TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE BOISE, IDAHO SOIL CONSERVATION SERVICE

June 13, 1980

TN - RANGE NO. 17

BREEDS OF CATTLE AND SHEEP COMMON TO THE WEST

The attached WTSC Technical Note , Range No. 6, contains information on cattle and sheep breeds, wool marketing and a wool guide. The information was developed from several sources and prepared in final form by Durwood Ball, Range Conservationist, West Technical Service Center, Portland, Oregon.

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West Technical Service Center-Portland, Oregon

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The information contained in the attached tables was gathered from a number of sources, most of which are listed. Not listed are a number of people who made contributions. Demont B. Grandy, Range Conservationist in Wyoming, was instrumental in pulling together most of the information. More detailed information can be obtained from the various livestock associations.

Prepared by Durwood E. Ball, Range Conservationist, Conservation Technology Staff, West Technical Service Center, Portland, Oregon

BREEDS OF CATTLE COMMON TO THE WEST

BREED	HISTORY	WEIGHTS (in lbs) WEANING	WEIGHTS (in lbs) SHOW	DISTINGUISHING CHARACTERISTICS	ADVANTAGES	DISADVANTAGES
Angus	Originally from northeastern Scotland	heifer: 420-470 steers: 450-500	Mature cow: 890-960 Mature bull: 1020-1080	black polled	mature early high-quality carcass well-marbled meat medium milk production	nervous temperment
Red angus	British Isles	heifer: 420-470 steer: 450-500	890-960 1020-1080	red-recessive polled	mature early high-quality cascass well-marbled meat	nervous temperment
Beef-master (approx. ½ Brahman and ¼ each Shorthorn & Hereford)	United States on the Lasater Ranch, Falfurrias, TX	heifer: 475-550 steer: 525-575	1500 2000	Red is the dominant color, but color is variable & is disregarded in selection. Majority horned, a few are polled.	Good producers under range conditions. Heavy weaning and mature weights. Hearty high weight gains. Good milk production.	More feed for maintenance.
Brahman	India	heifer: 400 steer: 425	1250-1600 1900-2000	Grey or red preferred may also be brown, black, white, or spotted. Drooping ears, long face, prominent hump over shoulders.	Resistant to disease, insects, & parasites. Do well in high temperature & high humidity environment.	Crytorchid bulls free martin heifers. Carcass quality not as desirable due to tough, dark meat.
Charolais	France	heifer: 475-550 steer: 525-575	1250-1600 2000-2500	Horned White or cream color	Finishing weight high due to size of cattle. High percentage of lean meat with a minimum of excess fat.	Double muscling, calving trouble, infertility. High maintenance requirements, genetic trash.

BREED	HISTORY	WEIGHT (in lbs) WEANING	WEIGHT (in lbs) SHOW	DISTINGUISHING CHARACTERISTICS	ADVANTAGES	DISADVANTAGES
Hereford	England	heifer: 420-470 steer: 450-500	1005-1100 1500-1700	Red with white markings Horned	Heifers make good mothers, easy to handle. Good carcass produced, adapt to various climates except in the South.	Get pink eye easily, less disease resistant, sunburn udders
Polled Hereford	United States in Iowa	heifer: 420-450 steer: 450-500	940-1005 1055-1120	Red with white markings - polled	Heifers and cows make good mothers, easy to handle. Produce a good carcass, adapt to various climates except in the South.	Get pink eye easily, less disease resistant, sunburn udders.
Shorthorn	England	heifer: 420-450 steer: 450-500	900-970 1030-1095	Red, white or red & white combination. Short in-curving horns.	Used for crossing a lot, good temperment, easy to handle, good milk production, mature & fatten at early age.	Small finishing size and over-fattening.
Polled Shorthorn	United States	heifer: 420-470 steer: 450-500	900-940 1030-1095	Red, white, or combination of red and white - polled	Used for crossing frequently, good temperment, easy to handle, good milk production, mature & fatten at early age.	Small finishing size and over-fattening.
Santa Gertrudis (5/8 shorthorn; 3/8 Brahman)	United States - King Ranch in Texas	heifer: 475-500 steer: 525-575	Cow: 1300-1500 Bull: 2000-2500	Red or cherry red	Fast gainers, good beef conformation, withstands heat and parasites.	Low fertility, slowness in obtaining puberty, bad temperment.

