will be made at the Awards Program which is held on the final day of the Career Development Events.

1. Contest results as announced are final.
2. Plaques will be presented to the winning teams in the contests. Competition areas are requested to select a method of breaking team and individual ties so as to eliminated misunderstanding and confusion.
3. Agricultural and Extension Education will award medals to the three high scoring individuals in each contest.
4. The West Virginia Association FFA will present the sweepstakes award.
5. The winning high team in any contest is given the right to represent West Virginia in any national career development event in which FFA teams are eligible to participate.
6. All plaques and trophies become the permanent possession of the school.

Schedule
Horse Evaluation

April 27, 2019 – Potomac State College (Livestock –Form #: 476-3)

Spring CDE Schedule

Tuesday, June 4, 2019

Time	*Contest*	*Forms*	*Location*	*Coordinator(s)*
8:30 – 3:00	Agriscience Fair		4443 Ag Sciences Building (Landscape Arch. Studio)	Jason Hughes Nathan Taylor
9:00 – 4:00	***CDE Check In***		***4418 Ag Sciences Bldg.***	***Elizabeth McConnell***
10:30 - 12:00	Agricultural Technology and Mechanical Systems	Ag Sales/Fb Mgmt./Ag Mech – CDE# 105481	SAS 1021	Dr. Jason McKibben Dr. Stacy Gartin Dr. Kerry Odell
11:30 – 1:30	Plant Pathology	Horticulture – CDE# 105482	PER 332	
12:30 - 4:30	Milk Quality and Products	Dairy Foods – Form: 479-6	AGR 2003, 2004, 2010	Dr. Marie Krause Dr. Kristen Matak
1:30 - 5:00	Nursery/ Landscape	Horticulture CDE# 105482	AGR 4438, 4436, 4004	Dr. David Davis
2:00 - 6:00	Agricultural Technology and Mechanical Systems		Ag Science Annex (Rm.142 &144 Labs)	Dr. Jason McKibben Dr. Stacy Gartin Dr. Kerry Odell
2:00 – 5:30	Vet Science CDE	Horticulture CDE# 105482	Pierpont Campus, Fairmont State University	Anna Romano Nathan Taylor
2:00 – 5:30	Food Science CDE	Horticulture – CDE# 105482	Pierpont Campus, Fairmont State University	Brian A. Floyd Nathan Taylor

Wednesday, June 5, 2019

Time	*Contest*	*Forms*	*Location*	*Coordinator(s)*
7:00 – 10:00	***CDE Check In***		***4418 Ag Sciences Bldg.***	***Elizabeth McConnell***
8:00 – 9:30	Entomology	Horticulture – CDE# 105482	AGR G06	
9:00 - 11:00	Farm Business Management	Ag Sales/FB Mgmt./Ag. Mech – CDE# 105481	AGR 2010	Dr. Elizabeth Byrd
9:30 -1:00	Agronomy	Agronomy – Form #708-4	332 Percival Greenhouse	Dr. Tom Basden Gail Sikrosky
9:30-11:30	7th & 8th Agriscience Contest	Horticulture CDE#105482	AGR 2004	Dr. Deborah Boone

Wednesday, June 5, 2019

5:00 – 7:00	Results	Chestnut Ridge Church 2223 Cheat Road Morgantown, WV 26508	Dr. Harry N. Boone, Jr. Jason Hughes Nathan Taylor
Special Guests will be: Davis College Administration, WV State FFA Officer Team			

Dairy Cattle Evaluation

August 11, 2019 – Jackson's Mill (Dairy Cattle – CDE# 105477)

Fall CDE Schedule

Tuesday, September 10, 2019

Time	*Contest*		*Location*	*Coordinator(s)*
1:00 – 3:00	***CDE Check In***		***4418 Ag Sciences Bldg.***	***Elizabeth McConnell***
3:00 - 7:00	Floriculture	Horticulture – CDE# 105482	Meet in Greenhouse lobby	Dr. Sven Verlinden Dr. Jessica Blythe
5:00 - 7:00	Meats Evaluation and Technology	Meats – Form#: 480-4	WVU Meats Lab (meet on loading dock)	Dr. Brett Kenney

Wednesday, September 11, 2019

Time	*Contest*		*Location*	*Coordinator(s)*
7:00 – 10:00	***CDE Check In***		***4418 Ag Sciences Bldg.***	***Elizabeth McConnell***
8:00-2:00	Livestock Evaluation	Livestock – Form#: 476-3	WVU Livestock Farm Pavilion	Dr. Scott Bowdridge
8:15-2:00	Poultry Evaluation	Poultry – Form# 478-7	WVU Livestock Farm Poultry Bldg.	Dr. Joseph Moritz
9:00-3:00	Forestry	Forestry – Form# 530-3	Westvaco Center	Dr. Dave McGill
5:00 – 6:00	Results		TBA	Dr. Harry N. Boone, Jr. Jason Hughes Nathan Taylor

Special Needs Requests

Information Regarding the Policy and Procedures for Special Needs Accommodation in West Virginia FFA Career Development Events

Based on recommendations from the West Virginia Association of Agricultural Educators Program and Policy Committee, the following policy and procedures have been implemented for processing requests for special needs accommodations for state career development event (CDE) participants. Special needs accommodations will be granted only for those with medically documented disabilities and special needs. The form used for a participant to make a special needs request is available on the WVU Career Development Events website (http://www.aged.wvu.edu). The details of the policy and procedure are outlined within the following steps.

First Step: If any advisor has a participant for a Career Development Event that has a disability for which they feel they will need to be provided an accommodation needs to complete the form entitled ***Requests for Special Needs Accommodation for West Virginia FFA Career Development Events Application***. This form is available on the WVU Career Development Events website (http://www.aged.wvu.edu). The advisor; along with the participant, guardian, and school administrator; need to complete this form and send it to the WVU Agricultural and Extension Education Department by the CDE registration deadline. The request must be received by the deadline in order for the application to be reviewed and possible accommodations given. This means that we can make no guarantees for advisors who have add-deletes after the registration deadline that needs to request special needs assistance. Every attempt will be made to work late applications into the process but there may not be time. This is only an application for accommodation. After the application is reviewed by CDE staff further documentation will be required.

Second Step: Once the participants' application request for a special needs accommodation is received, the application will be reviewed and if valid evidence is shown, contact with the advisor. The advisor and participant will be sent information on the documentation that will be needed to determine what, if any accommodations can be provided in the event area. The request for documentation will be in a checklist form with instructions so that the advisor and participant know exactly what documentation will be needed to make a decision.

The advisor and participant will be given a deadline in which the needed documentation must be provided. Once again, no guarantee can be made that there will be time to process the information if it is not received by the deadline set. The documentation that will be required will be information regarding the diagnosis and limiting nature of the participant's disability. Much of this information will probably be in a student's file with the physician, psychologist, or psychiatrist that has diagnosed and treated the disability. Once all the documentation is compiled it will need to be sent to the Agricultural and Extension Education Department. If there is any further information that is needed the advisor will be contacted.

Third Step: Once all the documentation has been compiled and sent to the Agricultural and Extension Education Department the documentation for each request will be reviewed. A team of independent reviewers who are accredited in special needs assistance may be consulted. At

that time it will be determined what accommodations are needed for the participant in their specific event. In some cases it may be recommended by the reviewers that no accommodation is needed.

Once the status of the participant has been determined, the advisor and participant will be notified of what accommodations are going to be provided for the participant. The advisor and participant will receive a list of responsibilities that they will need to sign and return to understand what obligations they have in the process.

The Final Step - The Event: CDE superintendents will be given the names and a list of accommodations for every participant in their event that has been approved to receive special needs assistance. The superintendent will not view any of the documentation but will only be made aware of the accommodations that need to be provided. CDE Superintendents and CDE Staff will recruit a core of volunteers to help facilitate the accommodations. At the start of the event the participants who have been approved for special needs assistance need to check in with event superintendent and check in any special equipment or services they are providing as a part of their accommodation.

Request for Special Needs Accommodation for West Virginia FFA Career Development Events Application

The following information is required if there is a student that plans to participate in a West Virginia FFA Career Development Event and wishes to request an accommodation for a disability. Please complete the following information and send in this form along with your registration form by the date that certification forms are due. This information will be kept strictly confidential and will be used only to process services for participants needing special needs assistance. Additional documentation on the participant's disability may be requested upon receipt of this application.

Student Information

Student Name: _____

Home Address: _____

Chapter Name: _____

Chapter Address: _____

City, State, & Zip _____

Chapter/School Telephone: _____

CDE area: _____

Description of Disability and Accommodations Requested

Specific Disability: _____

Please describe the limiting nature of the disability and the accommodations requested:

_____

_____

_____

Student Name (print) _____

Student Signature _____

Date _____

Parent Name (print) _____

Parent Signature _____

Date _____

Advisor Name (print) _____

Advisor Signature _____

Date _____

School Administrator (print) _____

Title _____

School Administrator Signature _____

Date _____

This is only an application for special needs assistance. A complete application including formal documentation request will be sent to you after we receive this special needs request form.

Maximum Number of Participants per Team

Contest	Maximum Number of Team Members	Number of Team Members Scored
Agricultural Technology and Mechanical Systems	4	4
Agronomy	4	4
Dairy Cattle Management	4	4
Entomology	4	3
Farm and Agribusiness Management	4	4
Floriculture	4	4
Food Science	4	4
Food Science (Middle School)	4	4
Forestry	4	4
Horse Evaluation	4	4
Livestock Evaluation	4	4
Meats Evaluation	3	3
Milk Quality and Products	4	4
Nursery/Landscape	4	4
Plant Pathology	4	3
Poultry Evaluation	4	4
Veterinary Science	4	4
7^{th} and 8^{th} Grade Agriscience	4	3

7th and 8th Grade Agriscience Knowledge

Maximum Number of Team Members	4
Number of Team Members Scored	3
Scantron	Horticulture CDE#105482
Committee: Samantha Funk Roy Harper Tim Kidwell Jason Miihlbach Michael Withrow	

To be held in Conjunction with the State Ag Career Development Events at WVU

Purpose: To promote the growth of knowledge of 7th and 8th grade FFA members within the various areas of agriculture. Eligibility/Rules This Career Development will be open to 7th and 8th grade members who are enrolled in the agricultural education program at some point during the current school year. A contestant must be an active (dues paying) member of a chartered FFA chapter in good standing with the West Virginia FFA Association. Members from the team that previously won this 7th and 8th Grade Agriscience Knowledge Career Development Event are ineligible to compete. Each school may send ONE TEAM that meets the above guidelines to participate.

Scoring

Category A	
Weed Identification	10 pts
Plant Identification	10 pts
Seed Identification	5 pts
Category B	
Breed Identification – Dogs	5 pts
Breed Identification – Cattle and Sheep	10 pts
Breed Identification – Horses and Swine	10 pts
Category C	
Ag Mechanics Tool Identification	25 pts
Category D	
FFA History & Knowledge	25 pts

Awards Top three teams overall Top three individuals overall

References for Category D – FFA Knowledge and History FFA Website www.ffa.org (FFA Sections) *FFA Student Handbook* (Current Issue) *FFA Manual* (Current Issue) FFA Quiz Bowl Contest – State FFA Convention, *New Horizons* Magazines (January – September issues of the current year)

Career Development Event Outline

***Category A – Plant Component – Twenty*-Five Points**

Part One – Students will be asked to identify ten weeds from the list provided below

Weeds

001	Broadleaf plantain	008	Goldenrod	015	Morning glory
002	Canadian thistle	009	Green foxtail	016	Pokeweed
003	Chickory	010	Horse nettle	017	Quack grass
004	Chickweed	011	Ironweed	018	Ragweed
005	Cocklebur	012	Jimsonweed	019	Smartweed
006	Crabgrass	013	Johnson grass	020	Spanish needle
007	Dandelion	014	Lambsquarter		

Part Two – Students will be asked to identify ten plants from the list provided below

Plants (Economically Important)

051	African Violet/Saintpaulia ionantha cv.	061	Orchard grass
052	Alfalfa	062	Perennial ryegrass
053	Asparagus "Fern"/Asparagus setacus	063	Poinsettia/Euphorbia pulcherrima cv.
054	Birdsfoot trefoil	064	Serecia lespedeze
055	Christmas Cactus/Schlumbergia bridgesii	065	Snake Plant/Sanseviertia trifasciata cv.
056	Crown vetch	066	Spider Plant/Chlorophytum commosum cv.
057	"Decors" Rubber Plant/Ficus elastica "Decora"	067	Tall fescue
058	Heartleaf Phildendron/Philodendron scandens oxycardium	068	Timothy
059	Jade plant/Crassula argentea	069	Wandering Jew/Zebrina pendula cv.
060	Kentucky bluegrass	070	White clover

Part Three – Students will be asked to identify five seeds from the list provided below

Seeds

101	Barley	105	Oats	108	Sorghum
102	Corn	106	Rice	109	Soybeans
103	Cotton	107	Rye	110	Wheat
104	Millet				

Category B – Animal Science Component – Twenty-Five Points

Part One – Identification of Cattle and Sheep Breeds Students will be asked to identify a total of ten different breeds from the list below

Beef/Dairy

151	Angus	155	Guernsey	158	Limousine
152	Ayrshire	156	Holstein	159	Polled Hereford
153	Brown Swiss	157	Jersey	160	Simmental
154	Charolais				

Sheep

161	Cheviot	165	Hampshire	168	Oxford
162	Columbia	166	Leichester	169	Rambouillet
163	Dorset	167	North Country Cheviot	170	Suffolk
164	Finnsheep				

Part Two – Identification of Horse and Swine Breeds Students will be asked to identify a total of ten different breeds from the list below

Swine

201	Berkshire	204	Hampshire	207	Poland China
202	Chester White	205	Hereford	208	Spotted Poland China
203	Duroc	206	Landrace	209	Yorkshire

Horses

210	American Paint	214	Clydesdale	217	Standardbred
211	Appaloosa	215	Palomino	218	Tennessee Walker
212	Arabian	216	Quarter Horse	219	Thoroughbred
213	Belgian				

Part Three – Identification of Dog Breeds Students will be asked to identify a total of five dog breeds from the list provided

Dogs

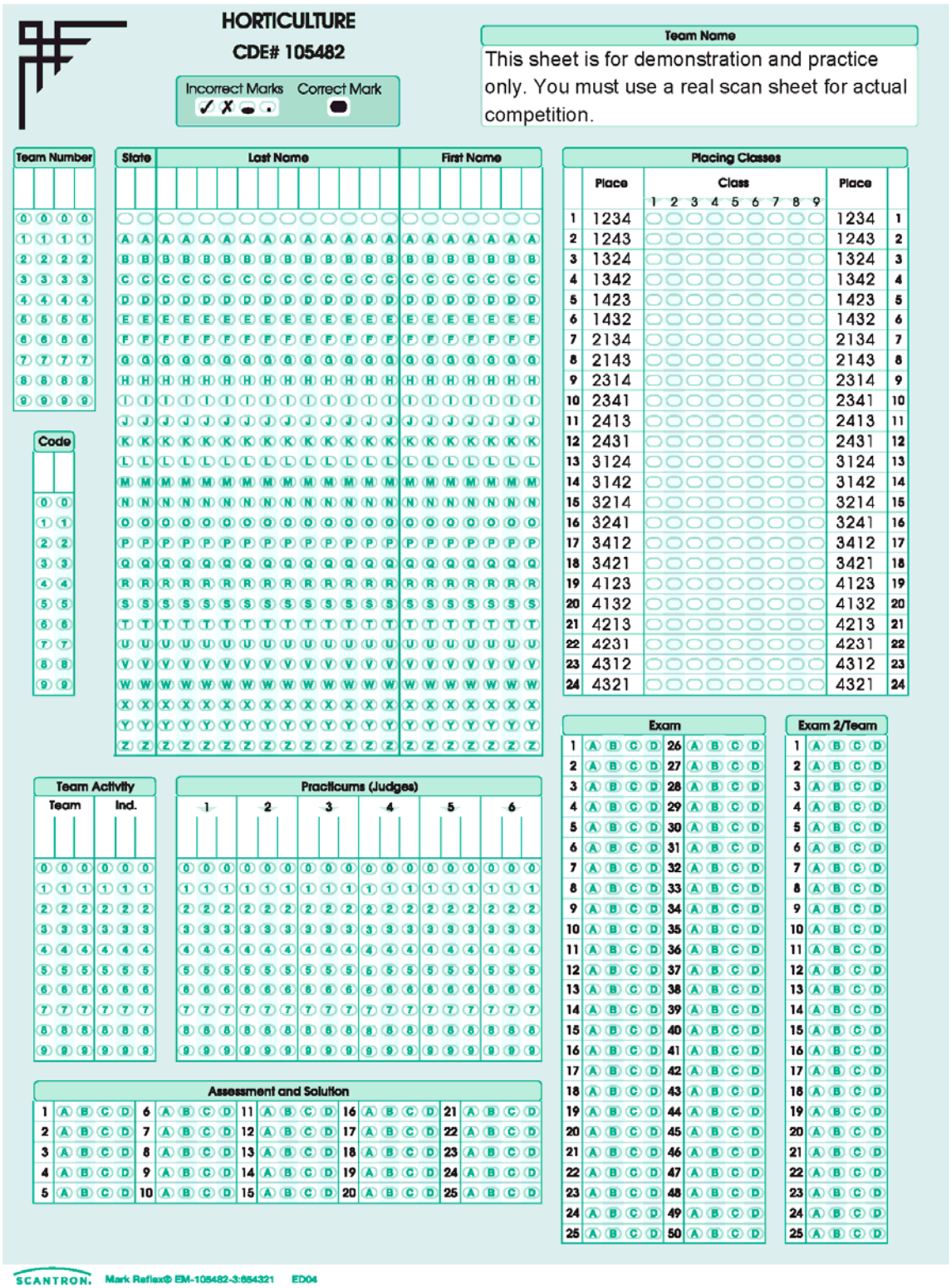
251	American Cocker Spaniel	255	Border Collie	258	German Shepherd
252	Basset Hound	256	Doberman Pinscher	259	Great Pyrenees
253	Beagle	257	English Setter	260	Welsh Corgi
254	Black and Tan Coonhound				

Category C – Ag Mech. Small Tool Identification – Twenty-Five Points

Students will identify 25 tools from the provided list below

Ag Mech. Small Tool Identification

301 Adjustable wrench
302 Ball peen hammer
303 Sliding T-Bevel
304 Bit brace
305 Bolt cutters
306 C Clamp
307 Calipers
308 Carpenter's square
309 Cold chisel
310 Combination square
311 Compass saw
312 Coping Saw
313 Crosscut saw
314 Curved claw hammer
315 Dye Set
316 Finishing Trowel
317 Flat file
318 Standard or slotted screwdriver
319 Hacksaw
320 Keyhole Saw
321 Level
322 Channel lock/groove-joint pliers
323 Long nose pliers
324 Open end wrench
325 Phillips screwdriver
326 Pipe cutter
327 Pipe wrench
328 Plum bob
329 Putty knife
330 Ratchet wrench
331 Ripping claw hammer
332 Ripping or wrecking bar
333 Ripsaw
334 Round file
335 Rubber mallet
336 Screw Extractor
337 Single bit axe
338 Sledge hammer
339 Slip joint pliers
340 Speed Square
341 Tap



HORTICULTURE

CDE# 105482

Incorrect Marks ✓ ✗ ● ◦ Correct Mark ●

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team Number

State

Last Name

First Name

Placing Classes

	Place	Class 1 2 3 4 5 6 7 8 9	Place	
1	1234		1234	1
2	1243		1243	2
3	1324		1324	3
4	1342		1342	4
5	1423		1423	5
6	1432		1432	6
7	2134		2134	7
8	2143		2143	8
9	2314		2314	9
10	2341		2341	10
11	2413		2413	11
12	2431		2431	12
13	3124		3124	13
14	3142		3142	14
15	3214		3214	15
16	3241		3241	16
17	3412		3412	17
18	3421		3421	18
19	4123		4123	19
20	4132		4132	20
21	4213		4213	21
22	4231		4231	22
23	4312		4312	23
24	4321		4321	24

Code

Team Activity

Team | Ind.

Practicums (Judges)

1 | 2 | 3 | 4 | 5 | 6

Assessment and Solution

1	A B C D	6	A B C D	11	A B C D	16	A B C D	21	A B C D
2	A B C D	7	A B C D	12	A B C D	17	A B C D	22	A B C D
3	A B C D	8	A B C D	13	A B C D	18	A B C D	23	A B C D
4	A B C D	9	A B C D	14	A B C D	19	A B C D	24	A B C D
5	A B C D	10	A B C D	15	A B C D	20	A B C D	25	A B C D

Exam

1	A B C D	26	A B C D
2	A B C D	27	A B C D
3	A B C D	28	A B C D
4	A B C D	29	A B C D
5	A B C D	30	A B C D
6	A B C D	31	A B C D
7	A B C D	32	A B C D
8	A B C D	33	A B C D
9	A B C D	34	A B C D
10	A B C D	35	A B C D
11	A B C D	36	A B C D
12	A B C D	37	A B C D
13	A B C D	38	A B C D
14	A B C D	39	A B C D
15	A B C D	40	A B C D
16	A B C D	41	A B C D
17	A B C D	42	A B C D
18	A B C D	43	A B C D
19	A B C D	44	A B C D
20	A B C D	45	A B C D
21	A B C D	46	A B C D
22	A B C D	47	A B C D
23	A B C D	48	A B C D
24	A B C D	49	A B C D
25	A B C D	50	A B C D

Exam 2/Team

1	A B C D
2	A B C D
3	A B C D
4	A B C D
5	A B C D
6	A B C D
7	A B C D
8	A B C D
9	A B C D
10	A B C D
11	A B C D
12	A B C D
13	A B C D
14	A B C D
15	A B C D
16	A B C D
17	A B C D
18	A B C D
19	A B C D
20	A B C D
21	A B C D
22	A B C D
23	A B C D
24	A B C D
25	A B C D

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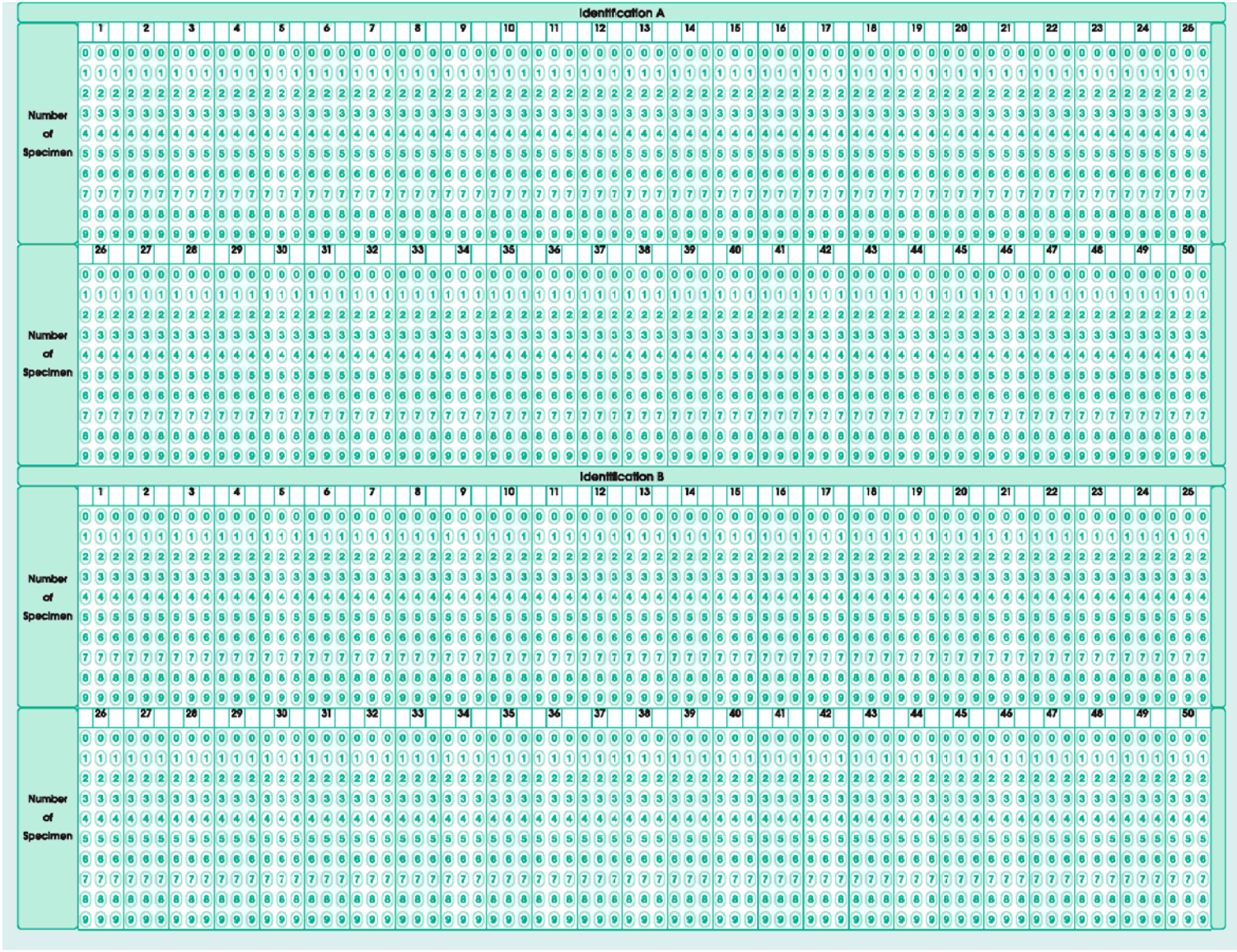

Identification A
Number of Specimen
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
Identification B
Number of Specimen
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

West Virginia 7th and 8th Grade Agriscience Knowledge Career Development Event Code Sheet

Weeds/Plants/Seeds

001	Broadleaf plantain	008	Goldenrod	015	Morning glory
002	Canadian thistle	009	Green foxtail	016	Pokeweed
003	Chickory	010	Horse nettle	017	Quack grass
004	Chickweed	011	Ironweed	018	Ragweed
005	Cocklebur	012	Jimsonweed	019	Smartweed
006	Crabgrass	013	Johnson grass	020	Spanish needle
007	Dandelion	014	Lambsquarter		

051	African Violet/Saintpaulia ionantha cv.	060	Kentucky bluegrass
052	Alfalfa	061	Orchard grass
053	Asparagus “Fern”/Asparagus setacus	062	Perennial ryegrass
054	Birdsfoot trefoil	063	Poinsettia/Euphorbia pulcherrima cv.
055	Christmas Cactus/Schlumbergia bridgesii	064	Serecia lespedeze
056	Crown vetch	065	Snake Plant/Sanseviertia trifasciata cv.
057	“Decors” Rubber Plant/Ficus elastica “Decora”	066	Spider Plant/Chlorophytum commosum cv.
		067	Tall fescue
058	Heartleaf Phildendron/Philodendron scandens oxycardium	068	Timothy
		069	Wandering Jew/Zebrina pendula cv.
059	Jade plant/Crassula argentea	070	White clover

101	Barley	105	Oats	109	Soybeans
102	Corn	106	Rice	110	Wheat
103	Cotton	107	Rye		
104	Millet	108	Sorghum		

Ag Mech. Small Tool Identification

301	Adjustable wrench	317	Flat file	331	Ripping claw hammer
302	Ball peen hammer	318	Standard or slotted screwdriver	332	Ripping or wrecking bar
303	Sliding T-Bevel			333	Ripsaw
304	Bit brace	319	Hacksaw	334	Round file
305	Bolt cutters	320	Keyhole Saw	335	Rubber mallet
306	C Clamp	321	Level	336	Screw Extractor
307	Calipers	322	Channel lock/groove-joint pliers	337	Single bit axe
308	Carpenter’s square			338	Sledge hammer
309	Cold chisel	323	Long nose pliers	339	Slip joint pliers
310	Combination square	324	Openend wrench	340	Speed Square
311	Compass saw	325	Phillips screwdriver	341	Tap
312	Coping Saw	326	Pipe cutter	342	Tape measure
313	Crosscut saw	327	Pipe wrench	343	Tin snips
314	Curved claw hammer	328	Plum bob	344	Wood chisel
315	Dye Set	329	Putty knife		
316	Finishing Trowel	330	Ratchet wrench		

Animal Science

Beef/Dairy

151	Angus	155	Guernsey	159	Polled Hereford
152	Ayrshire	156	Holstein	160	Simmental
153	Brown Swiss	157	Jersey		
154	Charolais	158	Limousin		

Sheep

161	Cheviot	165	Hampshire	168	Oxford
162	Columbia	166	Leichester	169	Rambouillet
163	Dorset	167	North Country Cheviot	170	Suffolk
164	Finnsheep				

Swine

201	Berkshire	204	Hampshire	207	Poland China
202	Chester White	205	Hereford	208	Spotted Poland China
203	Duroc	206	Landrace	209	Yorkshire

Horses

210	American Paint	214	Clydesdale	218	Tennessee Walker
211	Appaloosa	215	Palomino	219	Thoroughbred
212	Arabian	216	Quarter Horse		
213	Belgian	217	Standardbred		

Dogs

251	American Cocker Spaniel	254	Black and Tan Coonhound	257	English Setter
252	Basset Hound	255	Border Collie	258	German Shepherd
253	Beagle	256	Doberman Pinscher	259	Great Pyrenees
				260	Welsh Corgi

revised 11/30/09

Agricultural Technology and Mechanical Systems

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Ag Sales/Fb Mgmt./Ag Mech – CDE# 105481
Committee: Shelby Adkins Craig Canterbury Brent Ebert Matt Knopp Seth Neal	

2019 West Virginia Agriculture Mechanics CDE

The 2019 agricultural mechanics contest at the State Agriculture Career Development As voted by teachers of WV events will be modeled closely on the National FFA ATMS CDE. For more information about national CDE: http://faculty.missouri.edu/~schumacherl/natcon.html

The yearly suggestions for emphasis are recommendations made by WV teachers at the summer meeting of the ATMS group at State FFA Convention. These will be revisited every year for conformation.

MORNING SESSION- 2019 Events – All participants will begin at 10:30 am. This will be a written test for qualification to the afternoon hands-on section. Students will need a non-programmable calculator. No cell phones will be allowed in the contest. Anyone found using a cell phone at any time during the contest will be removed and scored at a 0 for all portions.

Written Test **45 min**	The participant will complete a 25 question multiple choice test that focuses on questions from each systems area of the event. The exam has a heavy math focus. *Students will need a non-programmable calculator.*
Compact equipment systems **45 min** Identification of parts and tools will be contained in this system Four stroke 2019 – Rotor tiller 2021- Lawn mower 2023- Log splitter Two Stroke 2020- Chain saw 2022- Edger 2024- String trimmer.	The participant will complete a 25 question multiple choice test that focuses on compact equipment. Compact equipment is defined as being 30 horsepower or less. Interpreting horsepower, torque and other power measurement criteria. Comparing costs of alternative machine uses. Properly troubleshooting a compact engine to determine the cause of a failure. Select and use engine overhaul equipment pertaining to: Ignition, Cylinder, and Piston tools. Service and maintain compression system, ignition systems, and cooling and lubrication systems

AFTERNOON SESSION 2019 Events (Top 50% of Teams, maximum 10 teams) Participation will be announced at 2 pm outside the Ag Anex building. Teams must be present with gear to compete. Any team not present will forfeit and the next team will be called in.

Machinery and Equipment Systems **15 minutes** 2019- Compact utility tractor 2020- Square bailer 2021- Skid Steer 2022- Hay Mower 2023- Manure Spreader 2024- Grain Drill 2025- Sprayer, Boom type	The student is required to identify parts, pieces, and or usage of machinery (either in person or from photograph). The contestants will make decisions and calculations about pieces of appropriate machinery**.** This will consist of problem solving based on a scenario, power requirements for pumps and pressures, HP requirements for PTO driven equipment, identification of parts, repair, maintenance, processing, materials handling, adjustments, reading manuals, specs, and test results.
Electrical Systems **15 minutes** 2019- DC electric motors 2020- AC 120 lighting Circuits 2021-Solar 2022- DC Control circuits 2023-AC load and distribution 2024- DC low voltage	Students will be required to provide his/her own personal protective safety equipment and clothing. Students will need to provide their own basic measuring tools and protective attire from head to toe. Students must be able to read plans. Use appropriate tools safely, take measurements, calculate load, voltage, amperage, resistance, wattage,
Welding **30 minutes** Even years- SMAW Odd years - GMAW	**Participants will need to provide their own protective welding attire**. Welding - May include: flat, fillet, lap, butt &/or pipe on plate, either GMAW, or SMAW Students will use one of the following; 6010, 6011, 6013, 7018 or E70S-6 electrode. Shielding gasses will be C25 if GMAW. Practice metal will be available for students to use to set his/her welder. Students will have to be able to set-up the machine. Students will be given a drawing with symbols and expected to complete the weld as drawn.
Environmental **15 Min** 2019 - Pesticides/herbicide application 2020- Transit levels 2021- Water pumps (wells, sump, irrigation) 2022- Topographic mapping and layout 2023- 2024-	Describing principles involved in appropriate conservation and/or land use planning; reading legal land descriptions; determining land area; determining the percent of slope or grade; measuring distances with tapes or instruments; calculating area, percentages, erosion levels, volume, etc…

TEAM ACTIVITY: **1 hour** Team 2019- Machinery and equipment 2020- Electrical Systems 2021-Compact equipment 2022-Structural systems 2023- Environmental 2024-Machinery and equipment	Students will be required to provide his/her own personal protective safety equipment and clothing. Teams will need to provide their own basic measuring tools and protective attire. Student will be asked to identify the source, set up materials, use tools to take measurements, perform necessary calculations, trouble shoot, and compose a report. Laptops will not be needed. Team activity will be based in the section noted for that year.

SAFETY GLASSES ARE REQUIRED

All team members must wear safety glasses during the team and skill events. To enter the CDE area, students must wear safety glasses.

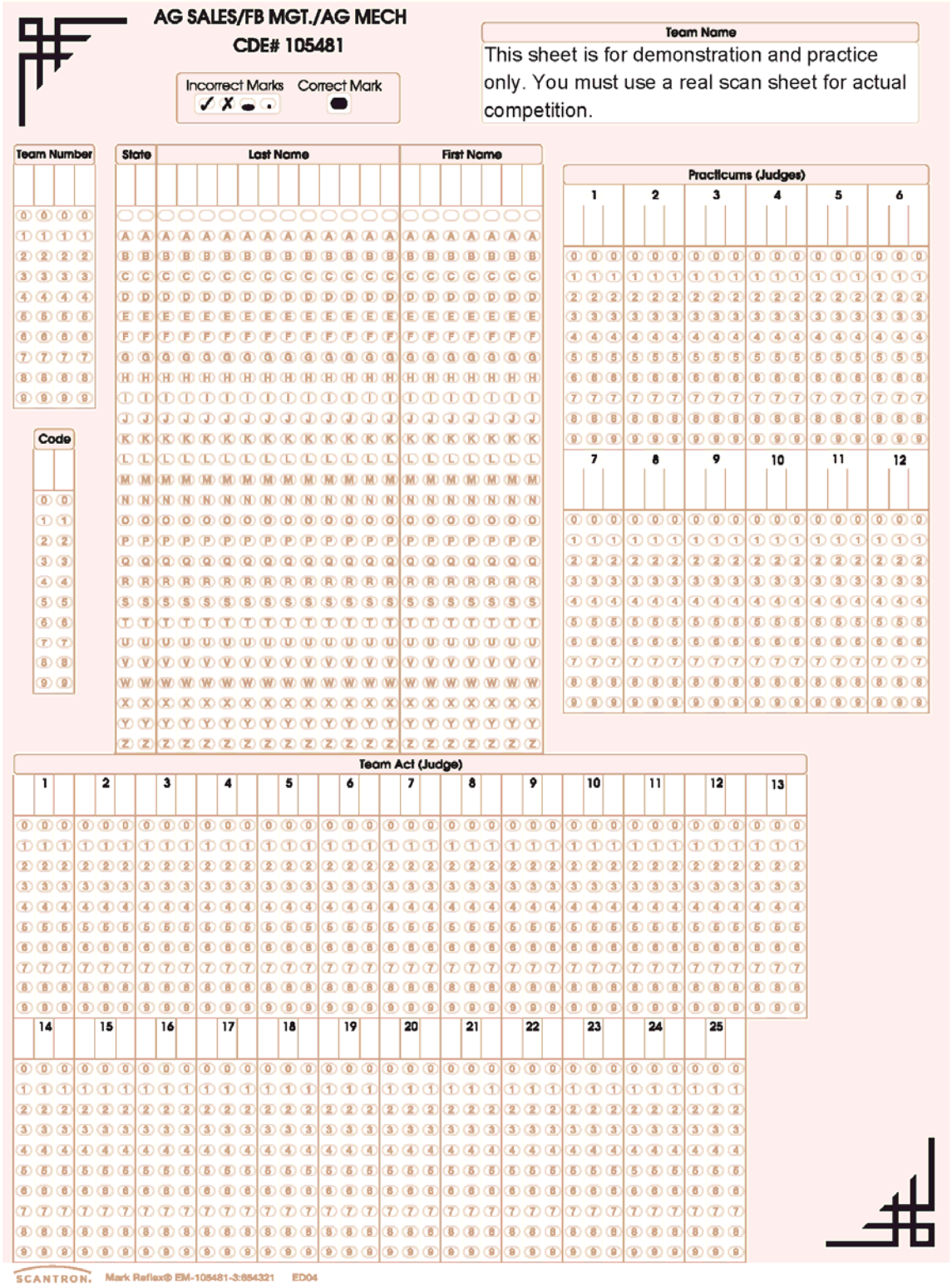
USE OF HAND CALCULATORS

Each team member will need a calculator to complete the multiple-choice examination. Students will **not** be allowed to share a calculator during the examination.

Tools for Measuring:	Square Screwdriver	Argent Pencil
Tape Measure	Posidrive Screwdriver	Grease Pencil
Steel Ruler	Tamper Proof Screwdriver	Paint Marker
Carpenter's (Framing) Square	Hex (Allen) Key	Scratch Awl
Swanson Speed Square	Nut Driver	Compass
Try Square	Screw/Bolt Extractor	Scribe
Combination Square		Center Punch
Inside Caliper	**Tools for Impact**	Steel Stamps
Outside Caliper	Ball Peen Hammer	
Wing Divider	Curved Claw Hammer	**Tools for Welding**
Carpenter's Level	Straight Claw (Rip) Hammer	SMAW Welding Machine
Mason's Level	Sledge Hammer	GMAW Welding Machine
Torpedo Level	Blacksmith's Hammer	GTAW Welding Machine
String (Line) Level	Cross Peen Hammer	Plasma Torch
Dumpy Level	Roofing Hammer	Flux Gas Cylinder
Transit	Tack Hammer	Flux Gas Flow Meter
Plum Bob	Warrington Hammer	Flux Gas Flow Gauge
Torque Wrench	Body Hammer (& Dolly)	Electrode Holder
Plasti-Gauge	Dead-Blow Mallet	Ground Clamp
Micrometer	Soft-Faced Hammer	Wire Brush
Protractor	Rubber Mallet	Chipping Hammer
Depth Gauge	Rawhide Mallet	MIG Pliers (Welpers®)
Spark Plug Gauge	Wooden Mallet	Locking Welding Clamp
Thickness Gauge	Tire Hammer	
Feeler Gauge	Roll Pin Punch	**Tools for Oxy-Fuel**
	Prick Punch	Oxygen Cylinder
Tools for Torque	Nail Set	Acetylene Cylinder
Open-End Wrench	Anvil (& Hardy)	Propane Cylinder
Box-End Wrench		Torch Wrench
Combination Wrench	**Tools for Prying**	Gas Pressure Regulator
Gear Wrench	Pry Bar	Cutting Torch
Adjustable (Crescent®) Wrench	Flat Nail Bar	Welding/Brazing Torch
Monkey Wrench	Wrecking Bar	Acetylene Cutting Tip
Pipe (Stilsen) Wrench	Crow Bar	Propane Cutting Tip
Oil Filter Wrench	Cat's Paw Nail Puller	Reverse Flow Check Valve
Chain Wrench	Aligning Bar	Cylinder Cap
Strap Wrench		Friction Lighter/Striker
6 point standard sockets	Drift Punch	Torch Tip Cleaner
Deep Well Sockets	Tire Spoon	
Ratchet Handle	Cheater Bar	**Lumber/Wood**
Extension		2x4
Universal-joint	**Tools for Marking**	2x8
Break-Over Handle	Pencil	1x6
Standard (Flat) Screwdriver	Soapstone	4x4 treated
Phillips Screwdriver	Chalk-line	BC plywood
Torx® Screwdriver	Sliding T-Bevel	OSB

Tools for Gripping		**Stationary Power Tools**
Slip-Joint Pliers	Jig Saw Blade	Drill Press
Lineman's Pliers	Reciprocating Saw	Bench/Pedestal Grinder
Groove Joint (Channel-Lock®) Pliers	Reciprocating Saw Blade	Table Saw
Diagonal Wire Cutting Pliers	Die Grinder	Band Saw
Bolt Cutters	Impact Driver	Scroll Saw
End Nippers	Impact Sockets	Sliding Miter Saw
Aviation Snips	Orbital Sander	Planer
Tin Snips (shears)	¼ sheet Sander	Jointer
Sheet Metal Seamer	Belt Sander	Router Table
Needle/Long Nose Pliers	Router	Wood Lathe
Lever Lock (Vise-Grip®) Pliers	Router Bits	Belt/Disc combo Sander
Snap Ring Pliers	Hydraulic Jack	Iron Worker
Hog Ring Pliers		Hydraulic Pipe Bender
J-Clip® Pliers	**Tools for Removing Material**	Hydraulic Bearing Press
Bench Vise	Rip Saw	Abrasive Cut-Off Saw
Machinist Vise	Cross-Cut Saw	Sheet Metal Brake
Mechanic's Vise	Hack Saw	Cold Saw
Pipe Vise	Key-Hole Saw	Horizontal Band saw
C-Clamp	Coping Saw	
Bar Clamp	Back (miter/dovetail) Saw	**Pneumatic Tools**
Parallel (Block) Clamp	Manual Miter Box	Air Compressor
Spring Clamp	Utility Knife	Dryer
Corner Clamp	Cold Chisel	Regulator
Flaring Tool (copper tubing)	Wood Chisel	Expansion Tank
	Slotting Chisel	Impact Driver
Hand Electric Power Tools	Slitting Chisel	Brad Nailer
Drill (corded or cordless)	Cape Chisel	Framing Nailer
Jacobs Chuck	Pipe/Tubing Cutter	Crown Stapler
Chuck Key	PVC Cutter	Air Hammer (& chisel)
High Speed Twist Bit	Hand Plane (bench)	Needle Scaler
Spade Bit	Hand Plane (block)	DA Sander
Countersink Bit	Rasp	Blower Nozzle
Masonry Bit	Surform® Tool	Air Chuck
Step Bit	Mill File	Quick Connectors
Hole Saw	Bastard File	Tire Pressure Gauge
Battery & Charger	Flat File	HVLP Paint Gun
Disc Grinder/Sander	Half-Round File	Paint Sprayer
Grinding Disc	Round File	
Cup Brush	Whetstone	**Tools for Electrical Work**
Sanding Disc	Tap	Wire Stripper
Spanner Wrench	Die	Cable Stripper
Circular Saw	Brace	Multi-Meter
Cross Cut Blade	Auger Bit	Voltage Detector
Plywood Blade		Soldering Iron/Gun
Multi-purpose Blade		
Masonry/Concrete Tools	Disposable Gloves	**Electrical Supplies**

Brick Trowel	Gauntlet Welding Gloves	2/1 Romex® wire
Notched Trowel	Welders mittens	3/1 Romex® wire
Concrete Groover	Welder's Cap	Rigid Conduit (Galv)
Bullnose edger	Knee Pad	Rigid Conduit (PVC)
Magnesium float	Painting Coverall	Flexible Conduit
Finishing Float	Dust Mask	Junction Box
Finishing Trowel	Respirator	Handy Box
Tile Cutter	Ear Plugs	Circuit Breaker
Caulking Gun	Ear Muffs	Cable Connector
Adhesive/Thinset		Convenience Outlet
Slump cone	**Welding Supplies**	Lighting Receptacle
	E6011 Electrodes	GFCI Outlet
Cleaning Tools	E7018 Electrodes	SPST Switch
Parts Washing Station	E6010 Electrodes	3-Way Switch
Parts Washing Brush	E6013 Electrodes	Cover Plate
Corn head Broom	E7024 Electrodes	Wire Nut
Push Broom	ER70S6 Electrode Wire	Insulated Staples
Table Broom	Acid Core Solder	Electrical Tape
Shavings Brush	Rosin Core Solder	Shrink Wrap
Dustpan	Brazing Filler Rod w/flux	Butt connector
Shop Vacuum	Brazing Filler Rod	"Quick" splice connector
Dust mop	GTAW Filler Rods	
	GTAW Electrodes	**Fasteners**
Personal Protective Equipment	Borax Flux	Common Nail
Clear Safety Glasses		Galvanized Nail
Shaded Safety Glasses	**Plumbing Supplies**	Duplex Nail
Clear Safety Goggles	Galvanized Steel Pipe	Finishing Nail
Shaded Safety Goggles	Black Steel Pipe	Fence Staples
Clear Face Shield	CPVC Pipe	Wood Screw
Shaded Face Shield	PVC Pipe	Drywall screw
Welding Hood/Helmet	Copper Tubing- soft	Sheet Metal Screw
Hard Hat	Copper tubing- rigid	Machine Screw
Shop Coat	Float Valve	Hex Head Bolt
Welding Sleeve(leather)	Elbow	Carriage Bolt
Welding Sleeve (cloth)	Coupling	Hex Nut
Welding Jacket (cloth or leather)	Union	Wing Nut
Welding Cape	Reducer	Lock Washer
Welding Apron	"T" joint	Flat Washer
Driver's Gloves	Nipple	
Leather Work Gloves	Cap	
Cloth gloves	Plug	
Studded Work Gloves	45^{o} Elbow	
Cloth Roper's Gloves	Street Elbow	
Anti-Vibration Gloves		
Mechanic's Gloves		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Incorrect Marks
Correct Mark
Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team Number
State
Last Name
First Name
Practicums (Judges)
Code
Team Act (Judge)
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Written Exam A

1	A B C D E	21	A B C D E	41	A B C D E	61	A B C D E	81	A B C D E
2	A B C D E	22	A B C D E	42	A B C D E	62	A B C D E	82	A B C D E
3	A B C D E	23	A B C D E	43	A B C D E	63	A B C D E	83	A B C D E
4	A B C D E	24	A B C D E	44	A B C D E	64	A B C D E	84	A B C D E
5	A B C D E	25	A B C D E	45	A B C D E	65	A B C D E	85	A B C D E
6	A B C D E	26	A B C D E	46	A B C D E	66	A B C D E	86	A B C D E
7	A B C D E	27	A B C D E	47	A B C D E	67	A B C D E	87	A B C D E
8	A B C D E	28	A B C D E	48	A B C D E	68	A B C D E	88	A B C D E
9	A B C D E	29	A B C D E	49	A B C D E	69	A B C D E	89	A B C D E
10	A B C D E	30	A B C D E	50	A B C D E	70	A B C D E	90	A B C D E
11	A B C D E	31	A B C D E	51	A B C D E	71	A B C D E	91	A B C D E
12	A B C D E	32	A B C D E	52	A B C D E	72	A B C D E	92	A B C D E
13	A B C D E	33	A B C D E	53	A B C D E	73	A B C D E	93	A B C D E
14	A B C D E	34	A B C D E	54	A B C D E	74	A B C D E	94	A B C D E
15	A B C D E	35	A B C D E	55	A B C D E	75	A B C D E	95	A B C D E
16	A B C D E	36	A B C D E	56	A B C D E	76	A B C D E	96	A B C D E
17	A B C D E	37	A B C D E	57	A B C D E	77	A B C D E	97	A B C D E
18	A B C D E	38	A B C D E	58	A B C D E	78	A B C D E	98	A B C D E
19	A B C D E	39	A B C D E	59	A B C D E	79	A B C D E	99	A B C D E
20	A B C D E	40	A B C D E	60	A B C D E	80	A B C D E	100	A B C D E

Written Exam B

1	A B C D E	21	A B C D E	41	A B C D E	61	A B C D E	81	A B C D E
2	A B C D E	22	A B C D E	42	A B C D E	62	A B C D E	82	A B C D E
3	A B C D E	23	A B C D E	43	A B C D E	63	A B C D E	83	A B C D E
4	A B C D E	24	A B C D E	44	A B C D E	64	A B C D E	84	A B C D E
5	A B C D E	25	A B C D E	45	A B C D E	65	A B C D E	85	A B C D E
6	A B C D E	26	A B C D E	46	A B C D E	66	A B C D E	86	A B C D E
7	A B C D E	27	A B C D E	47	A B C D E	67	A B C D E	87	A B C D E
8	A B C D E	28	A B C D E	48	A B C D E	68	A B C D E	88	A B C D E
9	A B C D E	29	A B C D E	49	A B C D E	69	A B C D E	89	A B C D E
10	A B C D E	30	A B C D E	50	A B C D E	70	A B C D E	90	A B C D E
11	A B C D E	31	A B C D E	51	A B C D E	71	A B C D E	91	A B C D E
12	A B C D E	32	A B C D E	52	A B C D E	72	A B C D E	92	A B C D E
13	A B C D E	33	A B C D E	53	A B C D E	73	A B C D E	93	A B C D E
14	A B C D E	34	A B C D E	54	A B C D E	74	A B C D E	94	A B C D E
15	A B C D E	35	A B C D E	55	A B C D E	75	A B C D E	95	A B C D E
16	A B C D E	36	A B C D E	56	A B C D E	76	A B C D E	96	A B C D E
17	A B C D E	37	A B C D E	57	A B C D E	77	A B C D E	97	A B C D E
18	A B C D E	38	A B C D E	58	A B C D E	78	A B C D E	98	A B C D E
19	A B C D E	39	A B C D E	59	A B C D E	79	A B C D E	99	A B C D E
20	A B C D E	40	A B C D E	60	A B C D E	80	A B C D E	100	A B C D E

Agronomy

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Agronomy – Form #708-4
Committee: Kathy Duffield Annie Erwin Ben Hays Charity Marstiller Brianne McCauley	

The Agronomy plaque will be awarded to the team making the highest score in the Agronomy Contest. The winning team will retain permanent possession of the plaque

RULES

1. This contest is an attempt to find out whether the student has the fundamental information necessary to know and grow farm crops.
2. The contest will consist of three parts:

Part I (30%). Contestants will be expected to have information in the fundamentals crop production such as:

A. Average production of grain or forage per acre.
B. Date, rate, and method of seeding various crops.
C. Recommended varieties.
D. Reasons for different crop rotations.
E. Pasture management.
F. Weed control
G. Time and method of harvesting hay and grain crops.
H. Seed certification.

