

# MEATS EVALUATION & TECHNOLOGY

Participants in the Meats Evaluation and Technology Career Development Event (CDE) delve into the science of meat. During this team event, students evaluate beef carcasses for quality and yield grade; identify various meat cuts and place carcasses; and identify wholesale and/or retail cuts.

This event is ideal for students who are interested in exploring or pursuing career opportunities in the meat animal industry. Students are challenged to develop analytical skills, critical-thinking strategies and effective communication skills.

## RULES AND REGULATIONS

1. The score of the 3 high individuals will be used to determine the team score.
2. **Retail Meat Cuts Identification** - Students will identify 30 retail cuts of meat. The cuts will be divided into three classes of 10 cuts per class. Students will be given one minute to identify each cut according to the "Meat Identification Card," in Bulletin #4. Refer to "Primal/Retail Cuts Coding" in Bulletin #4 for further information. Only the cuts listed are eligible to be used in this CDE. Students will be given one point for correct species identification; two points for correct prime cut identification and three points for correct retail trade name.
3. **Beef Quality and Yield Grading** - Contestants will quality and yield grade five beef small end rib steaks or beef carcasses ribbed between the 12<sup>th</sup> & 13<sup>th</sup> ribs. Ten minutes will be allowed for each class. Form 5 will be used for these classes.

**Quality Grading** - The student will be given the carcass maturity score and then will determine a marbling score based on USDA standards and then give the quality grade. The possible quality grades and a corresponding letter are listed at the bottom of Form 5. The student should write the name and number under the column titled "Quality Grade."

**Yield Grading** - Using Form 5 and small end rib steaks or beef carcasses ribbed between the 12<sup>th</sup> & 13<sup>th</sup> ribs, students will be given carcass weights and Kidney, Pelvic and Heart Fat which is given for each "carcass". Students will determine Ribeye size, fat thickness and calculate the Yield Grade. After completing these steps, the student should write in the final "Yield Grade" and corresponding letter found under "Yield Grade" at the bottom of "Form 5." Only the final yield will be graded.

4. **Evaluation** - Six of the following classes will be selected for students to place:
  - a. Two classes of retail cuts - beef, pork, or lamb.
  - b. Four class of four wholesale cuts - beef, pork or lamb

Ten minutes will be allowed to place each class.

5. **Team Activity** - From the wholesale/retail classes above, 2 will be selected for the written questions team activity class. There will be 10 questions worth 5 points per question.

Sample question: Which Pork Shoulder has the greatest amount of seam fat?

6. **Event Scoring:** The State Meats CDE will be scored as follows:

Section A:.....	Retail Meat Cut Identification	180 points
Section B:.....	Quality and Yield Grading	50 points each
Section C:.....	Placing of four wholesale classes	200 points
Section D:.....	Placing of two retail classes	100 points

Team Activity .....	<u>50 points</u>
<b>TOTAL EVENT .....</b>	<b>630 points</b>

7. Contestants and official judges are to make their placing and identifications without handling the meat
8. Other than the official cards for the CDE, contestants will also be allowed to have blank paper. No mechanical aid such as a measuring device or light can be used in arriving at a decision. Non-programmable calculators may be used in the CDE.
9. Each contestant must bring their own frock & helmet.

### **TIEBREAKERS**

If ties occur, the following sections of the event, in this order, will be used to determine award recipients:

#### Individual

1. Identification retail meat cuts.
2. Grading.
3. Class questions.

#### Team

1. Team activity score.
2. Retail Identification total of the team.
3. Grading total of the team.
4. Class questions total of the team.

### **REFERENCES**

Meat Evaluation Handbook, copies of wall size charts of beef, pork, and lamb, a set of full color slides of retail meat cuts and the Meat Board Guide to Identifying Meat Cuts are available from National Cattlemen's Beef Association 444 N. Michigan Avenue, Chicago, IL 60611. Fax # - 800-368-3136

U.S. standards for grades of meat, the rib eye grids are available from Livestock and Seed Division, MS, USDA, WASHINGTON, D.C. 20250.

Preliminary Yield Grade Ruler: NASCO, Ft. Atkinson, Wisconsin 53538.

Yellow Pages, for Section E of the CDE: America Meat Institute, PO Box 3556, Washington, D.C. 20007.

Ribeye Grid I.D. AS-34, Iowa State University, Cooperative Extension Service, Ames, Iowa 60010.

