

## **Meats Evaluation and Technology**

### A Special Project of the South Dakota FFA Foundation

**Important Note:** Please thoroughly read the General Rules at the beginning of this handbook for complete rules and procedures that are relevant to all South Dakota FFA Career Development Events.

### **Purpose**

The purpose of the Meats Evaluation and Technology Career Development Event is to promote the study and/or interest in the production, evaluation, and marketing of meat products.

### **Objectives**

- Develop employment skills for students who are interested in exploring or pursuing career opportunities in the meat industry.
- Assist the local agricultural education instructor in motivating students to become knowledgeable consumers of meat products and/or involved in the industry of meat marketing and merchandising.
- Develop broader analytical skills, critical thinking strategies, and an understanding of appropriate meat terminology for high school students.
- Develop the ability to evaluate meat products in order to optimize economic returns to producers and the industry, as well as, to meet the needs of consumers.

### **Event Rules**

Each team will be comprised of three or four members.

The top three individual scores will be used to determine the final team score.

Note paper for calculations and grading will be provided as the contest begins, note paper will be handed in to contest officiation prior to leaving the contest site. No measuring devices are allowed to be used during the event.

### **Event Format**

The Meats Evaluation and Technology CDE shall consist of eight parts, outlined below.

#### **Placing Classes – 250 points**

Five classes of four carcasses and/or wholesale cuts will be placed (on meat quality and cutability) first, second, third, and fourth. Five of the following classes of meats may be used in this CDE.

- |                   |                        |                        |
|-------------------|------------------------|------------------------|
| 1) Beef Carcasses | 3) Pork Carcasses      | 5) Lamb Carcasses      |
| 2) Retail Cuts    | 4) Wholesale Pork Cuts | 6) Wholesale Beef Cuts |

#### **Questions – 25 points**

Five questions will be asked on only one of the meat placing classes. When questions will be asked will be announced prior to the placing of the class. Questions will be answered using the number of the cut or carcass in the class. Notes may be taken during the class but notes may not be used when questions are being asked.

**Meat Identification – 210 points**

The meat identification class will require the participant to indicate the correct codes for species, primal (wholesale) cut, retail trade cut name and cooking method for each of the 30 retail cuts. A code sheet will be given to each participant. The meat cuts will be numbered from 1 to 30. A complete list of the retail cuts, the species, and the primal cut from which they are derived is provided.

**Carcass Grading – 80 points**

Four or five beef carcasses will each be yield graded to the nearest grade using official United State Department of Agriculture Yield Grades 1.0 – 5.9.

Four or five beef carcasses will each be quality graded to the nearest grade.

Prime High	Choice High	Select High	Standard High	Commercial High	Utility High
Prime Average	Choice Average	Select Low	Standard Low	Commercial Average	Utility Avg.
Prime Low	Choice Low			Commercial Low	Utility Low

**Written Test – 90 points**

The written test and problem solving section will consist of 30 multiple-choice questions. The questions will be worth three points each.

**Team Activity – 40 points**

The team activity will consist of a problem filling a meat order. It will consist of five multiple-choice questions valued at eight points each for a team activity of 40 total points. The team problems will be marked on participant #1's scorecard.

Ten minutes will be allowed for each placing, question set, grading, and meat identification class, and 60 minutes will be allowed for the team activity and the written test.

**Scoring**

- Quality grading will be worth 40 points. Eight points will be awarded for each carcass graded correctly, six points for being one grade off, four points for two grades off, and zero points for three or more grades off. However, in the case of "B" Maturity, Select high and Select Low will be awarded zero points.
- Yield grading will be worth 40 points. Full points will be earned for 1/10<sup>th</sup> above or below official yield grade. A two point deduction will be made for 2/10<sup>th</sup> – 5/10<sup>th</sup> above or below official yield grade. A four point deduction will be made for 6/10<sup>th</sup> – 9/10<sup>th</sup> above or below official yield grade. Zero points will be awarded for answers 1 yield grade above or below the official yield grade.
- The meat identification class is worth 210 points. Points will be awarded as follows: One point for correct species, two points for correct primal cut, three points for the correct retail trade name and one point for correct cooking method.

