2006 POWER POINT PRESENTATION GIVEN AT PENNSYLVANIA RAM TEST SALE and CONFERENCE

NE SARE

Farmer Grower grant

Using Ultra Sound Scanning and Performance Testing Technology to Increase Loin-Eye Area in Lamb

August 5,2006

John Hall

Maryland Cooperative Extension,

sheep breeder

Types of Sheep

- Wool
- Meat
- Wether
- Performance
- Frame
- Show

Traits

1. Head
2. Fleece color
3. Rump structure
4. Length of hind saddle
5. Bone
6. Milking ability
7. Twining
8. DNa – RR gene

As a breeder

- You must select which combination of traits is most important
- There is no perfect sire
- The more traits you select for, the less progress you will make on any one trait

Some refer to this as

Buying pieces

What should we all have in common?

Carcass traits

Utah State University Extension

Market Lamb Evaluation Class I

Utah State University Extension
W. Craig Burrell and
Jim Jensen

Class I Side View

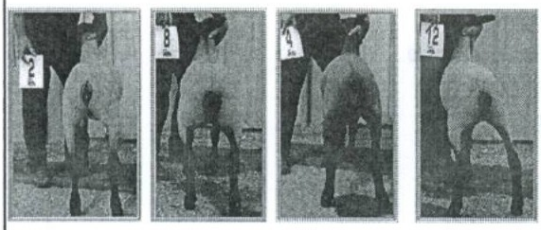
126 lbs

127 lbs

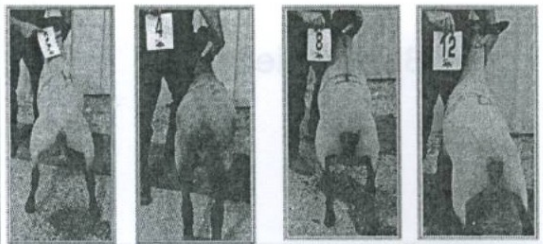
144 lbs

137 lbs

Class I Rear View



Class I Back View

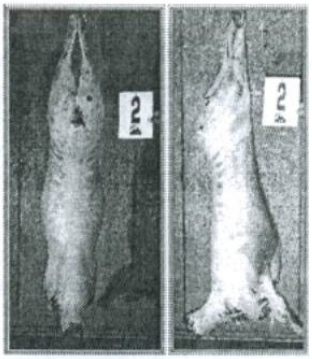


Judging Worksheet

Estimate the Values

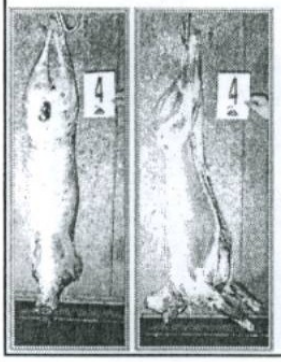
Lamb	2	4	8	12
Live Wt.	126	132	144	137
Live Value				
Backfat				
Ribeye				
Dressing %				
Placings				

Lamb # 2



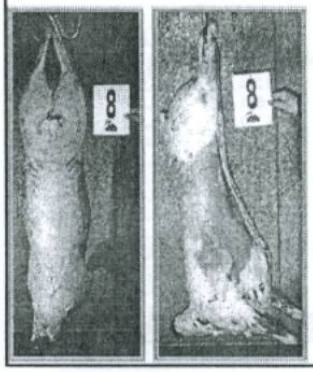
Carcass wt. 68 lbs
Dressing % 54
Backfat .25 inches
Ribeye 2.10 sq. in.

Lamb #4



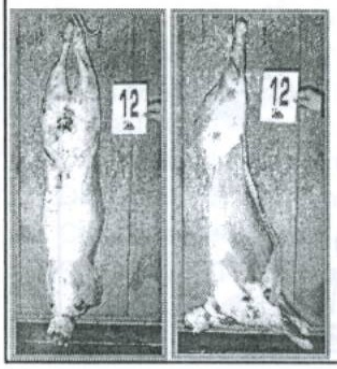
Carcass wt. 71 lbs
Dressing % 54
Backfat .10 inches
Ribeye 2.65 sq. in

Lamb # 8



Carcass wt. 89 lbs
Dressing % 62
Backfat .44 inches
Ribeye 3.20 sq. in

Lamb # 12



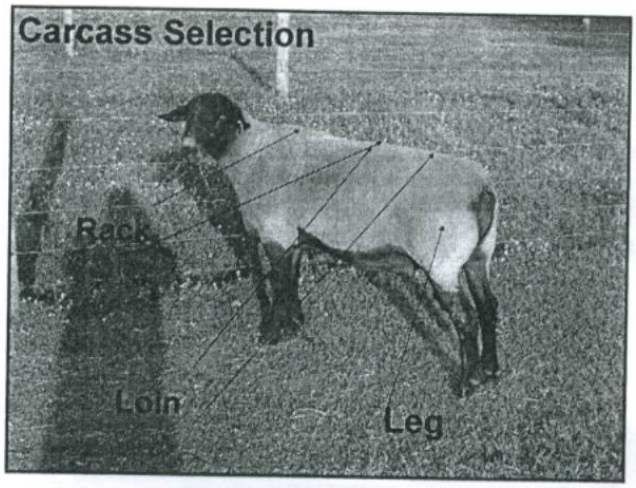
Carcass wt. 70 lbs
Dressing % 51
Backfat .19 inches
Ribeye 2.55 sq. in