## Retail Cuts Code Sheet with Cookery

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

## Retail Cuts Code Sheet with Cookery (cont.)

Species	Primal	Retail Cut	Species	Primal	Retail Cut
B	I	46	Beef	Round	Eye Round Steak
B	I	51	Beef	Round	Round Steak
B	I	52	Beef	Round	Round Steak, Bnls
B	I	36	Beef	Round	Tip Roast - Cap Off
B	I	57	Beef	Round	Tip Steak - Cap Off
B	I	39	Beef	Round	Top Round Roast
B	I	61	Beef	Round	Top Round Steak
B	N	82	Beef	Various	Beef for Stew
B	N	83	Beef	Various	Cubed Steak
B	N	84	Beef	Various	Ground Beef
P	E	44	Pork	Ham/Leg	Pork Fresh Ham Center Slice
P	E	25	Pork	Ham/Leg	Pork Fresh Ham Rump Portion
P	E	27	Pork	Ham/Leg	Pork Fresh Ham Shank Portion
P	E	91	Pork	Ham/Leg	Smoked Ham, Bnls
P	E	90	Pork	Ham/Leg	Smoked Ham, Center Slice
P	E	96	Pork	Ham/Leg	Smoked Ham, Rump Portion
P	E	97	Pork	Ham/Leg	Smoked Ham, Shank Portion
P	E	35	Pork	Ham/Leg	Tip Roast, Bnls
P	E	38	Pork	Ham/Leg	Top Roast, Bnls
P	F	05	Pork	Loin	Back Ribs
P	F	66	Pork	Loin	Blade Chops
P	F	67	Pork	Loin	Blade Chops, Bnls
P	F	06	Pork	Loin	Blade Roast
P	F	68	Pork	Loin	Butterflied Chops Bnls
P	F	11	Pork	Loin	Center Loin Roast
P	F	12	Pork	Loin	Center Rib Roast
P	F	69	Pork	Loin	Country Style Ribs
P	F	70	Pork	Loin	Loin Chops
P	F	71	Pork	Loin	Rib Chops
P	F	73	Pork	Loin	Sirloin Chops
P	F	53	Pork	Loin	Sirloin Cutlets
P	F	30	Pork	Loin	Sirloin Roast
P	F	93	Pork	Loin	Smoked Pork Loin Chop
P	F	95	Pork	Loin	Smoked Pork Loin Rib Chop
P	F	34	Pork	Loin	Tenderloin, Whole
P	F	74	Pork	Loin	Top Loin Chops
P	F	75	Pork	Loin	Top Loin Chops, Bnls
P	F	37	Pork	Loin	Top Loin Roast, Bnls

## Retail Cuts Code Sheet with Cookery (cont.)

Species	Primal	Retail Cut		Species	Primal	Retail Cut
P	J	03		Pork	Shoulder	Arm Roast
P	J	41		Pork	Shoulder	Arm Steak
P	J	07		Pork	Shoulder	Blade Boston Roast
P	J	42		Pork	Shoulder	Blade Steak
P	J	94		Pork	Shoulder	Smoked Picnic, Whole
P	K	98		Pork	Side	Slab Bacon
P	K	99		Pork	Side	Sliced Bacon
P	K	17		Pork	Side/Belly	Fresh Side
P	L	32		Pork	Spareribs	Pork Spareribs
P	N	85		Pork	Various	Ground Pork
P	N	86		Pork	Various	Hock
P	N	83		Pork	Various	Pork Cubed Steak
P	N	87		Pork	Various	Pork Sausage Links
P	N	87		Pork	Various	Sausage
P	N	92		Pork	Various	Smoked Pork Hock
L	A	24		Lamb	Breast	Ribs (Denver Style)
L	E	01		Lamb	Leg	American Style Roast
L	E	44		Lamb	Leg	Center Slice
L	E	16		Lamb	Leg	Frenched Style Roast
L	E	18		Lamb	Leg	Leg Roast, Bnls
L	E	73		Lamb	Leg	Sirloin Chops
L	E	31		Lamb	Leg	Sirloin Half
L	F	70		Lamb	Loin	Loin Chops
L	F	19		Lamb	Loin	Loin Roast
L	H	71		Lamb	Rib	Rib Chops
L	H	72		Lamb	Rib	Rib Chops Frenched
L	H	22		Lamb	Rib	Rib Roast
L	H	23		Lamb	Rib	Rib Roast, Frenched
L	J	65		Lamb	Shoulder	Arm Chops
L	J	66		Lamb	Shoulder	Blade Chops
L	J	33		Lamb	Shoulder	Square Cut
L	N	88		Lamb	Various	Shank
B	M	76		Beef	Variety	Heart
L	M	76		Lamb	Variety	Heart
P	M	76		Pork	Variety	Heart
B	M	77		Beef	Variety	Kidney
L	M	77		Lamb	Variety	Kidney
P	M	77		Pork	Variety	Kidney

