

MEATS EVALUATION AND TECHNOLOGY

3 or 4 Member Team

I. PURPOSE

This event develops employment skills for students who are interested in experiencing and pursuing a career opportunity in the meat industry. Those who participate will become more knowledgeable consumers of meat and meat animal products and/or involved in the industry of marketing and managing. There are many job opportunities today that deal directly with the information provided in this contest. Students may continue studies in meat and food science related disciplines or go on to work in the meat industry at the processing, wholesale or retail levels.

II. EVENT FORMAT & SCORING

A. Team Make-up

1. Three or four individuals per school form a team. All members will be scored and the top three scores will count towards the team total.
2. Team members must come prepared to work in a cold storage room for two hours. They should have heavy sweaters, coats, and other warm clothes. Due to HACCP regulations- bump caps, hairnets, and clean frocks are required to enter the Meats lab (clean frocks must be carried in a plastic bag and returned to the bag when exiting the lab, if re-entry is expected.) Texas Department of Health (TDH) officials may be on site during the contest.

B. General Event Information

1. Students cannot handle the meat, but may handle kidney knobs from 13th rib and above on beef carcasses.
2. Official judges may use all mechanical and electronic devices available to assist in placing.
3. When placing the class of retail cuts the following items should be considered: The four packages should be ranked on differences in such characteristics as percentage lean, amount of bone, fat trim, seam fat, amount of connective tissue, lean color, marbling, firmness of fat and lean, freshness and correct and attractive packaging that is appropriate for the cut. The following are criteria for ranking the cuts along with the approximate percent emphasis that should be placed on the various characteristics:
 - a. Percentage lean Includes the amount of lean, subcutaneous fat, seam fat, connective tissue and bone. This is the most important factor and therefore carries the greatest amount of emphasis (50%).
 - b. Lean color Many studies report that lean color is one of the most important factors in consumer purchasing. Both cuts that are excessively dark or light should be discriminated against (25% emphasis).
 - c. Texture and firmness Coarse textured cuts or those with soft lean or fat should be discriminated against (10% emphasis).
 - d. Marbling Amount and distribution of marbling, especially in the cuts from the loin, should be considered (5% emphasis).

- e. Workmanship Angular cuts, inappropriately sized plastic foam trays and irregular wrap should be discriminated against (10% emphasis).
 - f. Unwholesomeness This should be a basis for automatically ranking a package last.
4. The students are not allowed to touch or handle the retail cuts in any manner during the event.
 5. Any area of the cut or package in contact with the table (out of sight) should be considered as acceptable.

C. Written Exam (50 points)

1. Exam will consist of 25 questions. Questions will be worth 2 points each.
2. Questions will **ONLY** come from:
 - a. "Meat Science & Food Safety" PowerPoint (CEV)
 - b. The same chapters will be used at Nationals with the corresponding year:
2012, 2014, and 2016: Meat Storage and Handling, Meat Cookery, Processed Meats, and Food Safety.
2013 and 2015: Legislation and History, Animal Care and Handling, Meat Nutrition, and Purchasing Meat.
3. Exam will be taken during one group rotation period.

D. Retail Meat Cuts (280 points)

1. The retail meat cuts will be divided into 4 parts (10 cuts per part).
2. Contestants will be given 1 minute to identify each cut.
3. One point will be given for identification of the correct species.
4. Two points will be given for correct primal cut identification.
5. Three points will be given for correct retail cut identification.
6. One point will be given for correct cookery method.
7. ID sheet will be provided, including numbers of meat cuts.
8. Refer to National Rulebook for cut lists.

E. Beef Quality and Yield Grading (120 points)

1. There will be two classes for beef quality and yield grading with three carcasses per class.
2. Contestants will be given 10 minutes per class.
3. 20 points are awarded for the correct grading of each carcass. (10 points for Yield Grade and 10 points for Quality Grade)
4. Yield and Quality Grading follows current USDA Standards.
 - a. **Yield Grading Scoring**
 1. Yield grades will be to the nearest tenth (.1) of a grade.
 2. One point will be deducted for a .2-.3 grade above or below the official grade.
 3. Two points will be deducted for a .4-.5 grade above or below the official grade.
 4. Three points will be deducted for a .6-.7 grade above or below the official grade.
 5. Four points will be deducted for a .8 grade above or below the official grade.
 6. Five points will be deducted for a .9 grade above or below the official grade.

7. Six points will be deducted for one full yield grade above or below the official grade.
8. Ten points will be deducted for a yield grade missed by more than one official grade.

b. Quality Grading Scoring

1. One point will be deducted for a third of a grade above or below the official grade.
2. Three points will be deducted for two-thirds of a grade above or below the official grade.
3. Six points will be deducted for a full grade above or below the official grade.
4. Ten points will be deducted for being more than one full grade above or below the official grade.