Profit to the Packer

# 2	# 4	# 8	# 12
			
$12.71	$20.78	$24.66	$13.44

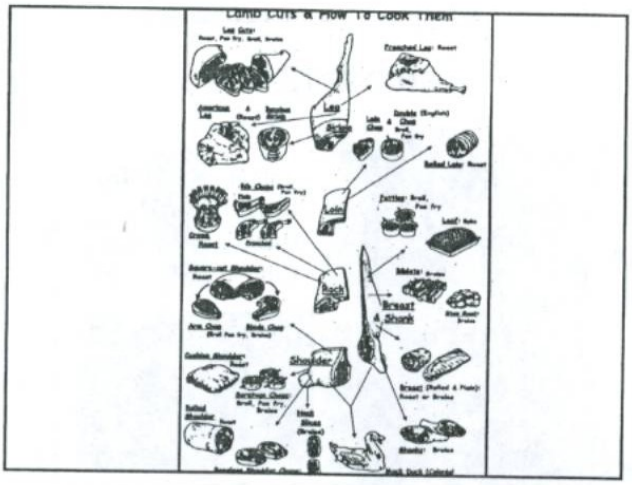
Why did I show this

- Too much emphasis in flash
- To much emphasis on leanness
- Not enough emphasis on true muscling
- Not enough emphasis on what the packer is looking for



What are the highest valued carcass traits?

- Leg?
- Loin?
- Rack?



Lamb Carcass Yields

(Estimate Value When Splitting Lambs Between 2 or More Buyers—Retail Prices Average 2 to 3 Times These Prices)

CUTS	% of Carcass	(¢ Per Lb.) Lo	Hi
1) Rack, 8-rib med.	10.61	624.55	645.73
2) Breast, frsh+frzn	9.06	60.05	68.46
3) Shoulder, sq-cut	23.66	170.27	182.32
4) Foreshank	3.86	268.81	273.74
5) Neck, frsh+frzn	2.06	53.27	64.90
6) Loins, trim/4x4	10.65	367.77	383.32
7) Flank, frsh+frzn	3.51	51.68	63.36
8) Leg, trotter off	31.42	263.49	329.61
Foresaddle (1-5)	49.14	251.08	258.34
Hindsaddle (6-8)	46.58	275.67	318.20
Net Carcass Value	94.72	220.47	239.06
Shrink/Trim Loss	5.28		
Total Carcass Value (+$30 Process Fee):		Low 250.47	High 269.06

Table 1 Heritability of Carcass Traits

• Carcass Weight	35%
• Trimmed Retail Cuts	45%
• Percent Trimmed Retail Cuts	40%
• **Loin-eye Area**	**50%**
• 12th Rib Fat Thickness	30%
• Dressing Percentage	10%

Table 2: Suffolk Junior Rams from 2004 Penn State Ram Test

No.	Wt	Act LEA Sq. In.	125 Adj. LEA	BF	Type
1		2.29	1.93	.15	Frame
2	183	3.27	2.65	.13	Wether
3	176	4.5	3.97	.17	Wether
4	186	2.52	1.86	.14	Frame
5	161	2.8	2.46	.2	English
6	160	3.25	2.9	.13	Wether
7	176	3.18	2.65	.16	Frame/wether
8	148	2.32	2.15	.16	Frame
9	156	2.55	2.28	.12	Frame
10	143	1.77	1.67	.17	Frame
11	146	2.76	2.6	.18	Wether
12	156	3.05	2.78	.15	Wether

2.49 Sq. In. average

1.94 Sq. In. without number 30

Suffolk Junior Rams from 2001 Penn State Ram Test

No.	Wt	Adj LEA Sq. In.	BF
1.	161	3.06	.12
1	161	3.09	.17
2	173	4.45	.14
3	150	3.44	.11
4	145	2.72	.12
5	165	3.65	.17
6	161	3.35	.15
7	152	3.14	.16
8	189	3.77	.18
9	158	3.56	.26