This information will be called for in a 50 question written examination. **Fifty (50) minutes** will be allowed for this portion of the event.

Part II (15%). Grain and Seed Judging. Students will be given two classes of grain/seed to judge. **In addition they will answer questions associated with the judging factors for one or more of the classes.** Questions may be true/false and/or multiple choice and will be based upon the factors/criteria used to judge the classes. Classes may include winter wheat, winter barley, oats, shelled corn, soybeans, timothy, red alsike or sweet clover, alfalfa, and buckwheat.

The following will be considered judging factors:

WHEAT - Germination - Weight per bushel (under 60 pounds) - Cracked damage - Weather damage - Sprouted kernels - Presence of weak seed - Weevil damage - Presence of other crop seed. (Crop must be identified) - Presence of weed seed.

OATS - Evident mixture with other oat varieties - Germination - Weight per bushel (under 32 pounds) - Presence of inert material (trashy) - Weather damage - Presence of other crop grain (crop must be identified) Presence of weed seed.

WINTER BARLEY Weight per bushel (under 45 pounds) Germination - Weather damage - Presence of inert material - Presence of other crop seed (crop must be identified) - Presence of weed seed.

SHELLED CORN (Seed basis) - Germination - Evident mixture with other varieties - cracked damage - Presence of weather damage or disease - Weevil damage - Presence of inert material.

TIMOTHY - Germination - Weather damage - Presence of inert material - Presence of weed seed - Presence of other crop seed (crop must be identified).

ALSIKE, CRIMSON, OR RED CLOVER - Germination - Presence of inert material - Presence of weed seed - Presence of other crop seed (crop must be identified).

ALFALFA OR SWEET CLOVER - Germination - Presence of inert material - Immaturity - Old seed - Presence of other crop seed (crop must be identified)- Cracked damage - Weather damage - Percent of hull - Presence of weed seed.

Part III (30%). Crop Identification (30 samples). The student will record the common name (as it appears in the following list) of plant or seed specimens selected from the following groups. Plants will be fresh or mounted specimens. Seed will be either pure samples (in vials) or mixtures. If used in mixtures, the number of seeds will be used in about equal proportions and the number of kinds of seed indicated for each mixture. The following list contains the farm crops and weeds from which the identification samples will be chosen.

1. Corn (ears or seed)

White dent corn
Yellow dent corn
Flint corn
Sweet corn
Popcorn

2. Wheat

Common bearded wheat (plant)
Common beardless wheat (plant)
Common wheat (soft red winter - seed)

3. Oats (plant or seed)

Common white oats

4. Barley

Common bearded barley (plant)
Hooded barley (plant)
Common barley (seed)

5. Rye (plant or seed)

Common rye

6. Grasses (plant only)

Perennial ryegrass	Sweet vernal	Velvet
Smooth brome grass	Redtop	Tall fescue
Canada bluegrass	Reed canary grass	Tall oat grass
Kentucky bluegrass	Sudan grass	Timothy
Orchard grass		

7. Large Seeded Legumes (plant or seed)

Soybeans

8. Small Seeded Legumes (plants and seeds)

Alsike clover	Korean lespedeza
Crimson clover	Sweet clover
Red clover	Crown vetch
White clover	Serecia lespedeza
Alfalfa	Birdsfoot trefoil
Hairy vetch	

9. Buckwheat (plant or seed)

10. Weed

(plant or seed)	***(plant only)***
Beggars tick	Annual fleabane
Buckhorn plantain	Chicory
Canada thistle	Broadleaf plantain
Cheat or Chess	Broomsedge
Corn cockle	Chickweed
Dock	Dandelion

Dodder
Giant ragweed (Horse weed)
Green foxtail
Oxeye daisy
Pigweed
Quack grass
Ragweed
Smartweed
Spanish needle
Velvet weed
Wild carrot
Wild mustard
Wild onion (bulblets)
Yellow foxtail
Johnson grass
Morning glory
Cocklebur
Jimsonweed
Crabgrass
Galinsoga
Goldenrod
Ground ivy
Heal-all
Horse Nettle
Ironweed
Joe Pye weed
Lambs-quarters
Nutsedge
Peppergrass
Poke weed
Poverty grass
Sheep or red sorrel
Speedwell
Three seeded mercury
Yarrow
Fall panicum
Barnyard grass
Purslane

Part IV (25%) One of the following categories will be selected and notification provided at least 60 days prior to the contest.

Equipment and Machinery Identification
Participants will be required to identify 20 specimens from the list. Samples may appear as actual equipment, scale models, toys or pictures. Major component that are unique to a certain piece of equipment can also be used.

01. Air compressor/hose
02. Anemometer
03. Backpack sprayer
04. Bale wagon
05. Baler
06. Bean harvester head (for combine)
07. Bed mulcher
08. Bed shaper
09. Center pivot
10. Chemigation unit
11. Combine
12. Conveyor/elevator
13. Corn harvester head (for combine)
14. Cotton picker/stripper
15. Crop cultivator
16. Crop disc cultivator
17. Crop planter
18. Disc mower
19. Drill planter
20. Fertilizer broadcaster
21. Field shovel
22. Forage harvester
23. Gauge wheel
24. GPS receiver & light bar
25. Grain auger
26. Grain moisture meter
27. Grain storage bin/dryer
28. Gravity wagon
29. Hay rake
30. Hearing protection
31. Hitch pin
32. Hoe
33. Hydraulic hose
34. In-line ripper
35. Liquid manure/fertilizer spreader
36. Manure spreader (dry)
37. Module builder
38. Moldboard plow
39. Nozzle bodies (flood vs. flat fan)
40. Pea harvester
41. Peanut digger
42. Plow (soil chisel)
43. Potato harvester
44. PPE (all equipment)
45. Press wheel

46. Pressure gauge
47. Pressure regulator
48. PTO shaft
49. Rotary hoe
50. Seed plate
51. Soil probe
52. Soil thermometer
53. Sprayer
54. Sugar beet harvester
55. Swather
56. Sweep net
57. Tensiometer
58. Tractor
59. Vegetable transplanter
60. Yield monitor

Diagnostic Clinic

Each participant will be given two samples. Each sample will come with a field report describing the situation from the sample location. They will prepare a written recommendation to respond to the report using their agronomic knowledge. Samples will be chosen from the crop list, and the problems to be diagnosed are from the identification, pest management or soils section. One sample will require the use of a soil test report. Participants must use the report to provide a diagnosis and a corrective recommendation for soil additives (based on a soil test and recommendation tables provided).

Pest management

a. Disorders

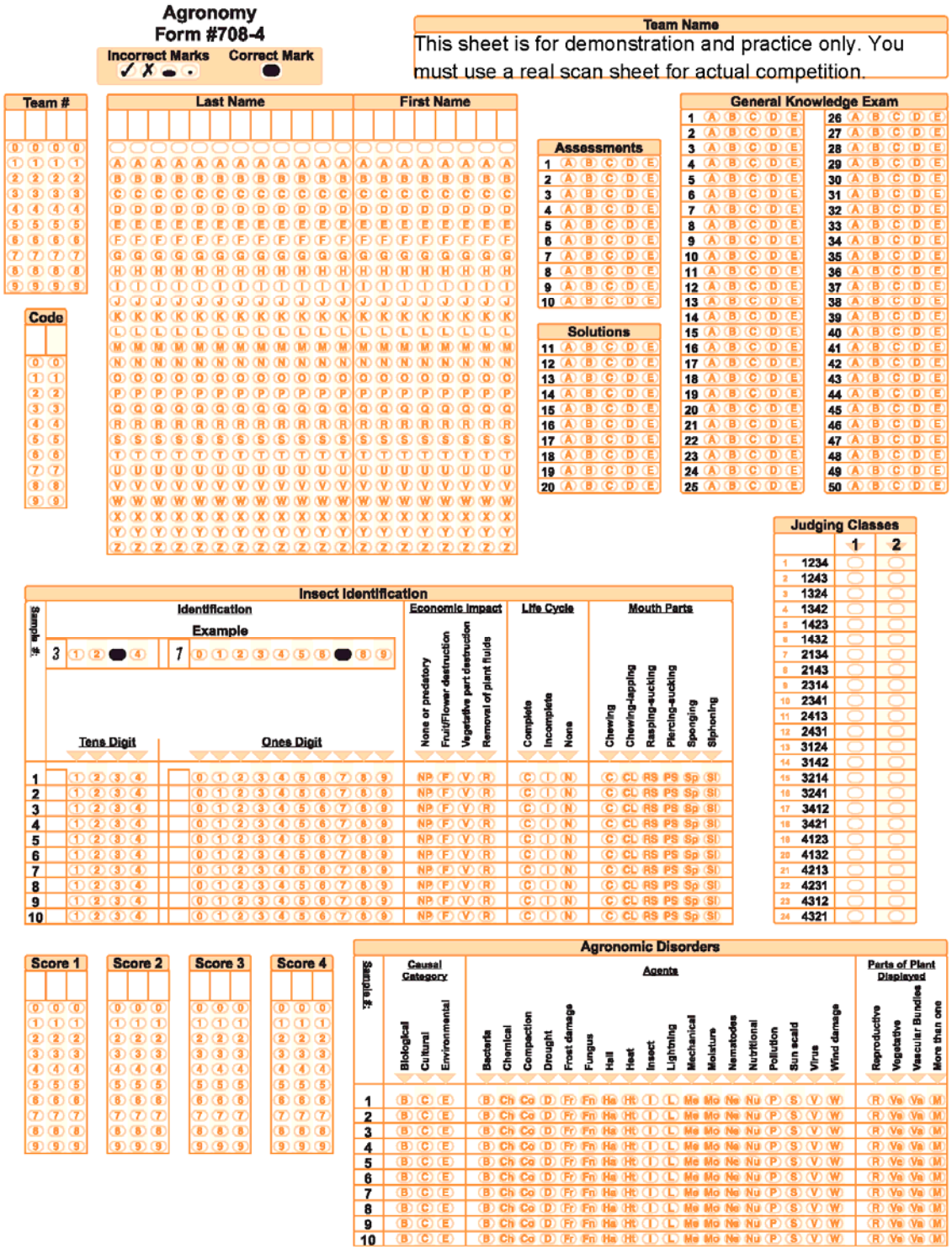
Ten samples will be identified according to category, causal agent and damage location. Refer to the Agronomic Disorders Practicum Scorecard for the category, agent and damage location lists.

b. Insect Identification

Ten samples will be identified according to insect name, life cycle, economic impact and mouth part. Refer to the Insect Identification Practicum Scorecard for additional details.

c. Usability (Crop Quality)

Two classes of crop samples, one of a forage, fiber or grain crop and one from another crop (see plant list) will be evaluated in 30 minutes (15 minutes per sample). Each class will consist of four samples of the same crop. Participants will rank each class with a Hormel card (25 points per sample) and provide written justification (25 points per sample).


Agronomy
Form #708-4
Incorrect Marks
Correct Mark
Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team #
Last Name
First Name
Code
Assessments
Solutions
General Knowledge Exam
Judging Classes
Insect Identification
Sample #
Identification
Example
Tens Digit
Ones Digit
Economic Impact
None or predatory
Fruit/Flower destruction
Vegetative part destruction
Removal of plant fluids
Life Cycle
Complete
Incomplete
None
Mouth Parts
Chewing
Chewing-lapping
Rasping-sucking
Piercing-sucking
Sponging
Siphoning
Score 1
Score 2
Score 3
Score 4
Agronomic Disorders
Causal Category
Biological
Cultural
Environmental
Agents
Bacteria
Chemical
Compaction
Drought
Frost damage
Fungus
Hail
Heat
Insect
Lightning
Mechanical
Moisture
Nematodes
Nutritional
Pollution
Sun scald
Virus
Wind damage
Parts of Plant Displayed
Reproductive
Vegetative
Vascular Bundles
More than one

Weed/Crop - Plant and Seed Identification
Soils & Nutrient Management
Equipment/Machinery Identification
SCANTRON.
Mark Reflex® EM-299189-1:654321
QM99

Crop and Weed Identification Code Sheet

Place the appropriate plant identification number (given below) in the "**Team Act (Judge)**" (front page-bottom section) of your answer sheet. IMPORTANT!!!! ***Use and blacken the preceding zeros on your answer sheet***. For example: If you identify a specimen as popcorn, blacken 0 0 2 on your answer sheet. Crops and weeds are listed in alphabetical order within each group.

CORN (ears or seed)

001 Flint corn
002 Pop corn
003 Sweet corn
004 White dent corn
005 Yellow dent corn

WHEAT

006 Bearded wheat
007 Beardless wheat
008 Wheat (seed)

OATS

009 Oats

BARLEY

010 Barley (seed)
011 Hooded barley
012 Bearded barley

RYE

013 Rye

GRASSES

014 Canada bluegrasss
015 Kentucky bluegrass
016 Orchardgrass
017 Perennial ryegrass
018 Redtop
019 Reed canarygrass
020 Sudangrass
021 Sweet vernal
022 Tall fescue
023 Tall meadow oatgrass
024 Timothy
025 Velvetgrass

SMALL SEEDED LEGUMES

026 Alfalfa
027 Alsike clover
028 Birdsfoot trefoil
029 Crimson clover
030 Crownvetch
031 Hairy vetch
032 Korean lespedeza
033 Red clover
034 Sericea lespedeza
035 Sweetclover
036 White clover

BUCKWHEAT

037 Buckwheat

LARGE SEEDED LEGUMES

038 Soybeans

WEEDS

039 Annual fleabane
040 Barnyardgrass
041 Beggers tick
042 Broadleaf plantain
043 Broomsedge
044 Buckhorn plantain
045 Canada thistle
046 Cheat or chess
047 Chickory
048 Chickweed
049 Cocklebur
050 Corn cockle
051 Crabgrass
052 Dandelion
053 Dock
054 Dodder
055 Fall panicum
056 Galinsoga

WEEDS (Continued)

057 Goldenrod
058 Ground ivy
059 Giant ragweed
060 Green foxtail
061 Heal-all
062 Horse nettle
063 Ironweed
064 Jimsonweed
065 Joe Pye weed
066 Johnsongrass
067 Lambsquarters
068 Morningglory
069 Nutsedge
070 Oxeye daisy
071 Peppergrass
072 Pokeweed
073 Povertygrass
074 Pigweed
075 Purslane
076 Quackgrass
077 Ragweed
078 Smartweed
079 Sorrel, sheep or red
080 Spanish nettle
081 Speedwell
082 Three-seeded mercury
083 Velvet leaf
084 Wild carrot
085 Wild mustard
086 Wild onion
087 Yarrow
088 Yellow foxtail

Equipment and Machinery Identification

010. Air compressor/hose
011. Anemometer
012. Backpack sprayer
013. Bale wagon
014. Baler
015. Bean harvester head (for combine)
016. Bed mulcher
017. Bed shaper
018. Center pivot
019. Chemigation unit
020. Combine
021. Conveyor/elevator
022. Corn harvester head (for combine)
023. Cotton picker/stripper
024. Crop cultivator
025. Crop disc cultivator
026. Crop planter
027. Disc mower
028. Drill planter
029. Fertilizer broadcaster
030. Field shovel
031. Forage harvester
032. Gauge wheel
033. GPS receiver & light bar
034. Grain auger
035. Grain moisture meter
036. Grain storage bin/dryer
037. Gravity wagon
038. Hay rake
039. Hearing protection
040. Hitch pin
041. Hoe
042. Hydraulic hose
043. In-line ripper
044. Liquid manure/fertilizer spreader
045. Manure spreader (dry)
046. Module builder
047. Moldboard plow
048. Nozzle bodies (flood vs. flat fan)
049. Pea harvester
050. Peanut digger
051. Plow (soil chisel)
052. Potato harvester
053. PPE (all equipment)
054. Press wheel
055. Pressure gauge
056. Pressure regulator
057. PTO shaft
058. Rotary hoe
059. Seed plate
060. Soil probe
061. Soil thermometer
062. Sprayer
063. Sugar beet harvester
064. Swather
065. Sweep net
066. Tensiometer
067. Tractor
068. Vegetable transplanter
069. Yield monitor

NATIONAL FFA
CAREER AND LEADERSHIP
DEVELOPMENT EVENTS

National Insect List 2017 Offical Guide

	Insect	Economic Impact	Life Cycle	Mouth Parts
1	Alfalfa Weevil	422 - Vegetative Part Destruction	510 - Complete	800 - Chewing
2	aphids	423 - Removal of Plant Fluids	511 - Incomplete	803 - Piercing-Sucking
3	armyworm larva	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
4	assassin bug	420 -Beneficial	511 - Incomplete	073 - Piercing-Sucking
5	bean leaf beetle	Must put both 421 & 422	510 - Complete	070 - Chewing
6	blister beetle (larvae)	420 -Beneficial	510 - Complete	070 - Chewing
6	blister beetle	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
7	boll weevil	421 - Fruit/Flower Destruction	510 - Complete	070 - Chewing
8	chinch bug	423 - Removal of Plant Fluids	511 - Incomplete	073 - Piercing-Sucking
9	Colorado potato beetle	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
10	corn earworm larva	Must put both 421 & 422	510 - Complete	070 - Chewing
11	corn rootworm larva	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
12	cricket	421 - Fruit/Flower Destruction	511 - Incomplete	070 - Chewing
13	cutworm larva	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
14	European corn borer larva	Must put both 421 & 422	510 - Complete	070 - Chewing
15	flea beetle	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
16	grain weevil	421 - Fruit/Flower Destruction	510 - Complete	070 - Chewing
17	grasshopper	422 - Vegetative Part Destruction	511 - Incomplete	070 - Chewing
18	green lacewing	420 -Beneficial	510 - Complete	070 - Chewing
19	honeybee	420 -Beneficial	510 - Complete	071 - Chewing - lapping
20	Japanese beetle	Must put both 421 & 422	510 - Complete	070 - Chewing
21	lady beetle larva	420 -Beneficial	510 - Complete	070 - Chewing
22	leaf skeletonizer	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
23	leafhopper	423 - Removal of Plant Fluids	511 - Incomplete	073 - Piercing-Sucking
24	lygus	423 - Removal of Plant Fluids	511 - Incomplete	073 - Piercing-Sucking
25	Mexican bean beetle	Must put both 421 & 422	510 - Complete	070 - Chewing

National Insect List 2017 Offical Guide continued

	Insect	Economic Impact	Life Cycle	Mouth Parts
26	pink bollworm larva	421 - Fruit/Flower Destruction	510 - Complete	070 - Chewing
27	salt marsh caterpiller/wooly worm	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
28	scale	423 - Removal of Plant Fluids	511 - Incomplete	073 - Piercing-Sucking
29	spider mite	422 - Vegetative Part Destruction	511 - Incomplete	072 - rasping-Sucking
30	spittlebug	423 - Removal of Plant Fluids	511 - Incomplete	073 - Piercing-Sucking
31	spotted cucumber/Southern Corn Rootworm beetle	422 - Vegetative Part Destruction	510 - Complete	070 - Chewing
32	stinkbug	423 - Removal of Plant Fluids	511 - Incomplete	073 - Piercing-Sucking
33	tobacco/tomato hornworm larva	Must put both 421 & 422	001 - Complete	070 - Chewing
34	Western corn rootworm beetle	Must put both 421 & 422	001 - Complete	070 - Chewing
35	Western flower thrip	422 - Vegetative Part Destruction	002 - Incomplete	072 - Rasping-sucking
36	white grub	422 - Vegetative Part Destruction	001 - Complete	070 - Chewing
37	whitefly	422 - Vegetative Part Destruction	001 - Complete	072 - Rasping-sucking
38	wireworm	422 - Vegetative Part Destruction	001 - Complete	070 - Chewing

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Agronomic Disorders Practicum Scorecard

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

		Member Answer	Possible Points	Member Score
1.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
2.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
3.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
4.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
5.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
6.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
7.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
8.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
9.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
10.	Casual Category:		3	
	Agent:		4	
	Part of Plant Displayed:		3	
		TOTAL SCORE:	100	

Possible Answers

Causal Category
Biological
Cultural
Environmental

Agents
Bacteria
Chemical
Compaction
Drought
Frost damage
Fungus
Hail
Heat
Insect
Lightning
Mechanical
Moisture
Nematodes
Nutritional
Pollution
Sun scald
Virus
Wind damage

Parts of Plant Displayed
Reproductive parts
Vegetative parts
Vascular Bundles
More than one

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Insect Identification Rubric

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

		Member Answer	Possible Points	Member Score
1.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
2.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
3.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
4.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
5.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
6.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
7.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
8.	Identification:		4	
	Economic Impact		2	
	Life Cycle:		2	
	Mouth Part:		2	
9.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
10.	Identification:		4	
	Economic Impact:		2	
	Life Cycle:		2	
	Mouth Part:		2	
		TOTAL SCORE:	100	

Possible Answers

Identificaton

10. alfalfa weevil
11. aphids
12. armyworm larva
13. assassin bug
14. bean leaf beetle
15. blister beetle
16. boll weevil
17. chinch bug
18. Colorado potato beetle
19. corn ear worm larva
20. corn rootworm larva
21. cricket
22. cutworm larva
23. European corn borer larva
24. flea beetle
25. grain weevil
26. grasshopper
27. green lacewing
28. honeybee
29. Japanese beetle
30. lady beetle larva
31. leaf skeletonizer
32. leafhopper
33. lygus
34. Mexican bean beetle
35. pink bollworm larva
36. salt marsh caterpillar/ wooly worm
37. scale
38. spider mite
39. spittlebug
40. spotted cucumber beetle/ Southern corn rootworm beetle
41. stinkbug
42. tobacco/ tomato hornworm larva
43. Western corn rootworm beetle
44. western flower thrip
45. white grub
46. whitefly
47. wireworm

Economic Impact

None or predatory: NP
Fruit/Flower destruction: F
Vegetative Part destruction: V
Removal of plant fluids: R

Life Cycle

Complete: C
Incomplete: I
None: N

Mouth Part

Chewing: CH
Chewing-lapping: CL
Rasping-sucking: RS
Piercing-sucking: PS
Sponging: SP
Siphoning: SI

Dairy Cattle Management and Evaluation

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Dairy Cattle – CDE# 105477
Committee: Annie Erwin Tyler Butts Hattie DeBolt Jeremy Greene Chris VanDyne	

Contest results will be announced immediately following the tabulation activities. This is approximately 30-60 minutes following the time the last student presents his/her oral reasons.

Schools must provide a "bag" lunch for the contestants. It will handed to the students at the time they leave the arena to participate in the team activity and reasons.

The Dairy contest will consist of:

A. Materials student must provide: Each participant must have:

1. A clean, free of notes clipboard
2. Two sharpened No. 2 pencils
3. An electronic calculator. Calculators used in this event should be battery operated, nonprogrammable and silent with large keys and displays. Calculators should only have these functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. No other calculators are allowed to be used during the event.

B. Team Activity - Dairy Management Activity - 600 points

1. Each team will be provided with a dairy farm management scenario to identify problems and determine possible improvements. All necessary information will be provided. Teams should assume the role of a hired consultant advising a producer (judges). Teams will be given 40 minutes to prepare their recommendations to be presented to a panel of judges. It is not necessary to describe the scenario to the judges since they are the producer. Teams will be allowed 10 minutes to present their recommendations, followed by 5 minutes of clarifying questions from the judges.

2. The scenario will be based on the following rotating topic areas:

    - 2017: Feeds/Nutrition

- 2018: Housing/Facilities
- 2019: Health/Diseases
- 2020: Genetics/Reproduction
- 2021: Young Stock Management

3. Each scenario may include animal welfare, biosecurity, business management, current issues, environmental management, and safety concerns related to the topic area.

C. Individual Activities

1. General Knowledge Exam - 150 points
    1. The exam will consist of a 50 question exam involving dairy management practices and DHI records.
    2. Forty questions will cover various dairy management and industry related topics.
    3. Ten questions will be answered using a dairy herd record evaluation data sheet to analyze individual cows.
    4. Appropriate information necessary to answer the DHI questions will be provided.
    5. Participants will have 30 minutes to complete the exam.

2. Evaluation and Selection - 300 points
    1. Six classes of four dairy animals will each be placed on type. Classes will be selected from the recognized breeds of dairy cattle. The class selection committee, however, shall give priority to selecting quality cattle in the breeds available and not be obligated to having all breeds represented in the evaluation classes. Classes will consist of heifers, young cows or mature cows.
    2. Participants will be permitted to view the animals from all angles but will not be permitted to handle them.
    3. The handlers/cattle will wear numbers which identify the animals.
    4. Each class is worth 50 points maximum for a correct placing.
    5. Participants will have 12 minutes to place each class. For classes on which oral reasons will be given, participants will be given 15 minutes.

3. Oral Reasons - 100 points
    1. Oral reasons will be required on two classes. These classes will be designated by the event superintendent prior to the actual evaluation of the class.
    2. Oral reasons will be given in another location immediately following the evaluation classes.
    3. Participants may not use notes during delivery of reasons. Points will be deducted for the use of notes.
    4. Each class is worth 50 points maximum for each set of reasons.
    5. Participants will have 12 minutes to prepare each set of oral reasons.

NOTE: All team activity answers must be placed on the scantron of team member #1.

DAIRY COW UNIFIED SCORECARD

Breed characteristics should be considered in the application of this scorecard.

MAJOR TRAIT DESCRIPTIONS

Perfect Score

There are four major breakdowns on which to base a cow's evaluation. Each trait is broken down into body parts to be considered and ranked.

1) Frame - 15%

15

The skeletal parts of the cow, with the exception of rear feet and legs. Listed in priority order, the descriptions of the traits to be considered are as follows:

Rump (5 points): Should be long and wide throughout. Pin bones should be slightly lower than hip bones with adequate width between the pins. Thurls should be wide apart. Vulva should be nearly vertical and the anus should not be recessed. Tail head should set slightly above and neatly between pin bones with freedom from coarseness. **Front End (5 points):** Adequate constitution with front legs straight, wide apart, and squarely placed. Shoulder blades and elbows set firmly against the chest wall. The crops should have adequate fullness blending into the shoulders. **Back/Loin (2 points):** Back should be straight and strong, with loin broad, strong, and nearly level. **Stature (2 points):** Height including length in the leg bones with a long bone pattern throughout the body structure. Height at withers and hips should be relatively proportionate. Age and breed stature recommendations are to be considered. **Breed Characteristics (1 point):** Exhibiting overall style and balance. Head should be feminine, clean-cut, slightly dished with broad muzzle, large open nostrils and strong jaw.

2) Dairy Strength - 25%

25

A combination of dairyness and strength that supports sustained production and longevity. Major consideration is given to general openness and angularity while maintaining strength, width of chest, spring of fore rib, and substance of bone without coarseness. Body condition should be appropriate for stage of lactation. Listed in priority order, the descriptions of the traits to be considered are as follows:

Ribs (8 points): Wide apart. Rib bones wide, flat, deep, and slanted towards the rear. Well sprung, expressing fullness and extending outside the point of elbows. **Chest (6 points):** Deep and wide floor showing capacity for vital organs, with well-sprung fore ribs. **Barrel (4 points):** Long, with adequate depth and width, increasing toward the rear with a deep flank. **Thighs (2 points):** Lean, incurving to flat and wide apart from the rear. **Neck (2 points):** Long, lean, and blending smoothly into shoulders; clean-cut throat, dewlap, and brisket. **Withers (2 points):** Sharp with chine prominent. **Skin (1 point):** Thin, loose, and pliable.

3) Rear Feet and Legs - 20%

20

Feet and rear legs are evaluated. Evidence of mobility is given major consideration. Listed in priority order, the descriptions of the traits to be considered are as follows:

Movement (5 points): The use of feet and rear legs, including length and direction of step. When walking naturally, the stride should be long and fluid with the rear feet nearly replacing the front feet. **Rear Legs-Side View (3 points):** Moderate set (angle) to the hock. **Rear Legs-Rear View (3 points):** Straight, wide apart with feet squarely placed. **Feet (3 points):** Steep angle and deep heel with short, well-rounded closed toes. **Thurl Position (2 points):** Near central placement between the hip and pin bones. **Hocks (2 points):** Adequate flexibility with freedom from swelling. **Bone (1 point):** Flat and clean with adequate substance. **Pasterns (1 point):** Short and strong with some flexibility, having a moderate, upright angle.

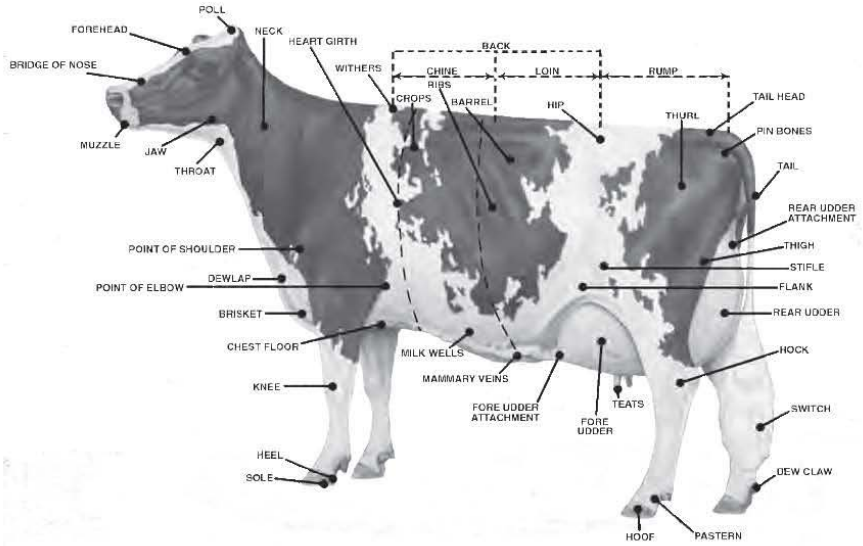
4) Udder - 40%

40

The udder traits are evaluated. Major consideration is given to the traits that contribute to high milk yield and a long productive life. Listed in priority order, the descriptions of the traits to be considered are as follows:

Udder Depth (10 points): Moderate depth relative to the hock with adequate capacity and clearance. Consideration is given to lactation number and age. **Rear Udder (9 points):** Wide and high, firmly attached with uniform width from top to bottom and slightly rounded to udder floor. **Teat Placement (5 points):** Squarely placed under each quarter, plumb and properly spaced. **Udder Cleft (5 points):** Evidence of a strong suspensory ligament indicated by clearly defined halving. **Fore Udder (5 points):** Firmly attached with moderate length and ample capacity. **Teats (3 points):** Cylindrical shape; uniform size with medium length and diameter; neither short nor long is desirable. **Udder Balance and Texture (3 points):** Udder floor level as viewed from the side. Quarters evenly balanced; soft, pliable, and well collapsed after milking. **(Note: In the Holstein breed, an equal emphasis is placed on fore and rear udder (7 points each). All other traits are the same as listed above.)**

TOTAL 100



THE SEVEN BREEDS

Ayrshire

Brown Swiss

Guernsey

Red & White

Holstein

Jersey

Milking Shorthorn

BREED CHARACTERISTICS

Except for differences in color, size, and head character, all breeds are judged on the same standards as outlined in the Unified Score Card. If any animal is registered by one of the dairy breed associations, no discrimination against color or color pattern is to be made.

Ayrshire Strong and robust, showing constitution and vigor, symmetry, style and balance throughout, and characterized by strongly attached, evenly balanced, well-shaped udder.
HEAD- clean cut, proportionate to body; broad muzzle with large, open nostrils; strong jaw; large, bright eyes; forehead, broad and moderately dished; bridge of nose straight; ears medium size and alertly carried.
COLOR- light to deep cherry red, mahogany, brown, or a combination of any of these colors with white, or white alone, distinctive red and white markings preferred.
SIZE- a mature cow in milk should weigh at least 1200 lbs.

Brown Swiss Strong and vigorous, but not coarse. Adequate size with dairy quality. Frailness undesirable.
HEAD- clean cut, proportionate to body; broad muzzle with large, open nostrils; strong jaw; large, bright eyes; forehead, broad and slightly dished; bridge of nose straight; ears medium size and alertly carried.
COLOR- body and switch solid brown varying from very light to dark; muzzle has black nose encircled by a white ring; tongue and hooves are dark brown to black.
SIZE- a mature cow in milk should weigh at least 1400 lbs.

Guernsey Strenth and balance, with quality and character desired.
HEAD- clean cut, proportionate to body; broad muzzle with large, open nostrils; strong jaw; large, bright eyes; forehead, broad and slightly dished; bridge of nose straight; ears medium size and alertly carried.
COLOR- shade of fawn and white markings throughout clearly defined.
SIZE- a mature cow in milk should weigh 1200-1300 lbs.; Guernsey does not discriminate for lack of size.

Red & White Rugged, feminine qualities in an alert cow possessing adequate size and vigor.
HEAD- clean cut, proportionate to body; broad muzzle with large, open nostrils; strong jaw; large, bright eyes; forehead, broad and slightly dished; bridge of nose straight; ears medium size and alertly carried.
COLOR- must be clearly defined red and white; black-red and brindle is strictly prohibited.
SIZE- a mature cow in milk should weigh at least 1400 lbs. and be well balanced.

Holstein Rugged, feminine qualities in an alert cow possessing Holstein size and vigor.
HEAD- clean cut, proportionate to body; broad muzzle with large, open nostrils; strong jaw; large, bright eyes; forehead, broad and moderately dished; bridge of nose straight; ears medium size and alertly carried.
COLOR- black and white or red and white markings clearly defined
SIZE- a mature cow in milk should weigh at least 1400 lbs.
UDDER- equal emphasis is placed on fore and rear udder (7 points each), all other traits are the same as listed on the PDCA scorecard.

Jersey Sharpness with strength indicating productive efficiency.
HEAD- proportionate to stature showing refinement and well chiseled bone structure. Face slightly dished with dark eyes that are well set.
COLOR- some shade of fawn with or without white markings; muzzle is black encircled by a light colored ring; switch may be either black or white.
SIZE- a mature cow in milk should weigh at least 1000 lbs.

Milking Shorthorn Strong and vigorous, but not coarse.
HEAD- clean cut, proportionate to body; broad muzzle with large, open nostrils; strong jaw; large, bright eyes; forehead, broad and slightly dished; bridge of nose straight; ears medium size and alertly carried.
COLOR- red or white or any combination (no black markings allowed).
SIZE- a mature cow in milk should weigh 1400 lbs.

FACTORS TO BE EVALUATED

The degree of discrimination assigned to each defect is related to its function and heredity. The evaluation of the defect shall be determined by the breeder, the classifier or judge, based on the guide for discrimination and disqualifications given below.

HORNS
No discrimination for horns.

EYES
1. Blindess in one eye: *Slight discrimination.*
2. Cross or bulging eyes: *Slight discrimination.*
3. Evidence of blindness: *Slight to serious discrimination.*
4. Total blindness: *Disqualification.*

WRY FACE
Slight to serious discrimination.

CROPPED EARS
Slight discrimination.

PARROT JAW
Slight to serious discrimination.

SHOULDERS
Winged: *Slight to serious discrimination.*

CAPPED HIP
No discrimination unless affects mobility.

TAIL SETTING
Wry tail or other abnormal tail settings: *Slight to serious discrimination.*

LEGS AND FEET
1. Lameness- apparently permanent and interfering with normal function: *Disqualification.* Lameness- apparently temporary and not affecting normal function: *Slight discrimination.*
2. Evidence of crampy hind legs: *Serious discrimination.*
3. Evidence of fluid in hocks: *Slight discrimination.*
4. Weak pastern: *Slight to serious discrimination.*
5. Toe out: *Slight discrimination.*

UDDER
1. Lack of defined halving: *Slight to serious discrimination.*
2. Udder definitely broken away in attachment: *Serious discrimination.*
3. A weak udder attachment: *Slight to serious discrimination.*
4. Blind quarter: *Disqualification.*
5. One or more light quarters, hard spots in udder, obstruction in teat (spider): *Slight to serious discrimination.*
6. Side leak: *Slight discrimination.*
7. Abnormal milk (bloody, clotted, watery): *Possible discrimination.*

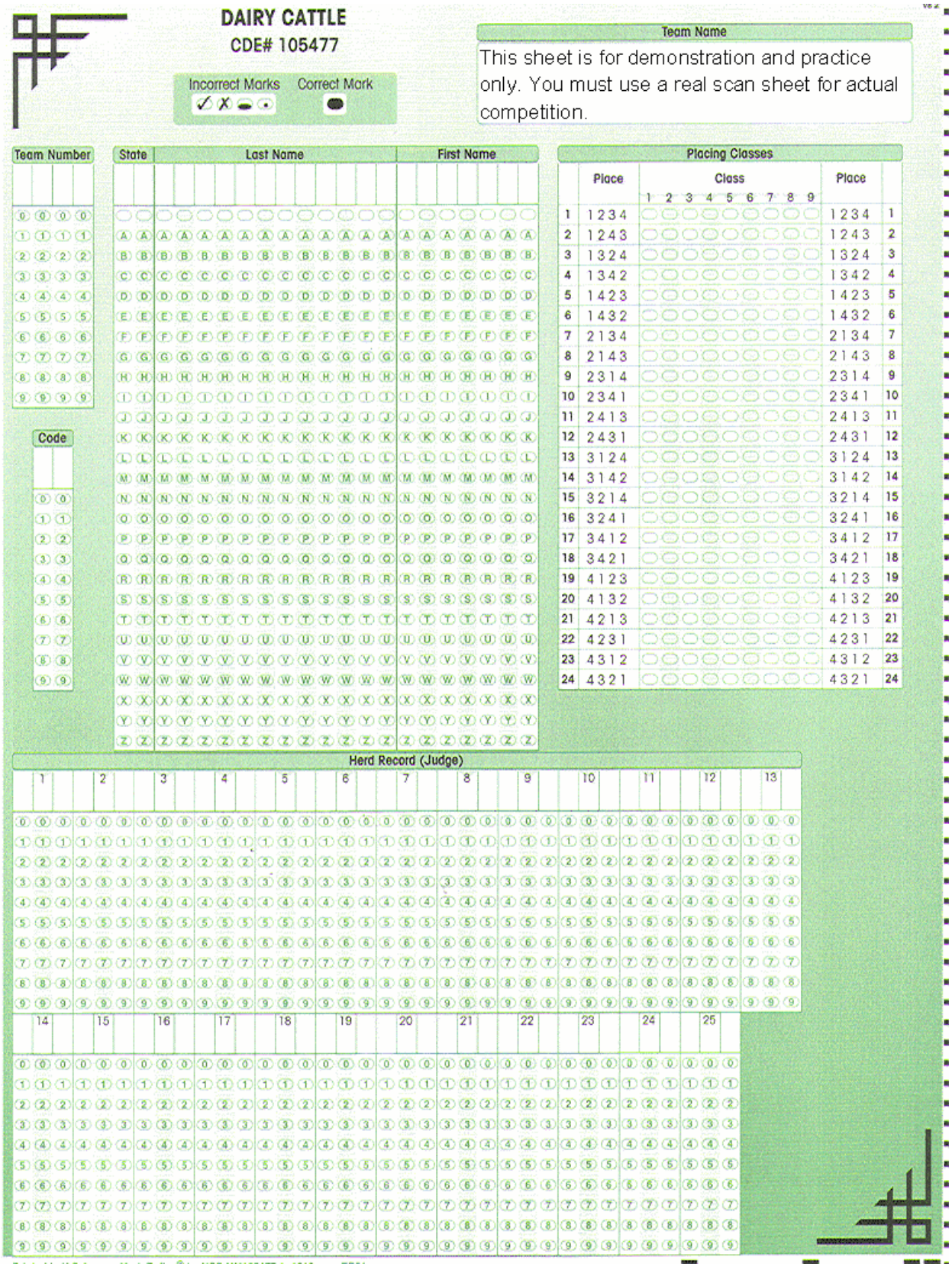
LACK OF ADEQUATE SIZE
Slight to serious discrimination. (Note: Guernsey does not discriminate for lack of size.)

EVIDENCE OF SHARP PRACTICE
(Refer to PDCA Code of Ethics)
1. Animals showing signs of having been tampered with to conceal faults in conformation and to misrepresent the animal's soundness: *Disqualification.*
2. Uncalved heifers showing evidence of having been milked: *Slight to serious discrimination.*

TEMPORARY OR MINOR INJURIES
Blemishes or injuries of a temporary character not affecting animal's usefulness: *Slight to serious discrimination.*

OVERCONDITIONED
Slight to serious discrimination.

FREEMARTIN HEIFERS
Disqualification.