	<b>Possible Points</b>
Carcass/Whole Sale Cuts Classes (50 points per class)	250
Questions (5 questions, 5 points each)	25
Carcass – Quality Grade	40

Carcass – Yield Grade	40
Meats Identification	210
Written Test (30 questions, 3 points each)	90
<b>Total Individual Score</b>	<b>655</b>
Team Problem (5 questions, 8 points each)	40
<b>Total Team Score (3 participants count)</b>	<b>2005</b>

### Tiebreakers

In the case of a team tie, the order to break the tie will be:

1. Total team identification score
2. Total carcass grading score

In the case of an individual tie, the order to break the tie will be:

1. Individual identification score
2. Individual grading score

### References

National FFA Core Catalog

Past CDE Materials (<http://shop.ffa.org/cde-materials-c1289.aspx>)

Meat Evaluation Handbook (<http://shop.ffa.org/meat-evaluation-p38283.aspx>)

NASCO- 901 Janesville Avenue, PO Box 901, Ft. Atkinson, WI 53538-0901. 1-800-558-9595

Preliminary Yield Grade Rulers (<http://www.enasco.com/product/C02615N>)

Beef and Pork Ribeye Grids

Aberle E. D. Forrest J. C. Gerrard D. E. & Mills E. W. (2012). *Principles of meat science* (Fifth). Kendall Hunt Publishing Company.

Romans, Costello, Carlson, Greaser, and Jones. *The Meat We Eat* (13<sup>th</sup> edition). Interstate Publishers, Inc. 510 North Vermillion Street, P.O. Box 50, Danville, IL 61834-0050. 1(800)843-4774.

Romans, J. R. (2001). *The meat we eat*. Interstate Publishers.

Identification:

Beef Myology: <http://bovine.unl.edu/bovine3D/eng/nIntro.jsp>

Aggie Meat Judging: <http://aggiemeat.tamu.edu/judging/meatjudging.html>

UNL: <http://liferaydemo.unl.edu/web/anisci/anfccareerdevelopmenteventsmeatevalandid>

**Meats Identification Card**

Species – B=Beef, P=Pork, L=Lamb (1 point) Cookery: D= Dry, M=Moist, D/M= Dry or Moist (1point)

<b>Primal Cuts – 2 Points</b>		
A. Breast	F. Loin	K. Side (Belly)
B. Brisket	G. Plate	L. Spareribs
C. Chuck	H. Rib or Rack	M. Variety Meats
D. Flank	I. Round	N. Various Meats
E. Ham or Leg	J. Shoulder	
<b>Retail Names – 3 Points Roasts/Pot Roasts</b>		
1. American Style	15. Flat Half (Bnls)	28. Short Ribs
2. Arm Picnic	16. Frenched Style	29. Shoulder Roast (Bnls)
3. Arm Roast	17. Fresh Side	30. Sirloin Roast
4. Arm Roast (Bnls)	18. Leg Roast (Bnls)	31. Sirloin Half
5. Back Ribs	19. Loin Roast	32. Spareribs
6. Blade Roast	20. Mock Tender Roast	33. Square Cut (Whole)
7. Blade Boston	21. Petite Tender	34. Tenderloin (Whole)
8. Bottom Round Roast (Bnls)	22. Rib Roast	35. Tip Roast (Bnls)
9. Bottom Round Rump Roast (Bnls)	23. Rib Roast (Frenched)	36. Tip, Cap Off Roast
10. Brisket, Whole (Bnls)	24. Ribs (Denver Style)	37. Top Loin Roast (Bnls)
11. Center Loin Roast	25. Rump Portion	38. Top Roast (Bnls)
12. Center Rib Roast	26. Seven (7) Bone Roast	39. Top Round Roast
13. Eye Roast (Bnls)	27. Shank Portion	40. Tri-Tip Roast
14. Eye Round Roast		
<b>Steaks</b>		
41. Arm Steak	49. Porterhouse Steak	57. Tip, Cap Off Steak
42. Blade Steak	50. Ribeye, Lip-On Steak	58. Top Blade (Bnls) Flat Iron Steak

43. Bottom Round Steak	51. Round Steak	59. Top Loin Steak
44. Center Slice	52. Round Steak (Bnls)	60. Top Loin (Bnls) Steak
45. Eye Steak (Bnls)	53. Sirloin Cutlets	61. Top Round Steak
46. Eye Round Steak	54. Skirt Steak (Bnls)	62. Top Sirloin Steak (Bnls)
47. Flank Steak	55. T-Bone Steak	63. Top Sirloin Cap Off Steak (Bnls)
48. Mock Tender Steak	56. Tenderloin Steak	64. Top Sirloin Cap Steak (Bnls)
<b>Chops</b>		
65. Arm Chop	69. Country Style Ribs	73. Sirloin Chop
66. Blade Chop	70. Loin Chop	74. Top Loin Chop
67. Blade Chop (Bnls)	71. Rib Chop	75. Top Loin Chop (Bnls)
68. Butterfly Chop (Bnls)	72. Rib Chop (Frenched)	
<b>Variety Meats</b>		
76. Heart	78. Liver	80. Tongue
77. Kidney	79. Oxtail	81. Tripe
<b>Various Meats</b>		
82. Beef for Stew	85. Ground Pork	87. Sausage Links/Pattie
83. Cube Steak	86. Hocks	88. Shank
84. Ground Beef		
<b>Smoked/Cured Meats</b>		
89. Brisket, Corned	93. Loin Chop	97. Shank Portion
90. Center Slice	94. Picnic (Whole)	98. Slab Bacon
91. Ham (Bnls)	95. Rib Chop	99. Sliced Bacon
92. Hocks	96. Rump Portion	

