EXPLANATION OF FACTORS USED IN SLAUGHTER CATTLE YIELD AND QUALITY GRADING

Grades of slaughter cattle are intended to be directly related to the grade of the carcasses they produce. To accomplish this they are based on two factors: (1) quality or palatability indicating characteristics of the lean referred to as "quality grade" & (2) quantity or cutability based on the indicated carcass percent of trimmed boneless major retail cuts referred to as "yield grade".

Quality Grade: Slaughter cattle quality grades are based on palatability factors. Quality is evaluated primarily by finish, age & quality (marbling, maturity, color, firmness & texture of lean). Estimate to nearest 1/3 of grade (Prime or Choice), 1/2 grade (Select or Standard) & Utility.

Yield Grade: The yield grades for slaughter cattle (U.S. #1, U.S. #2, U.S. #3, U.S. #4, U.S. #5) are based on the same factors as used in the official yield grade standards for beef carcasses. Those factors are as follows:

1) Fat Thickness at the 12th Rib: One measurement over the ribeye at the 12th rib. Range from 0.1 to 1.0 inch.

2) %KPH: Kidney, pelvic and heart fat expressed as a percent of carcass weight. Range from 1% to 6%.

3) Carcass Weight: Live Weight X Dressing Percentage

4) Ribeye Area: Estimate in sq. inches at 12th rib. Average is 1.1 sq. inches per 100 pounds live weight.

USDA YIELD GRADE	PERCENT RETAIL CUTS	FACTORS AFFECTING CUTABILITY	CHANGE REQUIRED TO MAKE ONE YIELD GRADE CHANGE
1 = ≥52.4% 2 = 50.1% thru 52.3% 3 = 47.8% thru 50.0% 4 = 45.5% thru 47.7% 5 = ≤45.4%		Fat over the ribeye %KPH Ribeye area Warm carcass weight	.4 inch 5.0% 3 inches sq. 250 pounds

Dressing Percentage: Range from 57% to 67%. Mainly affected by the amount of fill; degree of finish; weight of hide, head and shanks and muscling.

Percent Cutout: percent retail cuts or carcass percent of boneless, closely trimmed retail cuts from the loin, rib, round and chuck. Range from 43% to 55%. Mainly influenced by percent trimmable fat. (Base: 1,000 lb. steer; .4 inch fat; 3.5% KPH; 11.0 square inch ribeye = 3.0 yield grade = 50% cutout.)
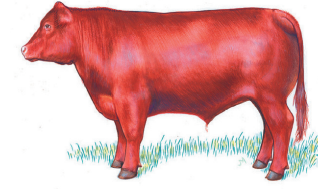
Document Revised by D. B. Griffin and L. L. Boleman, August, 2004

GUIDE TO EVALUATION OF SLAUGHTER CATTLE
U.S. SLAUGHTER STEER GRADES

U.S. YIELD GRADES   U.S. QUALITY GRADES

Yield Grade 1

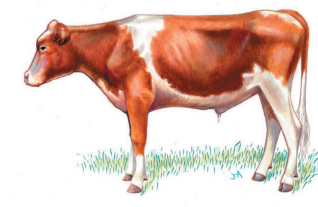**Prime**

Yield Grade 2
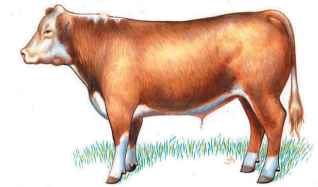
Choice

Yield Grade 3

Select

Yield Grade 4

Standard

Yield Grade 5

Utility

Photos: USDA Agricultural Marketing Service, July 2001

LIVE CATTLE EVALUATION

ANIMAL 1	EST.	ACT.	ANIMAL 2	EST.	ACT.
Description			Description		
Live Weight			Live Weight		
Dressing %			Dressing %		
Carcass Wt.			Carcass Wt.		
Fat Thickness			Fat Thickness		
Ribeye Area			Ribeye Area		
Percent KPH			Percent KPH		
Yield Grade (to nearest tenth)			Yield Grade (to nearest tenth)		
Quality Grade (to nearest third)			Quality Grade (to nearest third)		

ANIMAL 3	EST.	ACT.	ANIMAL 4	EST.	ACT.
Description			Description		
Live Weight			Live Weight		
Dressing %			Dressing %		
Carcass Wt.			Carcass Wt.		
Fat Thickness			Fat Thickness		
Ribeye Area			Ribeye Area		
Percent KPH			Percent KPH		
Yield Grade (to nearest tenth)			Yield Grade (to nearest tenth)		
Quality Grade (to nearest third)			Quality Grade (to nearest third)		

USDA BEEF YIELD GRADE SHORT CUT METHOD

Best   1   2   3   4   5

Yield Grade 3.0 = 0.4" FT – 600 lb. CW – 11.0 sq. in. REA – 3.5% KPH

★ – Preliminary Yield Grade Starting Point
For every .1" increase in adjusted 12-13th rib fat thickness, PYG increases by .25

12-13th Rib Fat	PYG
0.00	2.00
0.10	2.25
0.20	2.50
0.30	2.75
0.40	3.00
0.50	3.25
0.60	3.50
0.70	3.75
0.80	4.00

Adjustment 1 – Carcass Weight
For every 100 lb. change from a 600 lb. carcass, adjust the PYG by ± .4

Carcass Wt. (Live Wt.63%)	Adj. 1
900 (1429)	+1.2
850 (1350)	+1.0
800 (1270)	+0.8
750 (1190)	+0.6
700 (1111)	+0.4
650 (1031)	+0.2
600 (952)	0.0
550 (873)	−0.2
500 (793)	−0.4

Adjustment 2 – Ribeye Area
For every 1 square inch from an 11.0 sq. in. ribeye area, adjust the PYG by ± .33

Ribeye Area (in²)	Adj. 2
14.0	−.99
13.5	−.82
13.0	−.66
12.5	−.49
12.0	−.33
11.5	−.16
11.0	0.00
10.5	+.16
10.0	+.33

Adjustment 3 – %Kidney, Pelvic & Heart Fat
For every 1.0% change in %KPH from 3.5%, adjust the PYG by ± .2

%KPH	Adj. 3
1.0	−.50
1.5	−.40
2.0	−.30
2.5	−.20
3.0	−.10
3.5	0.00
4.0	+.10
4.5	+.20
5.0	+.30

DEGREES OF MARBLING	MATURITY				
	A	B	C	D	E
Abundant					
Moderately Abundant	PRIME		COMMERCIAL		
Slightly Abundant					
Moderate					
Modest	CHOICE				
Small			UTILITY		
Slight	SELECT				
Traces					
Practically Devoid	STANDARD		CUTTER		