DAIRY CATTLE
CDE# 105477
Incorrect Marks
Correct Mark
Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team Number
State
Last Name
First Name
Code
Placing Classes
Place
Class
1 2 3 4 5 6 7 8 9
Place
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20 4 1 3 2 4 1 3 2 20
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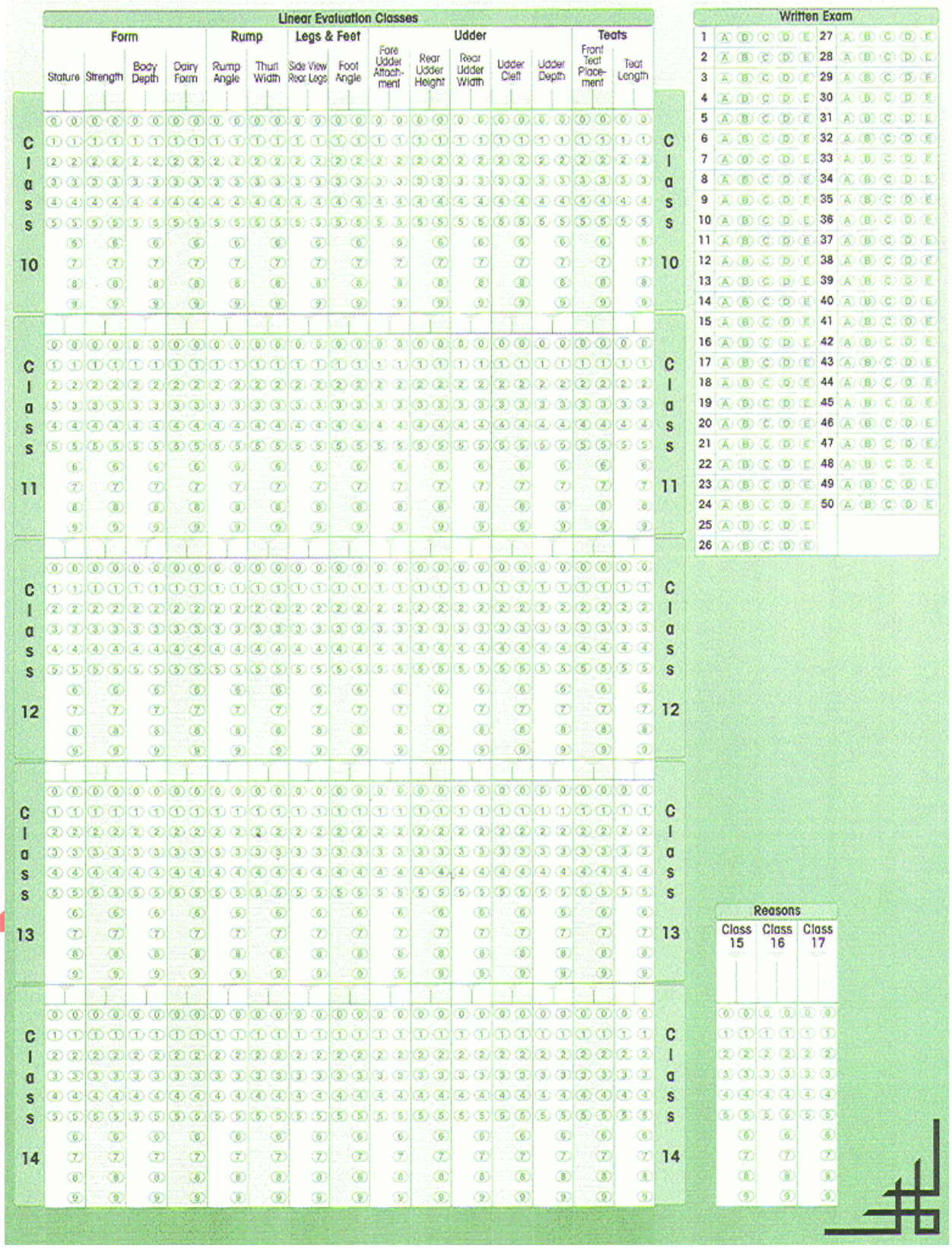
Herd Record (Judge)


Linear Evaluation Classes
Form
Stature
Strength
Body Depth
Dairy Form
Rump
Rump Angle
Thurl Width
Legs & Feet
Side View Rear Legs
Foot Angle
Udder
Fore Udder Attach-ment
Rear Udder Height
Rear Udder Width
Udder Cleft
Udder Depth
Teats
Front Teat Place-ment
Teat Length
Class 10
Class 11
Class 12
Class 13
Class 14
Written Exam
Reasons
Class 15
Class 16
Class 17

Entomology

Maximum Number of Team Members	4
Number of Team Members Scored	3
Scantron	Horticulture – CDE# 105482
Committee: Kelsey Flinn Mary Phillips Jason Miihlbach Steve Tennant John Workman	

The contests will consist of identifying correctly from specimens, **twenty-five (25) to thirty (30)** common economic insects or insect relatives which will be selected from the following list. Specimens will be numbered and contestants will identify the common name, host, scientific order and ONE control measure for each insect. Students will select the appropriate corresponding number for each insect, host, scientific order and control measure from the lists provided and enter those appropriate numbers on the scantron sheet provided.

THE SCORE WILL BE DETERMINED AS FOLLOWS:

1. Each correctly identified **insect** or **insect relative** will count **2 points**.
2. Each correctly identified **order** will count **2 point**.
3. Each correctly identified **host** will count **2 point**
4. Correctly identifying one of the **control measures** for each will count **2 points**

Tie Breaker: Tie breakers will consist of the following:

- Judges will compare answers starting with specimen 1 and proceed through the contest until a contestant/team gains an advantage

Bulletins illustrating and describing economic insects or their relatives are occasionally issued by the Agricultural Experiment Stations of various states-- usually the supply of these bulletins is so quickly exhausted that their listing here is not worthwhile.

List of Insects

Host:	***Insect:***	***Order:***	• ***Control:***
Alfalfa	Alfalfa Weevil	Coleoptera	• Parasitoids and/or pathogens • Early harvest • Pyrethroids
	Leafhopper	Homoptera	• Resistant plant varieties • Early harvest

Host:	*Insect:*	*Order:*	• *Control:*
			• Pyrethroids
Apple	Apple Maggot	Diptera	• Sticky balls • Kaolin clay (Surround) • Carbaryl (Sevin)
	Codling Moth	Lepidoptera	• Pheromone traps • CM granulovirus (Cyd-X) • Spinetoram (Delegate) • Acetamiprid (Assail)
	San Jose Scale	Homoptera	• Prune and destroy infested plant parts • Dormant horticultural oil • Pyriproxyfen (Esteem) • Pyrethroids
Bean	Mexican Bean Beetle	Coleoptera	• Plant early and/or fall plantings • Acephate (Orthene) • Pyrethroids
	Spider Mites	Acari	• Predators • Dormant horticultural oil • Abamectin • Bifenthrin
Beneficial Insects	Dragon Fly and Damsel Fly	Odanata	• Insect predator
	Syrphid Fly	Diptera	• Insect predator
	Honey Bee	Hymenoptera	• Plant pollination • Useful product
	Bumble Bee	Hymenoptera	• Plant pollination
	Lady Bug	Coleoptera	• Insect predator
	Lace Wing	Neuroptera	• Insect predator
	Praying Mantis	Mantodea	• Insect predator
Corn	Corn Earworm	Lepidoptera	• Resistant plant varieties • Plant early • Bt (*Bacillus thuringiensis*) • Carbaryl (Sevin) • Pyrethroids
	Flea Beetles	Coleoptera	• Carbaryl (Sevin) • Pyrethroids
	European Corn Borer	Lepidoptera	• Resistant plant varieties • Plant early • Bt (*Bacillus thuringiensis*) • Carbaryl (Sevin) • Pyrethroids
	Corn Seed Maggot	Diptera	• Insecticidal seed treatment or soil insecticide at planting

Host:	*Insect:*	*Order:*	• *Control:*
	Wireworm	Coleoptera	• Crop rotation • Soil insecticide at planting
	Armyworm	Lepidoptera	• Bt (*Bacillus thuringiensis*) • Carbaryl (Sevin) • Pyrethroids
	Corn Leaf Aphid	Homoptera	• Predators and/or parasitoids • Pyrethroids
	Corn Rootworm	Coleoptera	• Crop rotation • Pyrethroids
Crucifers	Cabbage Maggot	Diptera	• Row covers • Insecticidal seed treatment or soil insecticide at planting
	Cabbage Looper	Lepidoptera	• Parasitoids • Bt (*Bacillus thuringiensis*) • Pyrethroids
Cucurbits	Striped Cucumber Beetle	Coleoptera	• Kaolin clay (Surround) • Imidacloprid
	Squash Vine Borer	Lepidoptera	• Kaolin clay (Surround) • Pyrethroids
	Squash Bug	Hemiptera	• Hand removal and destruction • Removal of plant debris after harvest • Imidacloprid
	Cutworm	Lepidoptera	• Collars placed around plants • Carbaryl (Sevin) • Pyrethroids
Domestic Animals	Face Fly	Diptera	• Insecticide impregnated ear tags • Self-treatment dust bags and oilers • Feed additive insecticides • Animal sprays
	Horse and Deer Fly	Diptera	• CO2 baited traps • Animal sprays
	Stable Fly	Diptera	• Sanitization around stable or corral • Residual surface sprays
	Horn Fly	Diptera	• Walk-through trap • Insecticide impregnated ear tags • Self-treatment dust bags and oilers • Feed additive insecticides • Pour-on insecticides • Animal sprays
	Cattle Grub (Dairy)	Diptera	• Pour-on insecticides for non-lactating cattle

Host:	*Insect:*	*Order:*	• *Control:*
			• Injectible insecticides for non-lactating cattle
	Cattle Grub (Beef)	Diptera	• Pour-on insecticides • Injectible insecticides
	Sheep Ked	Diotera	• Spring sheering • Pour-on insecticides • Animal sprays and dusts
	Chewing Lice (Dairy)	Phthiraptera (suborder Mallophaga)	• Check and treat new animals before adding to herd • Self treatment dust bags and oilers • Pour-on insecticides • Animal sprays and dusts
	Chewing Lice (Beef)	Phthiraptera (suborder Mallophaga)	• Check and treat new animals before adding to herd • Self treatment dust bags and oilers • Pour-on insecticides • Animal sprays and dusts
	Sucking Lice	Phthiraptera (suborder Anoplura)	• Check and treat new animals before adding to herd • Self treatment dust bags and oilers • Pour-on insecticides • Animal sprays and dusts
	Bot Fly	Diptera	• Bath with warm H20 • Feed additive insecticides
	Tick	Acari	• Check and remove by hand • Animal sprays
	Flea	Siphonaptera	• Insecticide treated collars • Animal sprays and dusts
	Northern Fowl Mite (Poultry)	Acari	• Animal sprays and dusts
Forest and Shade Tree	Tent Caterpillar	Lepidoptera	• Remove and destroy egg cases • Remove nests from branches • Bt (*Bacillus thuringiensis*) • Carbaryl (Sevin)
	Locust Borer	Coleoptera	• Promote tree vitality • Prune and destroy infested plant parts • Carbaryl (Sevin)
	Poplar leaf weevil	Coleoptera	• Imidacloprid • Carbaryl (Sevin) • Acephate (Orthene)

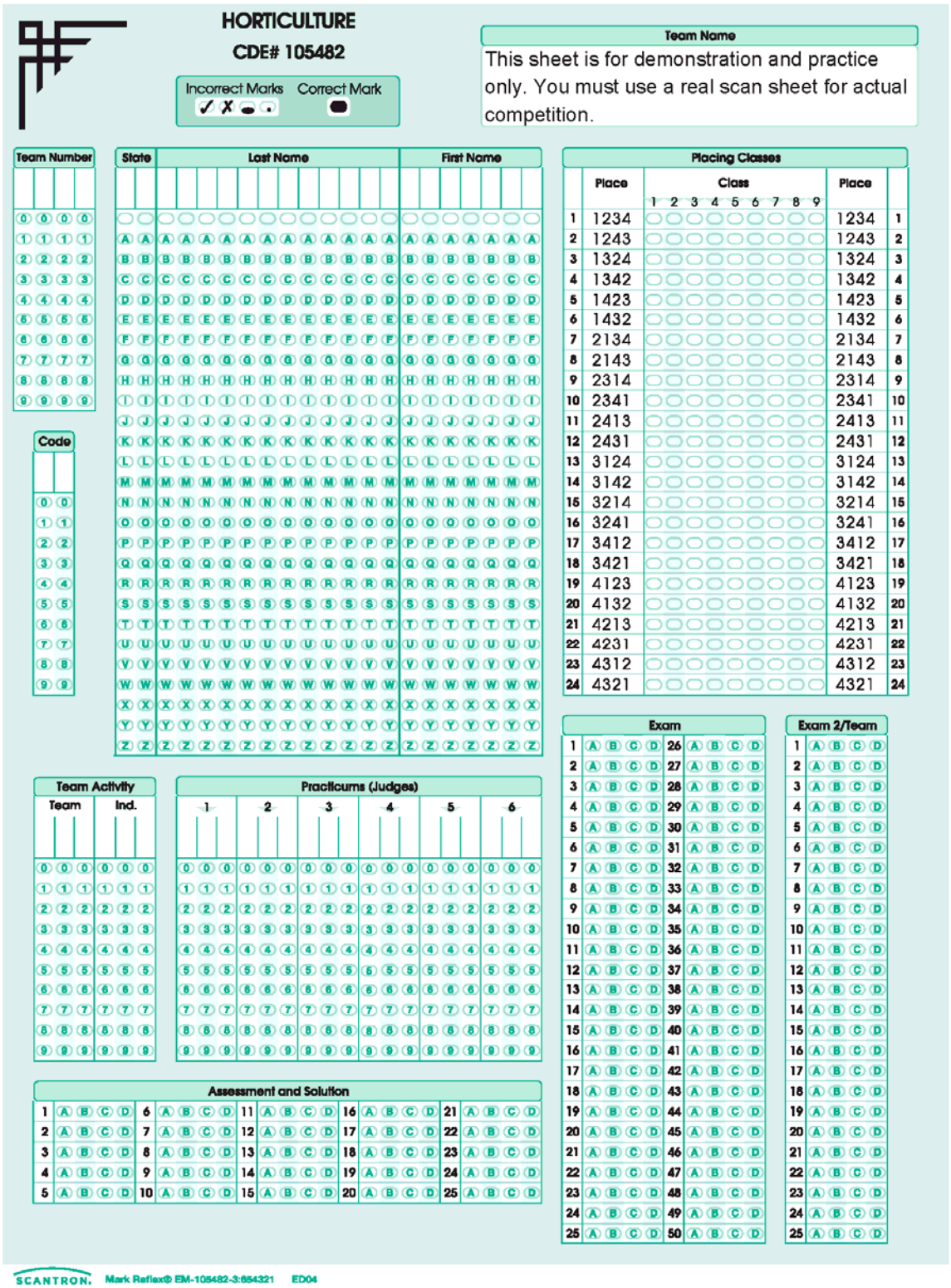
Host:	*Insect:*	*Order:*	• *Control:*
	Gypsy Moth	Lepidoptera	• Remove and destroy egg cases • Pheromone traps • Bt (*Bacillus thuringiensis*) • Nucleopolyhedrosis virus (NPV) • Carbaryl (Sevin)
	Bark Beetles	Coleoptera	• Promote tree vitality • Prune and destroy infested plant parts
	Periodical Cicada	Homoptera	• Cover young trees with netting or other materials • Remove flagging damage and destroy clippings
	Elm Leaf Beetle	Coleoptera	• Imidacloprid • Carbaryl (Sevin)
Household	Indian Meal Moth	Lepidoptera	• Discard infested materials • Store dry foods in tightly sealed containers • Sanitation/Clean-up
	Clothes Moth	Lepidoptera	• Periodic dry cleaning or laundering • Lavandin oil • Naphthalene • Paradichlorobenzene
	Saw-toothed grain beetle	Coleoptera	• Discard infested materials • Store dry foods in tightly sealed containers • Sanitation/Clean-up
	Millipede	Julida	• Removal of plant refuse/debris • Seal cracks and other openings • Hand removal and destruction
	Silverfish	Thysanura	• Keep infested areas clean and dry • Boric acid • Pyrethroids
	Moth Drain Fly	Diptera	• Clean drain pipes and traps • Pyrethroids
	Termites	Isoptera	• Contact a reliable pest control operator
	Clover Mite	Acari	• Remove grass growing next to foundation of homes • Perimeter spray with miticide • Vacuum/wipe up with damp cloth
	Carpet Beetle	Coleoptera	• Sanitation/Clean-up • Periodic dry cleaning or laundering • Store dry foods, woolens, furs in tightly sealed containers • Pyrethroids

Host:	*Insect:*	*Order:*	• *Control:*
	Carpenter Ant	Hymenoptera	• Eliminate high moisture conditions • Replace moisture-damaged wood • Baits • Pyrethroids
	Cockroach	Blattaria	• Sanitation/Clean-up • Boric Acid • Baits/Gels
	Sowbug	Isopoda	• Removal of plant refuse/debris • Seal cracks and other openings • Hand removal and destruction
	Carpenter Bee	Hymenoptera	• Paint exposed wood surfaces • Plug entrance holes • Carbaryl (Sevin) • Pyrethroids
	Powder Post Beetle	Coleoptera	• Use properly stored and dried wood • Paint, seal, or varnish exposed wood surfaces • Removal and destruction of infested items • Fumigation
	Boxelder Bug	Hemiptera	• Remove seed bearing boxelder • Seal cracks and other openings • Maintain tight fitting screens • Carbaryl (Sevin)
	Cluster Fly	Diptera	• Seal cracks and other openings • Maintain tight fitting screens • Fly swatter • Aerosol sprays
Insects of Annoyance and Public Health	Mosquito	Diptera	• Eliminate breeding sites • Limit exposure during dawn and dusk • Insect repellants
	Tick (Deer and American Dog)	Acari	• Insect repellants • Avoid walking through tall grass and weeds • Check and remove by hand
	Buffalo Gnat	Diptera	• Insect repellants
	Bed Bug	Hemiptera	• Sanitation/Clean-up

Host:	*Insect:*	*Order:*	• *Control:*
			• Wash and dry clothes and bed linens at high temperature • Pyrethroids • Contact a reliable pest control operator
	Lice (Human)	Phthiraptera (suborder Anoplura)	• Use nit combs to remove lice and their eggs • Wash and dry clothes and bed linens at high temperature • Insecticidal shampoos and lotions
	House Fly	Diptera	• Sanitation/Clean-up • Fly swatter • Aerosol sprays
	Wasp, Hornet, Yellow Jacket	Hymenoptera	• Fly swatter • Aerosol sprays (treatment of nest)
	Spider	Araneae	• Seal cracks and other openings • Maintain tight fitting screens • Remove sheltering sites adjacent to the home • Aerosol sprays
Lawn	Chinch Bug	Hemiptera	• Keep thatch to a minimum • Predators • Carbaryl (Sevin) • Imidacloprid (Merit)
	White Grub	Coleoptera	• Establish tall fescue turf • Insect parasitic nematodes • Milky spore disease • Imidacloprid (Merit)
	Sod Webworm	Lepidoptera	• Establish tall fescue turf • Insect parasitic nematodes • Bt (*Bacillus thuringiensis*) • Carbaryl (Sevin)
Oats	Cereal Leaf Beetle	Coleoptera	• Predators and/or parasitoids • Carbaryl (Sevin) • Pyrethroids
Ornamental	Bagworm	Lepidoptera	• Remove and destroy bags • Bt (*Bacillus thuringiensis*) • Carbaryl (Sevin)
	Lace Bug	Hemiptera	• Promote tree vitality • Insecticidal soap • Horticultural oil • Carbaryl (Sevin)

Host:	*Insect:*	*Order:*	• *Control:*
	Scale Insects	Homoptera	• Prune and destroy infested plant parts • Dormant horticultural oil • Imidacloprid
	Black Vine Weevil	Coleoptera	• Insect parasitic nematodes • Imidacloprid • Pyrethroids
	Thrips	Thysanoptera	• Predators • Spinosad • Imidacloprid • Pyrethroids
	Japanese Beetle	Coleoptera	• Milky spore disease • Carbaryl (Sevin) • Pyrethroids
	Spider Mites	Acari	• Predators • Dormant horticultural oil • Insecticidal soap • Abamectin
Peach	Plum Curculio	Coleoptera	• Thiamethoxam (Actara, Endigo) • Phosmet (Imidan)
	Peach Tree Borer	Lepidoptera	• Pheromone traps • Organophosphates • Pyrethroids
	Oriental Fruit Moth	Lepidoptera	• Pheromone traps • OFM sprayable pheromone • Spinetoram (Delegate) • Pyrethroids
Potato	Potato Leafhopper	Homoptera	• Promote plant vitality • Neonicotinoids • Pyrethroids
	Colorado Potato Beetle	Coleoptera	• Crop rotation • Spinosad (Entrust) • Neonicotinoids
	Potato Aphid	Homoptera	• Predators and/or parasitoids • Neonicotinoids
Tobacco	Tobacco Hornworm	Lepidoptera	• Hand removal and destruction • Predators and/or parasitoids • Bt (*Bacillus thuringiensis*) • Bifenthrin
	Tobacco Budworm	Lepidoptera	• Predators and/or parasitoids • Spinosad (Tracer) • Imidacloprid
Tomato	Tomato Hornworm	Lepidoptera	• Hand removal and destruction

Host:	***Insect:***	***Order:***	• ***Control:***
			• Predators and/or parasitoids • Bt (*Bacillus thuringiensis*) • Bifenthrin
	Tomato Fruitworm	Lepidoptera	• Parasitoids • Bt (*Bacillus thuringiensis*) • Spinosad (Entrust) • Bifenthrin
	Flea Beetle	Coleoptera	• Carbaryl (Sevin) • Pyrethroids


HORTICULTURE
CDE# 105482
Incorrect Marks
Correct Mark
Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team Number
State
Last Name
First Name
Code
Placing Classes
Place
Class
1 2 3 4 5 6 7 8 9
Place
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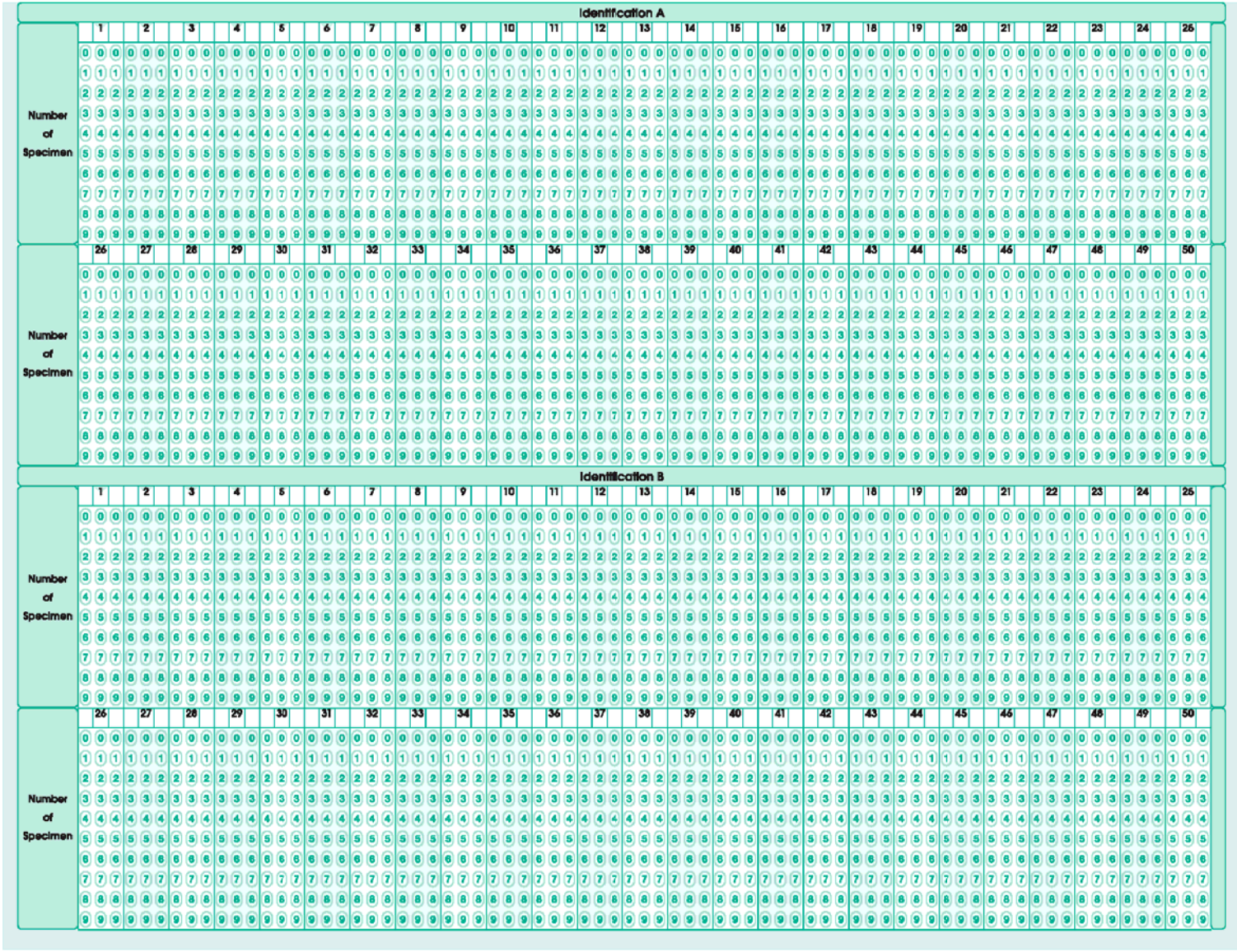
23 4312 4312 23
24 4321 4321 24
Exam
Exam 2/Team
Team Activity
Team
Ind.
Practicums (Judges)
1
2
3
4
5
6
Assessment and Solution
SCANTRON
Mark Reflex® EM-105482-3:654321 ED04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Number of Specimen
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Identification B
Number of Specimen
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

Entomology CDE Code Sheet

Revised 4/12/2019

Host

001. Alfalfa
002. Apple
003. Bean
004. Beneficial Insects
005. Corn
006. Crucifers
007. Cucurbits
008. Domestic Animals
009. Forest and Shade Tree
010. Household
011. Insects of Annoyance and Public Health
012. Lawn
013. Oats
014. Ornamental
015. Peach
016. Potato
017. Tobacco
018. Tomato

Insect

001. Alfalfa Weevil
002. Apple Maggot
003. Armyworm
004. Bagworm
005. Bark Beetles
006. Bed Bug
007. Black Vine Weevil
008. Bot Fly
009. Boxelder Bug
010. Buffalo Gnat
011. Bumble Bee
012. Cabbage Looper
013. Cabbage Maggot
014. Carpenter Ant
015. Carpenter Bee
016. Carpet Beetle
017. Cattle Grub (Beef)
018. Cattle Grub (Dairy)
019. Cereal Leaf Beetle
020. Chewing Lice (Beef)
021. Chewing Lice (Dairy)
022. Chinch Bug
023. Clothes Moth
024. Clover Mite
025. Cluster Fly
026. Cockroach
027. Codling Moth
028. Colorado Potato Beetle
029. Corn Earworm
030. Corn Leaf Aphid
031. Corn Rootworm
032. Corn Seed Maggot
033. Cutworm
034. Dragon Fly and Damsel Fly
035. Elm Leaf Beetle
036. European Corn Borer
037. Face Fly
038. Flea
039. Flea Beetle
040. Flea Beetles
041. Gypsy Moth
042. Honey Bee
043. Horn Fly
044. Horse and Deer Fly
045. House Fly
046. Indian Meal Moth
047. Japanese Beetle
048. Lace Bug
049. Lace Wing
050. Lady Bug
051. Leafhopper
052. Lice (Human)
053. Locust Borer
054. Mexican Bean Beetle
055. Millipede
056. Mosquito
057. Moth Drain Fly
058. Northern Fowl Mite (Poultry)
059. Oriental Fruit Moth
060. Peach Tree Borer
061. Periodical Cicada
062. Plum Curculio
063. Poplar leaf weevil
064. Potato Aphid
065. Potato Leafhopper
066. Powder Post Beetle
067. Praying Mantis
068. San Jose Scale
069. Saw-toothed grain beetle
070. Scale Insects
071. Sheep Ked
072. Silverfish
073. Sod Webworm
074. Sowbug
075. Spider
076. Spider Mites
077. Spider Mites
078. Squash Bug
079. Squash Vine Borer
080. Stable Fly
081. Striped Cucumber Beetle
082. Sucking Lice
083. Syrphid Fly
084. Tent Caterpillar
085. Termites
086. Thrips
087. Tick
088. Tick (Deer and American Dog)
089. Tobacco Budworm
090. Tobacco Hornworm
091. Tomato Fruitworm
092. Tomato Hornworm
093. Wasp, Hornet, Yellow Jacket
094. White Grub
095. Wireworm

Order

001. Acari
002. Araneae
003. Blattaria
004. Coleoptera
005. Diotera
006. Diptera
007. Hemiptera
008. Homoptera
009. Hymenoptera
010. Isopoda
011. Isoptera
012. Julida
013. Lepidoptera
014. Mantodea
015. Neuroptera
016. Odanata
017. Phthiraptera (suborder Anoplura)
018. Phthiraptera (suborder Mallophaga)
019. Siphonaptera
020. Thysanoptera
021. Thysanura

Controls

001. Abamectin
002. Acephate (Orthene)
003. Acetamiprid (Assail)
004. Aerosol sprays
005. Aerosol sprays (treatment of nest)
006. Animal sprays
007. Animal sprays and dusts
008. Avoid walking through tall grass and weeds
009. Baits
010. Baits/Gels
011. Bath with warm H20
012. Bifenthrin
013. Boric acid
014. Bt (*Bacillus thuringiensis*)
015. Carbaryl (Sevin)
016. Check and remove by hand
017. Check and treat new animals before adding to herd
018. Clean drain pipes and traps
019. CM granulovirus (Cyd-X)
020. CO2 baited traps
021. Collars placed around plants
022. Contact a reliable pest control operator
023. Cover young trees with netting or other materials
024. Crop rotation
025. Discard infested materials
026. Dormant horticultural oil
027. Early harvest
028. Eliminate breeding sites
029. Eliminate high moisture conditions
030. Establish tall fescue turf
031. Feed additive insecticides
032. Fly swatter
033. Fumigation
034. Hand removal and destruction
035. Horticultural oil
036. Imidacloprid
037. Imidacloprid (Merit)
038. Injectible insecticides
039. Injectible insecticides for non-lactating cattle
040. Insect parasitic nematodes
041. Insect predator
042. Insect repellants
043. Insecticidal seed treatment or soil insecticide at planting
044. Insecticidal shampoos and lotions
045. Insecticidal soap
046. Insecticide impregnated ear tags
047. Insecticide treated collars
048. Kaolin clay (Surround)
049. Keep infested areas clean and dry
050. Keep thatch to a minimum
051. Lavandin oil
052. Limit exposure during dawn and dusk
053. Maintain tight fitting screens
054. Milky spore disease
055. Naphthalene
056. Neonicotinoids
057. Nucleopolyhedrosis virus (NPV)
058. OFM sprayable pheromone
059. Organophosphates
060. Paint exposed wood surfaces
061. Paint, seal, or varnish exposed wood surfaces
062. Paradichlorobenzene
063. Parasitoids
064. Parasitoids and/or pathogens
065. Perimeter spray with miticide
066. Periodic dry cleaning or laundering
067. Pheromone traps
068. Phosmet (Imidan)
069. Plant early
070. Plant early and/or fall plantings
071. Plant pollination
072. Plug entrance holes
073. Pour-on insecticides
074. Pour-on insecticides for non-lactating cattle
075. Predators
076. Predators and/or parasitoids
077. Promote plant vitality
078. Promote tree vitality
079. Prune and destroy infested plant parts
080. Pyrethroids
081. Pyriproxyfen (Esteem)
082. Removal and destruction of infested items
083. Removal of plant debris after harvest
084. Removal of plant refuse/debris
085. Remove and destroy bags
086. Remove and destroy egg cases
087. Remove flagging damage and destroy clippings
088. Remove grass growing next to foundation of homes
089. Remove nests from branches
090. Remove seed bearing boxelder
091. Remove sheltering sites adjacent to the home
092. Replace moisture-damaged wood
093. Residual surface sprays
094. Resistant plant varieties
095. Row covers
096. Sanitation/Clean-up
097. Sanitization around stable or corral
098. Seal cracks and other openings
099. Self treatment dust bags and oilers
100. Soil insecticide at planting
101. Spinetoram (Delegate)
102. Spinosad
103. Spinosad (Entrust)
104. Spinosad (Tracer)
105. Spring sheering
106. Sticky balls
107. Store dry foods in tightly sealed containers
108. Store dry foods, woolens, furs in tightly sealed containers
109. Thiamethoxam (Actara, Endigo)
110. Use nit combs to remove lice and their eggs
111. Use properly stored and dried wood
112. Useful product
113. Vacuum/wipe up with damp cloth
114. Walk-through trap
115. Wash and dry clothes and bed linens at high temperature
116. NONE CURRENTLY AVAILABLE

Farm Business Management

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Ag Sales/FB Mgmt./Ag. Mech – CDE# 105481
Committee: Craig Canterbury Tim Cunnien Charity Marstiller Brianne McCauley John Workman	

Purpose

The Agribusiness Management Career Development Event provides competition that fosters information assimilation, critical thinking and problem-solving skills necessary to successfully manage a farm or pursue farm business management careers. The Agribusiness Management Career Development Event enhances and encourages opportunities for all participants to receive instruction that develops farm business management skills.

Event Objectives

The event objectives are for participants to demonstrate their ability to:

- analyze farm/ranch business management information.
- apply economic principles and concepts of farm business management to the decision making process.
- evaluate farm business management decisions.
- work together cooperatively as a group.

The Farm Business Management portion of the CDE is expected to take from two to three hours. Specifically, for this year's event:

1. The computer exercise that was a part of previous WV Farm Business Management CDEs has been eliminated.

2. Similar to previous WV Farm Business Management CDEs, this year the WV Farm Business Management CDE will have a multiple choice question exercise consisting of 30 to 60 questions covering basic microeconomic and financial concepts.

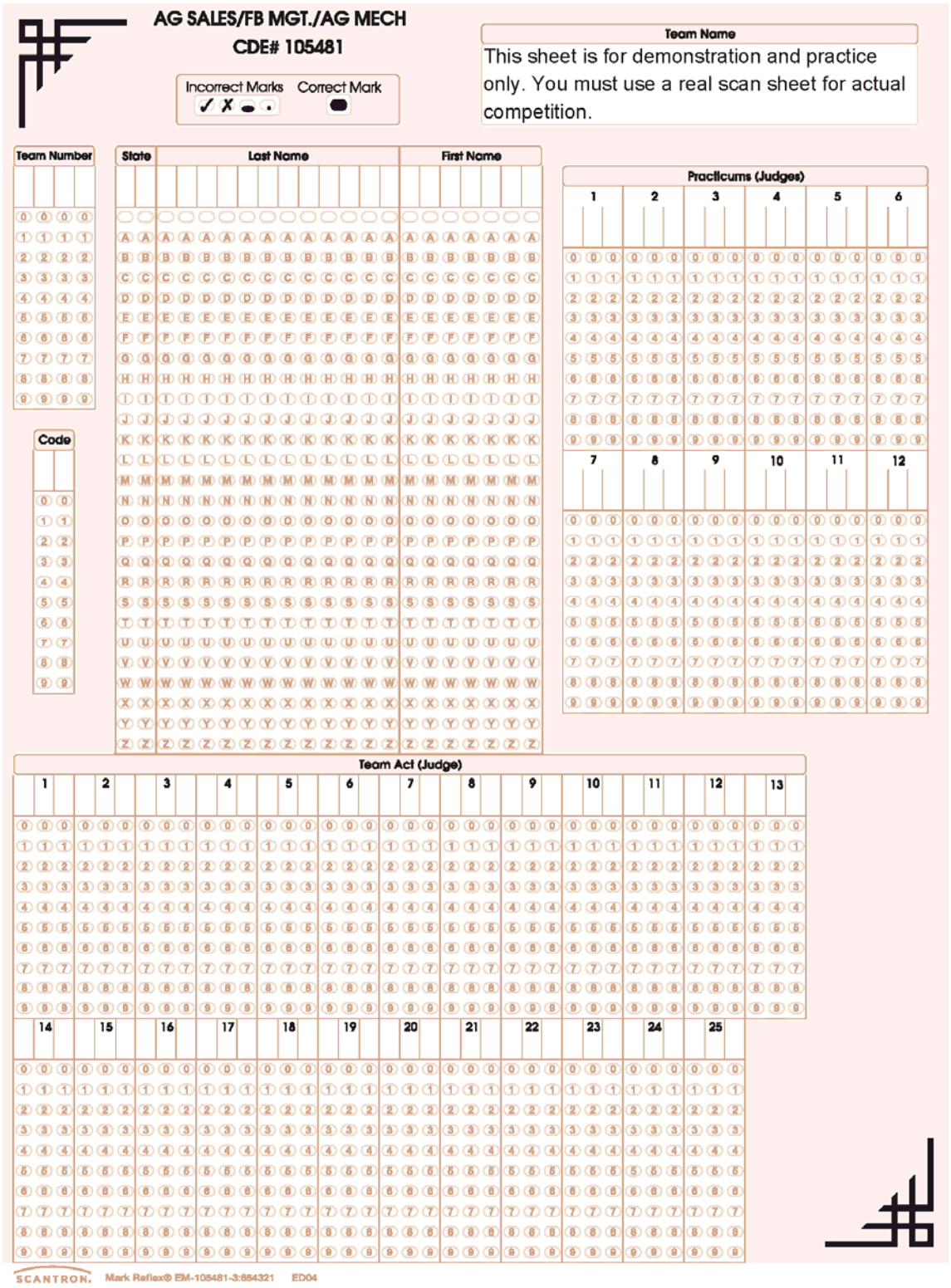
3. A section that requires the ability to interpret, understand, and use **enterprise budgets** has been added to this year's WV Farm Business Management CDE. The enterprise budget could be for a crop, crop rotation (e.g., corn-soybean), cattle operation, dairy operation, or any other farm operation. Enterprise budgets vary slightly depending upon the institution that

generates them, but the basic information in all enterprise budgets is the same. For the Farm Business Management portion of the CDE at West Virginia University, enterprise budgets from Penn State University (http://extension.psu.edu/, http://agguide.agronomy.psu.edu/cm/sec12/sec12toc.cfm) The Ohio State University (http://aede.osu.edu/Programs/FarmManagement/Budgets/), the University of Wisconsin (http://cdp.wisc.edu/crop%20enterprise.htm), and/or past National FFA Farm Business Management CDEs may be used.

4. Another addition to the WV Farm Business Management CDE is a section for participants to assess alternative farm operations using **partial budgeting** techniques. Participants will be given a minimum of two scenarios in which they will be required to determine whether or not a new operation, management system, or other change to an enterprise should be adopted.

5. Finally, a portion of the event requires the participant's ability to interpret, analyze, and use **cash flow statements**.

6. Each of the Farm Business Management CDE sections may require students to define terms (either multiple choice questions or matching terms and definitions).


AG SALES/FB MGT./AG MECH
CDE# 105481
Incorrect Marks
Correct Mark
Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team Number
State
Last Name
First Name
Practicums (Judges)
Code
Team Act (Judge)
SCANTRON
Mark Reflex® EM-105481-3:654321 ED04

Written Exam A

1	A B C D E	21	A B C D E	41	A B C D E	61	A B C D E	81	A B C D E
2	A B C D E	22	A B C D E	42	A B C D E	62	A B C D E	82	A B C D E
3	A B C D E	23	A B C D E	43	A B C D E	63	A B C D E	83	A B C D E
4	A B C D E	24	A B C D E	44	A B C D E	64	A B C D E	84	A B C D E
5	A B C D E	25	A B C D E	45	A B C D E	65	A B C D E	85	A B C D E
6	A B C D E	26	A B C D E	46	A B C D E	66	A B C D E	86	A B C D E
7	A B C D E	27	A B C D E	47	A B C D E	67	A B C D E	87	A B C D E
8	A B C D E	28	A B C D E	48	A B C D E	68	A B C D E	88	A B C D E
9	A B C D E	29	A B C D E	49	A B C D E	69	A B C D E	89	A B C D E
10	A B C D E	30	A B C D E	50	A B C D E	70	A B C D E	90	A B C D E
11	A B C D E	31	A B C D E	51	A B C D E	71	A B C D E	91	A B C D E
12	A B C D E	32	A B C D E	52	A B C D E	72	A B C D E	92	A B C D E
13	A B C D E	33	A B C D E	53	A B C D E	73	A B C D E	93	A B C D E
14	A B C D E	34	A B C D E	54	A B C D E	74	A B C D E	94	A B C D E
15	A B C D E	35	A B C D E	55	A B C D E	75	A B C D E	95	A B C D E
16	A B C D E	36	A B C D E	56	A B C D E	76	A B C D E	96	A B C D E
17	A B C D E	37	A B C D E	57	A B C D E	77	A B C D E	97	A B C D E
18	A B C D E	38	A B C D E	58	A B C D E	78	A B C D E	98	A B C D E
19	A B C D E	39	A B C D E	59	A B C D E	79	A B C D E	99	A B C D E
20	A B C D E	40	A B C D E	60	A B C D E	80	A B C D E	100	A B C D E

Written Exam B

1	A B C D E	21	A B C D E	41	A B C D E	61	A B C D E	81	A B C D E
2	A B C D E	22	A B C D E	42	A B C D E	62	A B C D E	82	A B C D E
3	A B C D E	23	A B C D E	43	A B C D E	63	A B C D E	83	A B C D E
4	A B C D E	24	A B C D E	44	A B C D E	64	A B C D E	84	A B C D E
5	A B C D E	25	A B C D E	45	A B C D E	65	A B C D E	85	A B C D E
6	A B C D E	26	A B C D E	46	A B C D E	66	A B C D E	86	A B C D E
7	A B C D E	27	A B C D E	47	A B C D E	67	A B C D E	87	A B C D E
8	A B C D E	28	A B C D E	48	A B C D E	68	A B C D E	88	A B C D E
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20	A B C D E	40	A B C D E	60	A B C D E	80	A B C D E	100	A B C D E

Floriculture

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Horticulture – CDE# 105482
Committee: Leon Ammons Ben Hays John Kessel Mary Phillips John Workman	

An $40 fee will be assessed per team to cover supplies required for the contest. This is in addition to the traditional fee assessed to cover Scantron supplies.

Purpose of the Contest

To stimulate the study of and interest in production and retailing of flowers, plants, foliage and vegetables through the agriculture education curriculum.

Objectives of the Contest

1. Identify floriculture, vegetables and bedding plant materials.
2. Identify and treat unhealthy plants due to pest, nutritional, mechanical or chemical injury.
3. Understand the biological and scientific principles and develop the skills underlying propagation, growth requirements, growing techniques, harvesting, marketing and maintenance of established floriculture and vegetable plants.
4. Understand principles and develop skills of floral design.
5. Identify and select appropriate supplies and equipment for flower shop and greenhouse.
6. Understand and demonstrate the use of safety procedures and practices in floriculture operations.
7. Operate and maintain appropriate equipment for floriculture operations.
8. Understand and demonstrate interpersonal skills prerequisite to successful employment in floriculture industry.
9. Understand and demonstrate proper sales and service skills.
10. Maintain records and proper reports that are accurate and legible.

Contest Rules and Procedures

1. The contest will have four phases: Identification of plant materials, general knowledge examination, problem-solving, and practicums.
2. Under no circumstances will any contestant be allowed to touch or handle plant material during the contest except during the practicums.
3. Observers will not be permitted in the contest area while that contest is in progress.

4. Any communications between contestants from the same team during the contest will be sufficient cause to eliminate the team from the contest.
5. To facilitate the holding of scantron score sheets during the contest, all contestants must also bring their own pencils and clipboard (a minimum of two No. 2 pencils).

Phase 1 - IDENTIFICATION OF PLANT MATERIALS (200 points)

Fifty specimens from the floriculture plant and equipment identification list will be displayed for participants to identify by technical and common names. A number will designate each specimen. Four points will be awarded for each specimen that is correctly identified. Each participant will be allowed 25 minutes to complete this phase of the event.

Phase 2 - GENERAL KNOWLEDGE EXAMINATION (200 points)

Participants will answer 50 multiple choice questions that cover all areas of the floriculture industry as reflected in the event objectives. This phase of the event will test participants' knowledge and understanding of basic biological and scientific principles of producing and marketing flowers, plants and foliage. Each participant will be allowed 50 minutes to complete the exam. Each answer has a value of four points.

Test questions will come from the past ten years of the National Floriculture CDE Tests. Each year the latest test will be added and the oldest test removed from the question pool.

Phase 3 - PROBLEM-SOLVING/DECISION-MAKING (200 points)

Each participant will solve ten problems related to the various aspects of the floriculture industry identified in the event objectives. Each problem will describe the situation or create the problem and list four possible solutions to the problem. The participant must decide on the best possible solution to the problem. All materials and information necessary to solve the problem will be available to the participant as he/she solves the problem. Each participant will be allowed 50 minutes to complete this phase of the event. Each correct solution has a value of 20 points.

Phase 4 – Annual PRACTICUM (300 POINTS)

Each participant will complete **two annual practicums**:

1. FLORAL ARRANGEMENT
2. GROWING PROCEDURES

FLORAL ARRANGEMENT (100 POINTS)

Make a $55 floral arrangement (The $55 cost will include both labor and tax and be within fifty cents either way of the $55). The event superintendent will announce the type of arrangement during the team orientation meeting. Using the materials provided, participants will be allowed 20 minutes to complete their arrangements and itemized bills. The event assistant at the beginning of the practicum will provide participants the retail price of the flowers and foliage

that they will use in their arrangements. The markup will be built into the retail price. When the participant has determined the total arrangement cost, he or she has included the markup. Retail cost of flowers and foliage given to the participant will be determined after polling florists to determine their current retail prices on the flowers and foliage used in the event. Scoring criteria are presented on the floral arrangement practicum scorecard which will be recorded by a judge.

Explanation of Floral Arrangement Terms

- Design: Category Interpretation: Design follows objective/scenario given
- Balance: Physical and visual
- Creativity: Artistic inventiveness
- Depth: Placement of materials at different levels throughout the arrangement
- Focal Emphasis: Design has one area of design that attracts the eye to it
- Line: Movement
- Mechanics: Professional techniques and application
- Scale: Proportion
- Unity: Cohesiveness of design

GROWING PROCEDURES (100 POINTS)

One of the three below will be demonstrated on an annual basis. Twenty minutes will be allowed for this section including questions from the judges.

Potting of Young Plants (Plugs or Liners)

- Participants will be asked to plant young plants in the pots provided. Each participant will be given a group of young plants from which to select their transplants from; an appropriate pot or pots; potting medium at the correct moisture level, ID stake and a marking pencil.
- Scoring criteria are presented on the plant potting practicum scorecard which will be recorded by a judge.