Name: \_\_\_\_\_

Chapter: \_\_\_\_\_

Species		
B Beef	P Pork	L Lamb

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

Retail Cuts	
<b>Roasts/Pot Roasts</b>	<b>Chops</b>
1 American Style	65 Arm Chop
2 Arm Picnic	66 Blade Chop
3 Arm Roast	67 Blade Chop (Bnls)
4 Arm Roast (Bnls)	68 Butterflied Chop (Bnls)
5 Back Ribs	69 Country Style Ribs
6 Blade Roast	70 Loin Chop
7 Blade Boston	71 Rib Chop
8 Bottom Round Roast (Bnls)	72 Rib Chop (Frenched)
9 Bottom Round Rump Roast (Bnls)	73 Sirloin Chop
10 Brisket, Whole (Bnls)	74 Top Loin Chop
11 Center Loin Roast	75 Top Loin Chop (Bnls)
12 Center Rib Roast	
13 Eye Roast (Bnls)	<b>Variety Meats</b>
14 Eye Round Roast	76 Heart
15 Flat Half (Bnls)	77 Kidney
16 Frenched Style	78 Liver
17 Fresh Side	79 Oxtail
18 Leg Roast (Bnls)	80 Tongue
19 Loin Roast	81 Tripe
20 Mock Tender Roast	
21 Petite Tender	<b>Various Meats</b>
22 Rib Roast	82 Beef for Stew
23 Rib Roast (Frenched)	83 Cubed Steak
24 Ribs (Denver Style)	84 Ground Beef
25 Rump Portion	85 Ground Pork
26 Seven (7) Bone Roast	86 Hocks
27 Shank Portion	87 Sausage Link/Pattie
28 Short Ribs	88 Shank
29 Shoulder Roast (Bnls)	
30 Sirloin Roast	<b>Smoked/Cured</b>
31 Sirloin Half	89 Brisket, Corned
32 Spareribs	90 Center Slice
33 Square Cut (Whole)	91 Ham (Bnls)
34 Tenderloin (Whole)	92 Hocks
35 Tip Roast (Bnls)	93 Loin Chop
36 Tip, Cap Off Roast	94 Picnic (Whole)
37 Top Loin Roast (Bnls)	95 Rib Chop
38 Top Roast (Bnls)	96 Rump Portion
39 Top Round Roast	97 Shank Portion
40 Tri-Tip Roast	98 Slab Bacon
	99 Sliced Bacon

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)

ID #	Species	Primal	Retail	Score
1				
2				
3				
4				
5				
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**Carcass Yield Grading**

Carcass No.	PYG		Carcass Weight	Required REA	Rib Eye Area		%KPH		FYG
	Est.	Adj.			Est.	Adj.	Est.	Adj.	
1									
2									
3									
4									
5									
6									

Yield Grade 1(YG1) High – 1.00-1.33 Avg. – 1.34-1.66 Low – 1.67-1.99	Yield Grade 2(YG2) High – 2.00-2.33 Avg. – 2.34-2.66 Low – 2.67-2.99	Yield Grade 3(YG3) High – 3.00-3.33 Avg. – 3.34-3.66 Low – 3.67-3.99	Yield Grade 4(YG4) High – 4.00-4.33 Avg. – 4.34-4.66 Low – 4.67-4.99	Yield Grade 5(YG5) High – 5.00-5.33 Avg. – 5.34-5.66 Low – 5.67-5.99
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Place yield grade and corresponding letter (H-High, A-Avg., L-Low) under the column marked Final Yield Grade (FYG). Ten points are allowed for the correct grading of each carcass. A deduction of two points will be made for a one-third grade above or below the official grade; five points will be deducted for two-thirds grade above or below the official grade; eight points will be deducted for one full grade above or below the official grade; ten points will be deducted for more than one full grade above or below the official grade. Perfect score will be sixty points.

### Carcass Quality Grading

Carcass No.	Age		Marbling	Quality Grade
	Bone	Lean		
1				
2				
3				
4				
5				
6				

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

Place the grade in the space for "Quality Grade." Ten points are allowed for the correct grading of each carcass. A deduction of two points will be made for a one-third grade above or below the official grade; five points will be

deducted for two-thirds grade above or below the official grade; eight points will be deducted for one full grade above or below the official grade; ten points will be deducted for more than one full grade above or below the official grade. Perfect score will be sixty points.

Canner and Cutter grade will not be used in this event. Since maturity is a factor between Standard and Commercial grades, carcasses are not included in the event which are close to border-line of maturity between these grades. There is not a Commercial for the carcasses from young animals, therefore, the spaces given to "Commercial" are not considered when scoring the carcasses from young animals.