### Retail Cuts Coding

Species	Primal	Retail Cut	Cookery	Species	Primal	Retail Cut
B	B	89	M	Beef	Brisket	Corned
B	B	15	M	Beef	Brisket	Flat Half, Bnls
B	B	10	M	Beef	Brisket	Whole, Bnls
B	C	26	M	Beef	Chuck	7-bone Pot-Roast
B	C	03	M	Beef	Chuck	Arm Pot-Roast

B	C	04	M	Beef	Chuck	Arm Pot-Roast, Bnls
B	C	06	M	Beef	Chuck	Blade Roast
B	C	13	D/M	Beef	Chuck	Eye Roast, Bnls
B	C	45	D	Beef	Chuck	Eye Steak, Bnls
B	C	20	M	Beef	Chuck	Mock Tender Roast
B	C	48	M	Beef	Chuck	Mock Tender Steak
B	C	21	D	Beef	Chuck	Petite Tender
B	C	29	D/M	Beef	Chuck	Shoulder Pot Roast (Bnls)
B	C	58	D	Beef	Chuck	Top Blade Steak (Flat Iron)
B	D	47	D/M	Beef	Flank	Flank Steak
B	F	49	D	Beef	Loin	Porterhouse Steak
B	F	55	D	Beef	Loin	T-bone Steak
B	F	34	D	Beef	Loin	Tenderloin Roast
B	F	56	D	Beef	Loin	Tenderloin Steak
B	F	59	D	Beef	Loin	Top Loin Steak
B	F	60	D	Beef	Loin	Top Loin Steak, Bnls
B	F	64	D	Beef	Loin	Top Sirloin Cap Steak, Bnls
B	F	63	D	Beef	Loin	Top Sirloin Steak, Bnls Cap Off
B	F	62	D	Beef	Loin	Top Sirloin Steak, Bnls
B	F	40	D	Beef	Loin	Tri Tip Roast
B	G	28	M	Beef	Plate	Short Ribs
B	G	54	D/M	Beef	Plate	Skirt Steak, Bnls
B	H	22	D	Beef	Rib	Rib Roast
B	H	13	D	Beef	Rib	Ribeye Roast, Bnls
B	H	45	D	Beef	Rib	Ribeye Steak, Bnls
B	H	50	D	Beef	Rib	Ribeye Steak, Lip-On
B	I	08	D/M	Beef	Round	Bottom Round Roast
B	I	09	D/M	Beef	Round	Bottom Round Rump Roast
B	I	43	M	Beef	Round	Bottom Round Steak
B	I	14	D/M	Beef	Round	Eye Round Roast
B	I	46	D/M	Beef	Round	Eye Round Steak
B	I	51	M	Beef	Round	Round Steak
B	I	52	M	Beef	Round	Round Steak, Bnls
B	I	36	M/D	Beef	Round	Tip Roast - Cap Off
B	I	57	D	Beef	Round	Tip Steak - Cap Off
B	I	39	D	Beef	Round	Top Round Roast
B	I	61	D	Beef	Round	Top Round Steak
B	N	82	M	Beef	Various	Beef for Stew
B	N	83	D/M	Beef	Various	Cubed Steak
B	N	84	D	Beef	Various	Ground Beef

**Retail Cuts Coding (continued)**

Species	Primal	Retail Cut	Cookery	Species	Primal	Retail Cut
P	E	44	D/M	Pork	Ham/Leg	Pork Fresh Ham Center Slice
P	E	25	D/M	Pork	Ham/Leg	Pork Fresh Ham Rump Portion
P	E	27	D/M	Pork	Ham/Leg	Pork Fresh Ham Shank Portion
P	E	91	D	Pork	Ham/Leg	Smoked Ham, Bnls
P	E	90	D	Pork	Ham/Leg	Smoked Ham, Center Slice