Table 3: Frozen New Zealand lamb chops purchased from Sisco

Sample	Loin-eye Area
1	2.97
2	3.35
3	3.025
4	3.6
5	2.6

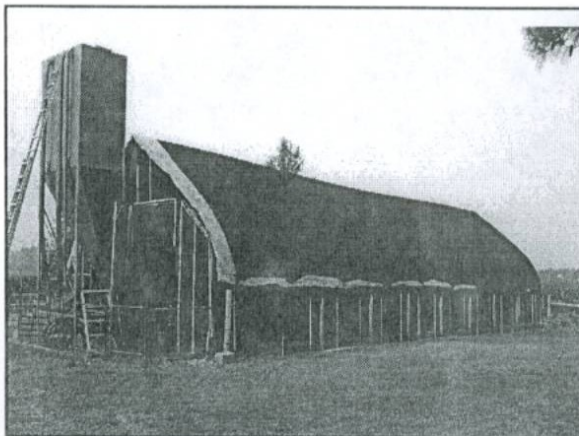
» 3.1 Sq. In Average

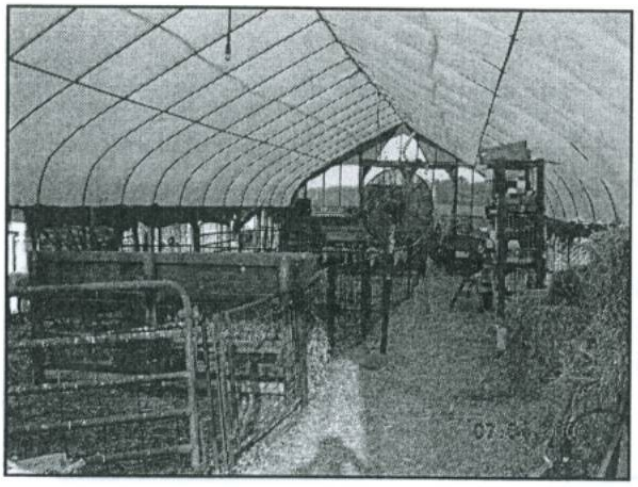
Research Project

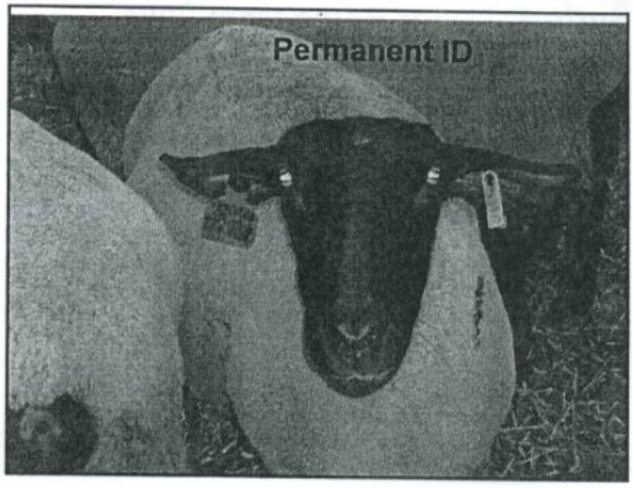
- A. Research sire / breeding options based on loin-eye data adjusted to market weight
- Select 2 -3 rams with know performance and loin eye data
- Breed these males to females with known loin-eye data

Research - continued

- Record all data
- Include NSIP data
- Ultra sound off spring for Loin-eye data and adjust to market weight
- Do statistical analysis on data
- Develop Educational materials
- Complete web site
- Report to you next year



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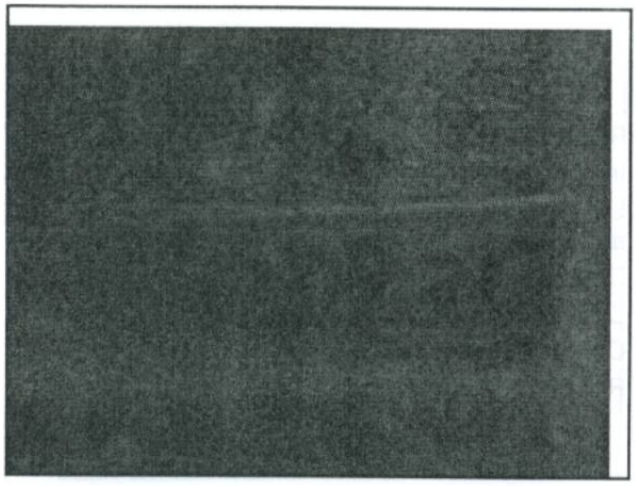
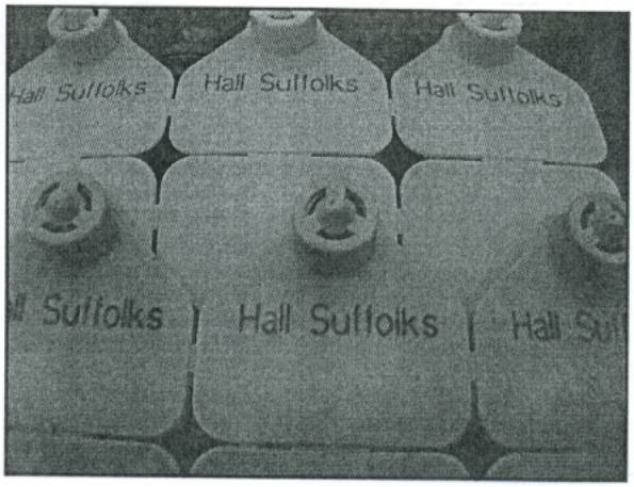
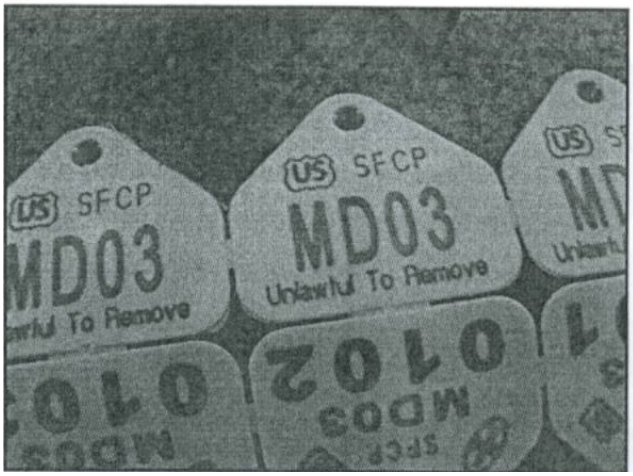