Asexual Propagation of Plants

- Each participant will be provided the parent plant materials and all other materials needed to propagate plants asexually. Using the available materials, participants will take cuttings from the plant before them and stick them in rooting media labeled correctly. Participants should sanitize all equipment and use appropriately in a safe manner.
- Scoring criteria are presented on the asexual plant propagation scorecard which will be recorded by a judge.

Pinching Plants

- A plant will be placed before each participant. The participant will be given instructions as to what they are to do to the plant by the event assistant in charge of the practicum. Participants will be judged on the procedures they follow in pinching the plant.
- Scoring criteria are presented on the pinching plant scorecard which will be recorded by a judge.

Phase 5 - Rotating Practicum (75 points)

In addition to the two annual practicums, one rotating practicum will be selected from the list below for each noted year. The three to be used will be identified by the event superintendent in the annual team orientation packet that is available during the summer prior to convention on the CDE webpage.

MAKE AND PACKAGE A CORSAGE (75 POINTS)

Each participant will make and package a $25 corsage. The type of corsage and information about the corsage will be announced by the event assistant in charge at the beginning of the practicum. All plant and non-plant materials needed to construct and package the corsage will be provided. Each participant will be allowed 20 minutes to complete the construction of the corsage and complete an itemized listing of costs for the corsage constructed. Scoring criteria are presented on the making and packing a corsage scorecard which will be recorded by a judge.

IDENTIFYING AND CONTROLLING PLANT DISORDERS (75 POINTS)

Pest and disorder items may be presented as an intact specimen, photograph or preserved specimen (herbarium sheet, insect mount, etc.). Each specimen will be designated by a station number. The participant must identify the item and its classification (nutritional/ environmental, insect/ pest, or disease). The participant then must determine the damage location as well as chemical and culture controls for the disorder. Each participEach participant will identify 15 specimens total for this event. No specimens or items may be touched or handled in any way. Fifteen minutes will be allowed for this event. Refer to the Disorder Practicum Scorecard for additional details.

The plant disorders will come from the following list of disorders.

Nutritional and Environmental Disorders		
• Cold temperature (freeze) • Cold water damage	• Ethylene damage • Insufficient water damage • Iron deficiency	• Nitrogen deficiency • Phosphorus deficiency
Diseases		
• Botrytis – Gray mold • Damping-off • Downy mildew	• Leaf spot (Black) • Powdery mildew • Root rot	• Rust • Stem rot • Tospovirus (INSV and TSWV)
Insects and Pests		
• Aphids • Fungus gnats • Leaf miner • Leafhopper	• Mealybugs • Scale • Shore flies • Snails/ Slugs	• Spider mites • Thrips • Whiteflies

HANDLING A HAZARDOUS SITUATION (75 POINTS)

Each participant will be presented with a hazardous situation that could develop in a floriculture business. The participant will be asked to explain how to resolve the problem. The participant will be evaluated on their understanding of the problem and procedures and practices followed in resolving the problem. Ten minutes will be allowed for this practicum.

Scoring criteria are presented on the hazardous situation scorecard which will be recorded by a judge.

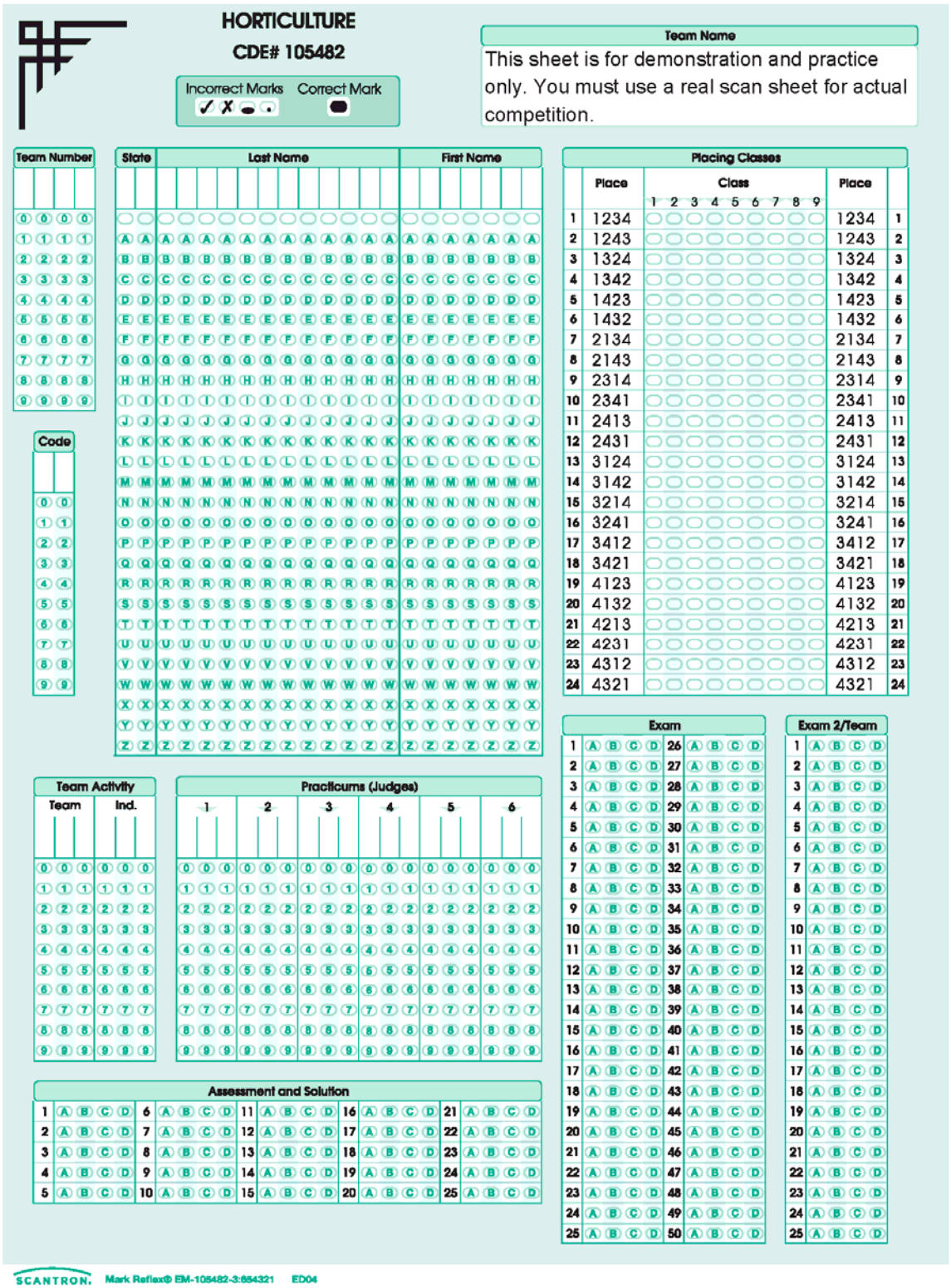
Scoring

PHASE	Individual Points	Team Points
Identification of Plant Material and Equipment	200	800
General Knowledge	200	800
Problem Solving	200	800
Annual Practicums	200	800
Rotational Practicums	75	300
Total	875	3,500

TIEBREAKERS

If ties occur the following events will be used in order to determine award recipients:

1. Written Exam
2. Plant and Equipment Identification
3. Floral Arrangement Practicum
4. Growing Procedures



HORTICULTURE

CDE# 105482

Incorrect Marks ✓ ✗ Correct Mark

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team Number

State

Last Name

First Name

Code

Placing Classes

	Place	Class 1 2 3 4 5 6 7 8 9	Place	
1	1234		1234	1
2	1243		1243	2
3	1324		1324	3
4	1342		1342	4
5	1423		1423	5
6	1432		1432	6
7	2134		2134	7
8	2143		2143	8
9	2314		2314	9
10	2341		2341	10
11	2413		2413	11
12	2431		2431	12
13	3124		3124	13
14	3142		3142	14
15	3214		3214	15
16	3241		3241	16
17	3412		3412	17
18	3421		3421	18
19	4123		4123	19
20	4132		4132	20
21	4213		4213	21
22	4231		4231	22
23	4312		4312	23
24	4321		4321	24

Team Activity

Team | Ind.

Practicums (Judges)

1 | 2 | 3 | 4 | 5 | 6

Exam

1	26		
2	27		
3	28		
4	29		
5	30		
6	31		
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22	47		
23	48		
24	49		
25	50		

Exam 2/Team

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Assessment and Solution

1	6	11	16	21					
2	7	12	17	22					
3	8	13	18	23					
4	9	14	19	24					
5	10	15	20	25					

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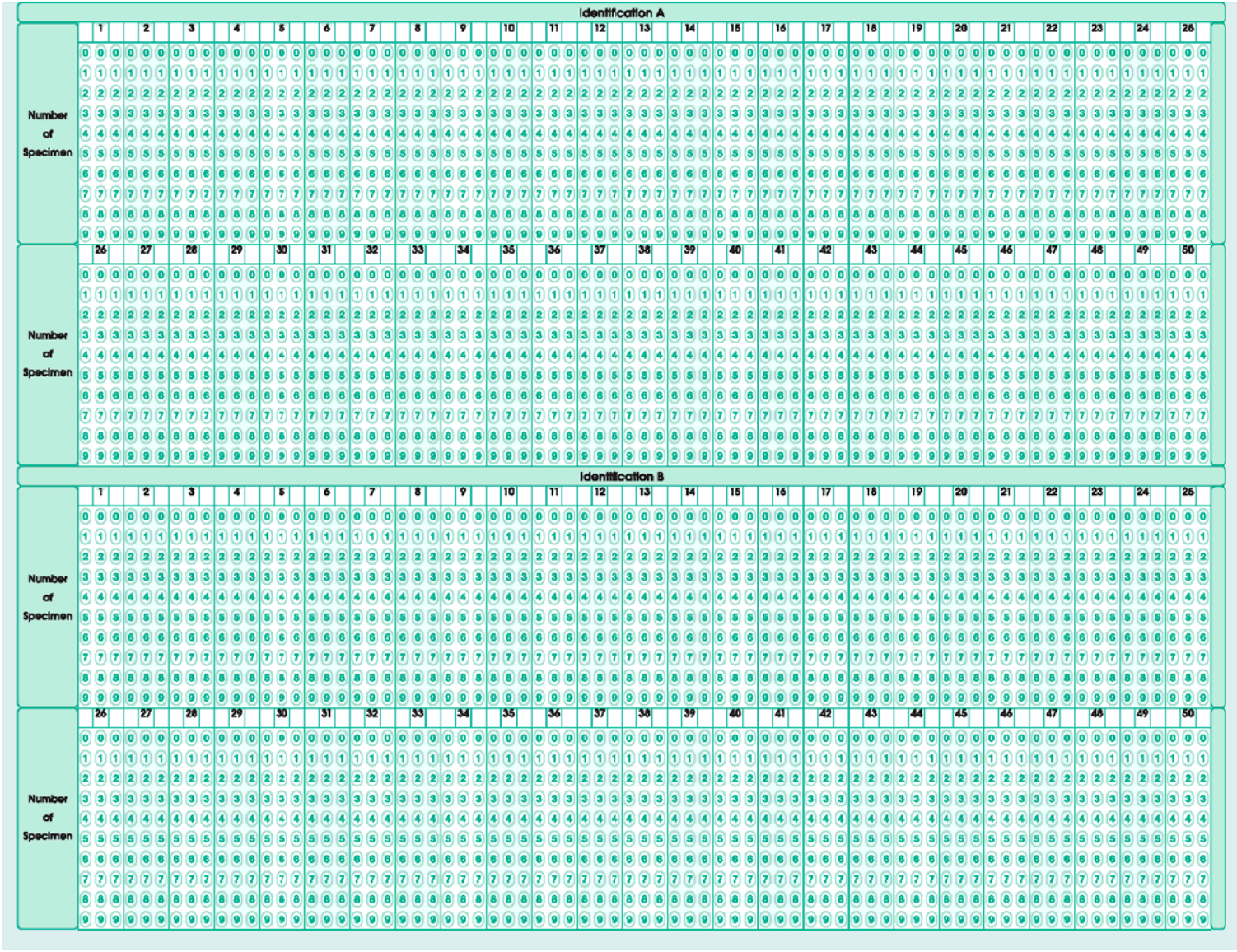

Identification A
Number of Specimen
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
Identification B
Number of Specimen
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

WV Floriculture Plant Identification List

101	Aechmea fasciata cv.	*Silver Vase Bromeliad*
102	Ageratum houstonianum	*Ageratum*
103	Alstroemeria hybrid cv.	*Peruvian Lily*
104	Anemone coronaria	*Anemone*
105	Anethum graveolens cv.	*Dill*
106	Angelonia hybrid cv.	*Angelonia*
107	Anthurium x andraeanum cv.	*Flamingo Plant*
108	Antirrhinum majus cv.	*Snapdragon*
109	Aphelandra squarrosa cv.	*Zebra Plant*
110	Araucaria heterophylla	*Norfolk Island Pine*
111	Asparagus densiflorus	*Sprengeri Fern*
112	Aster pringlei	*Monte Cassino Aster*
113	Astilbe hybrid cv.	*Astilbe*
114	Begonia x semperflorens –cultorum	*Wax Begonia*
115	Begonia x tuberhybrida cv.	*Tuberous Begonia*
116	Caladium x hortulanum cv.	*Caladium*
117	Calibrachoa hybrid cv.	*Million Bells*
118	Callistephus chinensis cv.	*China Aster*
119	Campanula hybrid cv.	*Campanula*
120	Canna x generalis cv.	*Garden Canna*
121	Capsicum annuum	*Ornamental Pepper Plant*
122	Catharanthus roseus	*Vinca*
123	Celosia argentea cv.	*Cockscomb*
124	Chamaedorea elegans	*Parlor Palm*
125	Chamelaucium uncinatum	*Waxflower*
126	Cholorophytum comosum cv.	*Spider Plant*
127	Chrysanthemum x morifolium	*Florist's Chrysanthemum*
128	Clematis hybrid cv.	*Clematis*
129	Codiaeum variegatum pictum	*Croton*
130	Crassula argentea	*Jade Plant*
131	Cycas revoluta cv.	*Sago Palm*
132	Cyclamen x persicum cv.	*Florist's Cyclamen*
133	Cymbidium cv.	*Cymbidium Orchid*
134	Cymbopogon cv.	*Lemongrass (herb)*
135	Dahlia hybrid cv.	*Dahlia*
136	Delphinium consolida cv.	*Larkspur*
137	Dendrobium cv.	*Dendrobium Orchid*
138	Dianthus caryophyllus cv.	*Carnation*
139	Dracaena cincta	*Red Edge Dracaena*
140	Echinocactus cv.	*Barrel Cactus*
141	Epipremnum aureum cv.	*Golden Pothos*
142	Erica carnea cv.	*Spring Heather*
143	Eucalyptus polyanthemos	*Silver Dollar Eucalyptus*
144	Euphorbia pulcherrima cv.	*Poinsettia*
145	Eustoma grandiflorum	*Lisianthus*
146	Exacum affine	*Persian Violet*
147	Ficus benjamina cv	*Benjamin Fig*
148	Ficus elastica cv	*Rubber Plant*
149	Fragaria x ananassa cv.	*Strawberry Plant*
150	Freesia x hybrida	*Freesia*
151	Gardenia jasminoides	*Gardenia*
152	Gerbera jamesonii	*Gerbera Daisy*
153	Gladiolus x hortulanus cv.	*Garden Gladiolus*
154	Gomphrena hybrid cv.	*Globe Amaranths*
155	Gypsophila elegans cv.	*Baby's Breath*
156	Hedera helix cv.	*English Ivy*
157	Helianthus annuus	*Sunflower*
158	Hemerocallis cv.	*Daylily*
159	Hippeastrum hybrid cv.	*Amaryllis*
160	Hosta cv.	*Hosta*
161	Hoya carnosa	*Wax Plant*
162	Hyacinthus orientalis cv.	*Hyacinth*
163	Hydrangea macrophylla	*Big Leaf Hydrangea*
164	Impatiens hybrid cv.	*Impatiens*
165	Impomoea batatas cv.	*Ornamental Sweet Potato*
166	Iris x xiphium cv.	*Dutch Iris*
167	Senecio cineraria	*Dusty Miller*
168	Justica brandegeana	*Shrimp Plant*

Floriculture Plant Identification List continued

169	Kalanchoe x blossfeldiana cv.	*Kalanchoe*
170	Leucanthemum x superbum	*Shasta Daisy*
171	Leucospermum hybrid cv.	*Pin Cushion Protea*
172	Liatris spicata	*Liatris*
173	Lilium hybrid cv.	*Asiatic or Oriental Lily*
174	Limonium sinuatum	*Statice*
175	Lobularia maritima	*Alyssum*
176	Maranta leuconeura	*Prayer Plant*
177	Matthiola incana cv.	*Stock*
178	Monstera deliciosa	*Split Leaf Philodendron*
179	Narcissus hybrid cv.	*Daffodil or Narcissus*
180	Nephrolepis exaltata cv.	*Boston Fern*
181	Ocimum basilicum cv.	*Basil*
182	Opuntia cv.	*Cactus*
183	Paeonia cv.	*Peony*
184	Paphiopedilum hybrid cv.	*Ladyslipper Orchid*
185	Pelargonium x hortorum cv.	*Zonal Geranium*
186	Pelargonium peltatum cv.	*Ivy Geranium*
187	Pentas hybrid cv.	*Pentas*
188	Petroselinum crispum cv.	*Parsley*
189	Petunia x hybrida cv.	*Petunia*
190	Phalaenopsis cv.	*Moth Orchid*
191	Philodendron scandens oxycardium	*Heartleaf Philodendron*
192	Pilea cadierei	*Aluminum Plant*
193	Portulaca oleracea cv.	*Portulaca*
194	Primula malacoides cv.	*Primrose*
195	Ranunculus hybrid cv.	*Ranunculus*
196	Rhododendron simsii cv.	*Florist Azalea*
197	Rosa hybrid cv	*Hybrid Tea Rose*
198	Rumohra adiantiformis	*Leatherleaf Fern*
199	Saintpaulia ionantha cv.	*African Violet*
200	Salvia splendens cv.	*Salvia*
201	Sansevieria trifasciata cv.	*Snake Plant*
202	Schefflera arboricola	*Dwarf Schefflera*
203	Schlumbergera bridgesii	*Christmas Cactus*
204	Sempervivum hybrid cv.	*Hens and Chicks*
205	Senecio x hybridus cv.	*Cineraria*
206	Sinningia speciosa Fyfiana Group cv.	*Florist Gloxinia*
207	Solidago hybrid cv	*Solidago*
208	Solenostemon scutellarioides	*Coleus*
209	Spathiphyllum	*Peace Lily*
210	Stephanotis floribunda	*Stephanotis*
211	Strelitzia reginae	*Bird of Paradise*
212	Syngonium podophyllum	*Nephthytis*
213	Tagetes species cv.	*Marigold*
214	Tradescantia zebrine	*Wandering Jew*
215	Tulipa cv.	*Tulip*
216	Verbena hybrid cv.	*Verbena*
217	Viola x wittrockiana cv.	*Pansy*
218	Zantedeschia hybrid cv.	*Calla Lily*
219	Zinnia cv.	*Zinnia*

Floriculture equipment and supply identification list

301	#100 Ribbon (satin, sheer, wired)
302	#3 Ribbon (satin, sheer, wired)
303	#40 Ribbon (satin, sheer, wired)
304	#9 Ribbon (satin, sheer, wired)
305	18 Gauge floral wire
306	28 Gauge floral wire
307	Anvil-and-blade pruner
308	Backflow preventer
309	Bouquet sleeve
310	Bulb planter
311	Cardette
312	Cell pack containers
313	Ceramic container
314	Chemical resistant gloves
315	Chenille stem
316	Coconut coir
317	Compressed air sprayer
318	Corsage box
319	Corsage pin
320	Corsage snips
321	Drip emitter, irrigation
322	Dry foam
323	Dust mask
324	Duster
325	Ellepot propagation cubes
326	Enclosure card
327	Fern greening pins
328	Fertilizer injectors
329	Floral adhesive
330	Floral foam
331	Floral knife
332	Floral preservate
333	Floral stem tape
334	Fogger
335	Gas mask
336	Glass vase
337	Glue gun
338	Glue pan
339	Glue sticks
340	Goggles
341	Granular fertilizer
342	Greenhouse thermostat
343	Hanging basket
344	Hearing protection
345	Hook-and-blade pruners (bypass pruners)
346	Hose punch
347	Hose repair coupling
348	Hose-end repair fitting
349	Hose-end sprayer
350	Hose-end washer
351	Impulse sprinkler
352	Irrigation tape
353	Irrigation timer
354	Mist nozzle (mist bed)
355	Nosegay holder
356	Nursery container
357	Oscillating sprinkler
358	Peat moss
359	Peat pots
360	Pest strips
361	pH testing meter
362	Polyethylene film
363	Polyethylene pipe
364	Pot covers
365	Propagation mat
366	Propagation trays
367	PVC (polyvinylchloride) pipe
368	PVC pipe cutter
369	Resin-coated fertilizer
370	Respirator
371	Ribbon shears
372	Rice hulls
373	Rockwool propagation cubes
374	Rose and stem flower stripper
375	Safety goggles
376	Sand
377	Scoop shovel
378	Shade fabric
379	Sharpening stone
380	Sheet moss
381	Siphon injector
382	Soil moisture meter
383	Solenoid valve
384	Spaghetti tubing (1/4" diameter or less)
385	Spanish moss
386	Sphagnum moss
387	Spray suit
388	Square point (flat) shovel
389	Styrofoam
390	Surestik cling
391	Tulle
392	Vermiculite
393	Water breaker
394	Water picks
395	Water soluble fertilizer
396	Water tubes
397	Waterproof container tape
398	Wire cutter
399	Wooden pick
400	Wrist corsage holder

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Floral Arrangement Practicum Rubric

100 points

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

POSSIBLE SCORE	Excellent	Good	Needs Improvement	Member Score
Arrangement 85				
Category Interpretation	7-15 points	6-10 points	0-5 points	
Balance	7-10 points	4-6 points	0-3 points	
Creativity	7-10 points	4-6 points	0-3 points	
Depth	7-10 points	4-6 points	0-3 points	
Focal Emphasis.	7-10 points	4-6 points	0-3 points	
Line	7-10 points	4-6 points	0-3 points	
Mechanics	7-10 points	4-6 points	0-3 points	
Scale	4-5 points	2-3 points	0-1 points	
Unity	4-5 points	2-3 points	0-1 points	
Itemized List of Costs 15				
Price Range	4-5 points	2-3 points	0-1 points	
Identification and Accuracy	7-10 points	4-6 points	0-3 points	
			TOTAL POSSIBLE: 100	

EXPLANATION OF FLORAL ARRANGEMENT TERMS

Category Interpretation: Design follows objective scenario given
Balance: Physical and Visual
Creativity: Artistic inventiveness
Depth: Placement of materials at different levels throughout the arrangement
Focal Emphasis: Design has one area of design that attracts the eye to it
Line: Movement
Mechanics: Professional techniques and application
Scale: Proportion
Unity: Cohesiveness of design

JUDGE'S NAME _____ JUDGE'S SIGNATURE _____ DATE _____

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Floral Arrangement Itemized List of Costs

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

Quantity	FLOWER/FOLIAGE	Unit Cost	Total

TOTAL FLOWER/FOLIAGE MATERIAL COST _____

Quantity	MATERIAL USED	Unit Cost	Total

TOTAL HARD GOODS COST _____

_____

_____

_____

_____

_____

TOTAL ARRANGEMENT COST* _____

* Participants will be provided the retail price of flowers and foliage that they will use in their arrangement by the event official at the beginning of the practicum. The markup is built into the retail price of the flowers and the foliage used in the arrangement.

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Potting of Young Plants Practicum Rubric

50 points

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

	Excellent	Good	Needs Improvement	Member Score
Potting Process				
Selection of plugs or liners	5-6 points	3-4 points	0-2 points	
Proper planting depth	6-8 points	3-6 points	0-2 points	
Labeling of plant/pot	5-6 points	3-4 points	0-2 points	
Correct growing medium level in pot	5-6 points	3-4 points	0-2 points	
Plug or liner arrangement and angle	5-6 points	3-4 points	0-2 points	
Firmness of growing medium	5-6 points	3-4 points	0-2 points	
General appearance (free from handling damage)	5-6 points	3-4 points	0-2 points	
Response to questions	5-6 points	3-4 points	0-2 points	
			Total Possible: 50	

JUDGE'S NAME _____ JUDGE'S SIGNATURE _____ DATE _____

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Floriculture Making and Packing a Corsage Rubric

75 points

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

	Excellent	Good	Needs Improvement	Member Score
Wiring,taping, and/or gluing	11-15 points	6-10 points	0-5 points	
Use of ribbon	7-10 points	4-6 points	0-3 points	
Design	11-15 points	6-10 points	0-3 points	
Wear-ability	7-10 points	4-6 points	0-3 points	
Packaging	4-5 points	2-3 points	0-1 points	
Pricing (accuracy of pricing identification)	7-10 points	5-8 points	0-4 points	
Pricing	7-10 points	4-6 points	0-3 points	
			TOTAL SCORE: 75	

JUDGE'S NAME _____ JUDGE'S SIGNATURE _____ DATE _____

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Corsage Itemized List of Costs

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

Quantity	FLOWER/FOLIAGE USED	Unit Cost	Total

TOTAL FLOWER/FOLIAGE MATERIAL COST

Quantity	MATERIAL USED	Unit Cost	Total

TOTAL HARD GOODS COST

Total Plant Material Cost

Total Hard Goods Cost

TOTAL CORSAGE COST

DATE _____

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Asexual Plant Propagation Rubric

50 points

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

	Excellent	Good	Needs Improvement	Member Score
Proper sanitation and equipment use	4-5 points	2-3 points	0-1 points	
Selection of cuttings	4-5 points	2-3 points	0-1 points	
Making cuttings	5-6 points	3-4 points	0-2 points	
Preparation of cuttings for sticking in growing media	5-6 points	3-4 points	0-2 points	
Use of rooting hormone	4-5 points	2-3 points	0-1 points	
Selection of growing media	5-6 points	3-4 points	0-2 points	
Sticking of cuttings in growing media	5-6 points	3-4 points	0-2 points	
Cuttings labeled correctly	4-5 points	2-3 points	0-1 points	
Response to questions	5-6 points	3-4 points	0-2 points	
			TOTAL SCORE: 50	

JUDGE'S NAME _____ JUDGE'S SIGNATURE _____ DATE _____

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Disorder Practicum Scorecard

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

		Member Answer	Possible Points	Member Score
1.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
2.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
3.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
4.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
5.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
6.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
7.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
8.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	

		Member Answer	Possible Points	Member Score
9.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
10.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
11.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
12.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
13.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
14.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
15.	Classification #:		1	
	Identification #:		2	
	Chemical Control #:		1	
	Cultural/ Biological Control #:		1	
	TOTAL POINTS		75	

CLASSIFICATION:
100 Diseases
101 Insects/ Pests / Mites
102 Nutritional/ Environmental

IDENTIFICATION:
200 Aphids
201 Black Leaf Spot
202 Botrytis – Grey Mold
203 Damping-off
204 Downy Mildew
205 Ethylene Damage
206 Fungus Gnats
207 Insufficient Watering
208 Iron Deficiency
209 Leaf Miner
210 Leafhopper
211 Mealybugs
212 Nitrogen Deficiency
213 Phosphorus Deficiency
214 Powdery Mildew
215 Root Rot
216 Rust
217 Scale
218 Shore Flies
219 Snails/ Slugs
220 Spider Mites
221 Stem Rot
222 Thrips
223 Tospovirus (INSV and TSWV)
224 Whiteflugs

CHEMICAL CONTROL:
400 Fungicide
401 Insecticide
402 Miticide
403 Mulluscicide
404 No Treatment Listed

CULTURAL CONTROL:
500 Apply Complete Fertilizer
501 Correct/ Adjust Temperature
502 Correct/ Adjust Watering
503 Ladybird Beetles
504 Nematodes
505 Parasitic Wasp
506 Predatory Mites
507 Reduce Relative Humidity
508 No Treatment Listed

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Pinching Plants Rubric

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

	Excellent	Good	Needs Improvement	Member Score
Selection of plant part to pinch	8-10	4-7	0-3	
Use of proper procedures in making pinches	8-10	4-7	0-3	
Made proper pinches	8-10	4-7	0-3	
Overall effect of making pinches	8-10	4-7	0-3	
Answered questions correctly	8-10	4-7	0-3	
			TOTAL SCORE: 50	

JUDGE'S NAME _____ JUDGE'S SIGNATURE _____ DATE _____

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Hazardous Situation Rubric

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____ TEAM NUMBER _____

	Excellent	Good	Needs Improvement		Member Score
Utilize proper personal safety precautions	4-5	2-3	0-1	X 4	
Utilize proper safety procedures in clearing up the situation	4-5	2-3	0-1	X 5	
Proper disposal of problem materials	4-5	2-3	0-1	X 4	
Utilize proper follow-up procedures	8-10	4-7	0-3		
				TOTAL SCORE: 75	

JUDGE'S NAME _____ JUDGE'S SIGNATURE _____ DATE _____

Food Science

Maximum Number of Team Members	4
Number of Team Members Scored	4
Maximum Number of Team Members (middle school)	4
Number of Team Members Scored (middle school)	4
Scantron	Horticulture – CDE# 105482
Committee: Kelsey Flinn Charity Marstiller John Kessel Mary Phillips Carol Webb	

Purpose

The food science and technology career development event is designed to promote learning activities in food science and technology related to the food industry and to assist students in developing practical knowledge of principles used in a team decision-making process.

Objectives

a. To encourage FFA members to gain an awareness of career and professional opportunities in the field of food science and technology.
b. To provide FFA members with the opportunity to experience group participation and leader ship responsibilities in a competitive food science and technology program.
c. To help FFA members develop technical competence and personal initiative in a food science and technology occupation.

Event Rules

a. Team make-up- The team will consist of four members with all four members' scores being totaled for the team score.

Event Format

A. The food science and technology career development event will consist of three activities: an objective test, a food safety and quality practicum and a sensory evaluation practicum.
B. All team members will participate in all of the activities.
C. Allergy Information: Food products used in this event may contain or come in contact with potential allergens. Advisors must submit a special needs request form for participants with any allergies with certification. The event committee will make all reasonable efforts to accommodate students with food allergies.
D. Each participant must provide:
    i. A clipboard that is clean and free of notes.

ii. Two sharpened No. 2 pencils.
iii. Electronic calculator- Calculators used in this event should be non-programmable and non-graphing. Calculators should have only basic functions such as addition, subtraction, multiplication, division, equals, percent, square root, +/- key. No other calculators are allowed to be used during the event including cell phones.

2. Individual Activities
    a. Objective Test
    The objective questions administered during the food science and technology examination will be designed to determine each team member's understanding of the basic principles of food science and technology. The test will be primarily based on the list of references at the end of this chapter.
        ii. Team members will work individually to answer each of the 50 questions. Each person will have 60 minutes to complete the examination. Each question will be worth 3 points, for a total of 150 points.
        iii. Middle school team members will work individually to answer each of the 25 questions. Each person will have 60 minutes to complete the examination. Each question will be worth 3 point, for a total of 75 points.

3. Practicums—Each team member will complete all parts of both practicums.
    a. Food Safety and Quality Practicum- 50 points
        i. Customer Inquiry- Each participant will be given five scenarios representing general consumer inquiries. Participants must determine if the consumer inquiry reflects a quality or safety issue and determine if it is a biological, chemical or physical concern or hazard. (25 points)
        ii. Food Safety/Sanitation- Each participant will be given ten situations (e.g., photos, videos, written scenarios, live demonstrations or a combination). A numbered list of problems will be provided at the beginning of this practicum segment. The list will contain concepts such as good manufacturing practices (GMP), sanitation, food handling/storage and other pre-requisite programs. Participants will identify if there is a violation presented in the situation. If participants decide that there is a violation, they will indicate the number of the violation from the list of problems provided. (25 points)

4. Sensory Evaluation Practicum- 50 points
    a. Triangle Tests- Three different triangle tests will be conducted. Participants are expected to identify the different samples through flavor, aroma, visual cues and/or textural differences. Answers will be given on the sheet provided. No list will be provided for this segment of the practicum. Each test is worth 5 points. (15 points)
    b. Aromas- Each participant will be asked to identify four different aromas from vials provided at each station and record the answer on the sheet provided. A list of potential aromas will be provided to each person. Each sample is worth 5 points. (20 points)

Aromas

Cinnamon	Orange	Menthol	Molasses
Chocolate	Vanilla	Grape	Wintergreen
Maple	Smoke (liquid)	Garlic	Banana
Oregano	Cherry	Peppermint	Coconut
Basil	Pine	Clove	Lilac
Lemon	Onion	Nutmeg	Raspberry
Lime	Butter	Ginger	Strawberry
			Licorice (anise)

VI. Scoring			
Section	Time Allowed	Section Points	Total Points
Individual Activities			
Objective Test	60 minutes		150
Food Safety and Quality Practicum			50
Customer Inquiry		25	
Food Safety/Sanitation		25	
Sensory Evaluation			35
Triangle Tests		15	
Aromas		20	
Total Individual Points			235
Individual Points (150 pts x 4 members)			940

Tiebreakers

A. Team: Should a tie occur in the overall team placing, the tie will be broken by the highest number of total points earned from the objective test (adding all four team member scores) will break the tie. If a second tiebreaker is needed, the total points earned by the team in the food safety and quality practicum will be used.
B. Individual: To identify the high individual for this event in case of a tie, the highest objective test score will be used as the first tiebreaker, followed by the highest food safety and quality practicum score as the second tiebreaker.

References

This list of references is not intended to be all-inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

National FFA Core Catalog—CDE Questions and Answers http://shop.ffa.org/cde-qas-c1413.aspx

Mehas and Rodgers, 5th Edition, 2006. Kay Yockey Mehas and Sharon Lesley Rodgers, Glencoe/McGraw, New York.

Food Science and Safety, 2nd Edition, 2004, George J. Seperich, Pearson Publishers

Principles of Food Sanitation, 5th Edition, 2006, Norman G. Marriott and Robert B. Gravani, Springer Science + Business Media, Inc.

Institute of Food Technology website, http://www.ift.org

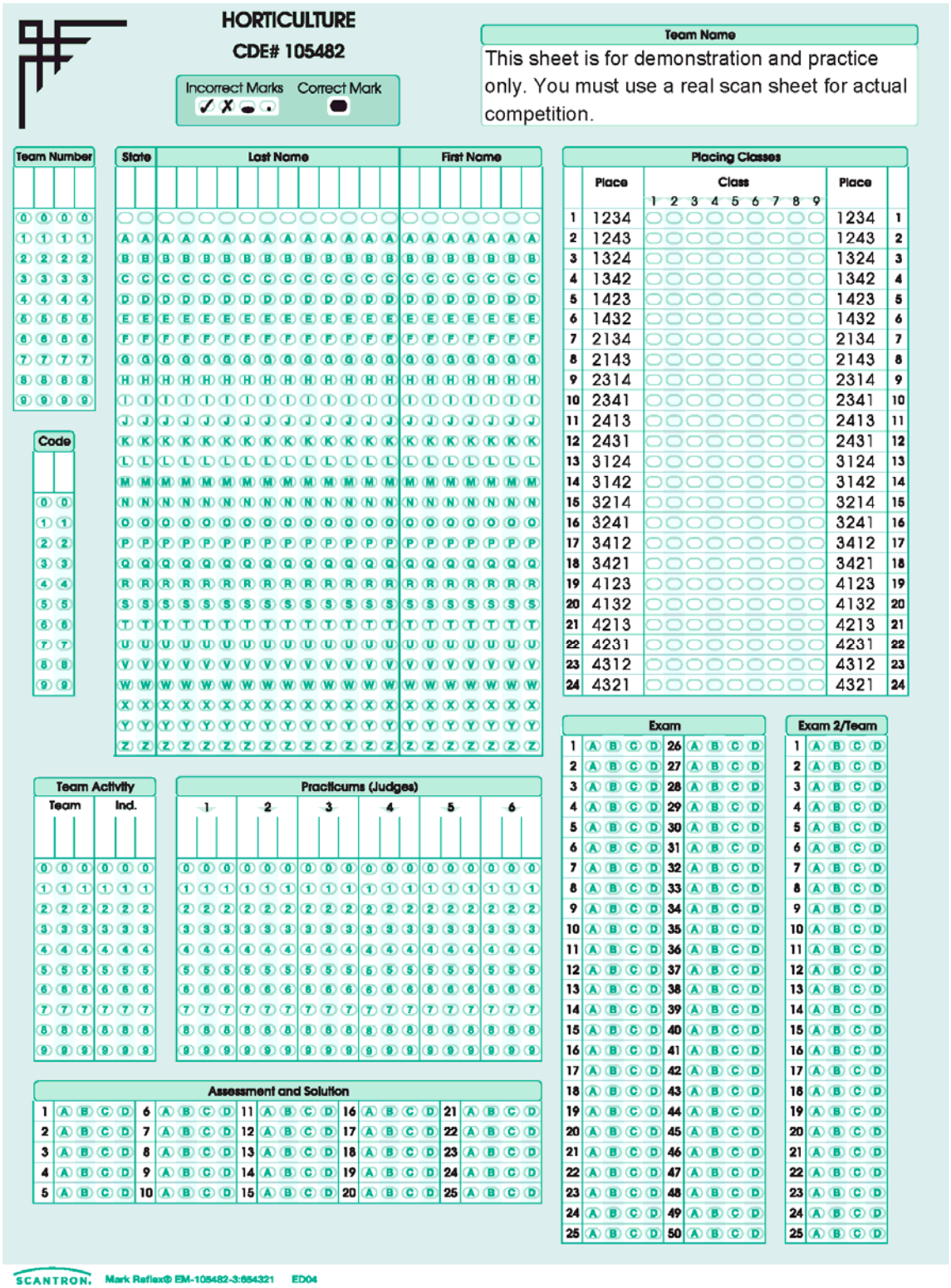
USDA Food Safety and Inspection Service website, http://www.fsis.usda.gov

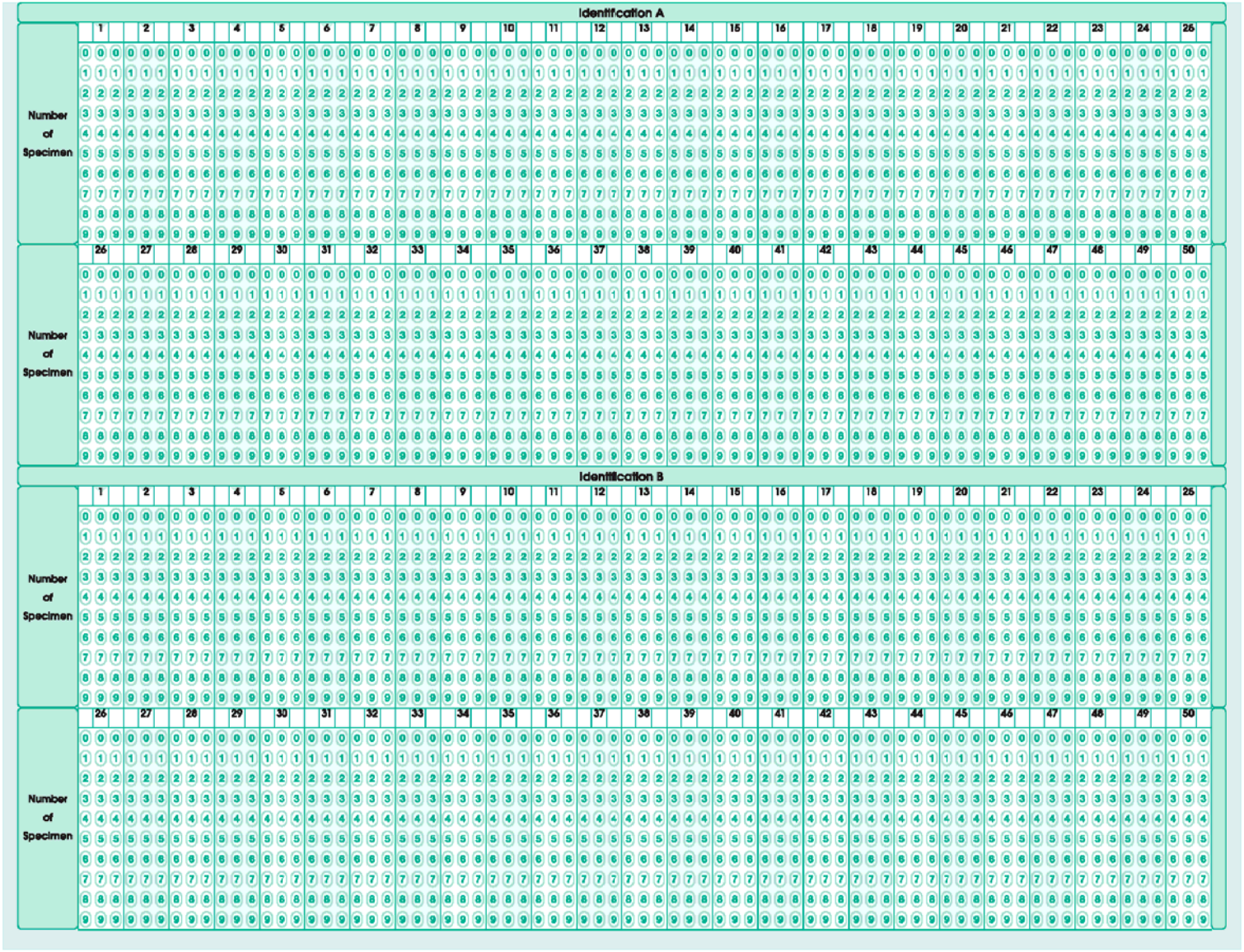
Penn State Kitchen Chemistry: Experiments, resources and materials for educators and students, http://foodscience.psu.edu/public/kitchen-chemistry

Food Safety Education, http://www.fsis.usda.gov/food_safety_education/for_kids_&_teens/index.asp

Partnership for Food Safety Education, http://www.fightbac.org

FoodSafety.gov, http://www.foodsafety.gov


HORTICULTURE
CDE# 105482
Incorrect Marks
Correct Mark
Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team Number
State
Last Name
First Name
Code
Placing Classes
Place
Class
1 2 3 4 5 6 7 8 9
Place
1 1234 1234 1
2 1243 1243 2
3 1324 1324 3
4 1342 1342 4
5 1423 1423 5
6 1432 1432 6
7 2134 2134 7
8 2143 2143 8
9 2314 2314 9
10 2341 2341 10
11 2413 2413 11
12 2431 2431 12
13 3124 3124 13
14 3142 3142 14
15 3214 3214 15
16 3241 3241 16
17 3412 3412 17
18 3421 3421 18
19 4123 4123 19
20 4132 4132 20
21 4213 4213 21
22 4231 4231 22
23 4312 4312 23
24 4321 4321 24
Exam
Exam 2/Team
Team Activity
Team
Ind.
Practicums (Judges)
1 2 3 4 5 6
Assessment and Solution
SCANTRON
Mark Reflex® EM-105482-3:654321 ED04


Identification A
Number of Specimen
Identification B
Number of Specimen

Food Science and Technology CDE- Customer Inquiry Scorecard

Name: _____Participant #: _____

		Points Possible	Points Earned
Scenario # 1 This issue represented in this scenario is a: Food Quality Issue Food Safety Issue	(Check only one)	2	
Is the concern or hazard primarily: Biological Chemical Physical	(Check only one)	3	
Scenario # 2 This issue represented in this scenario is a: Food Quality Issue Food Safety Issue	(Check only one)	2	
Is the concern or hazard primarily: Biological Chemical Physical	(Check only one)	3	
Scenario # 3 This issue represented in this scenario is a: Food Quality Issue Food Safety Issue	(Check only one)	2	
Is the concern or hazard primarily: Biological Chemical Physical	(Check only one)	3	
Scenario # 4 This issue represented in this scenario is a: Food Quality Issue Food Safety Issue	(Check only one)	2	
Is the concern or hazard primarily: Biological Chemical Physical	(Check only one)	3	
Scenario # 5 This issue represented in this scenario is a: Food Quality Issue Food Safety Issue	(Check only one)	2	
Is the concern or hazard primarily: (Check only one) Biological Chemical Physical	(Check only one)	3	
TOTAL		25	

Food Science and Technology CDE
Food Safety and Sanitation Scorecard

Name: _____ Participant #: _____

Situation # 1 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 1a) Yes _____ 1b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 1c) _____
Situation # 2 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 2a) Yes _____ 2b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 2c) _____
Situation # 3 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 3a) Yes _____ 3b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 3c) _____
Situation # 4 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 4a) Yes _____ 4b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 4c) _____
Situation # 5 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 5a) Yes _____ 5b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 5c) _____
Situation # 6 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 6a) Yes _____ 6b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 6c) _____
Situation # 7 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 7a) Yes _____ 7b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 7c) _____
Situation # 8 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 8a) Yes _____ 8b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 8c) _____
Situation # 9 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 9a) Yes _____ 9b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 9c) _____
Situation # 10 – The situation depicts a violation of GMP, sanitation and/or food handling/storage (1 point). 10a) Yes _____ 10b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 10c) _____
TOTAL: _____/ 25 Possible

Forestry

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Forestry – Form # 530-3
Committee: Nick Cox Scott Garber Ben Hays Jason Miihlbach Zach Tennant	

All participants in the Forestry CDE must wear a hard hat at all times.
Participants may use "simple" calculators.

Contest Format:

Phase 1: General Knowledge/Management (100 points).

Fifty (50) objective-type multiple choice or true/false questions will be selected from the areas of the forest industry and forest management. This phase of the contest will test the contestant's knowledge and understanding of basic principles of forestry.

Time: Each contestant will be allowed 30 minutes to complete this phase of the contest.
Scoring: Each answer has a value of 2 points for a total maximum score of 100 points.

Phase 2: Tree Identification (90 points)

Fifteen (15) specimens from the following list will numbered for contestants to identify by common names. Numbered specimens can be live trees or live branches.