BREED	HISTORY	WEIGHT (in lbs) WEANING	WEIGHT (in lbs) SHOW	DISTINGUISHING CHARACTERISTICS	ADVANTAGES	DISADVANTAGES
Scotch Highland	Scotland	heifer: 410-430	900-950 1020-1150	Silver, golden, light red, blck or brindle coloring. Long, wide spread horns, heavy foretop, long shaggy hair.	Very hearty, exceptionally good foragers.	Slow maturing. Not adapted to warm climates. Mud balling of long hair.
Simmental	Switzerland	heifer: 475-525 steer: 525-575	Cow: 1300-1500 Bull: 2000-2500	White to light straw face, red to dark red spotted bodies.	Large bodies, known for its docility, good milk production, good weight gains.	Slight to moderate calving problems, and somewhat higher maintenance requirements.
Linousin	France	heifer: 450-500 steer: 500-550	Cow: 1300-1500 Bull: 2000-2500	Light yellow coat with ligher circles around the eyes & muzzle.	Calves average 75-85 lbs. at birth. Good for yard fattening, carcass well balanced with good muscular development.	Somewhat higher maintenance requirements.

COMPARATIVE RATINGS ON ECONOMIC TRAITS OF 24 BREEDS OF CATTLE
NOW AVAILABLE TO NORTH AMERICAN PRODUCERS[1, 2]

	Cow Traits				Calf Traits			Carcass			Bull Traits			Breed's Place in Crossbreeding		
BREED	Age at Puberty	Conception Rate	Milking Ability	Mature Size	Pre-Weaning Growth	Post-Weaning Growth	Optimum Sl. Wt.-lbs.	Cutability	Marbling	Tenderness	Fertility	Freedom from Genital Defects	Calving Ease (Sire Effect)	Maternal	Terminal	Rotational
Angus	1	2	3	A	3	4	950	4	1	2	2	2	2	x		x
Beefmaster	3	2	3	L	2	2	1150	2	3	3	3	2	1	x		x
Brahman	5	5	3	A	3	4	1150	2	4	5	4	4	1	x		x
Brangus	3	2	3	A	2	3	1050	2	2	3	3	2	1	x		x
Brown Swiss	3	4	1	L	1	1	1200	2	3	2	2	2	3	x		x
Charbray	4	4	3	L	2	2	1250	1	4	3	3	3	4		x	x
Charolais	4	4	3	L	1	1	1250	1	4	2	3	2	5		x	x
Devon	3	2	2	A	2	3	1050	3	2	2	2	1	3	x		x
Galloway	2	2	3	A	4	4	950	3	2	2	2	1	2	x		x
Hays Converter	2	2	2	L	2	2	1150	2	3	2	2	1	3	x		x
Hereford	4	2	5	A	4	2	1050	3	3	2	2	1	2	x		x
Holstein	3	2	1	L	1	1	1200	2	3	2	2	1	3	x		x
Jersey	1	1	1	S	4	5	850	2	2	1	1	3	1	x		
Limousin	3	3	3	L	2	1	1200	1	3	2	3	2	3		x	x
Maine-Anjou	3	3	2	L	1	1	1250	2	3	2	3	2	5	x	x	x
Milking Shorthorn	2	4	2	A	3	3	1000	5	2	2	3	1	2	x		x
Murray Gray	2	3	3	A	2	3	1050	3	2	2	3	2	3	x		x
Red Angus	1	2	3	A	3	4	950	4	1	2	2	2	2	x		x
Red Poll	2	2	2	S	3	3	950	2	2	2	3	2	2	x		x
Santa Gertrudis	4	4	3	L	2	2	1150	2	3	4	4	3	2	x	x	x
Scotch Highland	2	3	4	S	4	4	950	3	2	2	3	1	2	x		x
Simmental	3	2	1	L	1	1	1250	2	3	2	2	1	4	x	x	x
Shorthorn	2	4	3	A	3	4	950	5	2	2	3	1	2	x		x
South Devon	3	3	2	L	2	2	1150	3	2	2	3	2	3	x		x

[1]Taken from "Better Beef Business," Sept. 1970. Based on the review of data where breed comparisons were made.
[2]Numerical grade of 1 is high (desirable), 5 is low. A - Average; L = Large; S = Small.