F. Placing of Six Classes (300 points)

1. Six classes will be selected from the following list (may have two of the same type):
 - a) Beef carcasses
 - b) Pork carcasses (may or may not be ribbed)
 - c) Lamb carcasses (may or may not be ribbed)
 - d) Wholesale pork cuts (hams or loins)
 - e) Beef wholesale cuts
 - f) Retail cuts -students will place four packages from one of the following seven selections:
 - a. Beef: T-bone, porterhouse or rib-eye steaks
 - b. Pork: blade or loin chops.
 - c. Lamb: blade or loin chops.
 - d. Optional: value based beef pricing class
2. Contestants will be given 10 minutes per class
3. Each class will be worth 50 points.

G. Questions (50 points)

1. 10 total written questions will be given over two placing classes (five per class).
2. Each question will be worth five points for a total of 50 points.
3. The questions will be given during one rotation period.
4. Contestants may use notes taken during the event

III. SCORING

Written Exam.....	50
Retail Meat Cuts	280
Beef Quality and Yield Grading	120
Placing Classes	300
Questions.....	50
<u>Total Points</u>	
Individual.....	800
Team.....	2,400

IV. TIEBREAKER

- A.** Ties for team awards shall be broken as follows:
1. The team with the highest score in the identification wins.
 2. If still tied, the highest score in questions classes.
 3. If still tied, the highest total score in the carcass grading.
 4. If still tied, the team with the high alternate score.
 5. If still tied, the advisors shall match for the high award.
- B.** Ties for individual awards will be broken by substituting the word "individual" wherever the word "team" appears.

V. REFERENCES

Materials Available from IMS:

Printed Materials

0224 Food Service Cuts of Pork Poster

0225 Purchasing Pork Poster - A Consumer Guide to Identifying Retail Pork Cuts 0226 NLMB Meat Evaluation Handbook

0227 The Guide to Identifying Meat Cuts (NCBA & NPPC)

0228 Yellow Pages - Answers to Predictable Questions Consumers Ask About Meat 0411 Preliminary Cutability Grade Ruler - NASCO

0412 Beef Ribeye Grid 8820-A Evaluating & Grading Carcasses and Wholesale Cuts, IMS

4034 Meat Evaluation Handbook, IMS

8556-A Identifying Government Agencies and Regulations Involved in the Meat Industry

8561-A Recognizing the Beef Harvesting Process

8561-B Evaluating Beef Carcasses 8562-A Recognizing the Pork Harvesting Process

8562-B Evaluating Pork Carcasses

8563-A Recognizing the Lamb and Goat Harvesting Process

8563-B Evaluating Lamb and Goat Carcasses

Slides

5012 Meat Evaluation Handbook Judging Slides (95 slides) National Meat Board 5014 Meat Identification (136 slides, w/s) National Meat Board