Hall Suffolks
Hall Suffolks
Hall Suffolks
Suffolks
Hall Suffolks


US SFCP
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Unlawful To Remove
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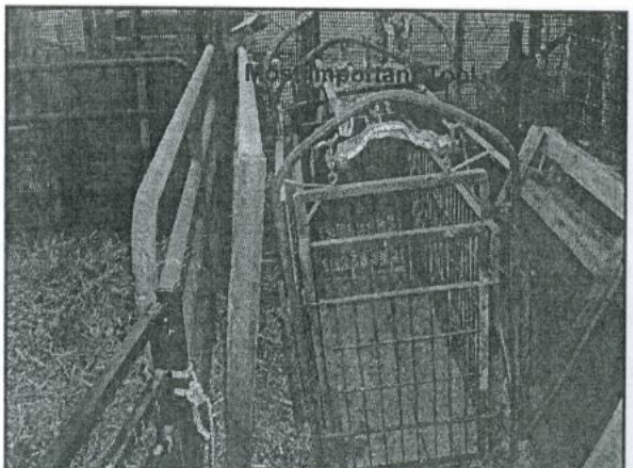
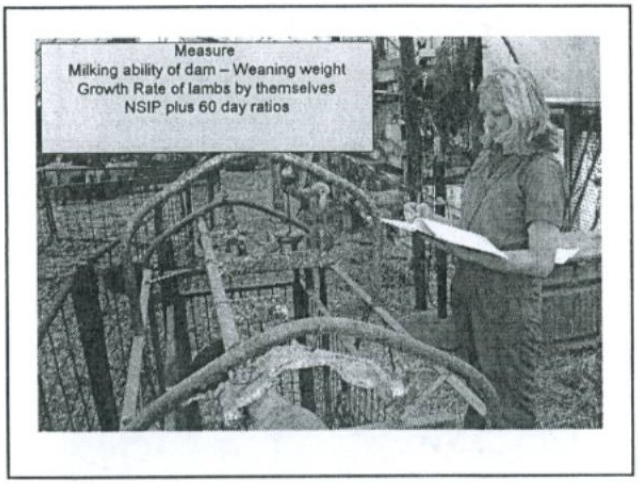
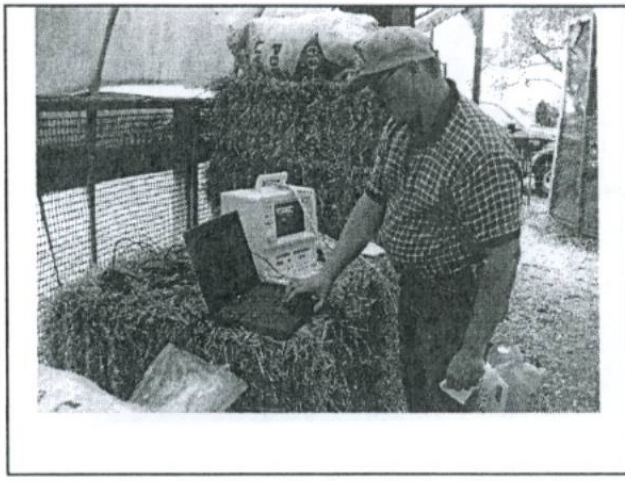
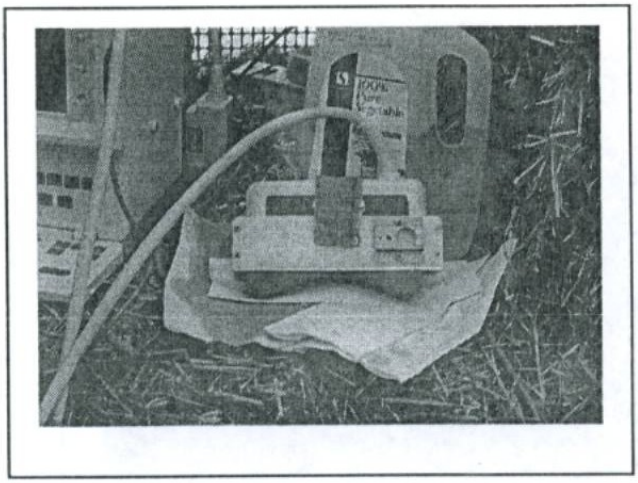
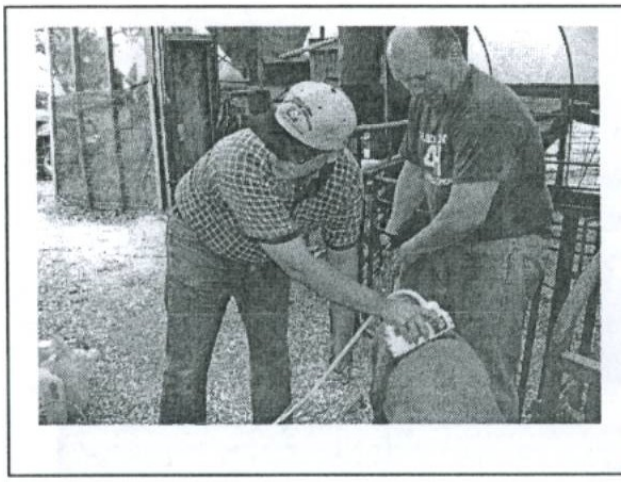