Time: Each contestant will be allowed 30 minutes to complete this phase of the contest.
Scoring: Six points will be given for each specimen that is correctly identified for a maximum of 90 points.

Alder, Red (Alnus rubra)
Ash (Fraxinus sp.)
Aspen, Bigtooth (Populus grandidentata)
Aspen, Quaking (Populus tremuloides)
Baldcypress (Taxodium distichum)
Beech, American (Fagus grandifolia)
Birch, Black (Betula lenta)
Birch, White (Betula papyrifera)
Cherry, Black (Prunus serotina)
Cottonwood, Eastern (Populus deltoides)
Elm (Ulmus sp.)
Fir, Balsam (Abies balsamea)

Fir, Douglas (Pseudotsuga menziesii)
Hemlock, Eastern (Tsuga canadensis)
Hemlock, Western (Tsuga heterophylla)
Hickory (Carya sp.)
Maple, Red (Acer rubrum)
Maple, Sugar (Acer saccharum)
Oak, Black (Quercus velutina)
Oak, Chestnut (Quercus Montana)
Oak, Northern Red (Quercus rubra)
Oak, Scarlet (Quercus coccinea)
Oak, Southern Red (Quercus falcata)
Oak, White (Quercus alba)
Pecan (Carya illinoinensis)
Pine, Eastern White (Pinus strobus)
Pine, Loblolly (Pinus taeda)
Pine, Lodgepole (Pinus contorta)
Pine, Longleaf (Pinus palustris)
Pine, Pitch (Pinus rigida)
Pine, Ponderosa (Pinus ponderosa)
Pine, Red (Pinus resinosa)
Pine, Shortleaf (Pinus echinata)
Poplar, Yellow (Liriodendron tulipifera)
Red Cedar, Western (Thuja plicata)
Redcedar, Eastern (Juniperus virginiana)
Spruce, Red (Picea rubens)
Spruce, Sitka (Picea sitchensis)
Spruce, White (Picea glauca)
Sweetgum (Liquidambar styraciflua)
Sycamore (Platanus sp.)
Walnut, Black (Juglans nigra)

Phase 3: Equipment Identification (60 points)

Twenty (20) pieces of equipment from the following list will be displayed for the contestants to identify by technical names. Each piece of equipment will be designated by a number.

Time: Each contestant will be allowed 30 minutes to complete this phase.
Scoring: Three (3) points will be given for each piece of equipment identified correctly for a total of 60 points. No partial credit will be given.

Altimeter
Angle guage
Ascender
Automatic Level
Back-pack Fire Pump
Bark Gauge
Bulldozer
Canthook
Carabiner
Chainsaw
Chainsaw Chaps
Clinometer
Combination tool
Data Recorder
Densiometer
Diameter Tape
Dot Grid
Drip Torch
Ear Protection
Endloader
Feller Buncher
Felling Wedge
Fiberglass Measuring Tape
Fire Rake
Fire shelter
Fire Weather Kit
Fire-Swatter
First aid kit
Flow/current Meter
GPS Receiver
Hand Compass
Hand Lens/Field
Microscope
Hip Chain
Hypo-Hatchet
Increment Borer
Jacob Staff
Log Rule
Logger's Tape
Maul
Peavy
pH Meter
Planimeter
Plant Press
Plastic Flagging
Pole saw
Pruning Saw
Pulaski Axe
Relaskop
Safety Glasses
Safety Hard Hat
Scale Stick
Secchi Disc
Soil Sampler
Soil Test Kit
Staff Compass

Stereoscope	Tree Harvester	Water Sampler
Tally Book	Tree Marking Gun	Water Test Kit
Tally Meter	Tree Planting Hoe or	Wedge Prism
Timber Tongs	Bar	
Tree Caliper	Tree Skidder	

Phase 4: Forestry Applications (300 points)

The event superintendent will designate **three** practicums to be completed by the participant (individually) from the following list. The specific practicums for the year will be announced on or before September 1. Each practicum has a score of 100 points and a time period of 30 minutes.

1. Sawtimber Cruising: Each contestant will use the Biltmore Tree Stick to measure the DBH and merchantable height in 8-foot half-logs or 16-foot logs for ten (10) designated sawtimber trees. Using the provided volume table the contestant will calculate the total volume of the 10 trees.

Diameter measurement criteria:

- Diameter breast height (DBH) must be 11.0 inches or greater.
- Record all trees in 1-inch diameter classes.

Note: Any tree diameter measured at the exact half-inch point will become the next highest full inch. For example, 11.5 becomes 12 inches, 13.5 becomes 14 inches, etc.

Height measurement criteria:

- Merchantable sawtimber height is measured from a 1-foot stump to a 10-inch top diameter (inside bark).
- Hollow trees or curved trunks (sweep) are not considered as a defect for this contest. Measure to the nearest half-log by interpolating between the full log markings on the tree stick.

Time: 30 minutes

Scoring: 100 points

Three points will be given for the correct DBH and three points for the correct height. Forty (40) points will be given for the correct volume per acre. Five points will be deducted for each five percent plus or minus from the correct measured volume.

2. Pulpwood Cruising: Each contestant will use the Biltmore Tree Stick to measure the DBH and merchantable height in 8-foot bolts of ten (10) designated pulpwood-sized trees and calculate the standard cord volume of the 10 trees.

Contestants will calculate the volume using the volume table provided by the contest coordinator.

Diameter measurement criteria:

- Diameter breast height (DBH) must be five (5) inches or greater.
- Tally all trees in 1-inch classes.

Note: Any tree measured at the exact half-inch point will become the next highest full inch

(See sawtimber above).

Height measurement criteria:

- Merchantable pulpwood height is measured from a 1-foot stump to a 4-inch top diameter (inside bark).
- Measure to the nearest 8-foot bolt (stick) by interpolating between the 16-foot "log" markings on your tree stick.

Time: 30 minutes

Scoring: See sawtimber scoring above.

3. Compass and Pacing: The contestant will use a hand compass and pacing to the nearest **full foot** to simulate determination of the property lines on a timber tract or locating timber cruise transect lines. The compass course will consist of five (5) separate lines. The participant can start at any of the 5 starting points and will record the **azimuth** bearing (to the **nearest full degree).** Participants can bring their own compass or use Silva Ranger type compasses provided by the contest coordinator. Hand held compasses with sighting devices cannot be used. Participants will also pace each of the 5 lines and convert their paces to feet that indicates the length of each line.

Time: 30 minutes

Scoring: 100 points (20 maximum points/line – 10 per bearing & 10 per distance)

- Deduction of 1 point/2 degrees of bearing or 2 feet of distance from the correct answer.
- Maximum of 20 points will be deducted on any line.

Note: A laminated sheet of conversions of quadrant readings to azimuth readings will be available at each of the 5 starting points.

4. Forest Management Evaluation - Timber Stand Improvements (TSI) and/or Thinning

A. The trees selected and designated for use in this part of the event may be all of one species or a mixture of species.

B. An area will be selected and identified by ribbons, paint, rope, etc. It will contain at least 15, and not more than 30 marked trees within a timber stand that needs thinning or some TSI work. All trees in the selected area will be considered as a forest management site, and the participants using one of the following options will score each marked tree:

a. Harvest (utilize the tree)

b. Leave - (the tree should remain in stand for a good reason)

c. Deaden - (Undesirable tree, not merchantable or beneficial to wildlife, should be deadened or cut down and left in woods)

C. The participants will be given a "situation" concerning the forest management objectives of the stand selected. Information that will be needed to help participants in their decisions will include:

a. Markets available - (including hardwood)

b. Wildlife habitat considerations - (scope, etc.)

c. Present condition of stand

d. Final goal of the management plan

This information will be given to participants at the site before they start evaluation of the stand either orally, by poster or a "handout" sheet.

D. Time: Participants will be given 30 minutes to make their decisions.

E Scoring: Four points will be given for each correct decision up to a maximum total of 100 points, depending on the number of trees. (The possible score for this phase of the event will vary.)

5. Map Interpretation

A. Participants will be furnished a United States Geological Survey topographic map with specific points marked for the participant to identify. The participant shall know legal description, recognize topographic map symbols, understand the meaning of map symbols and size and location of 40 acres or more in a section.

B. Ten points on the map will be clearly marked with a number or arrow pointing to the section, symbol or area on the map to be identified.

C. Examples:

a. What is the legal description of the area boxed?

b. What is the item located at this point?

c. What is the acreage of the area enclosed?

d. In what section is the city of Marshall located?

D. Legal descriptions will be written or described according to the following: NW Northwest T Township SE Southeast R Range S Section (640 acres) 1/4 Quarter of a section (160 acres) 5. Scoring: Ten questions or problems will be completed. Ten points will awarded for each correct answer.

6. Chainsaw Part Identification, Troubleshooting, and Safety

This practicum is divided into three parts:

Part 1 - Chainsaw part identification- Each participant will identify parts of a chainsaw. These parts will be labeled on a saw or will be removed from the saw.

Part 2 - Troubleshooting - The participant will identify “problems” or “troubles.” Each station will have a part, component, saw or written situation with problem areas clearly marked. The participant may pick up parts or touch the saw.

Part 3 - Safety - The participant will observe photos, actual parts, written situations and/or problems to identify the safety hazard or unsafe practice.

Scoring: A total of 100 points are possible for this section.

7. Tree/Forest Disorders

A. Symptoms of at least ten (10) and not more than twenty (20) disorders from the following list will be displayed for participants to identify by common names. The symptoms will be presented in one or more of the following forms:

a. Actual sample

b. Picture(s)/Slides

c. Written description

d. Written case history

A number will designate each set of symptoms representing a disorder.

B. Scoring: Five points will be given for each disorder that is correctly identified for a total of up to 100 points, depending on the number of disorders. (The possible score for this practicum will vary).

Aphid
Asian Longhorn Beetle
Butt or Heart Rot
Canker
Chemical damage
Cicada
Climatic injury: snow, wind, frost, drought, hail
Damping off
Douglas fir tussock moth
Emerald ash borer
Fir Engraver Beetle
Fire damage
Gypsy moth
Hemlock woolly adelgid
Ipps Engraver Beetle
Landscape equipment damage
Lightning damage
Mechanical damage
Mistletoe
Mountain Pine Beetle
Nematode
Rust
Sawfly
Scale
Spruce budworm
Sunscald
Tent caterpillar
Wetwood or slime flux
Wildlife/Livestock damage

8. Forest Products Practicum

A. Ten to twenty wood products/samples will be displayed for participants to evaluate and identify its tree species source from the approved tree specimen list. The wood products/samples will be presented in one or more of the following forms:

a. Actual Sample

b. Picture(s)/Slides

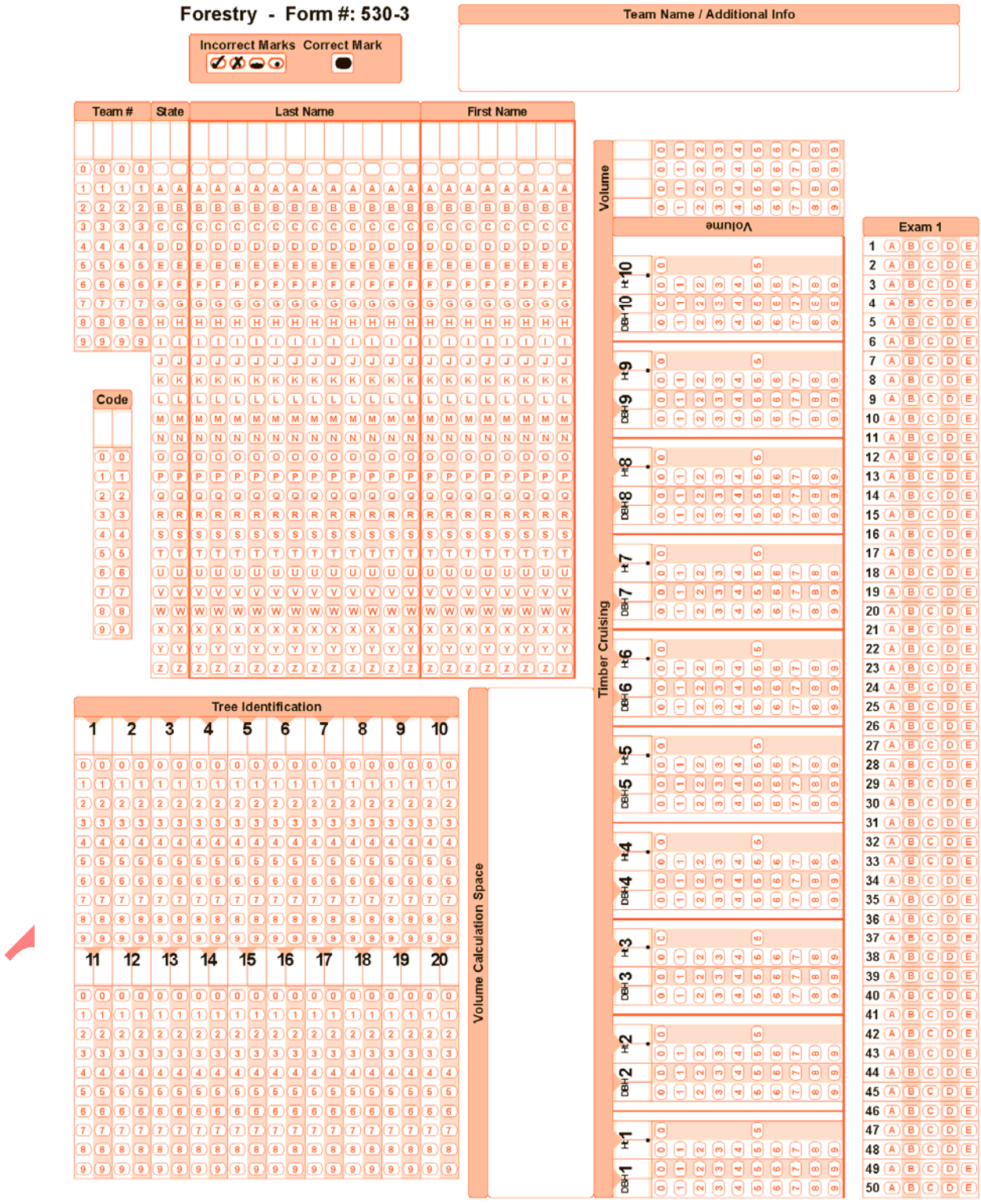
c. Written description

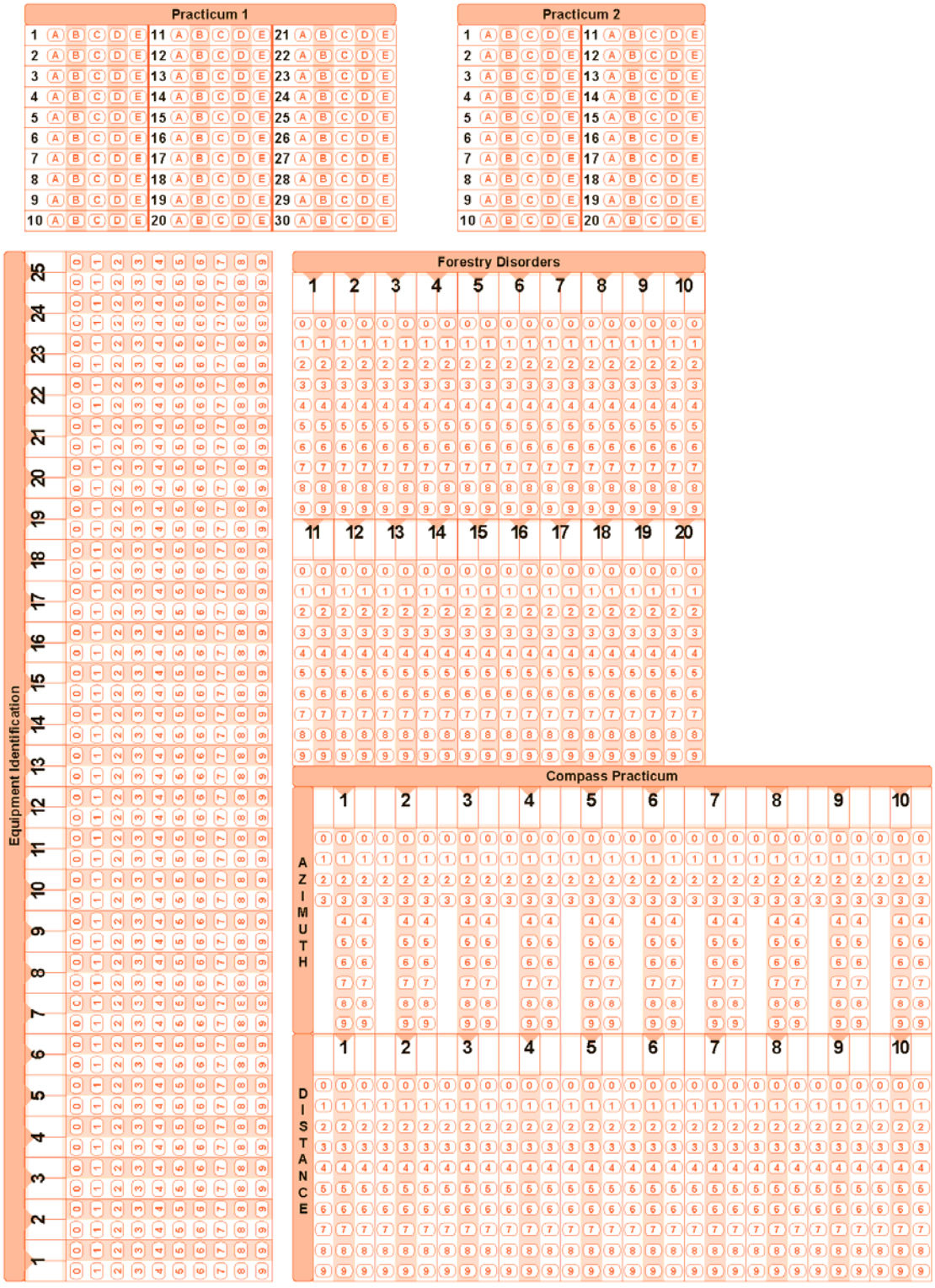
A number will designate each sample representing a species.

B. Scoring: This will be a multiple choice practicum. Five points will be given for each wood product or sample that is correctly identified for a total of up to 100 points, depending on the number of products/samples. (The possible score for this practicum will vary).

9. Forest Business Management Problem

A. This section is designed to determine the participant's ability to apply economic principles and concepts of management to the decision making process by actual problem analysis and to defend the decisions made. This will involve a model forest operation with possible calculation on profit/loss, cost of operation, taxes, depreciation, marketing product, stumpage cost, record keeping, etc. The exact problem may or may not be in a listed reference. A maximum of ten problems or questions will be used.


Forestry - Form #: 530-3
Incorrect Marks
Correct Mark
Team Name / Additional Info
Team #
State
Last Name
First Name
Code
Tree Identification
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
Volume Calculation Space
Timber Cruising
Volume
Volume
DBH 10
DBH 9
DBH 8
DBH 7
DBH 6
DBH 5
DBH 4
DBH 3
DBH 2
DBH 1
Exam 1


Practicum 1
Practicum 2
Forestry Disorders
Equipment Identification
Compass Practicum
AZIMUTH
DISTANCE

Tree Identification Specimen List

01. Alder, Red (Alnus rubra)
02. Ash (Fraxinus sp.)
03. Aspen, Bigtooth (Populus grandidentata)
04. Aspen, Quaking (Populus tremuloides)
05. Baldcypress (Taxodium distichum)
06. Beech, American (Fagus grandifolia)
07. Birch, Black (Betula lenta)
08. Birch, White (Betula papyrifera)
09. Cherry, Black (Prunus serotina)
10. Cottonwood, Eastern (Populus deltoides)
11. Elm (Ulmus sp.)
12. Fir, Balsam (Abies balsamea)
13. Fir, Douglas (Pseudotsuga menziesii)
14. Hemlock, Eastern (Tsuga canadensis)
15. Hemlock, Western (Tsuga heterophylla)
16. Hickory (Carya sp.)
17. Maple, Red (Acer rubrum)
18. Maple, Sugar (Acer saccharum)
19. Oak, Black (Quercus velutina)
20. Oak, Chestnut (Quercus Montana)
21. Oak, Northern Red (Quercus rubra)
22. Oak, Scarlet (Quercus coccinea)
23. Oak, Southern Red (Quercus falcata)
24. Oak, White (Quercus alba)
25. Pecan (Carya illinoinensis)
26. Pine, Eastern White (Pinus strobus)
27. Pine, Loblolly (Pinus taeda)
28. Pine, Lodgepole (Pinus contorta)
29. Pine, Longleaf (Pinus palustris)
30. Pine, Pitch (Pinus rigida)
31. Pine, Ponderosa (Pinus ponderosa)
32. Pine, Red (Pinus resinosa)
33. Pine, Shortleaf (Pinus echinata)
34. Poplar, Yellow (Liriodendron tulipifera)
35. Red Cedar, Western (Thuja plicata)
36. Redcedar, Eastern (Juniperus virginiana)
37. Spruce, Red (Picea rubens)
38. Spruce, Sitka (Picea sitchensis)
39. Spruce, White (Picea glauca)
40. Sweetgum (Liquidambar styraciflua)
41. Sycamore (Platanus sp.)
42. Walnut, Black (Juglans nigra)

Equipment Identification List

01. Altimeter
02. Angle guage
03. Ascender
04. Automatic Level
05. Back-pack Fire Pump
06. Bark Gauge
07. Bulldozer
08. Canthook
09. Carabiner
10. Chainsaw
11. Chainsaw Chaps
12. Clinometer
13. Combination tool
14. Data Recorder
15. Densiometer
16. Diameter Tape
17. Dot Grid
18. Drip Torch
19. Ear Protection
20. Endloader
21. Feller Buncher
22. Felling Wedge
23. Fiberglass Measuring Tape
24. Fire Rake
25. Fire shelter
26. Fire Weather Kit
27. Fire-Swatter
28. First aid kit
29. Flow/current Meter
30. GPS Receiver
31. Hand Compass
32. Hand Lens/Field Microscope
33. Hip Chain
34. Hypo-Hatchet
35. Increment Borer
36. Jacob Staff
37. Log Rule
38. Logger's Tape
39. Maul
40. Peavy
41. pH Meter
42. Planimeter
43. Plant Press
44. Plastic Flagging
45. Pole saw
46. Pruning Saw
47. Pulaski Axe
48. Relaskop
49. Safety Glasses
50. Safety Hard Hat
51. Scale Stick
52. Secchi Disc
53. Soil Sampler
54. Soil Test Kit
55. Staff Compass
56. Stereoscope
57. Tally Book
58. Tally Meter
59. Timber Tongs
60. Tree Caliper
61. Tree Harvester
62. Tree Marking Gun
63. Tree Planting Hoe or Bar
64. Tree Skidder
65. Water Sampler
66. Water Test Kit
67. Wedge Prism

TREE DISORDERS

01. Aphid
02. Asian Longhorn Beetle
03. Butt or Heart Rot
04. Canker
05. Chemical damage
06. Cicada
07. Climatic injury: snow, wind, frost, drought, hail
08. Damping off
09. Douglas fir tussock moth
10. Emerald ash borer
11. Fir Engraver Beetle
12. Fire damage
13. Gypsy moth
14. Hemlock woolly adelgid
15. Ipps Engraver Beetle
16. Landscape equipment damage
17. Lightning damage
18. Mechanical damage
19. Mistletoe
20. Mountain Pine Beetle
21. Nematode
22. Rust
23. Sawfly
24. Scale
25. Spruce budworm
26. Sunscald
27. Tent caterpillar
28. Wetwood or slime flux
29. Wildlife/Livestock damage

Horse Evaluation

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Livestock – Form #: 476-3
Committee: Erwin Berry Annie Erwin Jeremy Greene Mary Phillips Carol Webb	

Registration deadline	April 12, 2019, 4:00 p.m.
Contest	April 27, 2019, 8:15 a.m.

Contest results will be announced immediately following the tabulation activities. This is approximately 30-60 following the time the last student presents his/her oral reasons.

Note: The contest will possibly include 2-4 halter classes and 2-4 performance classes. There is a possibility that the contest will begin with the performance classes. All details will be announced at the opening orientation. Notes will not be allowed when presenting oral reasons.

The 2019 State 4-H & FFA Horse Judging Contest is scheduled for **Saturday, April 27, 2019 at Potomac State College of WVU, Keyser, WV**

Directions:

Directions to Potomac State College of WVU are as follows:

From Morgantown, take I-68 East to Cumberland, MD. At Cumberland, take Exit 42 (Greene Street) to Route 220 South. Route 220 South will bring you into Keyser, WV, (approximately 20 miles from Cumberland, MD). Once in Keyser, turn right on to State Street (5th street on your right) follow the street to the top of the hill at Church McKee. Parking will be available in the parking lot to the left of the building.

For your information, the address and phone number for Potomac State College of WVU is 101 Fort Ave., Keyser, WV 26726; phone 1-304-788-6800. Contact information: Jared Miller, Visiting Instructor, Jared.Miller@mail.wvu.edu , phone 304-788-6898 or cell 304-668-5326.

Rules:

1. Classes: All classes will consist of four horses. Halter classes will be numbered 1, 2, 3, and 4. Riders of performance classes will have an exhibitor number (1, 2, 3, and 4). At least fifteen minutes will be allowed to place halter classes and ten minutes to place performance classes.
2. Performance horses will be shown both directions of the arena at a walk, trot, canter, and at a hand gallop in the case of English Pleasure. The horses will also be asked to back and stand quietly.
3. The four animals in each class will be of the same breed type, sex, and appropriate age.
4. The contest officials will attempt to select only horses that are serviceably sound. All halter classes will be judged as sound of limb, eye, wind, and mouth. Performance horses will be judged as seen (unsoundness to be penalized accordingly). All tack and attire is considered legal.
5. Potential classes in the contest include the following:
    a. Halter – Stock Type Horses (Quarter Horse, Paint, Appaloosa), Fine Breeds (Arabian, Saddlebred), Hunter-Type, Draft Breeds and Miniature Horses.
    b. Performance - Western Pleasure, Hunter Under Saddle, English Pleasure (Saddleseat).
    c. If a pattern class will be included in the contest (Western Horsemanship, Hunt Seat Equitation, Saddle Seat Equitation), the pattern will be handed out at registration.
6. Contest results as announced are final.
7. Individuals requesting an accommodation because of disability should complete the appropriate form and send it to Harry Boone, 2054 Agricultural Sciences Building, PO Box 6108, Morgantown, WV 26506-6108. Telephone: (304) 293-5451; or Fax: (304) 293-3752 by the registration deadline date of April 1, 2015.

Tentative Schedule:

8:00 AM	Judges Orientation & Records Room Prep (Church McKee)
8:15-8:45 AM	Registration – Church McKee Lobby
8:45-9:00 AM	Orientation – Church McKee Auditorium
9:00 AM	Proceed to Equine Arena and Begin Placing Class
12 Noon	Lunch – Under Tent at Arena Once Contestants have picked up their lunch they will be taken to Church McKee for Oral Reasons. Seniors will be served lunch first.
1:15-3:15 PM	Tentative Program for Junior Contestants and Adults Campus and Facilities Tour Equine Demonstration
3:30 PM	Awards Ceremony – Church McKee Auditorium (**Time is approximate - Results will be announced immediately following the tabulation activities.)**
4:30 PM	Homeward Bound

NOTE TO COACHES:

Notes will not be allowed when presenting oral reasons.

Upon completion of the judging activities, participants must report to the reasons area for lunch and reasons preparation. Participants will pick up their lunch first in a group and then be transported to Academy Hall to eat and prepare for oral reasons. Once participants have finished eating Oral Reasons will begin.

Scoring: We will implement the same scoring computer program for the State 4-H and FFA Contest. A link to the scoresheet is provided below. Please note: Important!! Contestants must possess two #2 pencils and clipboard for marking scantron scoring sheets. Make certain that contestants darken the correct placing for the class they are evaluating. Don't mark Class 1 if you are starting with Class 2.

Livestock

Form #: 476-3

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team #

State | **Last Name** | **First Name**

Code

Placing Classes

	Place	Class Number 1 2 3 4 5 6 7 8	Place
1	1234		1234
2	1243		1243
3	1324		1324
4	1342		1342
5	1423		1423
6	1432		1432
7	2134		2134
8	2143		2143
9	2314		2314
10	2341		2341
11	2413		2413
12	2431		2431
13	3124		3124
14	3142		3142
15	3214		3214
16	3241		3241
17	3412		3412
18	3421		3421
19	4123		4123
20	4132		4132
21	4213		4213
22	4231		4231
23	4312		4312
24	4321		4321

Female Selections

Animal No.	Class Number 9 (Keep / Cull)	10 (Keep / Cull)	11 (Keep / Cull)
1			
2			
3			
4			
5			
6			
7			
8			

Class 14 Slaughter Cattle Grading

Animal No.	Quality Grade: Prime (High / Low)	Choice (High / Low)	Select (High / Low)	Standard (High / Low)	Yield Grade (Cutability): 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
1					
2					
3					
4					
5					

Class 13 Written Examination

1	A B C D E	26	A B C D E
2	A B C D E	27	A B C D E
3	A B C D E	28	A B C D E
4	A B C D E	29	A B C D E
5	A B C D E	30	A B C D E
6	A B C D E	31	A B C D E
7	A B C D E	32	A B C D E
8	A B C D E	33	A B C D E
9	A B C D E	34	A B C D E
10	A B C D E	35	A B C D E
11	A B C D E	36	A B C D E
12	A B C D E	37	A B C D E
13	A B C D E	38	A B C D E
14	A B C D E	39	A B C D E
15	A B C D E	40	A B C D E
16	A B C D E	41	A B C D E
17	A B C D E	42	A B C D E
18	A B C D E	43	A B C D E
19	A B C D E	44	A B C D E
20	A B C D E	45	A B C D E
21	A B C D E	46	A B C D E
22	A B C D E	47	A B C D E
23	A B C D E	48	A B C D E
24	A B C D E	49	A B C D E
25	A B C D E	50	A B C D E

Reasons

16 | 17 | 18 | 19

Class 12 Feeder Cattle Grading

Animal No.	Frame Size (Large / Medium / Small / Inferior)	Muscle Thickness (1 2 3 4)
1		
2		
3		
4		
5		

Class 15 - Question

	Beef	Sheep	Swine
1	1 2 3 4	1 2 3 4	1 2 3 4
2	1 2 3 4	2 1 2 3 4	2 1 2 3 4
3	1 2 3 4	3 1 2 3 4	3 1 2 3 4
4	1 2 3 4	4 1 2 3 4	4 1 2 3 4
5	1 2 3 4	5 1 2 3 4	5 1 2 3 4
6	1 2 3 4	6 1 2 3 4	6 1 2 3 4
7	1 2 3 4	7 1 2 3 4	7 1 2 3 4
8	1 2 3 4	8 1 2 3 4	8 1 2 3 4
9	1 2 3 4	9 1 2 3 4	9 1 2 3 4
10	1 2 3 4	10 1 2 3 4	10 1 2 3 4

Livestock Evaluation

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Livestock – Form #: 476-3
Committee: Hattie DeBolt Eric Frederick Joe Hymes Beth Massey Josh Porto	

Individual Activities

1. Livestock classes: A maximum of eight classes (8) of four animals each will be placed using a computerized scorecard. Classes may be breeding or market animals from beef, swine, sheep or meat goat species. One class may include the use of production/performance data. (50 points/class)

2. Oral reasons: Two sets of oral reasons will be designated by the event superintendent at the beginning of the event. One set of reasons will be given on the production data class. Reasons will be given after all classes have been placed. Participants will be provided paper to take notes on each reason class for preparation. Use of notes during the reason presentation is strongly discouraged. (50 points/class)

3. Keep/cull classes: There will be one selection classes that may be beef, swine, sheep or meat goats; each made up of eight breeding animals. Participants will be required to select the four best animals from the eight, using visual appraisal and performance data. Performance data will be provided. Production/performance data (including EPD's) may be used in the keep/cull classes of beef, swine, sheep or meat goats. Performance criteria, when used, shall be based on current industry standards. (50 points/class)

4. Questions Class: Contestants will be required to answer five questions on one judging class (50 points).

RULES

1. Each class of livestock will consist of four individuals, except the Keep-Cull class which will consist of eight animals.
2. Every team must be prepared to judge every class or ring of livestock listed.
3. **Scantron sheets** and/or Placing cards will be supplied by the Animal and Veterinary Science personnel. The same scantron sheet/ placing card will be used for all livestock classes. See sample card.

4. Coaches must prepare their teams to use the **Scantron Sheets**. From the time of entering the contest until all cards have been handed to the person in charge, there will be absolutely no communications among contestants, or between coaches and contestants.
5. Twelve minutes will be allowed for placing non-reason classes and fifteen minutes for placing of reason classes.
6. Contestants will be required to give oral reasons on two classes (worth 50 points each) and answer five questions on one class (worth 50 points). Each contestant will be allowed a maximum of two minutes per class to present his/her reasons. Cards will not be returned at oral reason presentation.
7. **Sheep** (Animals may or may not be handled, depending upon the availability of farm help to shear the animals.)

Sample Questions:

- Which breeding gilt in the class was a Duroc? (Answer = #3)
- Which breeding gilt in the class had erect ears? (Answer = #2)
- Which breeding gilt was lame? (Answer = #3)

8. Stock will be judged at the Livestock Farm. Scoring will be based on the Hormel Computing System with 50 points being a perfect score on a class placing or on a set or oral reasons. A perfect score for the Keep-Cull class is 50.
9. After all classes have been placed, cards handed in, and reasons given, the judges in charge will give the placings and reasons for each class to contestants and coaches if time permits.
10. Only those participating in the contest shall be permitted on the farm, unless his/her assistance is required to facilitate the contest, serve as a holder or group leader, or is in some way helping with the contest.

Keep-Cull Class (50 points) SAMPLE INFORMATION

You will CULL 4 heifers - Place the numbers of the heifer you CULL on the judging card in any order you wish.

Ear Tag/ No	Brand	EPD's				
		DOB	BW	WW	YW	Milk
1	051	2/01/00	1.1	31	61	13
2	055	2/24/00	1.4	33	73	17
3	059	3/05/00	2.2	36	66	21
4	063	3/10/00	1.8	30	59	17
5	071	3/16/00	3.8	38	72	23
6	073	3/19/00	2.5	39	67	21
7	077	3/23/00	3.4	38	65	20
8	079	3/27/00	2.1	39	67	21
Breed Average			2.7	33	61	16

Scenario: Evaluate these heifers as potential replacements for a purebred operation whose goal is to produce moderate framed, functional cattle that have a balance in EPD's. Bulls are sold annually in a bull sale that targets commercial producers. Feed and labor resources are moderate.

Tiebreakers

If ties occur, the following events will be used in order to determine award recipients:

1. Total of oral reasons.
2. Scores for the reasons class(es)
3. Total of keep/cull class(es).

Livestock

Form #: 476-3

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team #

State | **Last Name** | **First Name**

Code

Placing Classes

	Place	Class Number 1 2 3 4 5 6 7 8	Place
1	1234		1234
2	1243		1243
3	1324		1324
4	1342		1342
5	1423		1423
6	1432		1432
7	2134		2134
8	2143		2143
9	2314		2314
10	2341		2341
11	2413		2413
12	2431		2431
13	3124		3124
14	3142		3142
15	3214		3214
16	3241		3241
17	3412		3412
18	3421		3421
19	4123		4123
20	4132		4132
21	4213		4213
22	4231		4231
23	4312		4312
24	4321		4321

Female Selections

Animal No.	Class Number 9 (Keep / Cull)	10 (Keep / Cull)	11 (Keep / Cull)
1			
2			
3			
4			
5			
6			
7			
8			

Class 14 Slaughter Cattle Grading

Animal No.	Quality Grade: Prime (High, Low)	Choice (High, Low)	Select (High, Low)	Standard (High, Low)	Yield Grade (Cutability): 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
1					
2					
3					
4					
5					

Class 13 Written Examination

1	A B C D E	26	A B C D E
2	A B C D E	27	A B C D E
3	A B C D E	28	A B C D E
4	A B C D E	29	A B C D E
5	A B C D E	30	A B C D E
6	A B C D E	31	A B C D E
7	A B C D E	32	A B C D E
8	A B C D E	33	A B C D E
9	A B C D E	34	A B C D E
10	A B C D E	35	A B C D E
11	A B C D E	36	A B C D E
12	A B C D E	37	A B C D E
13	A B C D E	38	A B C D E
14	A B C D E	39	A B C D E
15	A B C D E	40	A B C D E
16	A B C D E	41	A B C D E
17	A B C D E	42	A B C D E
18	A B C D E	43	A B C D E
19	A B C D E	44	A B C D E
20	A B C D E	45	A B C D E
21	A B C D E	46	A B C D E
22	A B C D E	47	A B C D E
23	A B C D E	48	A B C D E
24	A B C D E	49	A B C D E
25	A B C D E	50	A B C D E

Reasons

16 | 17 | 18 | 19

Class 12 Feeder Cattle Grading

Animal No.	Frame Size (Large, Medium, Small, Inferior)	Muscle Thickness 1 2 3 4
1		
2		
3		
4		
5		

Class 15 - Question

	Beef	Sheep	Swine
1	1 2 3 4	1 1 2 3 4	1 1 2 3 4
2	1 2 3 4	2 1 2 3 4	2 1 2 3 4
3	1 2 3 4	3 1 2 3 4	3 1 2 3 4
4	1 2 3 4	4 1 2 3 4	4 1 2 3 4
5	1 2 3 4	5 1 2 3 4	5 1 2 3 4
6	1 2 3 4	6 1 2 3 4	6 1 2 3 4
7	1 2 3 4	7 1 2 3 4	7 1 2 3 4
8	1 2 3 4	8 1 2 3 4	8 1 2 3 4
9	1 2 3 4	9 1 2 3 4	9 1 2 3 4
10	1 2 3 4	10 1 2 3 4	10 1 2 3 4

Meats Evaluation and Technology

Maximum Number of Team Members	3	
Number of Team Members Scored	3	
Scantron	Meats – Form Number – 480-4	
Committee: Scott Ash Tim Cunnien Annie Erwin John Kessell Carol Webb		

An $30 fee will be assessed per team to cover supplies required for the contest. This is in addition to the traditional fee assessed to cover Scantron supplies.

RULES

1. Every team must be prepared to participate in every class as listed below.
2. Each placing class (50 points each) will consist of four (4) entities, the retail identification classes will consist of thirty (30) entities each, and the grading classes may contain up to 10 entities each (Ten points are allowed for the correct grading of each carcass. A deduction of one point for a one-third grade above or below the official grade; three points will be deducted for two-thirds grade above or below the official grade; six points will be deducted for one full grade above or below the official grade. The score will be zero for a grade more than one full grade above or below the official grade. Perfect score will be 100 points).
3. The Meats Contest Classes will include:

Beef:

- Beef Carcass Placing
- Beef Ribs Placing, Rounds Placing, or Chucks Placing
- Beef Yield Grading
- Beef Quality Grading

Pork:

- Pork Carcass Placing
- Pork Hams Placing
- Pork Retail Placing

Lamb:

- Lamb Carcass Placing

Retail Identification* (I.D.):

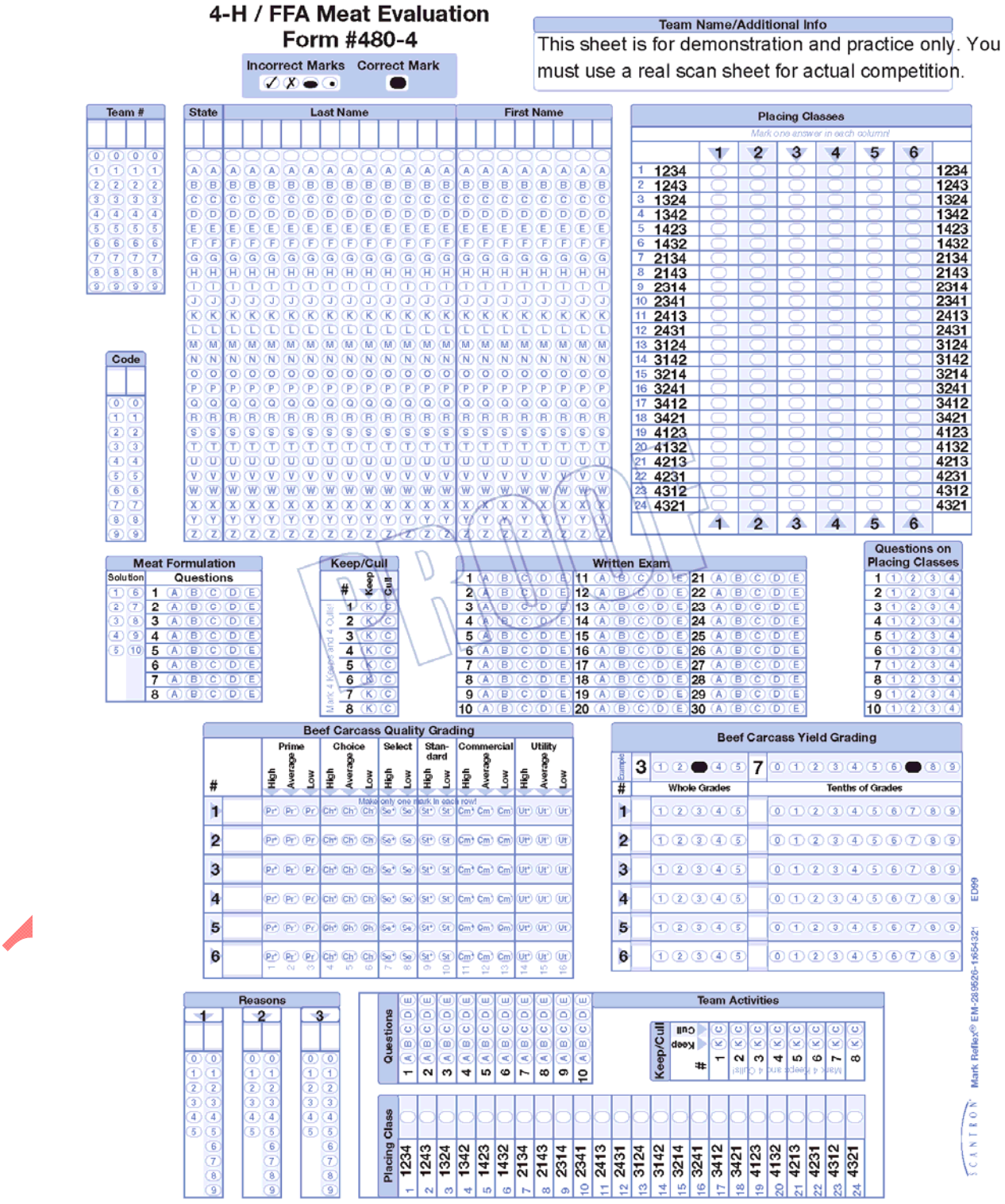
- Class I (Beef, Pork, Lamb, Variety Meats)
- Class II (Beef, Pork, Lamb, Variety Meats)
- Class III (Beef, Pork, Lamb, Variety Meats)

*** NOTE:** Each of the 30 retail cuts in the contest will be worth 6 points (specie=1 point, primal=1 points, retail=3 points, cookery=1 point) for a grand total of 180 points. The retail identification scoring is located on the back of the Meats Scantron Sheet.

1. The official Scantron scoring sheet for placing, grading and retail I.D. is included.
2. No oral or written reasons will be given.
3. Each team must be prepared to use the Scantron Scoring Sheets. No precontest explanations will be necessary except for new administrative changes.
4. No contestant will be allowed to leave and/or enter the contest after the contest has started.
5. Contestants should come prepared to work in cold rooms (e.g. coolers). Such articles as heavy sweaters and/or coats, protective footwear, and suitable head covers are recommended.
6. After initiation of the contest, no communication will be permitted between or among the contestants unless it is directed toward the group leader.
7. Scoring will be as indicated in the Appendix.
8. Contestants will be allowed ten (10) minutes for each placing class, ten (10) minutes for every four carcasses. That is, if 8 carcasses are used, twenty (20) minutes will be allowed.
9. Contestants will not be allowed to handle any carcasses or cuts to arrive at a final placing.
10. Contestants will not be allowed to use any mechanical aids, notes, etc. during the contest. All information available to the contestant will either be given by the official or must be stored in the contestant's mind.
11. After the contest the classes will be reviewed with all interested coaches by the official if time permits.
12. **Team ties will be broken on the team scores of the combined retail I.D. classes**.