BREEDS OF SHEEP COMMON TO THE WEST

BREED	PLACE OF ORIGIN	DISTINGUISHING CHARACTERISTICS	LAMB CROPS	GRADES OF WOOL	MEAT QUALITY
Rambouillet	France	White face mainly. Brown or black spots may be present on face. Most rams have horns, ewes hornless. A ewe breed - good herding instincts.	125% - farm 95% - range	Largest fine wool breed	Fair meat carcass.
Dorset	England	White face - practically free of wool on face - horned and polled strains. Dual purpose breed for wool and carcass (ram and ewes). Not used on range, long breeding season, good milk producers.	150% - farm	Medium wool breed.	Good meat carcass.
Hampshire	England	Face is rich, deep brown, approaching black. Both sexes are hornless. A ram breed - breed matures easily.	135% - farm	Medium wool breed.	Very good carcass, carcass large.
Suffolk	England	Very black head, ears & legs. Both sexes polled, head entirely free of wool. A ram breed - unsurpassed for a grazer.	145% - farm 115% - range	Medium wool breed - black fiber makes bad wool.	Very good carcass, finishing weight for a large ram is 250-350 lbs.

BREED	PLACE OF ORIGIN	DISTINGUISHING CHARACTERISTICS	LAMB CROPS	GRADES OF WOOL	MEAT QUALITY
Leicester	England	White face, many have bluish tinge or black spots. Both sexes polled. A ewe breed. Not very prolific.	100% - farm	Long wool breed - wool relatively low in quality.	Fair meat carcass.
Lincoln	England	White face - both sexes polled. Largest of all1 sheet breeds. Fairly prolific.	125% - farm 100% - range	Long wool breed. Produced the heaviest fleece of all mutton breeds. Wool relatively low in quality.	Good meat carcass.
Columbia	United States, Wyoming - most common range breed.	White face - both sexes polled. Dual purpose breed for carcass and wool (ram and ewes).	140% - farms 125% - range	Medium wool breed.	Good meat carcass.
Corriedale (Lincoln & Leicester rams X Merino ewe)	New Zealand	White face, black sometimes present. Both sexes polled. Dual purpose breed for carcass and wool (ram and ewes). Very prolific.	160% - farm 125% - range	Medium wool breed.	Good meat carcass.
Targhee (Rambouillet rams X Lincoln-Corridale Rambouillet ewe)	United States; USDA at Dubois, Idaho	White face, both sexes polled. A ewe breed. Good range sheep.	135% - farm 95% - range	Medium wool breed.	Fair meat carcass.

BREED	PLACE OF ORIGIN	DISTINGUISHING CHARACTERISTICS	LAMB CROPS	GRADES OF WOOL	MEAT QUALITY
Finn Sheep	Finland	A ewe breed	Very prolofic; however not good mothers. 250-450% - farm lamb early	Coarse wool breed.	Good meat carcass.
Polypay	United States; by USDA at Dubois, Idaho	White face	Lamb early 225% - farm 150% - range Twice a year lambing.	Medium wool breed	Good meat carcass.

WOOL MARKETING

A. Method of Figuring Wool Values

To figure wool values, the following formulas can be used:

G = C x Y

G = grease price

C = clean price (Boston)

Y = yield

Y = 100% minus the percent shrinkage

Shrinkage: The grease fleece weight minus the clean fleece weight.

Shrinkage is, therefore, all the non-wool material in a fleece.