5176 Meats - Wholesale Cuts, IMS

5177 Meats - Carcass Placing I

5178 Meats - Carcass Placing II

5179 Meats - Quality and Yield Grading

Pictures

7020 Marbling Photographs (6 full color - 6" x 9") National Meat Board

DVD's

9505 Practice Meat Retail Cut Identification, CEV

9506 Retail Cut Judging, CEV

9507 Meats Judging Practice I, CEV

9508 Meats Judging Practice II, CEV

9509 Meats Judging Practice III, CEV

9510 Meats Judging Practice IV, CEV

9512 Pork and Lamb Cuts Judging, CEV

9513 Carcass Judging, CEV

9514 Beef Yield Grading, CEV

9515 Practice Beef Yield Grading, CEV

9517 Beef Quality Grading, CEV

9825 Practice Carcass Judging IV, CEV

9940 Practice Beef Quality Grading II, CEV

9941 PRACTICE RETAIL CUT IDENTIFICATION III, CEV

9942 Practice Retail Cut Identification IV, CEV

9943 Practice Meat Judging V, CEV

80290 Retail Cut ID, CEV

Species	Primal	Retail Cut	Cooking Method	Species	Primal	Retail Cut	Cooking Method
B	B	89	M	Beef	Brisket	Corned	Moist
B	B	15	M	Beef	Brisket	Flat Half, Bnls	Moist
B	B	10	M	Beef	Brisket	Whole, Bnls	Moist
B	C	26	M	Beef	Chuck	7-bone Pot-Roast	Moist
B	C	03	M	Beef	Chuck	Arm Pot-Roast	Moist
B	C	04	M	Beef	Chuck	Arm Pot-Roast, Bnls	Moist
B	C	06	M	Beef	Chuck	Blade Roast	Moist
B	C	13	D/M	Beef	Chuck	Eye Roast, Bnls	Dry/Moist
B	C	45	D	Beef	Chuck	Eye Steak, Bnls	Dry
B	C	20	M	Beef	Chuck	Mock Tender Roast	Moist
B	C	48	M	Beef	Chuck	Mock Tender Steak	Moist
B	C	21	D	Beef	Chuck	Petite Tender	Dry
B	C	29	D/M	Beef	Chuck	Shoulder Pot Roast (Bnls)	Dry/Moist
B	C	58	D	Beef	Chuck	Top Blade Steak (Flat Iron)	Dry
B	D	47	D/M	Beef	Flank	Flank Steak	Dry/Moist
B	F	49	D	Beef	Loin	Porterhouse Steak	Dry
B	F	55	D	Beef	Loin	T-bone Steak	Dry
B	F	34	D	Beef	Loin	Tenderloin Roast	Dry
B	F	56	D	Beef	Loin	Tenderloin Steak	Dry
B	F	59	D	Beef	Loin	Top Loin Steak	Dry
B	F	60	D	Beef	Loin	Top Loin Steak, Bnls	Dry
B	F	64	D	Beef	Loin	Top Sirloin Cap Steak, Bnls	Dry
B	F	63	D	Beef	Loin	Top Sirloin Steak, Bnls Cap Off	Dry
B	F	62	D	Beef	Loin	Top Sirloin Steak, Bnls	Dry
B	F	40	D	Beef	Loin	Tri Tip Roast	Dry
B	G	28	M	Beef	Plate	Short Ribs	Moist
B	G	54	D/M	Beef	Plate	Skirt Steak, Bnls	D/M
B	H	22	D	Beef	Rib	Rib Roast	Dry
B	H	13	D	Beef	Rib	Ribeye Roast, Bnls	Dry
B	H	45	D	Beef	Rib	Ribeye Steak, Bnls	Dry
B	H	50	D	Beef	Rib	Ribeye Steak, Lip-On	Dry

B	I	08	D/M	Beef	Round	Bottom Round Roast	Dry/Moist
B	I	09	D/M	Beef	Round	Bottom Round Rump Roast	Dry/Moist
B	I	43	M	Beef	Round	Bottom Round Steak	Moist
B	I	14	D/M	Beef	Round	Eye Round Roast	Dry/Moist
B	I	46	D/M	Beef	Round	Eye Round Steak	Dry/Moist
B	I	51	M	Beef	Round	Round Steak	Moist
B	I	52	M	Beef	Round	Round Steak, Bnls	Moist
B	I	36	D/M	Beef	Round	Tip Roast - Cap Off	Dry/Moist
B	I	57	D	Beef	Round	Tip Steak - Cap Off	Dry
B	I	39	D	Beef	Round	Top Round Roast	Dry
B	I	61	D	Beef	Round	Top Round Steak	Dry
B	N	82	M	Beef	Various	Beef for Stew	Moist
B	N	83	D/M	Beef	Various	Cubed Steak	Dry/Moist
B	N	84	D	Beef	Various	Ground Beef	Dry
P	E	44	D/M	Pork	Ham/Leg	Pork Fresh Ham Center Slice	Dry/Moist
P	E	25	D/M	Pork	Ham/Leg	Pork Fresh Ham Rump Portion	Dry/Moist
P	E	27	D/M	Pork	Ham/Leg	Pork Fresh Ham Shank Portion	Dry/Moist
P	E	91	D	Pork	Ham/Leg	Smoked Ham, Bnls	Dry
P	E	90	D	Pork	Ham/Leg	Smoked Ham, Center Slice	Dry
P	E	96	D	Pork	Ham/Leg	Smoked Ham, Rump Portion	Dry
P	E	97	D	Pork	Ham/Leg	Smoked Ham, Shank Portion	Dry
P	E	35	D	Pork	Ham/Leg	Tip Roast, Bnls	Dry
P	E	38	D	Pork	Ham/Leg	Top Roast, Bnls	Dry
P	F	05	D/M	Pork	Loin	Back Ribs	Dry/Moist
P	F	66	D/M	Pork	Loin	Blade Chops	Dry/Moist
P	F	67	D/M	Pork	Loin	Blade Chops, Bnls	Dry/Moist
P	F	06	D/M	Pork	Loin	Blade Roast	Dry/Moist
P	F	68	D	Pork	Loin	Butterflied Chops Bnls	Dry
P	F	11	D	Pork	Loin	Center Loin Roast	Dry
P	F	12	D	Pork	Loin	Center Rib Roast	Dry
P	F	69	D/M	Pork	Loin	Country Style Ribs	Dry/Moist
P	F	70	D	Pork	Loin	Loin Chops	Dry
P	F	71	D	Pork	Loin	Rib Chops	Dry
P	F	73	D	Pork	Loin	Sirloin Chops	Dry