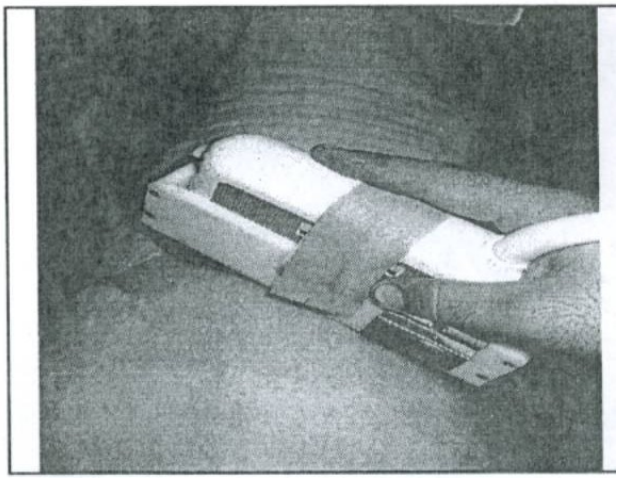

Measure
Milking ability of dam – Weaning weight
Growth Rate of lambs by themselves
NSIP plus 60 day ratios

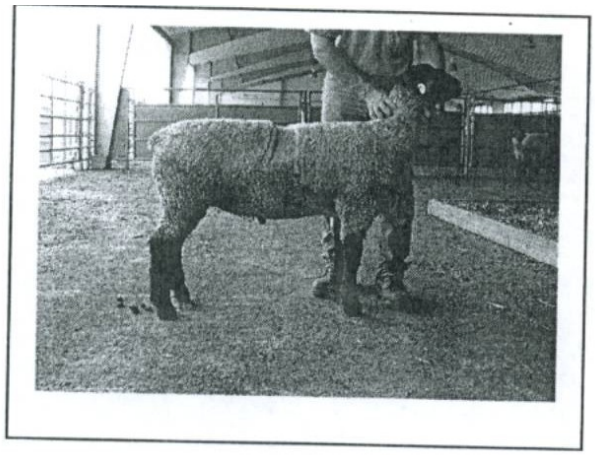


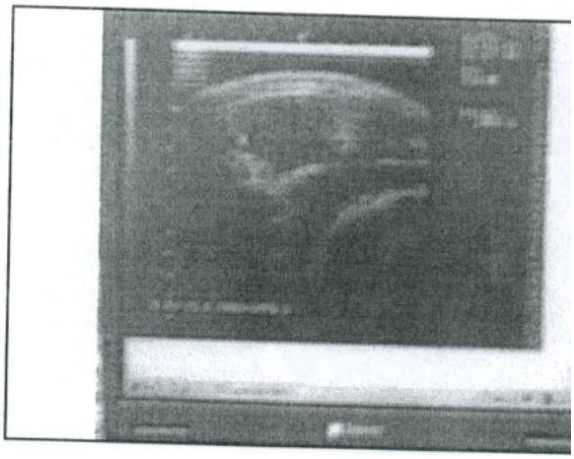


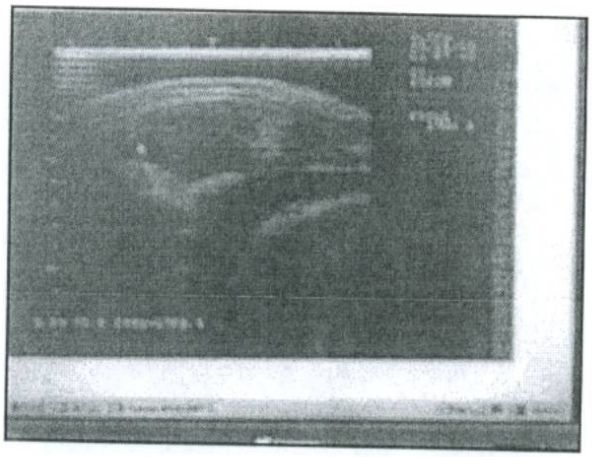


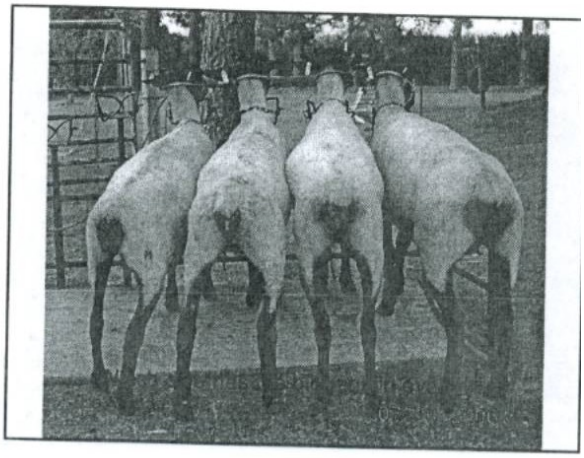

4H

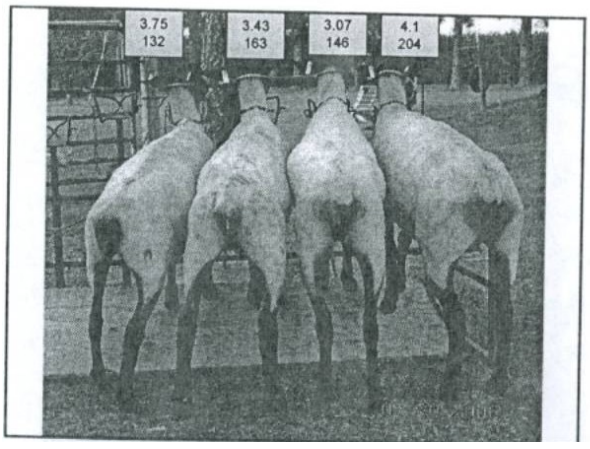


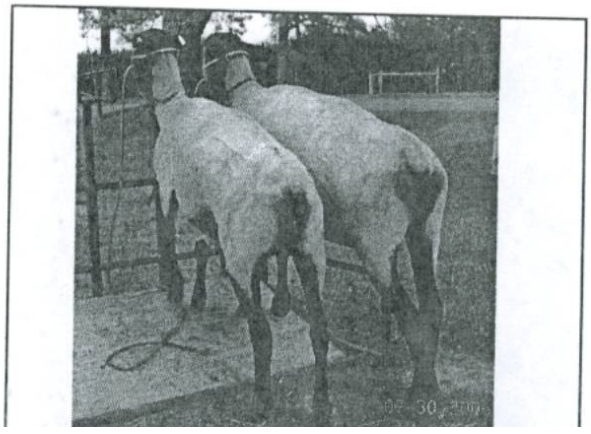