SUGGESTED REFERENCES FOR COACHING/INSTRUCTING:
Meat Evaluation Handbook
Plastic Bound, 8 1/2 x 11", 70 pages.
Source: American Meat Science Association
1111 North Dunlap Avenue
Savoy, IL 61874
http://www.meatscience.org
Uniform Retail Meat Identity Standards
Plastic 3-ring binder bound, 8 1/2 x 11", 120 pages.
Source: American Meat Science Association
Meat Identification Slide Set
136 full color slides
Source: American Meat Science Association
No. A-53 "U.S. Grades for Beef Carcasses" and Mkt. Bul. No. 45 "U.S.D.A. Yield Grades for Beef"
Source: Livestock Division
Consumer and Marketing Service
U.S.D.A.
Washington, D.C. 20250

Ribeye Grid - I.D. No. AS-34
Source: Art Services, Inc.
3015 Earl Place, N. E.
Washington, D.C. 20018
(202) 526-5607


4-H / FFA Meat Evaluation
Form #480-4
Incorrect Marks
Correct Mark
Team Name/Additional Info
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team #
State
Last Name
First Name
Placing Classes
Code
Meat Formulation
Solution
Questions
Keep/Cull
Written Exam
Questions on Placing Classes
Beef Carcass Quality Grading
Prime
Choice
Select
Standard
Commercial
Utility
High
Average
Low
Beef Carcass Yield Grading
Whole Grades
Tenths of Grades
Reasons
Team Activities
Placing Class
Mark Reflex® EM-2896/26-1654321 ED99
SCANTRON

Meat Identification - Retail Cuts

ID #	Species	Primal	Retail First Digit	Retail Second Digit	Cookery
1	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
2	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
3	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
4	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
5	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
6	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
7	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
8	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
9	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
10	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
11	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
12	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
13	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
14	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
15	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
16	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
17	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
18	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
19	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
20	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
21	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
22	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
23	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
24	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
25	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
26	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
27	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
28	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
29	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
30	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
31	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
32	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
33	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
34	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
35	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
36	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
37	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
38	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
39	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M
40	B P L	A B C D E F G H I J K L M N	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	D M D/M

Species

B Beef P Pork L Lamb

Primal Cuts

A Breast
B Brisket
C Chuck
D Flank
E Ham or Leg
F Loin
G Plate
H Rib or Rack
I Round
J Shoulder
K Side (Belly)
L Spareribs
M Variety Meats
N Various Meats

Retail Cuts

Roasts/Pot Roasts

01 American Style
02 Arm Picnic
03 Arm Roast
04 Arm Roast (Bnls)
05 Back Ribs
06 Blade Roast
07 Blade Boston
08 Bottom Round Roast (Bnls)
09 Bottom Round Rump Roast (Bnls)
10 Brisket, Whole (Bnls)
11 Center Loin Roast
12 Center Rib Roast
13 Eye Roast (Bnls)
14 Eye Round Roast
15 Flat Half (Bnls)
16 Frenched Style
17 Fresh Side
18 Leg Roast (Bnls)
19 Loin Roast
20 Mock Tender Roast
21 Petite Tender
22 Rib Roast
23 Rib Roast (Frenched)
24 Ribs (Denver Style)
25 Rump Portion
26 Seven (7) Bone Roast
27 Shank Portion
28 Short Ribs
29 Shoulder Roast (Bnls)
30 Sirloin Roast
31 Sirloin Half
32 Spareribs
33 Square Cut (Whole)
34 Tenderloin (Whole)
35 Tip Roast (Bnls)
36 Tip, Cap Off Roast
37 Top Loin Roast (Bnls)
38 Top Roast (Bnls)
39 Top Round Roast
40 Tri-Tip Roast

Steaks

41 Arm Steak
42 Blade Steak
43 Bottom Round Steak
44 Center Slice
45 Eye Steak (Bnls)
46 Eye Round Steak
47 Flank Steak
48 Mock Tender Steak
49 Porterhouse Steak
50 Ribeye, Lip-On Steak
51 Round Steak
52 Round Steak (Bnls)
53 Sirloin Cutlets
54 Skirt Steak (Bnls)
55 T-Bone Steak
56 Tenderloin Steak
57 Tip, Cap Off Steak
58 Top Blade (Bnls) Flat Iron Steak
59 Top Loin Steak
60 Top Loin (Bnls) Steak
61 Top Round Steak
62 Top Sirloin Steak (Bnls)
63 Top Sirloin Cap Off Steak (Bnls)
64 Top Sirloin Cap Steak (Bnls)

Chops

65 Arm Chop
66 Blade Chop
67 Blade Chop (Bnls)
68 Butterflied Chop (Bnls)
69 Country Style Ribs
70 Loin Chop
71 Rib Chop
72 Rib Chop (Frenched)
73 Sirloin Chop
74 Top Loin Chop
75 Top Loin Chop (Bnls)

Variety Meats

76 Heart
77 Kidney
78 Liver
79 Oxtail
80 Tongue
81 Tripe

Various Meats

82 Beef for Stew
83 Cubed Steak
84 Ground Beef
85 Ground Pork
86 Hocks
87 Sausage Link/Pattie
88 Shank

Smoked/Cured

89 Brisket,Corned
90 Center Slice
91 Ham (Bnls)
92 Hocks
93 Loin Chop
94 Picnic (Whole)
95 Rib Chop
96 Rump Portion
97 Shank Portion
98 Slab Bacon
99 Sliced Bacon

Cookery Methods

D Dry Heat
M Moist Heat
D/M Dry or Moist Heat

Milk Quality and Products

Maximum Number of Team Members	4	
Number of Team Members Scored	4	
Scantron	Dairy Foods – Form Number – 479-6	
Committee: Leon Ammons Ben Hays Steve Tennant Zack Tennant John Workman		

Purpose of the Contest:

- To enhance learning activities relative to the production, processing, distribution and consumption of dairy products.
- To assist students to develop a sound perspective for utilizing the decision-making process.

Objectives:

I. Develop abilities to utilize knowledge of high-quality milk, its production and marketing

A. Milk Production
   1. Regulations
   2. Grades and classes of milk

B. Cleaning and Sanitizing
   1. General types of cleaners and sanitizers
   2. Water hardness
   3. Milkstone
   4. Equipment, teats and udders

C. Cooling Milk

D. Abnormal Milk
   1. Causes
   2. Prevention
   3. Detection (California & Wisconsin Mastitis Tests and Confirmatory tests)
   4. Regulatory programs

E. Milk Marketing, Economics and Distribution
   1. Transportation
   2. Cooperatives
   3. Pricing
   4. Supply and Demand

F. Diseases Transmitted to Man Via Milk
G. Off Flavors of Milk

II. Develop abilities to utilize knowledge of the composition and quality characteristics of milk.

A. Nonfat Solid Portion
B. Milkfat
C. Adulterants, Including Water
D. Bacteria and General Methods of Estimating Their Numbers; Maximum Numbers
E. Somatic Cells; Maximum Numbers

III. Develop an understanding that clean cows and a clean environment are necessary to produce clean milk and how industry and government use the sediment test to detect unclean conditions.

IV. Be able to utilize selected skills to identify cheese varieties.

V. Be able to utilize selected skills in evaluating the quality of milk.

CONTEST FORMAT

Contest will include: (Ties will be broken on milk flavor scores)

10 Milk Samples	20 minutes	120 points
10 Product Identification-Dairy Versus Non-Dairy	20 minutes	100 points
California Mastitis Test	20 minutes	40 points
10 Cheese Type ID	20 minutes for both cheese activities	40 points
10 Cheese Characteristics ID		60 points
Problem Solving	40 minutes	100 points
Written Test	40 minutes	120 points

Suggested Layout for Contest

Contestants 1	Contestants 2	Contestants 3	Contestants 4
Milk Samples & Product Identification - Dairy vs Non-Dairy	Cheese ID & Cheese Characteristics ID	Problem Solving	Written Test

RULES OF THE CONTEST

1. Contestants will report for instructions to the Division Superintendent at the time and place shown in the current year's Contests Schedule.
2. Paper cups for sampling purposes will be provided for the contestants.
3. Sample score cards are included on the following pages.

4. Cheese samples for identification will be selected from those listed on the score sheet Form 3. Cubes of the cheeses will be available for tasting. See references for cheese identification listed below.
5. Milk samples will be scored using Form 3. All samples of milk are prepared from pasteurized milk intended for table use and will score 1 to 10. **Milk samples will be tempered to 60 F.**
6. Contestants are to use whole numbers when scoring "Flavor" of milk. Check only the one most serious defect in **each milk** sample even if more than one flavor is detected. If no defect is noted, check "No defect."
7. Apples will be allowed for taste bud refreshing.
8. The score made by each contestant is the number of points deducted; therefore, the lower score, the higher rating.
9. Students may bring their own bottled water and an apple
10. Recommended references to use for preparation of the contest:

    A. Hoard's Dairyman, PO Box 801, Fort Atkinson, Wisconsin 53538. Phone (414) 563-5551. Issues used are from September of previous year to August of current year.

    B. Using the California Mastitis Test published by the University of Missouri-Columbia Extension Division, Columbia, Missouri 65211. (Single copy free, write for price quote for multiple copies)

    C. California Mastitis Test can be ordered from NASCO. Toll free 1-800-558-9595 or toll call, 1-414-563-2446. NASCO, 901 Janesville Avenue, Fort Atkinson, WI 53538.

    D. Dairy Handbook, TETRA Pak Processing Systems 8101 Corporate Woods Parkway Vernon Hills, IL 60061.

    E. *Dairy Foods: Producing the Best*, Dr. Robert Marshall; Instructional Materials Laboratory, 1400 Rock Quarry Road, Q139, University of Missouri; Columbia, MO 65211

    F. The Cheese Reporter (Publication Number: ISSN 0009-2142), published weekly by Cheese Reporter Publishing Co., Inc. 4210 Washington Ave., Madison, WI 53704. Phone (608) 246-8430, Fax (608) 246-8431.

    G. Dairy Facts – International Dairy Foods Association, 1250 H Street, N.W. Suite 900, Washington DC 20005 Phone – 202-732- 4332– www.idfa.org Agricultural Marketing Service www.ams. USDA.gov

    H. Judging and Scoring Milk and Cheese, Farmers bulletin # 2259, United States Department of Agriculture, Washington DC, 20250 – Phone 202-447-7473

    I. Judging, Identifying and Scoring Dairy Products – Bulletin J250c, University of Illinois, 1401 S. Maryland Drive, Urbana, IL 61801 Phone – 217-333-3871

A. Milk Flavor Identification and Evaluation (20 minutes) - 120 points

1. Ten milk samples will be scored on flavor (taste and odor) using the computerized scorecard. All samples of milk are prepared from pasteurized milk intended for table use and will score 1 to 10 (See Scoring Guide). Milk samples will be tempered to 60°F. Only those cups provided at the event may be used.
2. Participants are to use whole numbers when scoring "Flavor" of milk and to check only the most serious defect in a sample even if more than one flavor is detected. If no defect is noted, participants should check, "No defect" and score as a ten (See Scoring Guide).
3. Palette cleansers (e.g. apples or soda crackers) will be allowed for refreshing.

Scoring Guide – Refer to the current scorecard being used at the national level.
Scores may range from 1 to 10. On a quality basis:

- 10 excellent (no defect)
- 8 to 9 good
- 5 to 7 fair
- 2 to 4 poor
- 1 unacceptable/un-salable

Example: Milk Flavor

SCORES*			
DEFECTS	Slight	Definite	Pronounced
Acid	3	2	1
Bitter	5	3	1
Feed	9	8	5
Flat/Watery	9	8	7
Foreign	5	3	1
Garlic/Onion	5	3	1
Malty	5	3	1
Oxidized	6	4	1
Rancid	4	2	1
Salty	8	6	4

*Suggested scores are given for three intensities of flavor. All numbers within the range may be used. Intermediate numbers may also be used; for example, a bitter sample of milk may score 4.

B. PRODUCT IDENTIFICATION-DAIRY VERSUS NON-DAIRY (100 POINTS, 6 POINTS IDENTIFICATION, 4 POINTS FAT CONTENT)

- A total of ten samples consisting of dairy and non-dairy products will be identified and assigned a milk fat content score.
- The following products may be included among the samples:
    - Dairy Products: nonfat (skim) milk (.05%), reduced fat milk (2%), milk (3.25%), half and half (10.5%), butter (80%), sour cream (18%), flavored milk (3.3%) light whipped cream (30%), heavy cream (35%)

- Non-Dairy Products: Margarine, non-dairy creamer, non-dairy sour cream, non-dairy milk, non-dairy flavored beverage and non-dairy whipped topping all of these are to be categorized as non-dairy fat.

C. California Mastitis Test (40 points)

1. The California Mastitis Test will be scored using even numbers from 0 to 8 inclusive. (See below for the Scoring Guide for the California Mastitis Test.)
2. Five samples of milk will be evaluated for abnormality, using the California Mastitis Test method.

CALIFORNIA MASTITIS TEST (40 POINTS)

- The California Mastitis Test will be scored using even numbers from 0 to 8 inclusive. (See below for the Scoring Guide for the California Mastitis Test.)
- Five samples of milk will be evaluated for abnormality, using the California Mastitis Test method.

Scoring Guide

CMT Test Score	Appearance	Participant Score	* Somatic Cell Count
Negative	Mixture liquid, no precipitate	0	0
T	Slight precipitate tends to disappear with paddle movement	2	200-300,000
1	Distinct precipitate but does not gel	4	400-500,000
2	Distinct gel formation	6	1,2000,000 – 1,500,000
3	Strong gel formation, which tends to adhere to paddle. Forms distinct central peak	8	Over 5,000,000

D. Cheese Identification (20 Minutes) - 100 points

1. Ten cheese samples for identification will be selected from those listed below. Cubes of the cheeses will be available for tasting. Note: More than one sample of

a given cheese may be used. A score of 4 points is given for each variety correctly identified. Uncolored cheeses may be used.

2. In addition to identifying cheese samples, participants will classify characteristics of identified cheeses using the following matrix. Participants will have seven characteristics to select based on the ten identified cheese samples (60 points possible). An example cheese characteristic problem can be found in the reference section of this handbook

Cheese Characteristics Matrix

A description of major varieties of cheeses popular among American consumers.

VARIETY	Moisture (%) (Maximum)[1]	Fat (%) (Minimum)[2]	Pasta Filata[3]	Brine/surface Salted	Ripened by	Origin
Blue/Bleu	46	50	no	yes	mold	France
Brie	52.5	20	no	no	bacteria and mold	France
Cheddar Mild	39	50	no	no	bacteria	England
Cheddar Sharp	39	50	no	no	bacteria	England
Colby	40	50	no	no	bacteria	US
Cream	55	33	no	no	unripened	US
Feta	60	42	no	yes	bacteria	Grease
Gouda	45	48	no	yes	bacteria	Netherlands
Havarti	54	30	no	no	bacteria	Denmark
Gruyere	39	45	no	yes	bacteria	Switzerland
Monterey Jack	44	50	no	no	bacteria	US
Mozzarella	60	45	yes	yes	bacteria	Italy
Munster	46	50	no	no	bacteria	France
Parmesan	32	32	no	yes	bacteria	Italy
Processed American	40	50	no	no	bacteria	US
Provolone	45	45	yes	yes	bacteria	Italy
Queso Fresco	59	18	no	no	unripened	Mexico
Ricotta	73	4	no	no	unripened	Italy
Romano	34	38	no	yes	bacteria	Italy
Swiss	41	43	no	yes	bacteria	Switzerland

[1]Some cheeses have a range in moisture permitted, but these are the highest permitted amounts.
[2]Some cheese standards use percentage by weight of total solids (e.g., cheddar) while others use percentage by weight of the cheese (e.g., cream).
[3]Curd is stretched in hot water to align the protein molecules and provide stretch to the curd

Cheese Characterization Example Problem

The six items in the "characteristics" column are based on the information found in the Cheese Characterization Matrix in this handbook.

Cheese samples are from the cheese identification activity. Participants will select all characteristics that apply to each sample. Answers will be recorded on the event-specific scan form. Characteristics in the problem can change each year.

	SAMPLE NUMBERS				
CHARACTERISTICS	1 (Cheddar)	2 (Cream)	3 (Swiss)	4 (Mozzarella)	5 (Bleu)
A. Maximum moisture = 39%	X				
B. Minimum fat in the solids = 33%		X			
C. Receives "pasta filata treatment"				X	
D. Salted in brine				X	
E. Ripened by molds					X
F. Originated in England	X				

E. Problem Solving (40 Minutes) - 100 Points

The problem solving test will consist of critical-thinking, multiple choice questions. Topics may include, but are not limited to:

1. Decisions about the quality and acceptability of milk.
2. Calculations of the value of milk and components of milk.
3. Decisions about components of milk and milk products (including processing procedures).
4. Decisions about the use of chemicals in cleaning and sanitizing operations.

Starting in 2014, Problem Solving will come from the past five years of the National Dairy Foods CDE Tests. Each year an additional national Problem Solving will be added to the pool

until ten years of Problem Solving have been reached. Once ten years of Problem Solving have been added to the pool, each year the latest Problem Solving will be added and the oldest Problem Solving removed from the question pool.

F. WRITTEN TEST (120 points)

The written test will be comprised of a total of 60 multiple - choice items (2 points each). The test will be given in two parts with one part consisting of questions on quality milk production and a second part on milk marketing.

Starting in 2012, test questions will come from the past five years of the National Dairy Foods CDE Tests. Each year an additional national test will be added to the question pool until ten years of questions have been reached. Once ten years of questions have been added to the pool, each year the latest test will be added and the oldest test removed from the question pool.

TIEBREAKERS

If ties occur, the following events will be used in order to determine award recipients:

1. Milk identification
2. Cheese identification
3. Product identification
4. Problem solving

Milk Quality and Products
Form #479-6

Incorrect Marks ✓ ✗ ▬ ● Correct Mark ●

Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team # | Last Name | First Name

Code

Written Exam A / Milk Production: 1–30 (A B C D E)

Written Exam B / Milk Marketing: 31–60 (A B C D E)

Problem Solving: 1–20 (A B C D E)

Dairy / Non-Dairy Identification and Fat Content

Sample Number: 1 2 3 4 5 6 7 8 9 10

I. Identification	1	2	3	4	5	6	7	8	9	10
1 Butter										
2 Flavored Milk										
3 Half and Half										
4 Heavy Cream										
5 Light Whipped Cream										
6 Milk										
7 Sour Cream										
8 Margarine										
9 Non Dairy Creamer										
10 Non Dairy Flavored Beverage										
11 Non Dairy Milk										
12 Non Dairy Sour Cream										
13 Non Dairy Whipped Topping										
II. Fat Content	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1 0.05% - 0.5%										
2 1% - 2%										
3 3.25% - 3.5%										
4 10.5%										
5 18%										
6 30%										
7 36%										
8 80%										
9 Non Dairy Variable Fat										

Mark one answer in each column

Identification and Characteristics of Cheeses

I. Identification	Sample Number 1	2	3	4	5	6	7	8	9	10
1 Blue/Bleu	○	○	○	○	○	○	○	○	○	○
2 Brie	○	○	○	○	○	○	○	○	○	○
3 Cheddar Mild	○	○	○	○	○	○	○	○	○	○
4 Cheddar Sharp	○	○	○	○	○	○	○	○	○	○
5 Cream/Neufchatel	○	○	○	○	○	○	○	○	○	○
6 Edam/Gouda	○	○	○	○	○	○	○	○	○	○
7 Monterey Jack	○	○	○	○	○	○	○	○	○	○
8 Mozzarella	○	○	○	○	○	○	○	○	○	○
9 Processed American	○	○	○	○	○	○	○	○	○	○
10 Provolone	○	○	○	○	○	○	○	○	○	○
11 Swiss	○	○	○	○	○	○	○	○	○	○
12 Colby	○	○	○	○	○	○	○	○	○	○
13 Feta	○	○	○	○	○	○	○	○	○	○
14 Havarti	○	○	○	○	○	○	○	○	○	○
15 Gruyere	○	○	○	○	○	○	○	○	○	○
16 Muenster	○	○	○	○	○	○	○	○	○	○
17 Parmesan	○	○	○	○	○	○	○	○	○	○
18 Queso Fresco	○	○	○	○	○	○	○	○	○	○
19 Ricotta	○	○	○	○	○	○	○	○	○	○
20 Romano	○	○	○	○	○	○	○	○	○	○
II. Characteristics	1	2	3	4	5	6	7	8	9	10
A	○	○	○	○	○	○	○	○	○	○
B	○	○	○	○	○	○	○	○	○	○
C	○	○	○	○	○	○	○	○	○	○
D	○	○	○	○	○	○	○	○	○	○
E	○	○	○	○	○	○	○	○	○	○
F	○	○	○	○	○	○	○	○	○	○

Mark one answer in each column!

Mark all that apply!

CMT

Score	Sample Number 1	2	3	4	5
0	○	○	○	○	○
2	○	○	○	○	○
4	○	○	○	○	○
6	○	○	○	○	○
8	○	○	○	○	○

Mark one answer in each column!

Natural / Imitation

Food Identification	Sample Number 1	2	3	4	5	6	7	8	9	10
1 Natural	○	○	○	○	○	○	○	○	○	○
2 Imitation	○	○	○	○	○	○	○	○	○	○

Mark one answer in each column!

Milk Flavor

I. Defect	Sample Number 1	2	3	4	5	6	7	8	9	10
1 Acid	○	○	○	○	○	○	○	○	○	○
2 Bitter	○	○	○	○	○	○	○	○	○	○
3 Feed	○	○	○	○	○	○	○	○	○	○
4 Flat-watery	○	○	○	○	○	○	○	○	○	○
5 Foreign	○	○	○	○	○	○	○	○	○	○
6 Garlic or onion	○	○	○	○	○	○	○	○	○	○
7 Malty	○	○	○	○	○	○	○	○	○	○
8 No defect	○	○	○	○	○	○	○	○	○	○
9 Oxidized	○	○	○	○	○	○	○	○	○	○
10 Rancid	○	○	○	○	○	○	○	○	○	○
11 Salty	○	○	○	○	○	○	○	○	○	○
II. Score	1	2	3	4	5	6	7	8	9	10
1	○	○	○	○	○	○	○	○	○	○
2	○	○	○	○	○	○	○	○	○	○
3	○	○	○	○	○	○	○	○	○	○
4	○	○	○	○	○	○	○	○	○	○
5	○	○	○	○	○	○	○	○	○	○
6	○	○	○	○	○	○	○	○	○	○
7	○	○	○	○	○	○	○	○	○	○
8	○	○	○	○	○	○	○	○	○	○
9	○	○	○	○	○	○	○	○	○	○
10	○	○	○	○	○	○	○	○	○	○

Mark one answer in each column!

Mark one answer in each column!

Nursery/Landscape

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Horticulture CDE# 105482
Committee: Craig Canterbury Annie Erwin Ben Hays Mary Phillips Tara Tatalovich	

Contest Scope

The Nursery/Landscape Contest includes all aspects of the industry in producing, marketing, utilizing, and maintaining landscape plants (woody and herbaceous plants and turfgrasses), plus related products, equipment, and services including landscape design.

Contest Objectives

PLANT MATERIALS - to demonstrate the ability to identify nursery and landscape plant materials and turfgrasses commonly used in the United States.

PLANT DISORDERS - to demonstrate the ability to identify unhealthy plant conditions due to pests, nutritional or physiological disorders, and mechanical or chemical injury.

CULTURAL PRACTICES - to demonstrate knowledge of the principles and skills involved in propagation, growth requirements, growing techniques, harvesting, marketing and maintenance of nursery plants and landscape turf.

DESIGN AND CONSTRUCTION - to demonstrate knowledge of the principles and techniques of landscape design and construction.

SUPPLIES AND EQUIPMENT - to demonstrate the ability to identify, select, use and maintain appropriate supplies and equipment for nursery and landscape operations, including equipment and procedures in mechanization and automation.

SAFETY - to demonstrate knowledge of safety practices in nursery and landscape operations.

INTERPERSONAL RELATIONS - to demonstrate skills in oral and written business communications.

MARKETING - to understand marketing principles and demonstrate proper sales and service skills.

RECORDS AND REPORTS - to demonstrate the ability to prepare accurate and legible records and reports and to interpret business documents.

Rules of the Contest

1. Teams and/or schools or coaches will not visit the WVU greenhouses after September 1.
2. Observers will not be permitted in the contests area while the contest is in progress, unless they are assisting with the contest.
3. Contestants will be assigned to group leaders who will escort them to the various contest staging sites. Each contestant is to stay with his or her group leader throughout the contests or until told to change leaders by the Contest Superintendent.
4. Under no circumstances will any contestant be allowed to touch or handle plant material or other specimens during the contest except as specified in certain practicums. Any infraction of this rule will be sufficient cause to eliminate the team from the contest.
5. In addition to a clean clipboard and at least two No. 2 pencils, each contestant must also have a ruler or scale capable of measuring 1/8-inch increments, a calculator, and a ball-point or felt-tip pen.
6. Calculators may only be used in the practicum portions of the contest. Printing calculators are not allowed.
7. The contest includes the following four phases:
    - identification of plant materials.
    - identification of plant disorders
    - general knowledge examination, and
    - practicum

    These are described as follows.

Phase 1 - IDENTIFICATION OF PLANT MATERIALS, EQUIPMENT AND SUPPLIES (150 points). Please refer to page 213 of the National CDE Bulletin.

Participants will identify 50 items selected from the provided list covering the following categories:

- Plant Materials (25 items)
- Pests and Disorders (10 items)
- Equipment and Supplies (15 items)

Plants to identify will be presented as intact, live specimens. Equipment may be either an intact item or photograph. Pest and disorder items may be presented as an intact specimen, photograph, or preserved specimen (herbarium sheet, insect mount, etc.). When a problem must be presented with an affected plant, a “Disorder” label will be with the item to designate identification of the problem rather than the plant. Each specimen will be designated by a station number (1-50).When the participant identifies the item, its name is then located on the identification list. The participant then records the number by that name on Scanning Sheet 105482 at the respective station number.

Each participant will be provided a copy of the list at the event site. Three points will be awarded for each correct identification, and participants have 50 minutes to complete this event phase. No specimens or items may be touched or handled in any way.

Phase 2 - GENERAL KNOWLEDGE EXAMINATION (150 points)

Fifty (50) question objective multiple-choice exam will be prepared on topics reflecting subject areas in the contest objectives. This contest phase will evaluate the contestant's knowledge and understanding of basic horticultural principles in producing, marketing, using, and maintaining nursery plants and turf. Contestants are allowed 50 minutes to complete this phase. Each correct answer is worth three (3) points.

Test questions will come from the past five years of the National Nursery Landscape CDE Tests.

Phase 3 - LANDSCAPE ESTIMATING (100 points)

This practicum section is designed to evaluate contestant knowledge of and ability in 1) evaluating a landscape design, 2) reading a landscape drawing, 3) measuring and calculating materials needed to execute a landscape plan, and 4) evaluating factors that affect profitability of a landscape business.

A landscape drawing and scratch paper will be provided to the contestants. There will be objective questions about the landscape plan. Participants will record their answers using a scan form. Thirty (30) minutes will be allowed for this practicum. Each correct answer is worth 5 points each. Past national contests will be used to provide examples for the event.

Landscape estimating drawings and questions will come from the past years of the National Nursery Landscape CDE Tests.

Phase 4 - ASSESSMENT AND SOLUTIONS (50 points)

This practicum is designed to evaluate participant knowledge of and ability in 1) assessing the request or problem presented, 2) reviewing alternative procedures or courses of action based on individual knowledge or reference information provided, and 3) deciding on a solution. Possible solutions will be presented in multiple-choice form for the participant to mark on Scanning Sheet 105482.

Ten situations will be presented from the following four areas:

Measuring Nursery Stock - One nursery plant will be measured for market size (height, spread, or caliper as appropriate) according to the American Standard for Nursery Stock for BR and B&B evergreen and deciduous trees and shrubs. A caliper and measuring rule will be provided. Plants presented in containers will be assumed as growing in the field, and a label will advise on

whether it is to be dug BR or B&B. Cut trunk sections may be presented for larger tree measurement.

Pruning Nursery Stock - One or more nursery plants will be displayed with points marked for possible pruning cuts. No plant will be actually pruned. Participants are to evaluate each labeled point and decide if the plant part should be pruned or not for improvement of the plant's health, form, and overall quality. The answer choice then will be the combination of cuts that should be made.

Equipment Maintenance – Tools from the list in Phase 3, a part for a tool, and/or an operating manual will be presented with answer choices of possible maintenance needs, corrective actions, and/or operating specifications. Examples of possible choices are low oil, uneven height setting, blade needs sharpening, incorrect gas:oil ratio provided, or replace broken handle.

Equipment will be placed to allow observing all components in the answer choices without handling the item. If handling should be required, allowance for this will be stated with that answer choice.

Problem Solving - Other situations of nursery and landscape plants, supplies, or practices where observation and analysis of the subject and resource materials are involved in a decision- making process. Example situations may include the following:

- According to the sample label provided, a spill of this chemical must be handled by _____ ?
- From the information provided on these catalog pages, one bag of the designated medium will fill _____ pots of the size and shape presented.
- According to the information provided, which plants in this list would likely need a protected site for winter survival in the Indianapolis, Indiana area?

Participants have 10 minutes to complete this phase. Each correct solution has a value of five points.

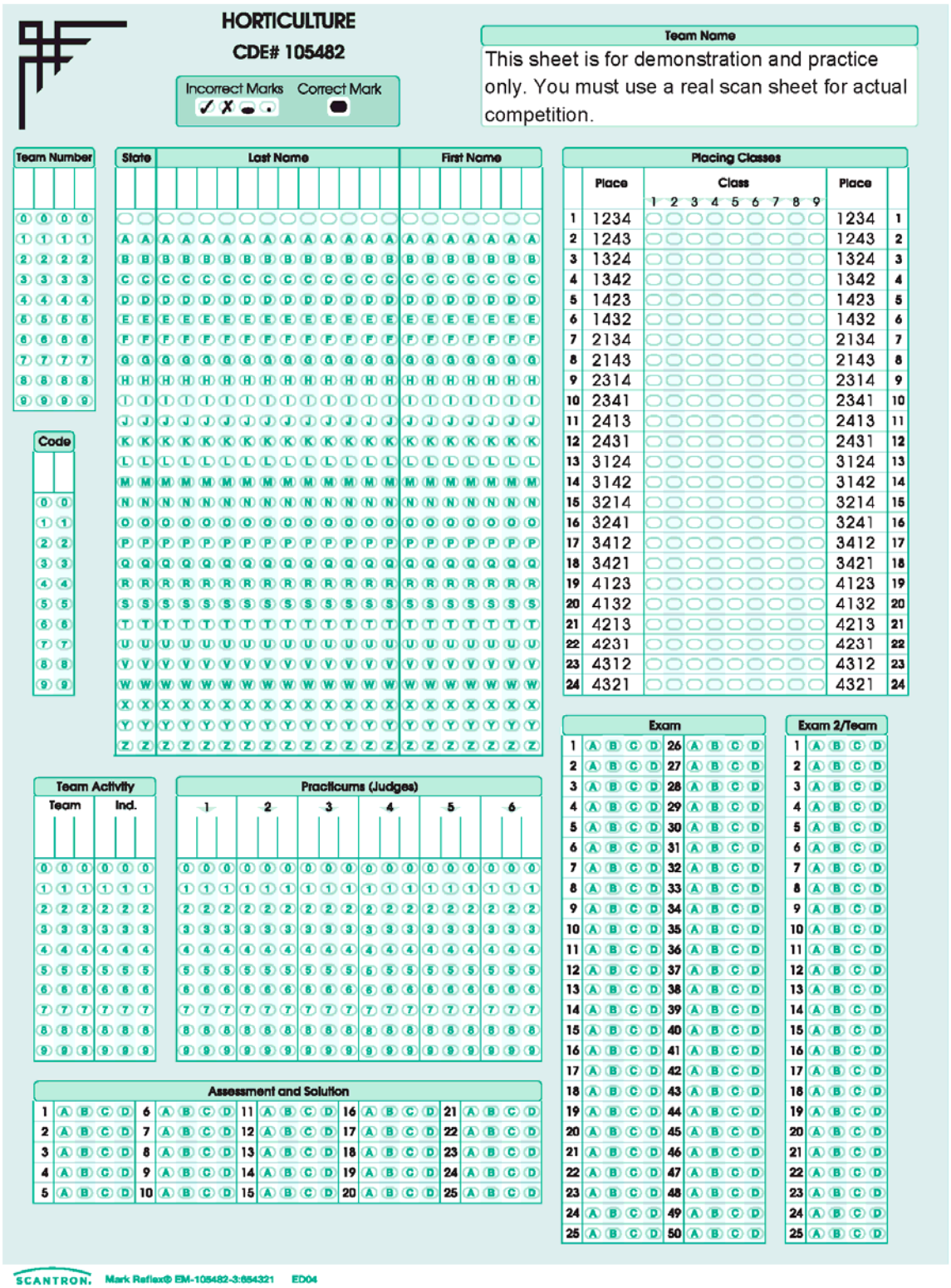
Scoring the Contest

Individual contestant scores will be the sum of the scores from the four phases of the contest, based on the following possible point values:

Phase	Points
General Knowledge Exam	150
Identification	150
Landscape Estimating	100
Assessment and Solution	50
	400

If needed in the case of tied individual or team total scores, final placings will be determined by comparing, in order, scores for the following:

1. Identification of Plant Materials
2. Exam
3. Landscape Drawing



HORTICULTURE

CDE# 105482

Incorrect Marks ✓ ✗ Correct Mark

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team Number

State

Last Name

First Name

Placing Classes

	Place	Class 1 2 3 4 5 6 7 8 9	Place	
1	1234		1234	1
2	1243		1243	2
3	1324		1324	3
4	1342		1342	4
5	1423		1423	5
6	1432		1432	6
7	2134		2134	7
8	2143		2143	8
9	2314		2314	9
10	2341		2341	10
11	2413		2413	11
12	2431		2431	12
13	3124		3124	13
14	3142		3142	14
15	3214		3214	15
16	3241		3241	16
17	3412		3412	17
18	3421		3421	18
19	4123		4123	19
20	4132		4132	20
21	4213		4213	21
22	4231		4231	22
23	4312		4312	23
24	4321		4321	24

Code

Exam

1	26		
2	27		
3	28		
4	29		
5	30		
6	31		
7	32		
8	33		
9	34		
10	35		
11	36		
12	37		
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14	39		
15	40		
16	41		
17	42		
18	43		
19	44		
20	45		
21	46		
22	47		
23	48		
24	49		
25	50		

Exam 2/Team

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23	
24	
25	

Team Activity

Team	Ind.

Practicums (Judges)

1	2	3	4	5	6

Assessment and Solution

1	6	11	16	21	
2	7	12	17	22	
3	8	13	18	23	
4	9	14	19	24	
5	10	15	20	25	

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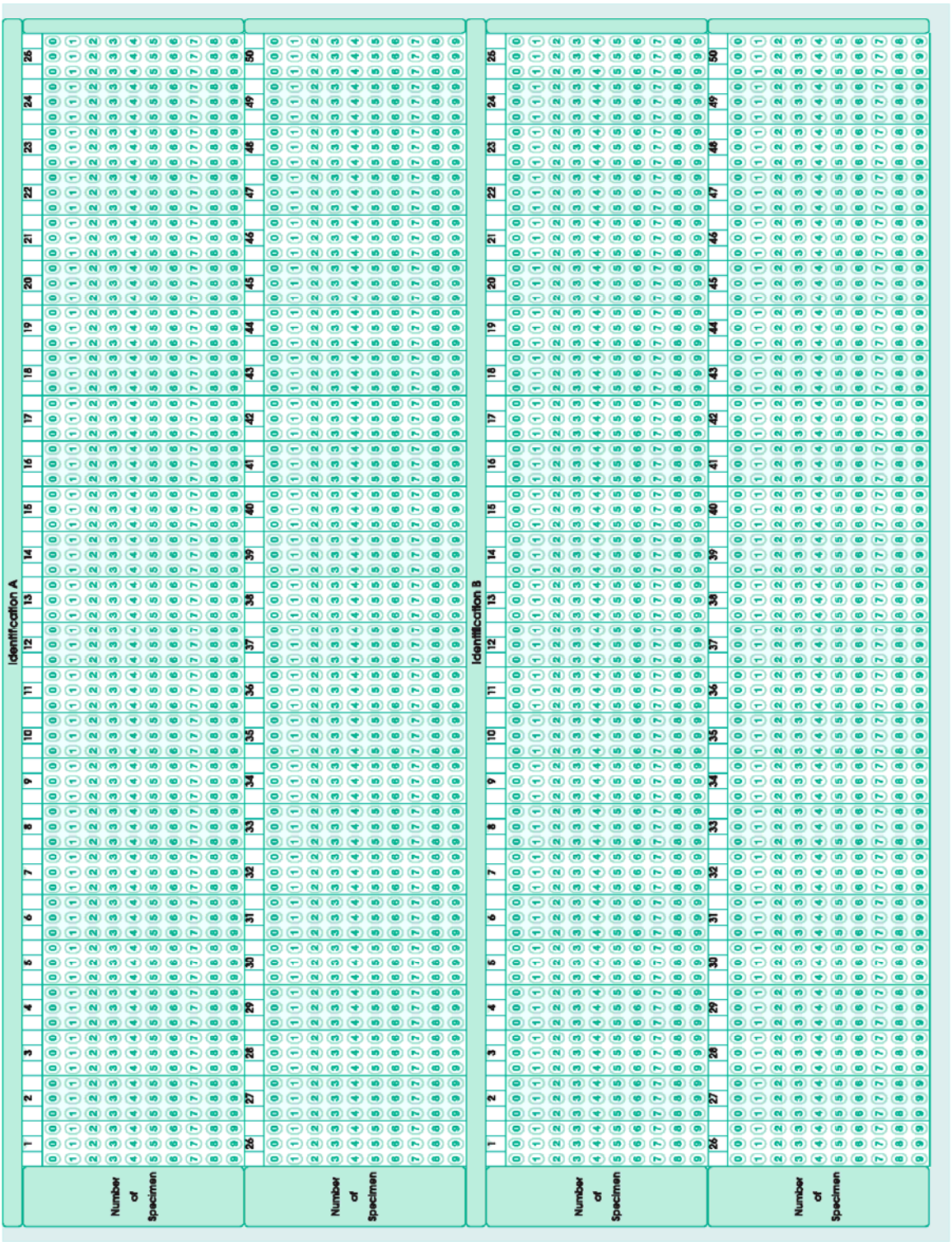

Identification A
Number of Specimen
Identification B
Number of Specimen

WV Nursery Landscape Identification Lists

NURSERY/LANDSCAPE PLANT IDENTIFICATION

101. *Abelia x grandiflora* Glossy Abelia
102. *Abies concolor* White Fir
103. *Acer palmatum cv.* Japanese Maple
104. *Acer platanoides cv.* Norway Maple
105. *Acer rubrum cv.* Red Maple
106. *Acer saccharum cv.* Sugar Maple
107. *Ajuga reptans cv.* Carpet Bugle
108. *Antirrhinum majus cv.* Snapdragon
109. *Aquilegia x hybrida cv.* Columbine
110. *Amelanchier arborea* Downy Serviceberry
111. *Astilbe hybrid cv.* Astilbe
112. *Begonia semperflorenscultorum* Wax Begonia
113. *Berberis x mentorensis* Mentor Barberry
114. *Betula nigra* River Birch
115. *Brassaia actinophylla* Schefflera, Octopus Tree
116. *Buxus microphylla cv.* Littleleaf Boxwood
117. *Camellia japonica cv.* Common Camellia
118. *Cedrus atlantica 'Glauca'* Blue Atlas Cedar
119. *Cercis canadensis* Redbud
120. *Chaenomeles speciosa cv.* Japanese (Flowering) Quince
121. *Clematis hybrid* *Clematis*
122. *Cornus florida cv.* Flowering Dogwood
123. *Cotoneaster dammeri* Bearberry Cotoneaster
124. *Cotoneaster divaricatus* Spreading Cotoneaster
125. *Crataegus phaenopyrum* Washington Hawthorn
126. *Cynodon dactylon cv* Bermudagrass
127. *Dieffenbachia maculata cv.* Spotted Dumb Cane
128. *Dracaena deremensis 'Warneckii'* triped Dracaena
129. *Dracaena fragens 'Massangeana'* Corn Plant
130. *Echinaceae purpurea* Purple Coneflower
131. *Epipremnum spp.* Pothos
132. *Euonymus alatus* Winged Euonymus
133. *Euonymus fortunei cv.* Wintercreeper
134. *Fagus sylvatica cv.* European Beech
135. *Festuca spp. and cv.* Fescue
136. *Ficus benjamina* Benjamin Fig
137. *Ficus elastica 'Decora'* Decora Rubber Plant
138. *Forsythia x intermedia cv.* Border Forsythia
139. *Fraxinus americana cv.* White Ash
140. *Gaillardia aristata cv.* Common Blanketflower
141. *Gardenia jasminoides 'Fortuniana'* Common Gardenia
142. *Ginkgo biloba* Ginkgo, Maidenhair Tree
143. *Gleditsia triacanthos inermis cv.* Thornless Honeylocust
144. *Hedera helix cv.* English Ivy
145. *Hemerocallis spp. and cv.* Day lily
146. *Hosta x hybrida cv.* Plaintain Lily
147. *Hydrangea quercifolia* Oakleaf Hydrangea
148. *Hydrangea macrophylla* Bigleaf Hydrangea
149. *Ilex cornuta cv.* Chinese Holly
150. *Ilex crenata cv.* Japanese Holly
151. *Ilex x meserveae cv.* Meserve Holly
152. *Impatiens hybrid cv.* Impatiens
153. *Iris x germanica florentina cv.* Bearded Iris
154. *Juniperus chinensis cv.* Chinese Juniper
155. *Juniperus horizontalis cv.* Creeping Juniper
156. *Lagerstroemia indica cv.* Crape Myrtle
157. *Leucanthemum x superbum cv.* Shasta Daisy
158. *Liquidambar styraciflua* Sweet Gum
159. *Liriodendron tulipifera* Tuliptree
160. *Liriope spp. cv.* Lilyturf
161. *Lonicera japonica 'Halliana'* Hall's Japanese Honeysuckle
162. *Magnolia grandiflora cv.* Southern Magnolia
163. *Magnolia x soulangiana cv.* Chinese (Saucer) Magnolia
164. *Mahonia aquifolia cv.* Oregon Grape
165. *Malus spp. and cv.* Flowering Crabapple
166. *Myrica pensylvanica* Bayberry
167. *Nandina domestica* Heavenly Bamboo
168. *Narcissus pseudonarcissus cv.* Daffodil
169. *Nyssa sylvatica* Sour (Black) Gum
170. *Pachysandra terminalis* Japanese Spurge
171. *Paeonia hybrid cv.* Peony
172. *Parthenocissus tricuspidata* Boston Ivy
173. *Pelargonium x hortorum cv.* Zonal Geranium
174. *Pennisetum ruppelia* Fountain Grass
175. *Petunia x hybrida cv.* Petunia
176. *Philodendron scandens oxycardium* Heartleaf Philodendron
177. *Picea abies* Norway Spruce
178. *Picea pungens cv.* Colorado (Blue) Spruce
179. *Pieris japonica* Lily-of-the-Valley Bush
180. *Pinus mugo* Mugo Pine
181. *Pinus strobus* Eastern White Pine
182. *Pinus sylvestris* Scotch Pine
183. *Pinus thunbergiana* Japanese Black Pine
184. *Platanus x acerifolia* London Planetree
185. *Poa pratensis cv .* Kentucky Bluegrass
186. *Podocarpus macrophyllus* Southern Yew
187. *Potentilla fruticosa cv.* Shrubby Cinquefoil
188. *Prunus laurocerasus cv.* Cherry Laurel
189. *Prunus serrulata 'Kwanzan'* Kwanzan Japanese Flowering Cherry

190.	*Pyracantha coccinea cv.*	Firethorn
191.	*Quercus alba*	White Oak
192.	*Quercus palustris*	Pin Oak
193.	*Quercus rubra*	Red Oak
194.	*Rhododendron x catawbiense*	Catawba Hybrid Rhododendron
195.	*Rhododendron Hybrid*	Exbury Hybrid Azalea
196.	*Rosa spp.*	Landscape/Shrub Rose cv.
197.	*Salvia nemorosa cv.*	Meadow Sage
198.	*Sedum spp.*	Sedum
199.	*Solenostemon scutellarioides*	Coleus
200.	*Sorbus aucuparia*	European Mountain Ash
201.	*Spiraea x bumalda*	Bumalda Spirea
202.	*Syringa vulgaris cv.*	Common Lilac
203.	*Tagetes spp. cv.*	Marigold
204.	*Taxodium distichum*	Bald Cypress
205.	*Taxus spp. and cv.*	Yew
206.	*Thuja occidentalis cv.*	American Arborvitae
207.	*Tilia cordata*	Littleleaf Linden
208.	*Tsuga canadensis*	Canadian Hemlock
209.	*Tulipa spp. cv.*	Tulip
210.	*Verbena x hybrida cv.*	Garden Verbena
211.	*Viburnum x burkwoodii*	Burkwood Viburnum
212.	*Viburnum trilobum*	American Cranberrybush Viburnum
213.	*Vinca minor cv.*	Periwinkle
214.	*Viola x wittrockiana cv.*	Pansy
215.	*Wisteria sinensis cv.*	Chinese Wisteria
216.	*Yucca filamentosa*	Adam's Needle

NURSERY/LANDSCAPE PESTS AND DISORDERS IDENTIFICATION

Insects

217 Aphid
218 Bagworm
219 Borer
220 Leafhopper
221 Leaf Miner
222 Scale
223 Spider Mite
224 Snail/Slug
225 Whitefly
226 White Grub

Diseases

227 Anthracnose
228 Apple Scab
229 Black Spot
230 Botrytis
231 Canker
232 Cedar-Apple Rust
233 Crown Gall
234 Fireblight
235 Powdery Mildew
236 Root Rot

Weeds

237 Annual Bluegrass
238 Broadleaf Plantain
239 Buckhorn Plantain
240 Chickweed
241 Crabgrass
242 Dandelion
243 Henbit
244 Nutsedge
245 Oxalis
246 Purslane
247 White Clover

Physiological Problems

248 Frost/Freeze Injury
249 Iron Deficiency
250 Leaf Scorch (drought/ winter burn)
251 Nitrogen Deficiency
252 Pot-bound roots
253 String Trimmer Injury
254 2,4-D Injury

Beneficial Insects

255 Praying Mantis
256 Lady Beetle
257 Paper Wasp
258 Lacewing
259 Spider

NURSERY/LANDSCAPE EQUIPMENT AND SUPPLIES IDENTIFICATION

260 anvil-and-blade pruner
261 ball cart (B&B truck)
262 bark mulch
263 bow saw
264 broadcast (cyclone) spreader
265 bubbler head, irrigation
266 bulb planter
267 bunker rake
268 burlap
269 compressed air sprayer
270 core aerifier
271 chain saw
272 cut-off machine
273 drip emitter, irrigation
274 dry-lock wall block
275 edger (power or hand)
276 edging
277 erosion netting
278 fertilizer injector
279 fertilizer tablet
280 garden (spading) fork
281 garden (bow) rake
282 grafting band
283 grafting knife
284 granular fertilizer
285 gravity (drop) spreader
286 ground/pelleted limestone
287 hedge shears
288 hoe
289 hook-and-blade pruners
290 hose-end repair fitting
291 hose-end sprayer
292 hose-end washer
293 hose repair coupling
294 impact sprinkler
295 irrigation ring tool
296 landscape fabric
297 leaf rake
298 loppers
299 mattock
300 measuring wheel
301 mist nozzle (mist bed)
302 mower blade balancer
303 nursery container
304 oscillating sprinkler
305 peat moss
306 pick axe
307 planting/earth/soil auger
308 pole pruner
309 polyethylene pipe
310 pop-up irrigation head
311 post-hole digger
312 power blower
313 power hedge trimmer
314 pot-in-pot units
315 pump sprayer
316 propagation mat
317 pruning saw
318 quick coupler
319 quick coupler head adapter
320 reel mower
321 resin-coated fertilizer
322 rotary mower
323 rototiller
324 round point shovel
325 scoop shovel
326 shade fabric
327 sharpening stone
328 siphon proportioner
329 soaker hose
330 soil sampling tube
331 solenoid valve
332 spade
333 sphagnum moss
334 square point (flat) shovel
335 string trimmer
336 thatch rake
337 tree caliper
338 tree wrap
339 trowel
340 vertical mower
341 water breaker
342 wire tree basket

Plant Pathology

Maximum Number of Team Members	4
Number of Team Members Scored	3
Scantron	Horticulture – CDE# 105482
Committee: Tyler Butts Craig Canterbury Kathy Duffield Matt Knopp Tara Tatalovich	

The contest will consist of identifying correctly from specimens **thirty (30)** common economic plant diseases which will be selected from the following list. Specimens will be numbered and contestants will identify the common name, host, and ONE control measure for each disease. Students will select the appropriate corresponding number for each disease, host, and ONE control measure from the lists provided and enter those appropriate numbers on the scantron sheet provided.

