

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 offication prior to leaving the contest site.

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 1/10th above or below official yield grade. A two point deduction will be made for 2/10th – 5/10th above or below official yield grade. A four point deduction will be made for 6/10th – 9/10th 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.

| | Possible Points |
|---|-----------------|
| 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 |
| Total Individual Score | 655 |
| Team Problem (5 questions, 8 points each) | 40 |
| Total Team Score (3 participants count) | 2005 |

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

Romans, Costello, Carlson, Greaser, and Jones. *The Meat We Eat* (13th 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/anssccareerdevelopmenteventsmeatevalandid>

Meats Identification Card

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

| Primal Cuts – 2 Points | | |
|------------------------|----------|-----------------|
| 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 | |
| Retail Names – 3 Points Roasts/Pot Roasts | | |
| 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 | | |
| Steaks | | |
| 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) |
| Chops | | |
| 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) | |
| Variety Meats | | |
| 76. Heart | 78. Liver | 80. Tongue |
| 77. Kidney | 79. Oxtail | 81. Tripe |
| Various Meats | | |
| 82. Beef for Stew | 85. Ground Pork | 87. Sausage Links/Pattie |
| 83. Cube Steak | 86. Hocks | 88. Shank |
| 84. Ground Beef | | |
| Smoked/Cured Meats | | |
| 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 |