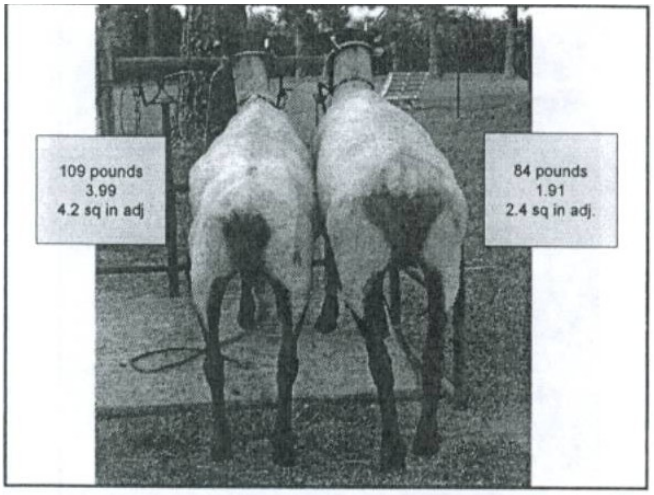







3.75
132
3.43
163
3.07
146
4.1
204





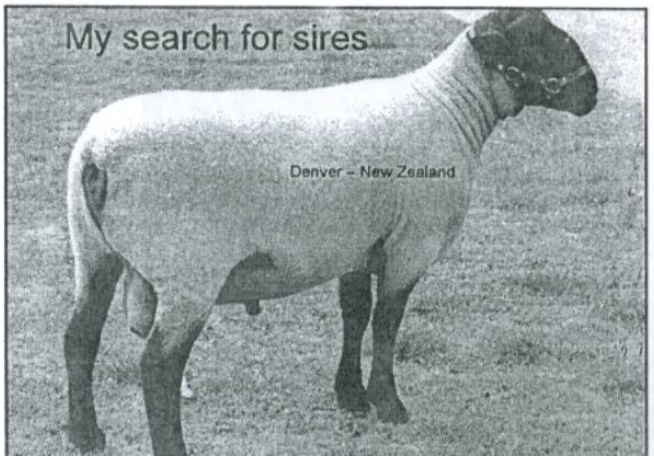
What I wanted

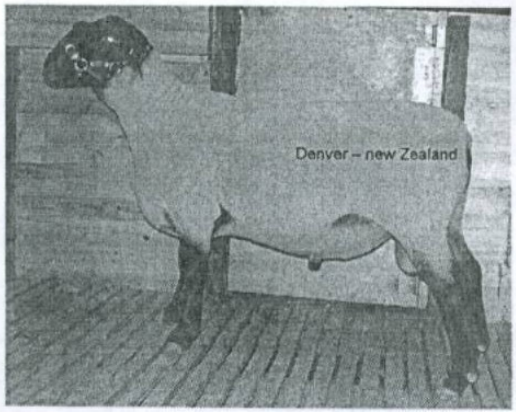
- Ultra sound lambs to select breeding stock
- Wanted to select at early age / light weight
- Wanted to adjust to a given weight to compare apples and apples
- I was using a regression equation from Iowa that adjusted to 125 to 135 pounds