The score will be determined as follows:

- Each correctly identified disease will count 2 points.
- Each correctly identified host will count 2 point.
- Correct identifying ONE control measures for each disease will count 2 points.

Tie Breaker: Tie breakers will consist of the following:

- Judges will compare answers starting with specimen 1 and proceed through the contest until a contestant/team gains an advantage

Bulletins illustrating and describing plant diseases are issued occasionally by the Agricultural Experiment Stations of various states - usually the supply of these bulletins is so quickly exhausted that their listing here is not worthwhile. The 1953 Yearbook of Agriculture is devoted to Plant diseases. Copies of it should be available in all Vocational Agriculture Departments.

Plant Pathology Disease List

Revised by M. Rahman, Extension Plant Pathologist (08/2012)

HOST	DISEASE	CONTROL
ALFALFA	Leaf Spot	• Cut foliage in a timely manner

	Downy Mildew	• Cut foliage in a timely manner
BARLEY	Cover Smut	• Treat seed with suitable chemical
	Loose Smut	• Treat seed with suitable chemical
	Black Loose Smut	• Treat seed with a systemic fungicide
	Scald	• Resistant varieties
	Stripe Rust	• Treat seed with suitable chemical
	Powdery Mildew	• Resistant varieties
OATS	Crown Rust	• Resistant varieties
	Black Loose or Covered Smut (Cannot be separated except by microscopic examination)	• Treat seed with suitable chemical
	Stem Rust	• Destroy alternate host • Resistant varieties
Wheat	Glume Blotch	• Treat seed with suitable chemical
	Leaf Rust	• Resistant varieties
	Stem Rust	• Destroy alternate host • Resistant varieties
	Loose Smut	• Hot water seed treatment • Water soak treatment • Treat seed with a systemic fungicide
	Scab	• Non grain crop rotation-bury stubbles • Treat seed with suitable chemical
	Powdery Mildew	• Resistant varieties
RYE	Ergot	• Disease free seed • Cut wild grass hosts
	Leaf Rust	• Resistant varieties
CLOVER	Rust	• No practical control
	Powdery Mildew	• Resistant varieties
	Sclerotina Crown Rot	• Close grazing in the autumn and early winter
APPLES	Frogeye Leaf Spot (Black Rot)	• Captan • Nova+Mancozeb • Remove and destroy diseased parts
	Cedar Rust	• Remove alternate host • Rubigan + Captan • Rubigan + Ziram

	Scab	• Captan • Rubigan + Captan • Rubigan + Ziram
	Sooty Blotch	• Facilitate quick fruit drying
	Bitter Rot	• Captan + Pristine • Remove dead branches
	Fire Blight	• Remove and destroy diseased parts • Streptomycin • Bordeaux • Fixed Copper
PEACHES	Brown Rot	• Topsin-M +Sulfur • Indar • Captan
	Peach-Leaf Curl	• Ferbam • Wettable Sulfur • Bravo
	Scab “Freckles”	• Bravo • Topsim-M+ Captan
	Yellows	• Pull and destroy diseased tree
	Lear Spot or Shot Hole	• Wettable Sulfur • Fixed Copper
PLUMS	Black Knot	• Remove and destroy diseased parts • Topsin-M + Captan • Resistant varieties
	Brown Rot	• Captan and Topsin-M, mixed
CHERRIES	Leaf Spot or Shot hole	• Captan and Topsin- M, mixed
	Black knot	• Captan and Topsin- M, mixed • Prune out and destroy visible knot
NOTE: Most peaches, plums and cherries are sprayed or dusted with sulfur, except for yellows, peach leaf curl, and black knot Never use Bordeaux or lime-sulfur on growing peaches		
CRUCIFERS (Cabbage, Cauliflower, Brussels Sprouts)	Club Root	• Avoid infested soil or fumigate • Apply lime to soil to pH 6.8
	Blackleg	• Clean seeds • Hot water seed treatment • Rovral
	Soft Rot	• Prevent mechanical and insect injuries to plant

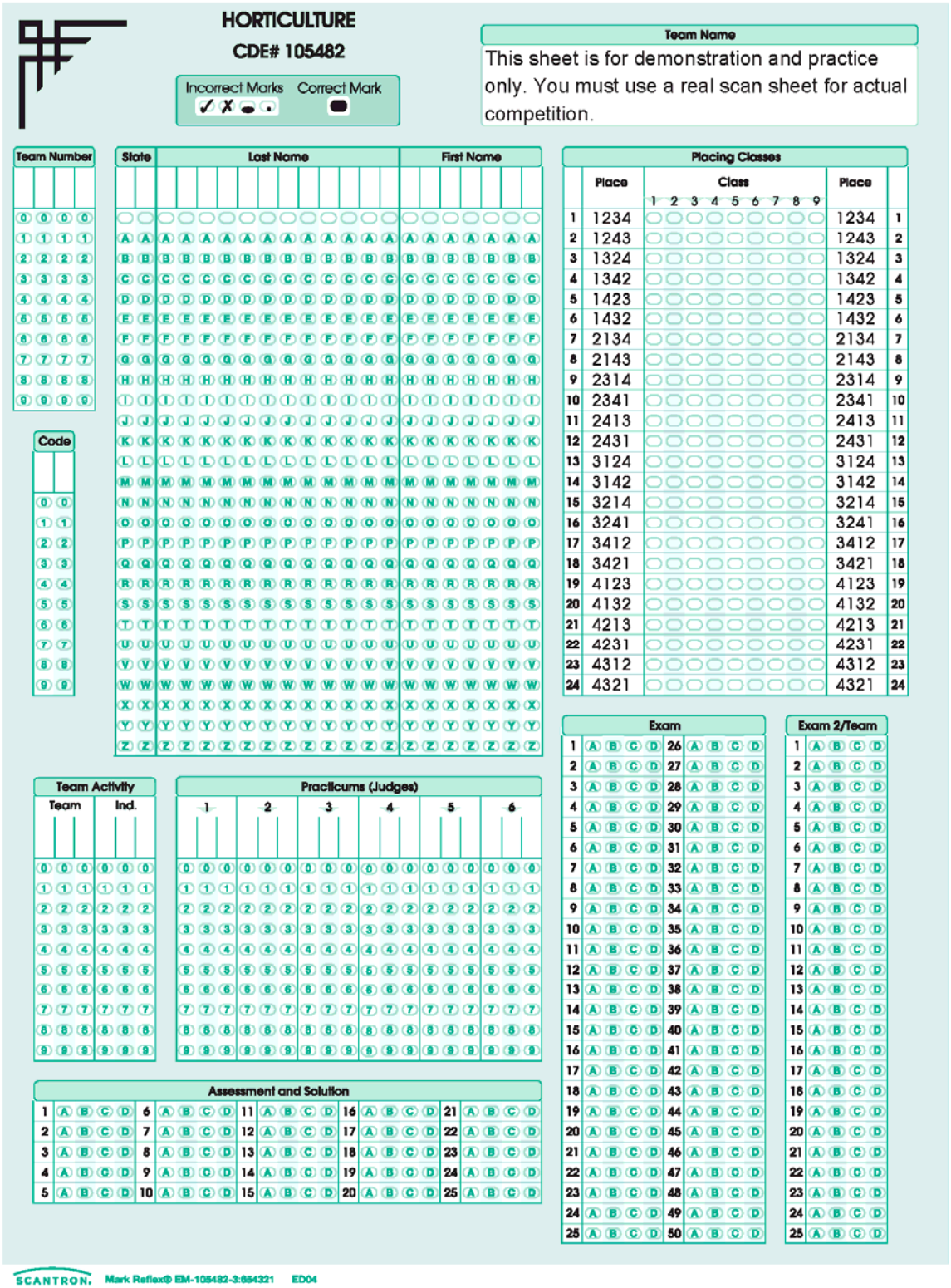
CUCURBITS (Cucumbers, Melons etc)	Bacterial wilt	• Cover until bloom with a row cover • Ambush • Admire • Pounce • Rotenone for cucumber beetles N.B. Cucumber beetle is the vector of the pathogen, controlling the vector in most cases controls the disease
	Anthracnose	• Disease free seed • Mancozeb • Bravo • Topsin-M
	Downy Mildew	• Bravo • Mancozeb • Ranman • Tanos
	Powdery Mildew	• Bravo • Nova
BEANS	Anthracnose	• Bravo • Headline • Mancozeb • Bury infected debris
	Bacterial Blight	• Disease free seed • Crop rotation
	Rust	• Bravo • Folicur • Endura • Resistant varieties
	Common Mosaic	• Certified seed • Control aphid vector • Disease-free seed
CORN	Rust	• No Practical control
	Southern Leaf Blight	• Resistant varieties
	Northern Leaf Blight Smut	• Resistant varieties • Remove and destroy diseased parts • Crop rotation
	Maize Dwarf Mosaic Virus	• Resistant varieties
	Gray Leaf Spot (Cercospora)	• Resistant varieties
PEPPER	Bacterial Spot	• Resistant varieties

		• Copper • Disease free seed
POTATOES	Late Blight	• Mancozeb • Copper • Acrobat • Bravo • Curzate
		• Resistant varieties
	Early Blight	• Mancozeb • Copper • Bravo
	Hopper burn	• Insecticide spray of pyrethroid
	Leaf Roll	• Disease free seed
	Mosaics	• Disease free seed
	Rhizoctonia (Black Scurf, Dry Stem Rot)	• No practical control • Cultural practice “plant shallow and hill deep”
	Scab	• Acidify soil • Resistant varieties
	Black leg	• Treat seed with Captan • Polyram • Disease free seed
	Ring Rot	• Disease free seed
STRAWBERRIES	Leaf Spot	• Rally • Nova • Indar • Pristine
	Botrytis Rot	• Renovate • Thin old beds • Luna privilege • Captan • Topsin-M • CaptEvate
GRAPES	Black Rot	• Remove mummies from cane • Ferbam • Captan • Bayleton • Pristine

	Downy Mildew	• Bordeaux • Fixed copper • Ridomil Gold MZ • Abound
	Powdery Mildew	• Nova • Quintec • Endura

BRAMBLES (Blackberries, Raspberries, Dewberries)	Anthracnose	• Lime-sulfur in spring when leaves show 1/2 inch growth: follow with Cabrio at bloom and two weeks after bloom Caution: do not use lime-sulfur after 1/2inch leaf, it will cause severe burning
	Orange Rust	• Remove infected plants, including all roots • Apply Rally
	Cane blight and spot	• Remove infected canes • Apply Quilt Xcel
TOMATOES	Late Blight	• Mancozeb • Copper • Quadris • Bravo • Bravo Weather
	Early Blight	• Mancozeb • Copper • Bravo • Keep foliage dry as much as possible

	Blossom End Rot	• Mulch-Even Water Supply • Keep calcium high
	Septoria Leaf Spot	• Crop rotation 3-years • Mancozeb • Copper • Bravo Weathe rstik
	Anthracnose	• Rotation 3-years with non-solanaeeous crop • Disease free seed • Mancozeb • Copper • Bravo • Quadris
	Wilt	• Resistant varieties
	Root Knot	• Fumigate soil • Crop rotation



HORTICULTURE

CDE# 105482

Incorrect Marks ✓ ✗ ● ○ Correct Mark ●

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team Number

State

Last Name

First Name

Code

Placing Classes

	Place	Class 1 2 3 4 5 6 7 8 9	Place	
1	1234		1234	1
2	1243		1243	2
3	1324		1324	3
4	1342		1342	4
5	1423		1423	5
6	1432		1432	6
7	2134		2134	7
8	2143		2143	8
9	2314		2314	9
10	2341		2341	10
11	2413		2413	11
12	2431		2431	12
13	3124		3124	13
14	3142		3142	14
15	3214		3214	15
16	3241		3241	16
17	3412		3412	17
18	3421		3421	18
19	4123		4123	19
20	4132		4132	20
21	4213		4213	21
22	4231		4231	22
23	4312		4312	23
24	4321		4321	24

Team Activity

Team | Ind.

Practicums (Judges)

1 | 2 | 3 | 4 | 5 | 6

Assessment and Solution

1	A B C D	6	A B C D	11	A B C D	16	A B C D	21	A B C D
2	A B C D	7	A B C D	12	A B C D	17	A B C D	22	A B C D
3	A B C D	8	A B C D	13	A B C D	18	A B C D	23	A B C D
4	A B C D	9	A B C D	14	A B C D	19	A B C D	24	A B C D
5	A B C D	10	A B C D	15	A B C D	20	A B C D	25	A B C D

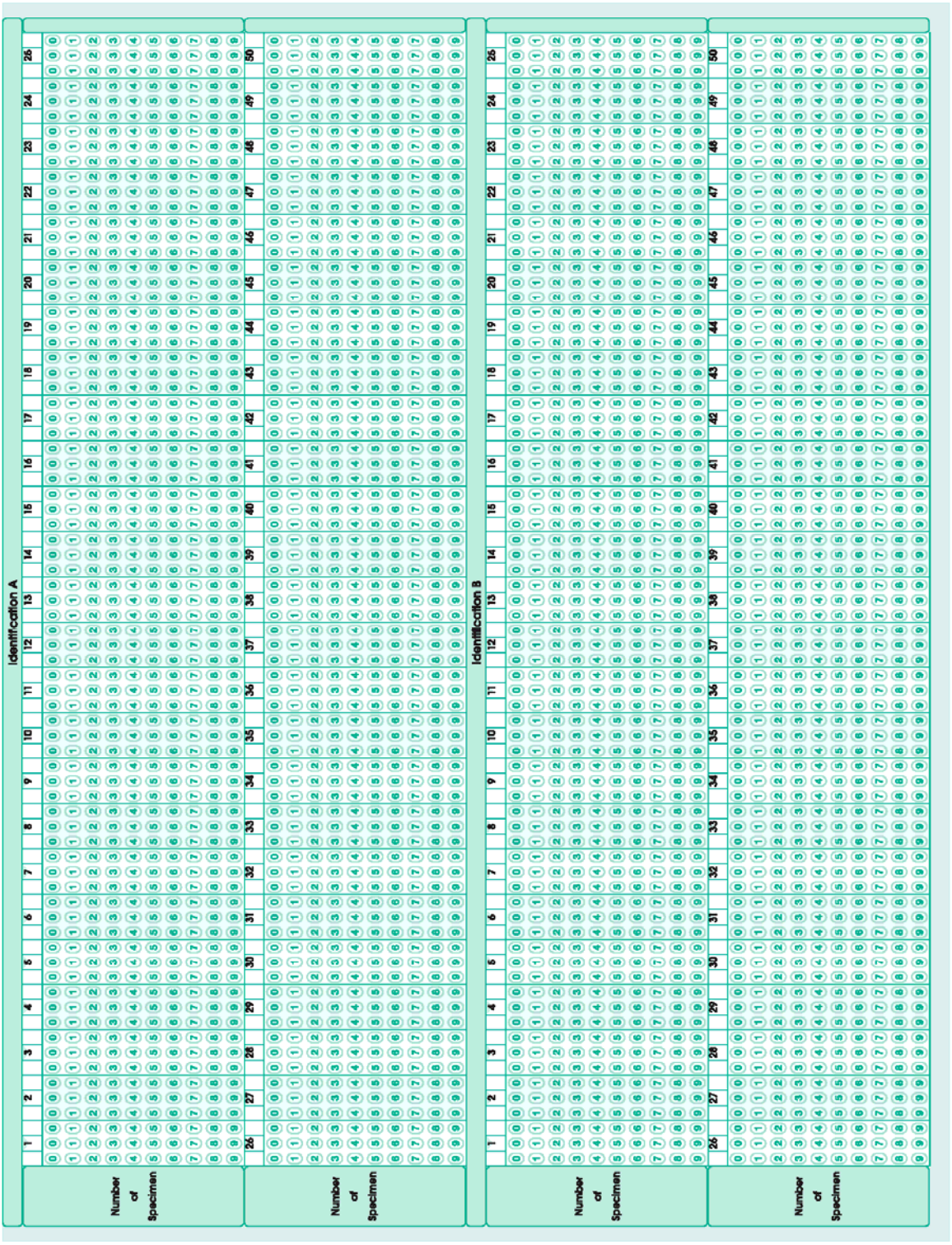
Exam

1	A B C D	26	A B C D	2	A B C D	27	A B C D	3	A B C D	28	A B C D	4	A B C D	29	A B C D	5	A B C D	30	A B C D
6	A B C D	31	A B C D	7	A B C D	32	A B C D	8	A B C D	33	A B C D	9	A B C D	34	A B C D	10	A B C D	35	A B C D
11	A B C D	36	A B C D	12	A B C D	37	A B C D	13	A B C D	38	A B C D	14	A B C D	39	A B C D	15	A B C D	40	A B C D
16	A B C D	41	A B C D	17	A B C D	42	A B C D	18	A B C D	43	A B C D	19	A B C D	44	A B C D	20	A B C D	45	A B C D
21	A B C D	46	A B C D	22	A B C D	47	A B C D	23	A B C D	48	A B C D	24	A B C D	49	A B C D	25	A B C D	50	A B C D

Exam 2/Team

1	A B C D	2	A B C D	3	A B C D	4	A B C D	5	A B C D
6	A B C D	7	A B C D	8	A B C D	9	A B C D	10	A B C D
11	A B C D	12	A B C D	13	A B C D	14	A B C D	15	A B C D
16	A B C D	17	A B C D	18	A B C D	19	A B C D	20	A B C D
21	A B C D	22	A B C D	23	A B C D	24	A B C D	25	A B C D

SCANTRON. Mark Reflex® EM-105482-3:654321 ED04


Identification A
Number of Specimen
Number of Specimen
Identification B
Number of Specimen
Number of Specimen

Plant Pathology CDE Code Sheet

Diseases

001. Anthracnose
002. Bacterial blight
003. Bacterial spot
004. Bacterial wilt
005. Bitter rot on fruit
006. Black knot
007. Black leg
008. Black loose smut or covered smut*
009. Black rot
010. Blossom - end rot
011. Botrytis rot
012. Brown rot
013. Cane blight and spot
014. Cedar/apple rust on leaves or fruit
015. Club root
016. Covered smut
017. Crown gall
018. Crown rust
019. Downy mildew
020. Early blight
021. Ergot
022. Fire blight on twigs, limbs or fruit
023. Frog-eye leaf spot
024. Glume blotch
025. Gray Leaf Spot (Cercospora)
026. Hopper burn
027. Late blight
028. Leaf blight
029. Leaf roll
030. Leaf rust
031. Leaf spot
032. Leaf spot or shot hole
033. Loose smut
034. Maize Dwarf Mosaic Virus
035. Mosaic (including common or virus)
036. Northern leaf blight
037. Orange rust
038. Peach leaf curl
039. Powdery mildew
040. Rhizoctonia
041. Ring rot
042. Root knot (Nematode)
043. Rust
044. Scab
045. Scab “freckles”
046. Scald
047. Sclerotinia crown rot
048. Septoria leaf spot
049. Smut
050. Soft rot
051. Sooty blotch on fruit
052. Southern leaf blight
053. Stem rust
054. Stripe
055. Wilt
056. Yellows

Host

001. Alfalfa
002. Apple
003. Barley
004. Bean
005. Brambles
006. Cherry
007. Clover
008. Corn
009. Crucifer
010. Cucurbits
011. Grapes
012. Oats
013. Peach
014. Pepper
015. Plums
016. Potato
017. Rye
018. Strawberry
019. Tomatoes
020. Wheat

Controls

101. Abound
102. Acidify soil
103. Acrobat
104. Admire
105. Ambush
106. Apply lime (pH 6.8)
107. Apply Quilt Xcel
108. Apply Rally
109. Avoid infested soil or fumigate
110. Bayleton
111. Bordeaux
112. Bravo
113. Bravo Weather stik
114. Bury infected debris
115. Captan
116. Captan + Pristine
117. Captan & Topsin- M, mixed
118. CaptEvate
119. Certified seed
120. Clean seeds
121. Close grazing in the autumn and early winter
122. Control aphid vector
123. Copper
124. Cover until bloom with a row cover
125. Crop rotation
126. Crop rotation 3-years
127. Cultural practice “plant shallow and hill deep”
128. Curzate
129. Cut foliage in a timely manner
130. Cut wild grass hosts
131. Destroy alternate host
132. Disease free seed
133. Endura
134. Facilitate quick fruit drying
135. Ferbam
136. Fixed Copper
137. Folicur
138. Fumigate soil
139. Headline
140. Hot water seed treatment
141. Indar
142. Insecticide spray of pyrethroid
143. Keep calcium high
144. Keep foliage dry as much as possible
145. Lime-sulfur in spring when leaves show 1/2 inch growth: follow with Cabrio at bloom and two weeks after bloom
146. Luna privilege
147. Mancozeb
148. Mulch-Even Water Supply
149. No practical control
150. Non grain crop rotation-bury stubbles
151. Nova
152. Nova+Mancozeb
153. Polyram
154. Pounce
155. Prevent mechanical and insect injuries to plant
156. Pristine
157. Prune out and destroy visible knot
158. Pull and destroy diseased tree
159. Quadris
160. Quintec
161. Rally
162. Ranman
163. Remove alternate host
164. Remove and destroy diseased parts
165. Remove dead branches
166. Remove infected canes
167. Remove infected plants, including all roots
168. Remove mummies from cane
169. Renovate
170. Resistant varieties
171. Ridomil Gold MZ
172. Rotation 3-years with non-solanaeeous crop
173. Rotenone - cucumber beetles
174. Rovral
175. Rubigan + Captan
176. Rubigan + Ziram
177. Streptomycin
178. Tanos
179. Thin old beds
180. Topsim-M + Captan
181. Topsin-M
182. Topsin-M +Sulfur
183. Treat seed with a systemic fungicide
184. Treat seed with Captan
185. Treat seed with suitable chemical
186. Water soak treatment
187. Wettable Sulfur

Poultry Evaluation

Maximum Number of Team Members	4	
Number of Team Members Scored	4	
Scantron	Poultry – Form Number – 478-7	
Committee: Leon Ammons Kelsey Flinn Ron Hudson Beth Massey John Workman		

An $15 fee will be assessed per team to cover supplies required for the contest. This is in addition to the traditional fee assessed to cover Scantron supplies.

If the West Virginia Department of Agriculture issues a "poultry ban," the Poultry Evaluation Contest will NOT be held. If arrangements can be made, an alternative date and time for the contest will be made.

I. PURPOSE

The Poultry Career Development Event stimulates learning activities relative to production and management, processing, marketing, and consumption of poultry products.

II. EVENT RULES

1. **Team Make-up**- Teams may consist of three or four members. Team ranking is determined by combining the scores of the top three students from each team. Teams that for whatever reason have fewer than three members are not eligible for team awards, but students may receive individual awards.
2. **Humane Treatment of Live Animals**: All live animals must be treated with the utmost care and respect. Violation of this rule will automatically disqualify an offending team member from the event. The supervision, interpretation, and enforcement of this rule will be the responsibility of the Event Superintendent and/or their designee.
3. Each team will receive computer scan sheets from contest superintendent.
4. Each participant will have ten minutes to complete each class. A warning signal will inform the participants when time expires for each class. Participants will have one minute to move from class to class.
5. A reliable technique will be used to identify the poultry and poultry products in the placing, selection, grading, and identification classes.

III. EVENT FORMAT

A. EQUIPMENT

Materials students must provide- Each participant must have two sharpened No. 2 pencils, and an electronic calculator. Calculators that are permissible for use in this event are those that are battery operated, non-programmable, and silent. A calculator may have the following functions- addition, subtraction, multiplication, division, equals, percent, square root, +/- key, and one memory register. Calculators that are capable of storing equations, definitions, and/or terms are not permitted. Participants attempting to use unauthorized calculators will be disqualified.

B. INDIVIDUAL ACTIVITIES

Live Poultry

1. (BROILERS) Each participant will place a class of four market broilers. Each participant will be permitted to "handle" the birds, as long as the birds are inspected in a professional and humane manner. Participants may not remove the broilers from the holding unit.
2. (HENS) Each participant will place a class of four egg-type hens. The birds will be Single-Comb White Leghorns, or commercial strains of Leghorn-type (inbred cross). The birds may have trimmed beaks. Each participant will be permitted to "handle" the birds, as long as the birds are inspected in a professional and humane manner.
3. Each participant will present oral reasons for either the placing class of market broilers or for the class of egg-type hens. The class for which participants should develop oral reasons for presentation will be clearly identified during the event. Participants will have ten minutes to prepare and two minutes to present their oral reasons. Reasons should include current USDA and poultry industry terminology and standards.

Class #		Points
1.	Market broilers	50
2.	Egg-type hens	50
3.	Oral reasons for Class 1 or 2 (REASONS 1)	50

Ready-to-Cook Poultry

4. (CARCASS/PART GRADING) Each participant will grade a class of ten ready-to-cook chicken and/or turkey carcasses and/or parts. Criteria for grading will be derived from USDA standards for chicken carcasses weighing two pounds to six pounds and for turkey carcasses weighing six to sixteen pounds or carcasses weighing greater than sixteen pounds. Four categories may be used, including the USDA quality grades A, B, C and the category NG (nongradable). Participants may not touch any carcass or part; doing so will result in disqualification. If used, the shackle holding a carcass may be rotated to show the entire carcass.
5. (RTC – 3) Each participant will place a class of four ready-to-cook chicken or turkey carcasses. Criteria for placing will be derived from USDA standards relative to poultry weight classes. Participants may not touch any carcass; doing so will result in disqualification. If used, the shackle holding a carcass may be rotated to show the entire carcass.
6. (REASONS 1) Each participant will present oral reasons for their placing of the class of ready-to-cook chicken or turkey carcasses. Participants will have ten minutes to prepare

and two minutes to present their reasons. Reasons should include current USDA and poultry industry terminology and standards.

Class #		Points
4.	Ten chicken and/or turkey carcasses and/or parts for quality grading	50
5.	Four RTC carcasses for placing	50
6.	Oral reasons for Class 5	50

Shell Eggs

7. (EGG INTERIOR QUALITY GRADING) Each participant will grade a class of ten white (or white-tint) shell eggs. Criteria for grading will be derived from USDA standards for interior quality of market eggs. The USDA quality grades will be AA, A, B and Loss. Participants must candle the eggs to determine the appropriate USDA quality grade, but improper handling of eggs will result in disqualification.
8. (EGG INTERIOR QUALITY GRADING and WRITTEN FACTORS) Each participant will grade a class of ten shell eggs (white, brown or other). Criteria for grading will be derived from USDA standards for exterior quality of market eggs. The USDA quality grades will be AA/A, B and NG (nongradable). Criteria for grading may include decisions related to the following quality factors: Soundness (unbroken, check, dented check or leaker); Stains (slight/moderate stain or prominent stain); Adhering Dirt or Foreign Material; Egg Shape (approximately normal shape, unusual or decidedly misshapen); Shell Texture (large calcium deposits, body check or pronounced ridges); Shell Thickness (pronounced thin spots); No Defect.
9. (EGG INTERIOR QUALITY GRADING and WRITTEN FACTORS) Each participant will determine written factors for the grading of the exterior chicken eggs. The written factors will relate to the criteria used for grading exterior quality of eggs.

Class #		Points
7.	Ten white-shell eggs for interior quality grading	50
8.	Fifteen chicken eggs for exterior quality grading	50
9.	Evaluation criteria for Class 8	50

Further Processed Poultry

10. (BONELESS FUTHER PROCESSED POULTRY MEAT PRODUCTS) Each participant will determine written quality factors for a class of ten boneless further processed poultry meat products (e.g. precooked, poultry meat patties, tenders, nuggets or other boneless products). Criteria for evaluation will include coating defects, color defects, consistency of shape/size, broken and/or incomplete products, cluster/marriages and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.
11. (BONE-IN FUTHER PROCESSED POULTRY MEAT PRODUCTS) Each participant will determine written quality factors for a class of ten bone-in further processed poultry meat products (e.g., precooked, bone-in wings or other bone-in poultry meat products). Criteria for evaluation will include coating defects, color defects, consistency of size, broken products, miscut products, mixed products and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.

12. (IDENTIFICATION OF CARCASS PARTS) Each participant will identify ten poultry parts. Poultry parts to be identified will be randomly selected and consistent with those used in the chicken processing and merchandising industries. The participant may not touch any part; doing so will result in disqualification.

Class #		Points
10.	Boneless Further Processed Poultry Meat Products	50
11.	Bone-In Further Processed Poultry Meat Products	50
12.	Ten chicken carcass parts for identification	50

Poultry Management Written Exam

13. Each participant will complete a 30 item written examination on poultry production, management, anatomy and physiology. Five or more items will require mathematical calculations. Examination items will be developed from information found in the references (see Section IX).

Class #		Points
13.	Written Examination	150

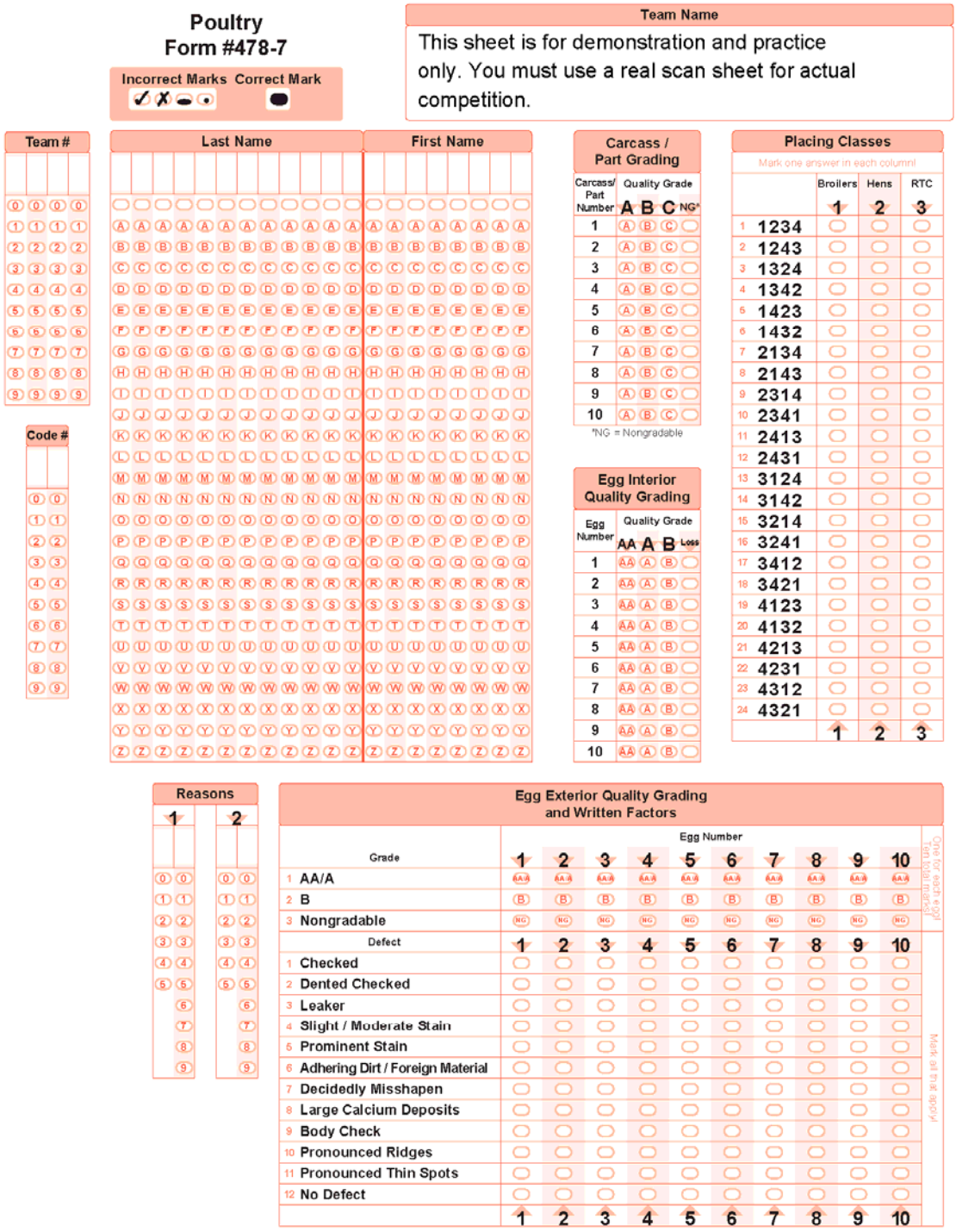
VI. Scoring

	Individual	Team
Twelve Classes	600	1800
Written Exam	150	450
Total Individual Points Possible	750	2,250

VII. Tiebreakers

If ties occur, the following classes will be used in order to determine the ranking of award recipients:

1. Written Management Exam
2. Evaluation of Live Birds



Poultry
Form #478-7

Incorrect Marks ✓ ✗ ▬ ⊙ Correct Mark ●

Team Name

This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team #

Code #

Last Name

First Name

Carcass / Part Grading

Carcass/ Part Number	Quality Grade A	B	C	NG*
1	Ⓐ	Ⓑ	Ⓒ	◯
2	Ⓐ	Ⓑ	Ⓒ	◯
3	Ⓐ	Ⓑ	Ⓒ	◯
4	Ⓐ	Ⓑ	Ⓒ	◯
5	Ⓐ	Ⓑ	Ⓒ	◯
6	Ⓐ	Ⓑ	Ⓒ	◯
7	Ⓐ	Ⓑ	Ⓒ	◯
8	Ⓐ	Ⓑ	Ⓒ	◯
9	Ⓐ	Ⓑ	Ⓒ	◯
10	Ⓐ	Ⓑ	Ⓒ	◯

*NG = Nongradable

Egg Interior Quality Grading

Egg Number	Quality Grade AA	A	B	Loss
1	ⒶⒶ	Ⓐ	Ⓑ	◯
2	ⒶⒶ	Ⓐ	Ⓑ	◯
3	ⒶⒶ	Ⓐ	Ⓑ	◯
4	ⒶⒶ	Ⓐ	Ⓑ	◯
5	ⒶⒶ	Ⓐ	Ⓑ	◯
6	ⒶⒶ	Ⓐ	Ⓑ	◯
7	ⒶⒶ	Ⓐ	Ⓑ	◯
8	ⒶⒶ	Ⓐ	Ⓑ	◯
9	ⒶⒶ	Ⓐ	Ⓑ	◯
10	ⒶⒶ	Ⓐ	Ⓑ	◯

Placing Classes

Mark one answer in each column!

		Broilers 1	Hens 2	RTC 3
1	1234	◯	◯	◯
2	1243	◯	◯	◯
3	1324	◯	◯	◯
4	1342	◯	◯	◯
5	1423	◯	◯	◯
6	1432	◯	◯	◯
7	2134	◯	◯	◯
8	2143	◯	◯	◯
9	2314	◯	◯	◯
10	2341	◯	◯	◯
11	2413	◯	◯	◯
12	2431	◯	◯	◯
13	3124	◯	◯	◯
14	3142	◯	◯	◯
15	3214	◯	◯	◯
16	3241	◯	◯	◯
17	3412	◯	◯	◯
18	3421	◯	◯	◯
19	4123	◯	◯	◯
20	4132	◯	◯	◯
21	4213	◯	◯	◯
22	4231	◯	◯	◯
23	4312	◯	◯	◯
24	4321	◯	◯	◯
		1	2	3

Reasons

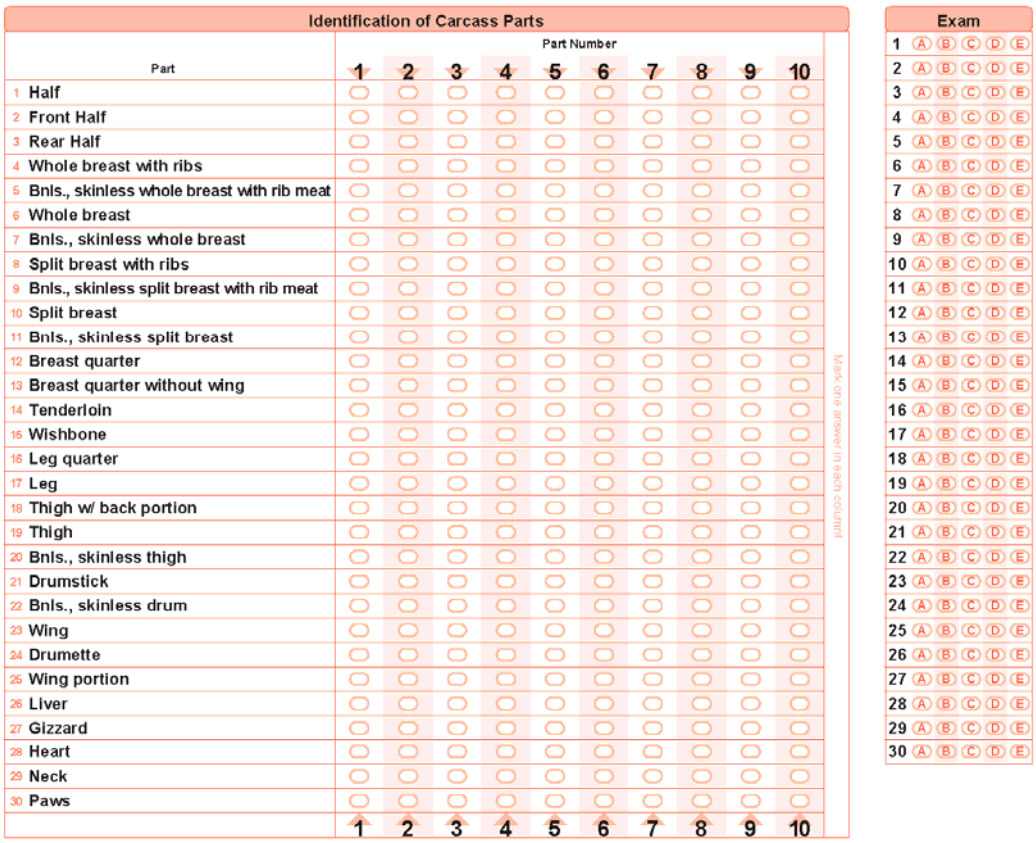
1 2

Egg Exterior Quality Grading and Written Factors

Only for each egg! Ten total marks!

Grade	Egg Number 1	2	3	4	5	6	7	8	9	10
1 AA/A	ⒶⒶ	ⒶⒶ	ⒶⒶ	ⒶⒶ	ⒶⒶ	ⒶⒶ	ⒶⒶ	ⒶⒶ	ⒶⒶ	ⒶⒶ
2 B	Ⓑ	Ⓑ	Ⓑ	Ⓑ	Ⓑ	Ⓑ	Ⓑ	Ⓑ	Ⓑ	Ⓑ
3 Nongradable	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG
Defect	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1 Checked	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
2 Dented Checked	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
3 Leaker	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
4 Slight / Moderate Stain	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
5 Prominent Stain	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
6 Adhering Dirt / Foreign Material	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
7 Decidedly Misshapen	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
8 Large Calcium Deposits	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
9 Body Check	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
10 Pronounced Ridges	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
11 Pronounced Thin Spots	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
12 No Defect	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
	1	2	3	4	5	6	7	8	9	10

Mark all that apply!



Identification of Carcass Parts

Part	Part Number 1	2	3	4	5	6	7	8	9	10
1 Half										
2 Front Half										
3 Rear Half										
4 Whole breast with ribs										
5 Bnls., skinless whole breast with rib meat										
6 Whole breast										
7 Bnls., skinless whole breast										
8 Split breast with ribs										
9 Bnls., skinless split breast with rib meat										
10 Split breast										
11 Bnls., skinless split breast										
12 Breast quarter										
13 Breast quarter without wing										
14 Tenderloin										
15 Wishbone										
16 Leg quarter										
17 Leg										
18 Thigh w/ back portion										
19 Thigh										
20 Bnls., skinless thigh										
21 Drumstick										
22 Bnls., skinless drum										
23 Wing										
24 Drumette										
25 Wing portion										
26 Liver										
27 Gizzard										
28 Heart										
29 Neck										
30 Paws										
	1	2	3	4	5	6	7	8	9	10

Mark one answer in each column!

Exam

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
12	A	B	C	D	E
13	A	B	C	D	E
14	A	B	C	D	E
15	A	B	C	D	E
16	A	B	C	D	E
17	A	B	C	D	E
18	A	B	C	D	E
19	A	B	C	D	E
20	A	B	C	D	E
21	A	B	C	D	E
22	A	B	C	D	E
23	A	B	C	D	E
24	A	B	C	D	E
25	A	B	C	D	E
26	A	B	C	D	E
27	A	B	C	D	E
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E

Boneless Further Processed Poultry Meat Products

Defect	Product Number 1	2	3	4	5	6	7	8	9	10
1 Coating Void										
2 Inconsistent Color										
3 Inconsistent Shape / Size										
4 Broken / Incomplete										
5 Cluster / Marriages										
6 Foreign Material										
7 No Defect										
	1	2	3	4	5	6	7	8	9	10

Mark all that apply!

Bone-In Further Processed Poultry Meat Products

Defect	Product Number 1	2	3	4	5	6	7	8	9	10
1 Coating Void										
2 Inconsistent Color										
3 Inconsistent Size										
4 Broken / Broken Bone										
5 Miscut										
6 Foreign Material										
7 No Defect										
	1	2	3	4	5	6	7	8	9	10

Mark all that apply!

Veterinary Science

Maximum Number of Team Members	4
Number of Team Members Scored	4
Scantron	Horticulture CDE# 105482
Committee: Craig Canterbury Tim Kidwell Charity Marstiller Brianne McCauley Julie Sions	

Purpose

The purpose of the veterinary science career development event is to promote college and career readiness by providing opportunities to develop technical knowledge and demonstrate practical skills in the field of veterinary science.

Objectives

Participants will demonstrate professional ethics, decision-making, communication and problem-solving skills.

Participants will demonstrate technical competency with small and large animals in the areas of:

- Anatomy and physiology
- Clinical procedures
- Identification
- Health and safety
- Medical terminology

Event Rules

1. Teams will consist of four members with all four members' scores counting toward total team score.
2. **Dress code:** All participants must wear either scrubs (top and bottoms; solid color) or polo with slacks. All participants must wear closed toe, closed heel and flat shoes (no clogs, sandals or flip-flops). No jewelry may be worn on the second day of this event. This includes rings, bracelets, earrings and exposed body piercing. Wrist watches are permitted.
3. **Tools and Equipment:** The chapter must provide pencils, calculators, clipboards and paper. Due to sanitation reasons, some items that may be needed in the event (such as stethoscopes) will need to be provided by the participant or their chapter.
4. Contest coordinators will provide the specific tools and equipment needed to complete practicums.

Event Format

A. Individual Activities
   1. Written Exam - 100 points

The objective, multiple-choice exam is designed to determine team members' broad understanding of the veterinary science field. The written exam will consist of 50 multiple-choice questions. Forty minutes will be given for the exam. Topics for the exam may include:

Topics for the exam may include:

- Behavior
- Disease (causes and sources, signs and clinical signs)
- Medical terminology
- Medical records
- Anatomy/physiology
- Regulations (OSHA: Federal Occupational Safety and Health
- Administration; GHS: Globally Harmonized System for Hazard
- Communication; SDS: Safety Data Sheets)
- Patient management
- Facility management
- Practice management
- Genetics
- Nutrition
- Husbandry

2. MATH APPLICATIONS EXAM (100 POINTS) The number of practicum questions will vary based on the type of activity that is assigned. Participants will have 30 minutes to complete the entire math application practicum. Questions may include conversions, dose calculations, dilutions, cost calculations and invoices.
3. CURRENT EVENTS (100 POINTS) The current event activity will allow students to utilize critical thinking and problem-solving skills. Thirty minutes total will be allowed to complete this portion of the event. Participants will be provided a current event topic in the superintendent letter. The current event portion could be a blend of writing and digital evaluation. Written responses may range from short answers to essays.
4. Identification - 100 points total
   Participants will identify equipment, parasites and breeds/species for a total of 100 points (2 points per item). Fifty minutes will be given for this activity. Identification lists are located at the end of this handbook.
5. Equipment – 50 points
   Participants will identify pieces of equipment (actual equipment and photos). They will also need to have general knowledge about the use for each item.
6. Parasites/Microscopic – 30 points
   Participants will identify parasites (specimen and photos) and explain the life cycles of selected parasites. Participants will identify microscopic organisms.
7. Breeds – 20 points Participants will identify breeds of small and large animals (photos).

B. Practicums - 320 points total

1. Clinical Procedure Practicum (200 points) Participants will be given four clinical procedure activities to complete (50 points each). Fifteen to thirty minutes will be allotted for this section depending on the activities selected each year. Participants are expected to talk through the clinical procedure steps to a judge as they are being scored. Judges may ask participants for clarification on steps performed. All clinical procedure scorecards can be found at the end of this handbook.
2. Handling and Restraining Practicum (120 points) Participants will be given four handling/restraint activities to complete (30 points each). Fifteen to thirty minutes will be allotted for this section depending on the activities selected each year. Participants are expected to talk through the handling and restraining steps to a judge as they are being scored. Judges may ask participants for clarification on steps performed. All handling and restraining scorecards can be found at the end of this handbook.