B. Clean Wool Values by Grade and Length

The value of clean wool is dependent on the grade and length. The following example illustrates the point.

Grade Length	Value
Fine, staple	1.75
Fine, french	1.65
Fine, clothing	1.50
1/2 Blood, staple	1.65
1/2 Blood, french	1.55
3/8 Blood, staple	1.55
3/8 Blood, clothing	1.40
1/4 Blood, staple	1.50
1/4 Blood, clothing	1.35
Low, 1/4 Blood, staple	1.30
Common and Braid	

C. Determine Grease Price

The shrinkage usually decreases as the wool becomes coarser. The following example will illustrate the point; however, it should be clearly remembered that this is only an illustration.

Grade	Length	% Shrinkage	Yield	Clean Price	Boston Grease Price
Fine	Staple	56	44	$1.75	$0.770
Fine	French	58	42	1.65	0.693
Fine	Clothing	60	40	1.50	0.600
1/2 Blood	Staple	53	47	1.65	0.776
1/2 Blood	French	55	45	1.55	0.698
3/8 Blood	Staple	51	49	1.55	0.760
3/8 Blood	Clothing	53	47	1.40	0.658
1/4 Blood	Staple	48	52	1.50	0.78
1/4 Blood	Clothing	50	50	1.35	0.675
Low 1/4 Blood	Staple	45	55	1.30	0.715
Common & Braid		42	68	0.70	0.476

D. Deductions to Determine Idaho Grease Prices

The above grease prices are the values in Boston.

To figure comparable Idaho prices, an adjustment of approximately 7¢ should be made. This 7¢ is the amount estimated to cover the costs of shipping the wool and also for grading and handling charges.

E. Core Testing for Shrinkage (or Yield)

The Wool Laboratory can take a core sample from a volume of sacked wool and determine the shrinkage. The core testing machine is an electric drill with a hollow tube on the end.

This tube has a sharp cutting knife on the end and this is inserted into the bad and a core of wool is removed. This device, which was developed by research, has enabled wool buyers to determine the value of this wool more accurately.

F. Examples

1. Jones has fine staple wool that is worth $1.50 in Boston. The Wool Lab determined that his shrinkage was 54%. Find the grease price, Boise, Idaho.

$$G = C \times Y$$
$$G = \$1.50 \times (100\% - 54\%)$$
$$G = \$1.50 \times 46\%$$
$$G = \$0.69 \text{ (Boston)}$$
$$G = \$0.69 - .07 = \$0.62 \text{ (Boise)}$$

2. In the same area Smith received $0.67 for his wool and the clean value was the same. What was Smith's shrinkage?

$$G = C \times Y$$
$$G = \$0.67 + .07 = \$0.74 \text{ (Boston)}$$
$$\$0.74 = \$1.50 \times Y$$
$$\$1.50\ Y = \$0.75$$
$$Y = 49\%$$
$$\text{Shrinkage} = 100 - 49\% = 51\%$$

3. Jones was angry at the wool buyer because he gave Smith $0.67 after he had bought Jones wool for $0.625. Smith was quite smug until the banker counted the money and found the following:

Jones:	Fleece weights	10 pounds
	Price per lb.	$0.62
	Return per fleece	$6.20 or $6200 per 1000 ewes
Smith:	Fleece weights	9.1 pounds
	Price per lb.	$0.67
	Return per fleece	$6.10 or $6100 per 1000 ewes
Difference:		$100

G. <u>Factors to Consider</u>

1. Grease price per pound may be very misleading if it is the only factor considered.

2. Return per fleece is a much more useful figure.

3. Grease fleece weight tends to go up as the grade of wool becomes coarser.

Calculating wool prices for graded territory wool

Example

USDA Market News quotes graded 1/2 blood wool at $1.75 per clean lb.

The core test shows a shrinkage of 54%.

Market costs vary but assume $0.07 per grease lb. (approx.)

Average fleece weight of this clip is 10.0#.