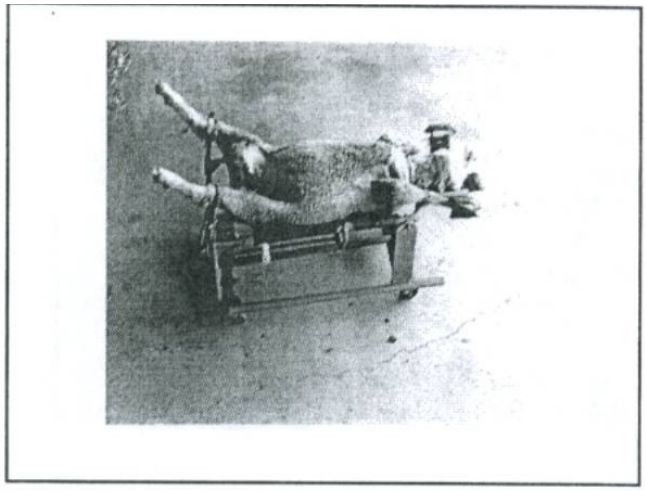
Summary

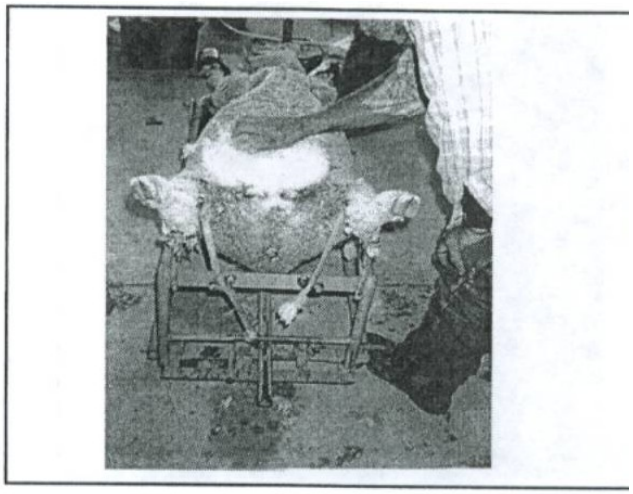
Yr.	No	Wt.	Rea	bf	adj Rea	adj bf
1997	10	133	3.67	0.29	3.6	.29
1998	11	127	3.08	0.31	3.1	.31
1999	17	111	2.52	0.23	2.7	.25
2000	18	109	2.4	0.24	2.6	.27
2001	14	121	2.68	0.22	2.7	.23
2002	20	108	3.1	0.17	3.3	.21
2003	20	76	2.3	0.12	3.0	.21
2004	19	93	1.85	0.10	2.7	.16
2005	24	68	1.88	0.1	2.6	.21

Yr.	adj Rea	adj bf	Sires used	Wt	REA	BF
1997	3.6	.29	SL 3187(7) SL5295(3)			
1998	3.1	.31	97709 (5) Fitch 506 (5)			
1999	2.7	.25	SL 5259(12) CS P-80 (3)			
2000	2.6	.27	LR 98-1(6)	280	3.8 sq in	0.32
2001	2.7	.23	00R05(6) CS Outlier(4)	134	2.5 sq in	.28 in
2002	3.3	.21	01K14(11)	163	3.73 sq in	0.25 in
2003	3.0	.21	01K14 9(10), SL 0337(10)	310	6.25 sq in,	.23 in
2004	2.7	.16	01K14(3), SL0337(8), CS235(8)	275	4.92 sq in,	.2 in
2005	2.6	.21	SL0337 (4), CS 235 (2), Kimm 4015(11)	122	3.35 sq in	.29 in
			Kimm 4061 (7)	138	2.9 sq in	.25 in



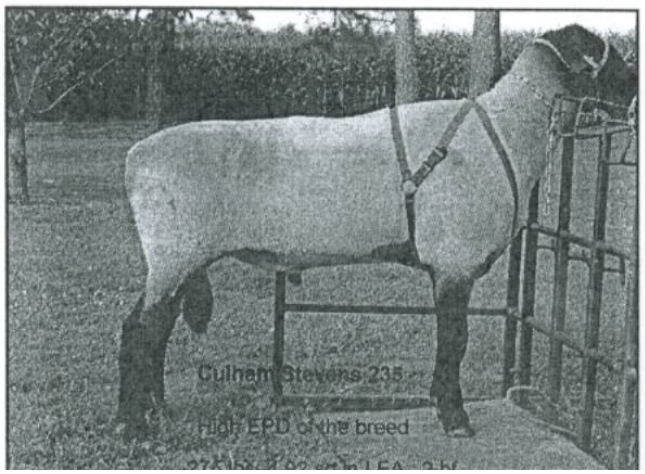


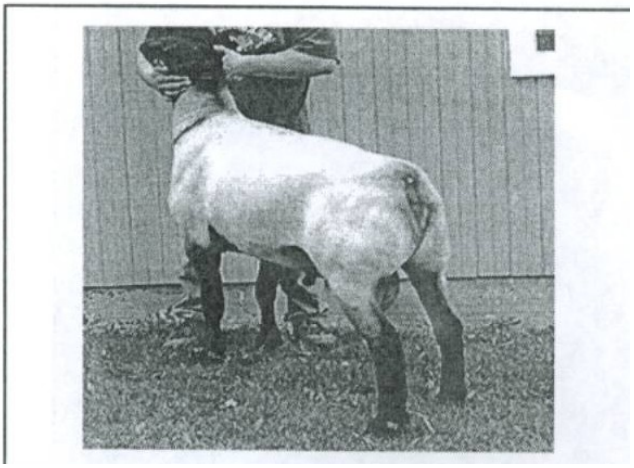


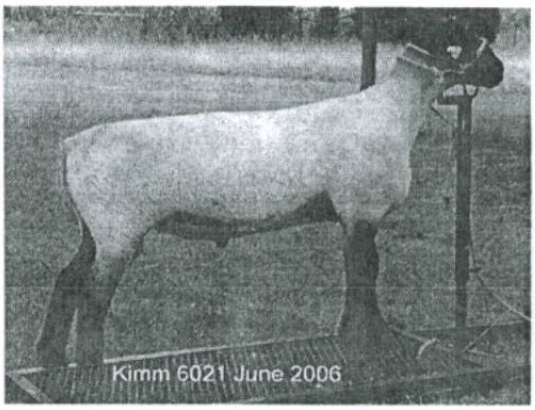



Hall 01K14
163 3.73 sq in LEA, .25 bf 3.24 adj 17


Slack 237


Culham Stevens 235
High EPD of the breed





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2005	24	68	1.88	0.1	2.6	.21
2006	16	95	2.54	0.11	2.9	.18