3. Math Applications Practicum – 100 points
   Five math practicum questions will be used. Participants will have 30 minutes to complete the entire math application practicum. Questions may include conversions, dose calculations, dilutions, cost calculations and invoices.

   Example:
   Sophie, a golden retriever, and her owner have just moved from out-of-state and are reestablishing veterinarian relations at your clinic. Sophie's owner has provided you with her health records from their previous veterinarian. Sophie had been prescribed a diet plan by the previous veterinarian and had been coming into the clinic for weekly weight checks. Sophie's owner would like to continue the weekly checks with you. You weigh Sophie and record her weight as 19 kg. The owner would like you to tell her how much weight Sophie has lost. Sophie's last recorded weight was 43.2 lb. How many pounds did Sophie lose since the last weighing? ANSWER: Sophie has lost 1.4 lb. since the last recorded weighing.

4. Handling and Restraining Practicum – 120 points
   Participants will be given four handling/restraint activities to complete (30 points each). Fifteen to thirty minutes will be allotted for this section depending on the activities selected each year. Participants are expected to talk through the handling and restraining steps to a judge as they are being scored. Judges may speak and ask questions to the participant at the end of each activity, if time allows. All handling and restraining scorecards can be found at the end of this handbook.

5. Clinical Procedure Practicum – 200 points
   Participants will be given four clinical procedure activities to complete (50 points each). Fifteen to thirty minutes will be allotted for this section depending on the activities selected each year. Participants are expected to talk through the clinical procedure steps to a judge as they are being scored. Judges may speak and ask questions to the participant at the end of each activity, if time allows. All clinical procedure scorecards can be found at the end of this handbook.

C. Team Activity - 200 points

Teams will conduct research using local veterinarians and veterinary resources based on the annual topic posted on the CDE webpage in November. The team will be provided a specific scenario when they begin their team activity. They will have a total of 15 minutes to prepare their presentation. Teamwork will be assessed during the plan development time. Teams will evaluate the information provided and prepare the questions, diagnostics and recommendations as well as explain steps and procedures for the veterinary process in their plan. Teams need to determine what aspects of veterinary medicine and roles are most important to demonstrate based on the annual topic. After preparation the team will be required to give an oral presentation for a maximum of 15 minutes explaining decisions made by the team. All team members are expected to participate in the presentation. The team will then be required to answer questions from judges regarding the decisions reached by their team. Resources provided for the team activity may include diagnostic information like blood work, synopsis of disease state, treatment recommendations and cost information.

Event Scoring

Scoring

ACTIVITIES	Individual Points	Team Points
Written Exam	100	
Current Event	100	
Identification	100	
Math Application Exam	100	
Handling and Restraining Exam	120	
Clinical Procedures Practicum	200	
Team Activity		200
	720	3,080

TIEBREAKERS

Tiebreakers will be settled in the following order:

1 Combined practicum score
2 Written exam score

Resources

This list of references is not intended to be all inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Resources

This list of references is not intended to be all inclusive.

Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. Make sure to use discretion when selecting website references by only using reputable, proven sites.

The following list contains references that may prove helpful during event preparation. The most current edition of resources will be used.

Past CDE materials and other resources are available by logging in to *https://www.ffa.org/participate/cdes/veterinary-science*

WRITTEN EXAM:

- Small Animal Care and Management. Warren. ISBN: 978-1-4180-4105-2
- McCurnin's Clinical Textbook for Vet Technicians 8th edition- ISBN 978-1-4377-2690-0
- An Illustrated Guide to Veterinary Medical Terminology. Romich. ISBN: 978-1-4354-2012-0
- Official Guide: Maintaining and Cleaning Surgical Instruments. Stow.: *https://www.ffa.org/SiteCollectionDocuments/cde_vetsci_guide_maintaining_clearing_surgical_instruments.pdf*
- Veterinary Science: Preparatory Training for the Veterinary Assistant. Faries. ISBN: 978-0-9849115-0-9. Order online: *https://agrilifebookstore.org/publications_browse2.cfm?keywordid=4*
- Introduction to Veterinary Science. Lawhead, Baker. ISBN: 978-1-4283-1225-8
- *http://todaysveterinarypractice.navc.com/*
- Veterinary Assisting: Fundamentals and Applications. Vanhorn, Clark. ISBN: 978-1-4354-5387-6
- Clinical Procedures & Handling/Restraining Practicums : 11

- Veterinary Assisting: Fundamentals and Applications. Vanhorn, Clark. ISBN: 978-1-4354-5387-6
- McCurnin's Clinical Textbook for Vet Technicians 8th edition- ISBN 978-1-4377-2690-0
- Manual of Clinical Procedures in Dogs, Cats, Rabbits & Rodents. Crow, Walshaw, Boyle. ISBN: 978-0813813042
- Veterinary Science: Preparatory Training for the Veterinary Assistant. Faries. ISBN: 978-0-9849115-0-9. Order online: *https://agrilifebookstore.org/publications_browse2.cfm?keywordid=4*

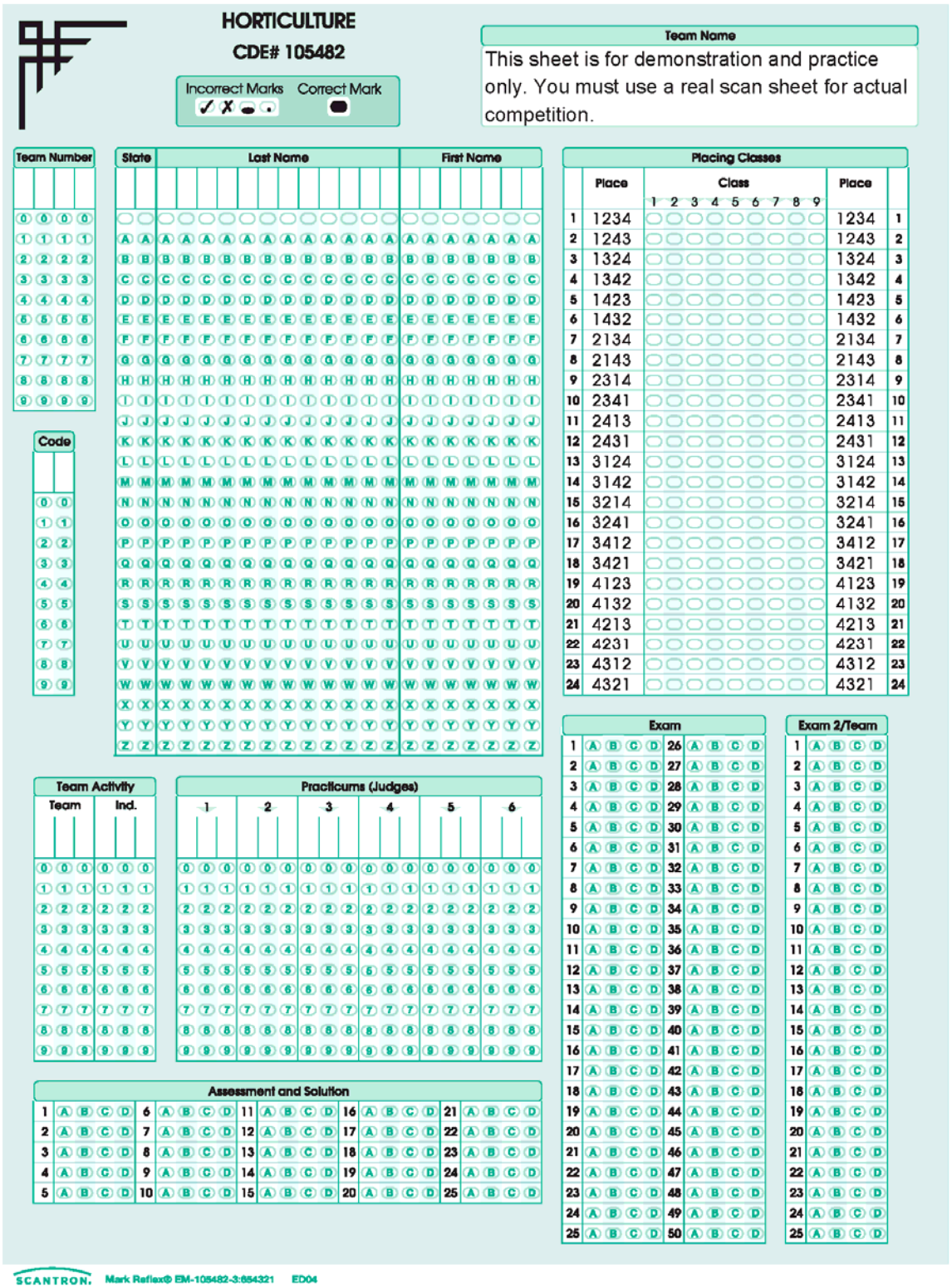
IDENTIFICATION:

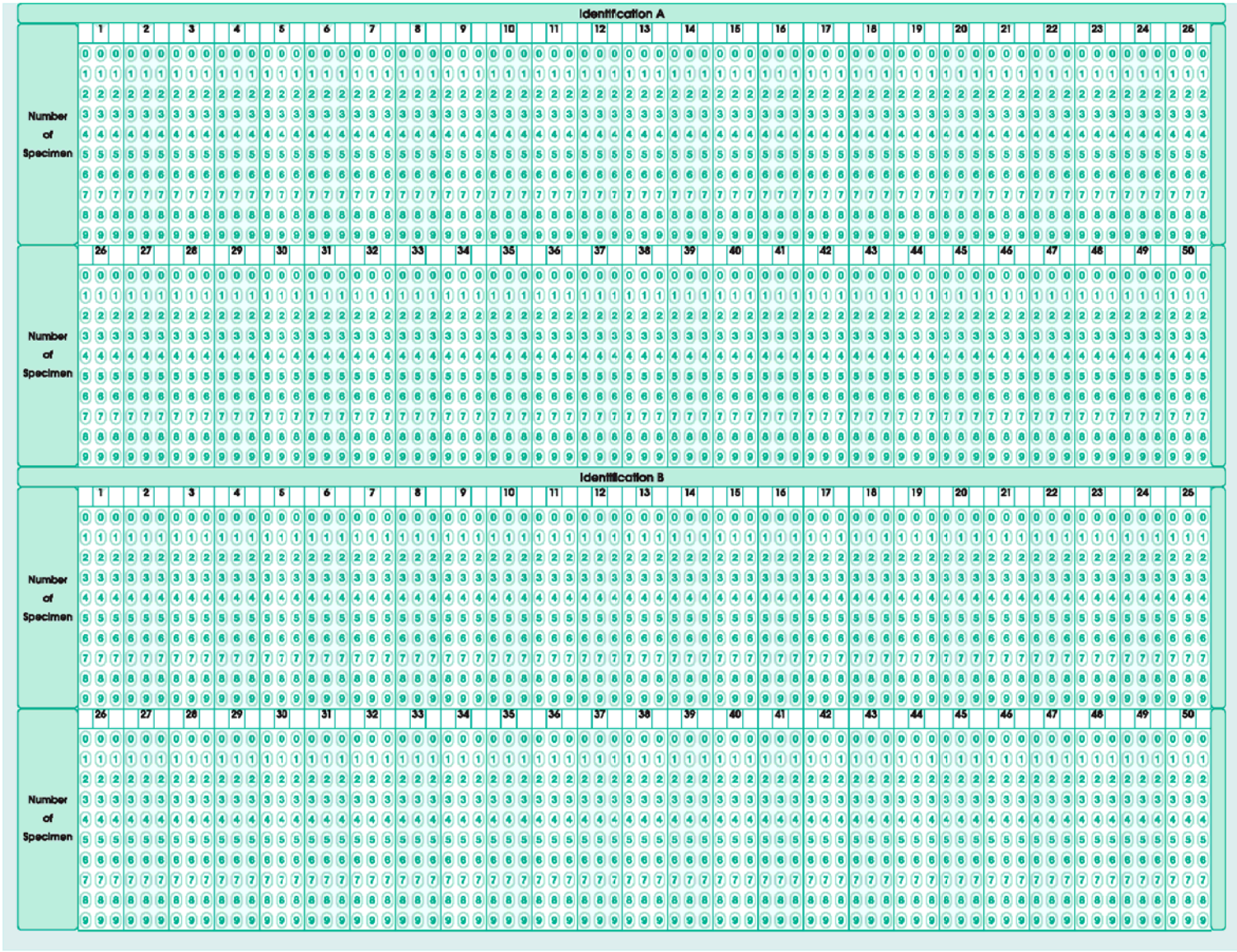
- Veterinary Instruments and Equipment: A Pocket Guide. Sonsthagen. ISBN: 978-0323032032 *http://loudoun.nvcc.edu/ vetonline/vet121/instruments.htm*
- *https://www.spectrumsurgical.com/product/10-0227/Surgical- Instrument-Flash-Cards.php*
- American Kennel Club – *http://www.akc.org/index.cfm*
- Cat Fanciers' Association – *http://www.cfa.org/client/breeds.aspx*
- American Rabbit Breeders Association – *http://www.arba.net/*

MATH PRACTICUM:

- Medical Mathematics and Dosage Calculations for Veterinary Professionals. Bill, Robert. ISBN: 978-08138263

- Essential Calculations for Veterinary Nurses and Technicians. Terry Lake and Nicola Green. ISBN 978-0-7020-2930-1 •
  https://www.ffa.org/SiteCollectionDocuments/Math%20Resource.pdf


HORTICULTURE
CDE# 105482
Incorrect Marks
Correct Mark
Team Name
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.
Team Number
State
Last Name
First Name
Code
Placing Classes
Place
Class
1 2 3 4 5 6 7 8 9
Place
1 1234 1234 1
2 1243 1243 2
3 1324 1324 3
4 1342 1342 4
5 1423 1423 5
6 1432 1432 6
7 2134 2134 7
8 2143 2143 8
9 2314 2314 9
10 2341 2341 10
11 2413 2413 11
12 2431 2431 12
13 3124 3124 13
14 3142 3142 14
15 3214 3214 15
16 3241 3241 16
17 3412 3412 17
18 3421 3421 18
19 4123 4123 19
20 4132 4132 20
21 4213 4213 21
22 4231 4231 22
23 4312 4312 23
24 4321 4321 24
Exam
Exam 2/Team
Team Activity
Team
Ind.
Practicums (Judges)
1 2 3 4 5 6
Assessment and Solution
SCANTRON
Mark Reflex® EM-105482-3:654321 ED04


Identification A
Number of Specimen
Identification B
Number of Specimen

Equipment and Materials Identification List

100. Ambubag
101. Anesthetic machines
102. Autoclave
103. Autoclave tape indicator
104. Backhaus towel clamps
105. Balling gun
106. Bandaging material — Elasticon
107. Bandaging material — roll gauze
108. Bandaging material — vet wrap
109. Bands (castration or docking)
110. Cat bag
111. Catch pole (dog snare)
112. Catheter — butterfly
113. Catheter — IV
114. Catheter — Tomcat urinary
115. Centrifuge
116. Chemical indicator strips
117. Cold sterile tray
118. Dehorner — Barnes
119. Dehorner — electric
120. Dental floats
121. Dental scaler
122. Drench gun — small ruminant
123. Ear notcher
124. Elastrator
125. Elizabethan collar
126. Emasculators
127. Endoscope
128. Endotracheal tubes
129. Fecal loop
130. Fecalyzers
131. Feeding tube for small animals
132. Fetal extractor — calf
133. Forceps — Alligator
134. Forceps — Allis tissue
135. Forceps — Babcock tissue
136. Forceps — Brown-Adson thumb
137. Forceps — Crile
138. Forceps — Kelly
139. Forceps — Halstead mosquito hemostatic
140. Forceps — Rat tooth thumb
141. Gravity feeder / J tube
142. Head gate
143. Hog snare
144. Hoof knife
145. Hoof rasp
146. IV administration set
147. Laparoscope
148. Laryngoscopes
149. Muzzle — basket
150. Muzzle — nylon
151. Needle holder — Mayo-Hegar
152. Needle holder — Olsen-Hegar
153. Obstetrical chain and handle
154. Ophthalmoscope
155. Otoscope
156. Pig tooth nippers
157. Radiology personal protective equipment
158. Rectal prolapse ring — swine
159. Rumen magnet
160. Scalpel blade
161. Scalpel handle
162. Scissors — Suture wire cutting
163. Scissors — Bandage
164. Scissors — Lister bandage
165. Scissors — Littauer suture removal
166. Scissors — Mayo dissecting
167. Scissors — Metzenbaum dissecting
168. Silver nitrate sticks
169. Small animal oxygen cage
170. Snook ovariohysterectomy hook
171. Speculum — large animal oral
172. Speculum — small animal oral
173. Speculum — vaginal
174. Squeeze chute
175. Staple remover
176. Stethoscope
177. Surgical drapes
178. Suture needle — cutting
179. Suture needle — taper
180. Syringe — automatic, multi-dose
181. Tattooing instruments — small and large
182. Tonometer
183. Tourniquet
184. Trocar and cannula
185. Twitch chain
186. Twitch human

Parasite/Microscopic Identification List

200. Blowfly (Family Calliphoridae)
201. Calcium oxalate crystals
202. Cat Warble (Genus Cuterebra)
203. Cocci (bacteria)
204. Coccidia (Genus Isospora or Eimeria)
205. Demodectic Mite (Genus Demodex)
206. Ear Mite (Family Psoroptidae ; Genus Otodectes)
207. Eosinophils
208. Epithelial cells (urine)
209. Flea Larva (Genus Ctenocephalides)
210. Flea Tapeworm Egg* (Genus Dipylidium)
211. Flea Tapeworm Segment* (Genus Dipylidium)
212. Flea Tapeworm* (Genus Dipylidium)
213. Fleas* (Genus Ctenocephalides)
214. Giardia* (Genus Giardia)
215. Heartworm Adult* (Genus Dirofilaria)
216. Heartworm Microfilaria* (Genus Dirofilaria)
217. Hookworm Adult* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
218. Hookworm Egg* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
219. Horse Bots* (Genus Gasterophilus)
220. Horse Strongyles* (Family Strongylidae; Genus Strongylus)
221. Lice — Biting (Order Mallophaga; Genus Bovicola or Trichodectes)
222. Lice — Sucking (Order Anoplura; Genus Linognathus or Hematopinus)
223. Liver Fluke (Class Trematoda; Genus Fasciola, Fascioloides or Dicrocoelium)
224. Mosquito Adult (Family Culicidae; Genus Anopheles, Culex or Aedes)
225. Mosquito Larva (Family Culicidae; Genus Anopheles, Culex or Aedes)
226. Neutrophils
227. Platelets
228. Red blood cell (erythrocyte)
229. Rod (bacteria)
230. Roundworm Adult* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
231. Roundworm Egg* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
232. Sarcoptic Mite (Family Sarcoptidae ; Genus Sarcoptes or Notoedres)
233. Struvite crystals (triple magnesium phosphate)
234. Taenia Tapeworm Egg* (Family Taeniidae; Genus Taenia)
235. Taenia Tapeworm Segment* (Family Taeniidae; Genus Taenia)
236. Taenia Tapeworm* (Family Taeniidae; Genus Taenia)
237. Tick — American Dog (Family Dermacentor; Genus variabilis)
238. Tick — Black Legged Deer (Family Ixodes; Genus scapularis)
239. Tick — Brown Dog (Family Rhipicephalus; Genus sanguineus)
240. Tick — Lonestar (Family Amblyomma; Genus americanum)
241. Whipworm Egg* (Genus Trichuris)
242. Whipworm* (Genus Trichuris)
243. Yeast (cytology)

Breed/Species Identification List

DOGS

HERDING GROUP

300. Australian Cattle Dog
301. Australian Shepherd
302. Border Collie
303. Collie
304. German Shepherd Dog
305. Old English Sheepdog
306. Pembroke Welsh Corgi
307. Shetland Sheepdog

HOUND GROUP

308. Afghan Hound
309. Basenji
310. Basset Hound
311. Beagle
312. Black and Tan Coonhound
313. Bloodhound
314. Dachshund
315. Greyhound
316. Rhodesian Ridgeback

NON-SPORTING GROUP

317. Bichon Frise
318. Boston Terrier
319. Bulldog
320. Chinese Shar-Pei
321. Chow Chow
322. Dalmatian
323. Poodle

SPORTING GROUP

324. Brittany Spaniel
325. Cocker Spaniel
326. English Setter
327. German Shorthaired Pointer
328. Golden Retriever
329. Irish Setter
330. Labrador Retriever
331. Weimaraner

TERRIER GROUP

332. Bull Terrier
333. Cairn Terrier
334. Parson Russell Terrier
335. Scottish Terrier
336. West Highland White Terrier

TOY GROUP

337. Cavalier King Charles Spaniel
338. Chihuahua
339. Miniature Pinscher
340. Papillon
341. Pekingese
342. Pomeranian
343. Poodle
344. Pug
345. Shih Tzu
346. Yorkshire Terrier

WORKING GROUP

347. Bernese Mountain Dog
348. Boxer
349. Doberman Pinscher
350. Great Dane
351. Great Pyrenees
352. Mastiff
353. Newfoundland
354. Portuguese Water Dog
355. Rottweiler
356. Saint Bernard
357. Siberian Husky
358. Standard Schnauzer

CATS

359. Abyssinian
360. American Shorthair
361. Burmese
362. Maine Coon
363. Manx
364. Persian
365. Ragdoll
366. Russian Blue
367. Siamese
368. Sphynx

BIRDS

369. African Gray Parrot
370. Canary
371. Cockatiel
372. Cockatoos
373. Love Birds
374. Macaw
375. Parakeet
376. Sun Conure
377. Zebra Finch

Breed/Species Identification List continued

REPTILES

378. Bearded Dragon
379. Chameleon
380. Gecko
381. Iguana

POULTRY

382. Chicken – Cornish
383. Chicken – Leghorns
384. Chicken – Plymouth Rock
385. Chicken – Rhode Island Red
386. Duck
387. Geese
388. Quail
389. Turkey

SMALL MAMMALS

390. Chinchilla
391. Ferret
392. Gerbils
393. Guinea Pig
394. Hamster
395. Hedgehog
396. Sugar Glider

RABBITS

397. Angora
398. Californian
399. Dutch
400. English Spot
401. Holland Lop
402. Mini-Rex
403. Netherland Dwarf
404. New Zealand

DAIRY CATTLE

405. Ayrshire
406. Brown Swiss
407. Guernsey
408. Holstein
409. Jersey

BEEF CATTLE

410. Angus
411. Brahman
412. Charolais
413. Hereford
414. Shorthorn
415. Simmental

HORSE

416. Appaloosa
417. Arabian
418. Belgian
419. Clydesdale
420. Morgan
421. Paint
422. Percheron
423. Quarter Horse
424. Saddlebred
425. Tennessee Walking Horse
426. Thoroughbred

GOAT

427. Alpine
428. Nubian
429. Angora
430. Boer
431. LaMancha
432. Saanen
433. Toggenburg

SHEEP

434. Columbia
435. Dorper
436. Dorset
437. Hampshire
438. Merino
439. Rambouillet
440. Southdown
441. Suffolk

SWINE

442. American Landrace
443. Berkshire
444. Chester White
445. Duroc
446. Hampshire
447. Yorkshire

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Team Activity Preparation Rubric

200 points

INDICATOR	Very strong evidence of skill 5-4 points	Moderate evidence of skill 3-2 points	Weak evidence of skill 1-0 points	Points Earned	Weight	Total Score
Effective listening	Clearly evident that all team members are listening.	Listening occurs but distraction is evident.	Not listening to each other and/or talking over each other.		X 5	
Oral communication	Clearly evident that all team members are discussing the topic.	Communication occurs but side conversations are occurring or two to three members dominating.	One member dominating conversation.		X5	
Demonstrated cooperation	Clearly all team members completing tasks, sharing written and oral solutions.	Tasks primarily completed by two to three members, other members assist occasionally.	Tasks primarily completed by one member, other members contributing only slightly.		X8	
	Clearly all team members respected the input of other team members.	Most team members respected the input of other team members.	The team members did not respect the input of other team members.		X7	
Participated in the team preparation	Clearly all team members are engaged, attentive, and making notes for the full term of event.	Members are engaged and attentive with two to three making notes, participation fades over time.	One to twomembers form the primary team, other members participate occasionally early, fade over time.		X8	
	Clearly all team members demonstrate efficient use of his/her time in comprising the plan.	Most team members demonstrate efficient use of his/her time in comprising the plan.	One to twoteam members demonstrate efficient use of his/her time in comprising the plan.		X7	
					TOTAL	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Team Activity Presentation Rubric

300 points

INDICATOR	Very strong evidence of skill 5-4 points	Moderate evidence of skill 3-2 points	Weak evidence of skill 1-0 points	Points Earned	Weight	Total Score
Non-verbal – 50 points						
Attention (eye contact)	Eye contact constantly used as an effective connection. Constantly looks at the entire audience (90-100 percent of the time).	Eye contact is mostly effective and consistent. Mostly looks around the audience (60-80 percent of the time).	Eye contact does not always allow connection with the speaker. Occasionally looks at someone or some groups (less than 50 percent of the time).		X4	
Mannerisms	Does not have distracting mannerisms that affect effectiveness.	Sometimes has distracting mannerisms that pull from the presentation.	Has mannerisms that pull from the effectiveness of the presentation.		X3	
Gestures	Gestures are purposeful and effective. Hand motions are expressive, and used to emphasize talking points. Confident with positive body language.	Usually uses purposeful gestures. Hands are sometimes used to express or emphasize. Occasionally slumps; sometimes negative body language.	Occasionally gestures are used effectively. Hands are not used to emphasize talking points; hand motions are sometimes distracting. Lacks positive body language; slumps.		X3	
Oral – 50 points						
Speaking without hesitation	Speaks very articulately without hesitation. Never has the need for unnecessary pauses or hesitation when speaking.	Speaks articulately, but sometimes hesitates. Occasionally has the need for a long pause or moderate hesitation when speaking.	Speaks articulately, but frequently hesitates. Frequently hesitates or has long, awkward pauses while speaking.		X 3	
Tone	Appropriate tone is consistent. Speaks at the right pace to be clear. Pronunciation of words is very clear and intent is apparent.	Appropriate tone is usually consistent. Speaks at the right pace most of the time, but shows some nervousness. Pronunciation of words is usually clear, sometimes vague.	Has difficulty using an appropriate tone. Pace is too fast; nervous. Pronunciation of words is difficult to understand; unclear.		X 2	

Team Activity Presentation Rubric continued

All team members participated	All team members took an active role in the presentation.	Three team members took an active role in the presentation.	Two or less team members took an active role in the presentation.		X 5	
Content – 200 points						
Veterinary topic research	Demonstrates prior research and preparedness of the veterinary topic.	Demonstrates somewhat prior research and preparedness of the veterinary topic.	Does not demonstrate prior research and preparedness of the veterinary process.		X 5	
	Full understanding of disease and/or veterinary process.	Somewhat understanding of disease and/or veterinary process.	Does not understand the disease and/or veterinary proces.s		X 5	
	Full understanding of treatment protocols and/or recommendation for the topic.	Somewhat understanding of treatment protocols and/or recommendation for the topic.	Does not understand the treatment protocols and/or recommendation for the topic.		X5	
Demonstrates knowledge of topic	Presentation supports strong knowledge of the subject with good evidence of support.	Presentation supports some knowledge of the subject with fair evidence of support.	Presentation supports little knowledge of the subject with poor evidence of support.		X 15	
Q&A: Knowledge of the topic	Participants knowledge of topics: Strong knowledge with solid answers.	Participants knowledge of topics: Somewhat knowledgeable but with less concise and clear answers.	Participants knowledge of topics: Little knowledge with weak evidence of support to answers.		X5	
	Speaks unrehearsed with comfort and ease. Is able to speak quickly with organized thoughts and concise answers.	Speaks unrehearsed mostly with comfort and ease, but sometimes seems nervous or unsure. Is able to speak effectively, has to stop and think sometimes, and gets off focus.	Shows nervousness or seems unprepared when speaking unrehearsed. Seems to ramble or speaks before thinking.		X5	
					TOTAL	

NATIONAL FFA
CAREER AND LEADERSHIP
DEVELOPMENT EVENTS

Current Events Rubric

100 points

NAME _____ MEMBER NUMBER _____

CHAPTER _____ STATE _____

INDICATOR	Very strong evidence of skill is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill is not present 1-0 points	Points Earned	Weight	Total Score
WRITTEN COMMUNICATION						
Spelling/ grammar (sentence structure, verb agreement, etc.)	Spelling and grammar are extremely high quality. • Two or fewer spelling errors are present. • Two or fewer grammar errors are present.	Spelling and grammar are adequate. • Three to five spelling errors are present. • Three to five grammar errors are present.	Spelling and grammar are less than adequate. • Six or more spelling errors are present. • Six or more grammar errors are present.		X 1	
Message	Communicates ideas extremely clearly as well as extremely focused. Thoughts are very interesting and understandable. • All main ideas are supported by clear and vivid details. • Clearly organized and concise by remaining on target, is completely focused with obvious construction and strong introduction, body and conclusion layout.	Communicates ideas clearly and concisely, and message is interesting and understandable. • Most of the main ideas are supported by sufficient details. • Good organization with few statements out of place or lacking in clear construction.	Communicates ideas clearly, but message is difficult to understand. • None of the main ideas are supported by sufficient details. • Little to no organization is present and is sometimes awkward and lacking construction.		X 3	
Writing style	Writing style is selectively appropriate for the intended audience. • The style chosen has obviously been well thought-out based on the specific audience.	Thought was given to the intended audience, and the style reflects the purpose for communicating with that audience. • Most language is appropriate for the intended audience.	Writing style does not show intent to connect with different types of audiences, style is more for a generic reader. • Some language used might be confusing for some audiences		X 1	

Breed/Species Identification List continued

INDICATOR	Very strong evidence of skill is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill is not present 1-0 points	Points Earned	Weight	Total Score
WRITTEN CONTENT						
Subject knowledge	Covers topic in-depth with details and examples. • Subject knowledge is excellent.	Includes essential knowledge about the topic. • Subject knowledge appears to be good.	Includes essential information about the topic but there are one to two factual errors.		X 6	
Critical thinking/ problem-solving skills	Uses general methods, in an orderly manner, for finding solutions to specific problems. • Evaluates evidence and assesses conclusions. • Develops and defends a reasonable position or argument.	Uses limited critical thinking skills in determining solutions to problems. • Develops moderate defense to conclusion for position or argument.	Uses weak critical thinking skills in determining solutions to problems. • Develops weak defense to conclusion for position or argument.		X 6	
Inductive reasoning skills	Establishes a logical, systematic process of achieving certain ends with accuracy and efficiency. • Gathers together particular observations in the form of premises. • Moves from specific premises to a general conclusion.	Establishes a shallow reasoning process of achieving certain ends. • Gathers together limited observations in the form of premises. • Moves from incomplete specific premises to a general conclusion.	Establishes an inadequate reasoning process of achieving certain ends. • Incompletely gathers observations in the form of specific premises. • Inadequately formulates a general conclusion.		X 3	
					TOTAL POINTS	

NATIONAL FFA
CAREER AND LEADERSHIP
DEVELOPMENT EVENTS

Clinical Procedures Practicum

Administering Aural Medication

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student successfully administered the proper amount of medication into the ear canal. • Ear pinna held upright • Correct amount of medication was administered without contamination	20	
The student massages the base of the outside of the ear canal causing a swishing sound from the medication moving around in the ear canal.	15	
The student wipes any solution that may have leaked onto the outside of the ear flap or hair.	15	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Administering Ophthalmic Medication

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student wipes any discharge from the patient's eye using a gauze sponge or cotton ball.	8	
The student opens the end of the ophthalmic medicine	6	
The student uses the index finger and thumb to pull the upper and lower lids apart to open the eye. The student's thumb pulls the lower lid down and the index finger pulls the upper lid upward. The student's other finger may rest on the head of the animal.	12	
While resting the hand holding the medication on the head of the patient, the student applies the drops or ointment gently into the eye without touching the eye, counting each drop or applying the proper amount of ointment without contamination.	12	
The student releases the eyelids.	6	
The student allows the animal to blink to move the medication throughout the eye.	6	
TOTAL POINTS	**50**	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Administering an Intramuscular Injection

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selected the proper site for administration.	10	
The student directs the needle through the skin and into the muscle.	10	
The student aspirates; if no blood is noted, inject.	10	
The student withdraws the needle and places in the sharps container.	10	
The student massages the area where the injection was given and praises the patient.	10	
TOTAL POINTS	**50**	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Administering a Subcutaneous Injection

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student lifts the skin using the thumb and forefinger forming a triangle or tent with the skin.	10	
The student inserts the needle into the skin at the base of the tent or triangle parallel to the body.	10	
The student aspirates; looking for any signs of blood entering the syringe; if no blood enters the syringe, the student administers the injection.	10	
The student withdraws the needle and places in the sharps container.	10	
The student rubs the injection site and praises the patient.	10	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Bandage Removal

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student chooses the bandage scissors and holds in proper orientation.	10	
The student keeps the blade flat against the body and the tip raised slightly upward in contact with bandage.	10	
The student begins cutting each layer from the distal end moving proximally.	10	
The student gently removes each layer of bandage.	10	
The student notes the status of the unbandaged area and states if it is normal or if there are any problems.	6	
The student cleans up work area.	4	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Filling a Syringe for Injection

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student determines the amount to be placed in the syringe.	6	
The student selects the proper-sized syringe.	8	
The student inserts the syringe into the top of the bottle.	6	
The student places the bottle upside down in one hand and holds securely.	6	
The student withdraws the proper volume.	6	
The student removes the syringe from the bottle.	6	
The student gently taps or snaps the edge of the syringe to remove any air bubbles, or slightly expel the air by pushing the end of the plunger.	6	
The student places syringe in the sharps container.	6	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Fecal Flotation with Fecalyzer

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selected about ¼ teaspoon of feces and placed it into a fecalyzer.	6	
The student added enough flotation solution to fill the fecalyzer about half full.	6	
The student mixed the feces into solution until no large fecal particles remain.	6	
The student places insert into fecalyzer.	6	
The student filled the vial with more solution until there was a visible meniscus at the top.	6	
The student placed a cover slip on top of the fecalyzer.	6	
The student allowed the vial to sit undisturbed for 10-15 minutes.	6	
The student carefully removed the cover slip without tilting it and placed it on a microscope slide.	8	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Opening a Surgery Pack

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student placed the surgery pack on a clean, dry surface.	4	
The student removed or tore the tape securing the package.	4	
The student opened the first flap away from them.	8	
The student opens the side flaps without reaching across open pack.	8	
The student opens the last flap towards them.	8	
The student opened the pack without contamination.	12	
The student stepped away so the surgeon or scrub nurse could complete the opening of the pack.	6	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Prepare a Surgical Pack for Sterilization

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student gathered the appropriate instruments and instrument pan if applicable.	5	
The student gathered additional supplies if applicable.	10	
The student selected the appropriate packaging material and chemical indicator.	10	
The student assembled the pack correctly by following the instructions on the checklist or recipe.	10	
The student placed the chemical indicator in the correct area of the pack.	10	
The student properly wrapped, secured and labeled the pack.	5	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Surgical Site Preparation

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student applied antiseptic scrub to clipped area.	8	
The student prepped the clipped area with a clean surgical sponge beginning at the incision site moving in a circular motion and worked toward the edges.	8	
The student did not bring the sponge back to the incision site once it was moved away from the incision site.	8	
The student discarded the sponge once it reached the edge of the clipped area.	8	
The student wiped the clipped area with a rinse solution using a clean surgical sponge following the same pattern as when scrubbing with the antiseptic.	8	
The student repeated the scrub and rinse a minimum of three times or until the final rinse sponge was clean.	10	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Prescription Filling

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student reads and verbally interprets prescription.	10	
The student selects the correct drug and concentration.	20	
The student places the pill counting tray on the pharmacy counter with the channel to the left and the open plate in front of him/her.	1	
The student pours the medication tablets or capsules onto the tray plate.	1	
The student opens the channel cover.	1	
The student uses a spatula or tongue depressor to push groups of tablets or capsules into the channel.	1	
When the student has counted the desired amount of medication, he/she closes the channel cover. The student tilts the tray to return the unused medicine into the stock bottle.	4	
The student lifts the tray to place the channel spout into the medicine vial and transfers medication.	4	
The student places the lid on the vial and sets it on the counter.	1	
The student appropriately fills out label with prescription information.	7	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Removal of Sutures

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student clearly visualized and inspected the incision site.	10	
If there were problems with the incision site, the student informed the veterinarian. If there were no problems, the student removed the sutures.	10	
The student chose the correct tool to remove the sutures.	10	
The student placed the curved blade underneath the suture for removal and removed the suture.	15	
The student did not cause unnecessary harm or discomfort to the patient.	5	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Clinical Procedures Practicum

Administer Oral Tablet/Capsule

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student reads and interprets the veterinarian's order.	10	
The student selects the correct drug and concentration.	20	
The student was able to open the mouth of the animal.	5	
The student maintained control of the head or muzzle during the administration of the medication.	5	
The student used an appropriate technique to encourage the patient to swallow.	5	
The student was able to control the animal in a manner that was adequate to administer the medication yet did no harm to the patient.	5	
TOTAL POINTS	50	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Removing a Cat from a Cage and Placing in Cat Bag

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student opens the cage door and calls the cat by name.	2	
The student scruffs the cat with one hand and lifts it up.	3	
The student cradles the cat's abdomen with their other hand and removes the cat from the cage.	2	
With the cat still scruffed, the student places the cat under one arm close to their body and closes the cage door with their free hand.	3	
The student carries the cat close to their body to the exam table.	3	
The student scruffs the cat and lifts it into the bag in one swift motion while supporting the hind end.	4	
The student wraps the Velcro strap around the cat's neck and immediately zips up the bag.	4	
The student uses the proper zippered opening to expose the front limb.	4	
To remove the cat, the student removes the Velcro strap first, then unzips the bag and removes the cat by scruffing and supports hind end.	5	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP
DEVELOPMENT EVENTS

Handling and Restraining Practicum

Applying a Cat Muzzle

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student opens the cage door and calls the cat by name.	2	
The student scruffs the cat with one hand and lifts it up.	2	
The student cradles the cat's abdomen with their other hand and removes the cat from the cage.	2	
With the cat still scruffed, the student places the cat under one arm close to their body and closes the cage door with their free hand.	2	
The student places cat on table.	2	
The student selects a muzzle of appropriate size for the cat.	5	
The student places the cat in sitting or sternal position on exam table.	2	
The student positions the muzzle properly in his/her hands.	3	
The student approaches the cat from behind with the muzzle in both hands while another person restrains cat.	3	
The student brings the muzzle up to the cat's face in one swift motion.	4	
The student secures the muzzle.	3	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Restraint of the Cat in Lateral Recumbency for Femoral Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places the cat on an examination table.	3	
The student scruffs the cat with one hand and lifts it off of the table enough to grasp both hind legs with his/her other hand or reach under cat to grasp both hind limbs.	8	
The student lays the cat on its side with the hind legs stretched rearward.	7	
The student tucks top rear leg and tail while occluding with side of hand.	8	
The student spoke to the patient in a calm and affectionate manner during the procedure.	4	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Restraint of the Cat for Jugular Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places the cat in sternal recumbency with its chest close to the edge of the table.	6	
The student controls and lifts the head up by placing thumb and forefingers over top of head, fingers firm on zygomatic arches (below eyes).	7	
The student's other hand grasps the front legs and extends them down off the edge of the table.	7	
The student uses arm and elbow to restrain the cat's body close to the student's body.	6	
The student spoke to the patient in a calm and affectionate manner during the procedure.	4	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP
DEVELOPMENT EVENTS

Handling and Restraining Practicum

Restraint of the Cat for Cephalic IV Catheter Placement

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places the cat in sternal recumbency on an examination table.	4	
The student controls and lifts the head up by placing up by placing thumb and forefingers over top of head, fingers firm on zygomatic arches (below eyes).	7	
The student extends the left front limb forward by grasping the elbow in the palm of his/her hand with thumb on the top of the elbow joint.	7	
The student allows the judge to grasp the left front paw and extend the limb toward him/her.	5	
The student occludes the vein by pressing down on the top of the elbow joint with his/her thumb and then rotating his/her thumb laterally.	7	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Applying a Gauze Dog Muzzle

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selects proper type of material and length.	4	
The student places the dog in sitting or sternal position on exam table or floor.	2	
The student makes a loop in the gauze and approaches the dog from behind.	6	
The student places the loop on the dog's face with the tie on top.	6	
The student quickly tightens the loop, and then crosses the ends under the dog's face.	6	
The student brings the ends back behind the dog's head under the ears and ties in a quick-release bow.	6	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Applying a Nylon Dog Muzzle

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selects appropriate muzzle.	4	
The student places the dog in sitting or sternal position on exam table or floor.	2	
The student comes from behind the dog's head with the muzzle in one hand in the correct position.	7	
The student brings the muzzle up to the dog's face and slips it on while grasping the strap with the other hand.	6	
The student secures the muzzle.	5	
The student checks for proper fit (one finger inserted under the strap).	6	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP
DEVELOPMENT EVENTS

Handling and Restraining Practicum

Removing Dog from Floor Level Cage to Restrain for Lateral Saphenous Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places a leash in one hand with a large loop open in the correct position (in the "P") and ready to place over the dog's head.	2	
While blocking the opening, the student opens the cage door enough to slip the hand holding the leash into the cage.	2	
The student slips the leash over the neck of the dog and gently tightens the leash around the neck.	2	
The student opens the door and allows the dog to exit the cage.	1	
The student lifts the dog and places on the table.	1	
The student places his/her right arm across the dog's neck and reaches between the front legs to grasp the dog's right forelimb in right hand.	4	
The student places left arm over the dog's back and reaches for the dog's right rear limb; just proximal to the hock.	5	
With the dog's body close, the student gently lifts the limbs while allowing the dog's body to lay on the table; the dog should be on its right side.	5	
The student allows the dog to relax for a couple seconds, not releasing the grasp on the limbs.	3	
The student uses left hand to hold the limb tightly in the area just distal to the stifle, which will occlude the vein.	5	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Restraint of the Small Dog for Jugular Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student puts a noose leash on the dog and has the dog sit.	3	
The student places one arm around the dog's neck and places the other arm around the dog's back to grasp the forelimbs.	6	
The student pushes the dog's back with his/her body to encourage the dog to lie down.	6	
The student holds the head up under the jaw, away from the chest (can be achieved by cupping hand underneath the muzzle and by pushing the head upward.)	8	
The student's other hand grasps the front legs and extends them over the end of the table.	7	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Restraint of the Dog for Cephalic Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places a noose leash on the dog.	2	
The student restrains the dog in sternal recumbency.	5	
The student stands on the dog's right side; wrapping his/her right arm around the dog's neck.	5	
The student holds the dog's left forelimb with elbow in the palm of his/her hand; extend the limb forward toward the person performing the procedure.	6	
With the elbow of the dog in his/her palm, the student rotates his/her thumb up so it is on top of the limb at the bend of the elbow.	6	
The student occludes the vessel with the thumb, rotates the thumb laterally.	6	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Restraint of a Rabbit

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student approaches the rabbit calmly and quietly.	4	
The student scruffs the rabbit with one hand while gently lifting the front end.	6	
The student's other hand immediately reaches under the hind limbs and holds them (not allowing the hind limbs to dangle).	7	
The student rests the rabbit's body on the arm with the hand holding the hind limbs.	6	
The scruffing hold is released and the hand is moved to hold the rabbit's outside front leg.	7	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Haltering Ruminants

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
Without quick movements and loud noises, the student properly approaches the patient at a 45 degree angle to the patient's left shoulder.	5	
The student places crown piece of halter over ears, then slips nose through nosepiece.	6	
The student properly adjusts the halter such that the nose band crosses over bridge of nose halfway between the nostrils and eyes.	7	
The student ensures that the adjustable portion of the nose band is under the chin, not across the bridge of the nose.	6	
The student keeps the standing end or lead rope portion on the left side of the cow.	6	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Haltering a Horse

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
Without quick movements and loud noises, the student properly approaches the patient at a 45 degree angle to the patient's left shoulder.	5	
The student places end of the lead rope over the horse's neck and passes sufficient length of lead to form a handheld loop around the horse's neck.	5	
Holding the handheld loop in their right hand, with their left hand, the student slip the nose-band of the halter over the nose.	5	
Student releases the lead rope and with their right hand under the horse's neck, the student passes the crown strap over the head and behind the ears and attaches the end to the appropriate place on the halter.	5	
The student snaps the end of the lead to the lead ring of the halter and undrapes the lead rope from the horse's neck.	4	
The student adjusts the halter so it is snug enough that the nose piece could not fall over the end of the nose, but not so tight that the halter cut or rubbed the horse or restricted jaw movement or breathing.	6	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Placing a Tail Tie

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student lays the rope over the tail at the tip of the tail bone.	6	
The student folds all the tail hairs up over the rope.	6	
The student passes the short end of the rope behind the tail, and makes a fold or bight in it.	6	
The student passes the fold or bight over the folded tail and under the rope, which is looped around the tail.	6	
The student pulls tight.	6	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Applying Elizabethan Collar

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student chooses the correct size of E-collar for the patient.	6	
The student correctly prepared the E-collar for placement.	6	
The student correctly placed the E-collar on the animal.	6	
Placement was adequately secured so the animal could not remove the E-collar.	6	
The E-collar was secured such that the animal's breathing was not restricted.	6	
TOTAL POINTS	30	

NATIONAL FFA
CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Handling and Restraining Practicum

Snare Restraint of the Pig

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student, standing next to the patient, guided the loop of the snare into the mouth and over the nose or upper jaw	4	
The student made sure the loop is inserted far enough into the patient's mouth	5	
The student pulled the loop tight when it is in the proper position	5	
The student kept the loop tight while moving to the front of the patient	5	
The student maintained the pressure on the snare so that the patient could not escape.	5	
The student kept control of the patient until the patient ceased to struggle.	4	
The student released the patient after the procedure was completed	2	
TOTAL POINTS	30	