Use the following steps:

100% - shrinkage = % yield

% clean yield x clean price = grease price

grease price - market costs = ranch price

ranch price x fleece wt. = fleece value

Therefore:

100% - 54% = 46%

.46 x $1.75 = 80.5¢

80.5¢ - 7.0¢ = 74.5¢

74.5¢ x 10.0 fleece wt = $7.45/head wool return

The National Wool Act has a national average of $1.08 set for 1978. The actual grower sales should average about $0.77 (estimate). To bring the grower income up to $1.08, each grower filing with his local ASCS office will receive an additional 40.3% of his sale income minus market costs.

$7.45 x 40.3% = 3.00 per head payment.

$1.08 - $0.77 = $0.31

$\frac{31}{77}$ = 40.3%

Example of computing value of a mixed clip.

Grading fleeces from a portion of the clip coming across the shearing floor indicated:

Distribution	Value Clean
5% Fine Staple	1.85
5% Fine French	1.70
70% 1/2 Staple	1.75
5% 1/2 French	1.60
10% 3/8 Staple	1.60
5% 3/8 Clothing	1.40

Therefore:

	Weighted Grade Value
.05 x $1.85 =	.0925
.05 x 1.70 =	.0850
.70 x 1.75 =	1.225
.05 x 1.60 =	.0800
.10 x 1.60 =	.1600
.05 x 1.40 =	.0700
	$1.7125 Average Clean Value

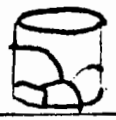
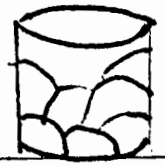
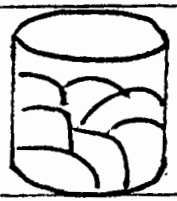
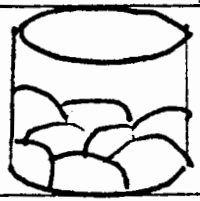
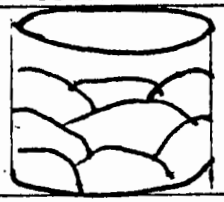
Shrinkage: 54% - Marcket Costs 7¢

100 - 54 = 46%

46 x 1.7125 = 78.76¢

78.76¢ - 7¢ = 71.76¢ Ranch Value

IDAHO COMMERC'' ''OL GUIDE

American Grade English Count	Fine 80s - 70s -64s			1/2 Blood 62s - 60s		3/8 Blood 58s - 56s	1/4 Blood 54s - 50s		Low 1/4 Blood 48s - 46s		Common and Braid 44 - 40 - 36s	
Breeds	Rambouillet Merino			Targhee		Corriedale Columbia Panama Hampshire Suffolk	Hampshire Suffolk Dorset Chevoit		Romney Marsh Border Leicester Lincoln Cotswold Eng. Leicester			
Diameter												
Length	Staple 2 3/4" and over	French Combing 1 1/4" to 2 3/4"	Clothing 1 1/4" and under	Staple 3" and over	French Combing 1 1/2" to 3"	Clothing 1 1/2" and under	Staple 3 1/4" and over	Clothing 3 1/4" and under	Staple 3 1/2" and over	Clothing 3 1/2" and under	Staple 4" and over	Staple 5" and over
Bos Cln Price	1.75	1.65	1.50	1.65	1.55	1.30	1.55	1.40	1.50	1.35	1.30	
x Cln Yield %	44	42	40	47	45	43	49		52		55	
Bos Grs Price ¢	77.0	69.3	60.0	77.5	69.8	55.9	76.0		78.0		71.5	
Less Mkt Cost ¢	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	
Idaho Ran. Pr. ¢	70.0	62.3	53.0	70.5	62.8	48.9	69.0		71.0		64.5	
Fleece wt-lb	9.5	8.5		10.5	9.5		11.5		12.5		13.5	
Fleece value $	6.75	5.38		7.51	6.06		8.74		9.00		8.84	

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6. The Simmental Story, by the American Simmental Association, 1975.
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5. Idaho Wool Growers Association, Boise, Idaho.
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