P	E	96	D	Pork	Ham/Leg	Smoked Ham, Rump Portion
P	E	97	D	Pork	Ham/Leg	Smoked Ham, Shank Portion
P	E	35	D	Pork	Ham/Leg	Tip Roast, Bnls
P	E	38	D	Pork	Ham/Leg	Top Roast, Bnls
P	F	05	D/M	Pork	Loin	Back Ribs
P	F	66	D/M	Pork	Loin	Blade Chops
P	F	67	D/M	Pork	Loin	Blade Chops, Bnls
P	F	06	D/M	Pork	Loin	Blade Roast
P	F	68	D	Pork	Loin	Butterflied Chops Bnls
P	F	11	D	Pork	Loin	Center Loin Roast
P	F	12	D	Pork	Loin	Center Rib Roast
P	F	70	D	Pork	Loin	Loin Chops
P	F	71	D	Pork	Loin	Rib Chops
P	F	73	D	Pork	Loin	Sirloin Chops
P	F	53	D	Pork	Loin	Sirloin Cutlets
P	F	30	D	Pork	Loin	Sirloin Roast
P	F	93	D	Pork	Loin	Smoked Pork Loin Chop
P	F	95	D	Pork	Loin	Smoked Pork Loin Rib Chop
P	F	34	D	Pork	Loin	Tenderloin, Whole
P	F	74	D	Pork	Loin	Top Loin Chops
P	F	75	D	Pork	Loin	Top Loin Chops, Bnls
P	F	37	D	Pork	Loin	Top Loin Roast, Bnls
P	J	02	D/M	Pork	Shoulder	Arm Picnic, Whole
P	J	03	D/M	Pork	Shoulder	Arm Roast
P	J	41	D/M	Pork	Shoulder	Arm Steak
P	J	07	D/M	Pork	Shoulder	Blade Boston Roast
P	J	42	D/M	Pork	Shoulder	Blade Steak
P	J	94	D/M	Pork	Shoulder	Smoked Picnic, Whole
P	K	98	D	Pork	Side	Slab Bacon
P	K	99	D	Pork	Side	Sliced Bacon
P	K	17	M	Pork	Side/Belly	Fresh Side
P	L	32	D/M	Pork	Spareribs	Pork Spareribs
P	F	69	D/M	Pork	Various	Country Style Ribs
P	N	85	D	Pork	Various	Ground Pork
P	N	86	M	Pork	Various	Hock
P	N	83	D/M	Pork	Various	Pork Cubed Steak
P	N	87	D	Pork	Various	Pork Sausage Links
P	N	87	D	Pork	Various	Sausage
P	N	92	M	Pork	Various	Smoked Pork Hock

### Retail Cuts Coding (continued)

Species	Primal	Retail Cut	Cookery	Species	Primal	Retail Cut
L	A	24	D/M	Lamb	Breast	Ribs (Denver Style)
L	E	01	D	Lamb	Leg	American Style Roast
L	E	44	D	Lamb	Leg	Center Slice

L	E	16	D	Lamb	Leg	Frenched Style Roast
L	E	18	D	Lamb	Leg	Leg Roast, Bnls
L	E	73	D	Lamb	Leg	Sirloin Chops
L	E	31	D	Lamb	Leg	Sirloin Half
L	F	70	D	Lamb	Loin	Loin Chops
L	F	19	D	Lamb	Loin	Loin Roast
L	H	71	D	Lamb	Rib	Rib Chops
L	H	72	D	Lamb	Rib	Rib Chops Frenched
L	H	22	D	Lamb	Rib	Rib Roast
L	H	23	D	Lamb	Rib	Rib Roast, Frenched
L	J	65	D/M	Lamb	Shoulder	Arm Chops
L	J	66	D/M	Lamb	Shoulder	Blade Chops
L	J	33	D/M	Lamb	Shoulder	Square Cut
L	N	88	M	Lamb	Various	Shank
B	M	76	D/M	Beef	Variety	Heart
L	M	76	D/M	Lamb	Variety	Heart
P	M	76	D/M	Pork	Variety	Heart
B	M	77	D/M	Beef	Variety	Kidney
L	M	77	D/M	Lamb	Variety	Kidney
P	M	77	D/M	Pork	Variety	Kidney
B	M	78	D/M	Beef	Variety	Liver
L	M	78	D/M	Lamb	Variety	Liver
P	M	78	D/M	Pork	Variety	Liver
B	M	79	M	Beef	Variety	Oxtail
B	M	80	D/M	Beef	Variety	Tongue
L	M	80	D/M	Lamb	Variety	Tongue
P	M	80	D/M	Pork	Variety	Tongue
B	M	81	M	Beef	Variety	Tripe