P	F	53	D	Pork	Loin	Sirloin Cutlets	Dry
P	F	30	D	Pork	Loin	Sirloin Roast	Dry
P	F	93	D	Pork	Loin	Smoked Pork Loin Chop	Dry
P	F	95	D	Pork	Loin	Smoked Pork Loin Rib Chop	Dry
P	F	34	D	Pork	Loin	Tenderloin, Whole	Dry
P	F	74	D	Pork	Loin	Top Loin Chops	Dry
P	F	75	D	Pork	Loin	Top Loin Chops, Bnls	Dry
P	F	37	D	Pork	Loin	Top Loin Roast, Bnls	Dry
P	J	02	D/M	Pork	Shoulder	Arm Picnic, Whole	Dry/Moist
P	J	03	D/M	Pork	Shoulder	Arm Roast	Dry/Moist
P	J	41	D/M	Pork	Shoulder	Arm Steak	Dry/Moist
P	J	07	D/M	Pork	Shoulder	Blade Boston Roast	Dry/Moist
P	J	42	D/M	Pork	Shoulder	Blade Steak	Dry/Moist
P	J	94	D/M	Pork	Shoulder	Smoked Picnic, Whole	Dry/Moist
P	K	98	D	Pork	Side	Slab Bacon	Dry
P	K	99	D	Pork	Side	Sliced Bacon	Dry
P	K	17	M	Pork	Side/Belly	Fresh Side	Moist
P	L	32	D/M	Pork	Spareribs	Pork Spareribs	Dry/Moist
P	N	85	D	Pork	Various	Ground Pork	Dry
P	N	86	M	Pork	Various	Hock	Moist
P	N	83	D/M	Pork	Various	Pork Cubed Steak	Dry/Moist
P	N	87	D	Pork	Various	Pork Sausage Links	Dry
P	N	87	D	Pork	Various	Sausage	Dry
P	N	92	M	Pork	Various	Smoked Pork Hock	Moist
L	A	24	D/M	Lamb	Breast	Ribs (Denver Style)	Dry/Moist
L	E	01	D	Lamb	Leg	American Style Roast	Dry
L	E	44	D	Lamb	Leg	Center Slice	Dry
L	E	16	D	Lamb	Leg	Frenched Style Roast	Dry
L	E	18	D	Lamb	Leg	Leg Roast, Bnls	Dry
L	E	73	D	Lamb	Leg	Sirloin Chops	Dry
L	E	31	D	Lamb	Leg	Sirloin Half	Dry
L	F	70	D	Lamb	Loin	Loin Chops	Dry
L	F	19	D	Lamb	Loin	Loin Roast	Dry
L	H	71	D	Lamb	Rib	Rib Chops	Dry

L	H	72	D	Lamb	Rib	Rib Chops Frenched	Dry
L	H	22	D	Lamb	Rib	Rib Roast	Dry
L	H	23	D	Lamb	Rib	Rib Roast, Frenched	Dry
L	J	65	D/M	Lamb	Shoulder	Arm Chops	Dry/Moist
L	J	66	D/M	Lamb	Shoulder	Blade Chops	Dry/Moist
L	J	33	D/M	Lamb	Shoulder	Square Cut	Dry/Moist
L	N	88	M	Lamb	Various	Shank	Moist
B	M	76	D/M	Beef	Variety	Heart	Dry/Moist
L	M	76	D/M	Lamb	Variety	Heart	Dry/Moist
P	M	76	D/M	Pork	Variety	Heart	Dry/Moist
B	M	77	D/M	Beef	Variety	Kidney	Dry/Moist
L	M	77	D/M	Lamb	Variety	Kidney	Dry/Moist
P	M	77	D/M	Pork	Variety	Kidney	Dry/Moist
B	M	78	D/M	Beef	Variety	Liver	Dry/Moist
L	M	78	D/M	Lamb	Variety	Liver	Dry/Moist
P	M	78	D/M	Pork	Variety	Liver	Dry/Moist
B	M	79	M	Beef	Variety	Oxtail	Moist
B	M	80	D/M	Beef	Variety	Tongue	Dry/Moist
L	M	80	D/M	Lamb	Variety	Tongue	Dry/Moist
P	M	80	D/M	Pork	Variety	Tongue	Dry/Moist
B	M	81	M	Beef	Variety	Tripe	Moist