Summary

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2001	2.68	0.22	2.7	.23	00R05(6), CS Outlier(4)
2002	3.1	0.17	3.3	.21	01K14(11)
2003	2.3	0.12	3.0	.21	01K14 9(10), SL 0337(10)
2004	1.85	0.10	2.7	.16	01K14(3), SL0337(8), CS235(8)
2005	1.88	0.1	2.6	.21	SL0337 (4), CS 235 (2), Kimm 4015(11) Kimm 4061 (7)
2006	2.54	0.11	2.9	.18	Kimm 4015(2), Kimm 5006 (9), Kimm 5075 (8)

Summary continued

		Wt	REA	BF
2006	Kimm 4015			
	Kimm 5006 (9),	151	3.58	.22
	Kimm 5075 (8),	142	3.61	.29

Weight of scanning

Lamb	scan1			scan 2		
	Wt	LEA	adj LEA	wt	LEA	adj LEA
19	66	1.97	2.7	90.5	2.3	2.7
23	69	1.67	2.4	100	3.4	3.7
26	50	1.52	2.5	79	1.9	2.5
15	61	1.7	2.5	75	2.5	3.1
18	92	2.3	2.7	113	2.9	3.1
24	40	1.2	2.3	81	2.4	3.0
28	37	1.1	2.3	70	2.4	3.2

Parent ratios

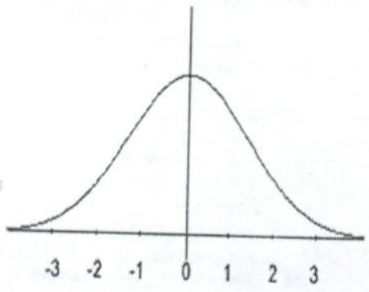
	Lamb		Dam		
No.	LEA	Ratio	LEA	Ratio	Sire
19	2.7	94%	2.9	91%	5006
23	3.7	127%	3.6	115%	5075
26	2.5	85%	3.6	113%	5075
15	3.1	106%	3.5	112%	4015
18	3.1	104%	2.8	88%	5075
24	3.0	101%	2.4	77%	5006
28	3.2	107%	4.2	135%	5006

Different scanners

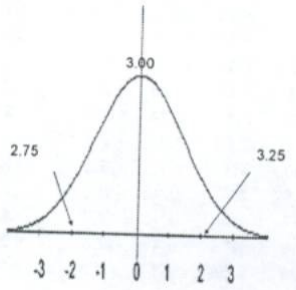
Cannot look at an individual

Must look at a population

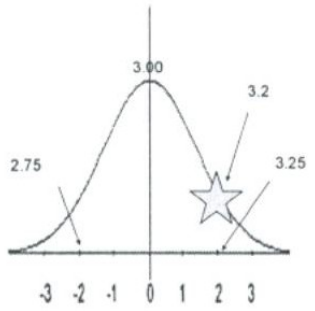
Standard Population



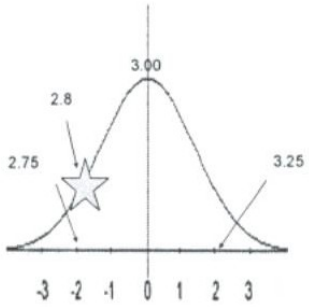
Variance +/- .25 is acceptable



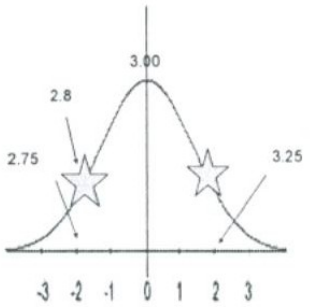
Would you buy a lamb with a 3.2 LEA?



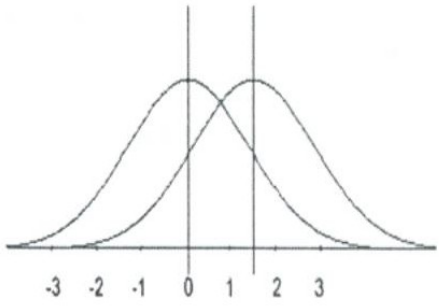
Would you buy a lamb with 2.8 LEA?



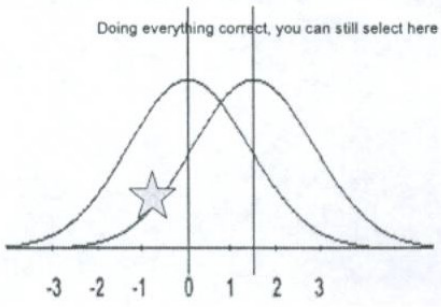
This could be the same lamb?



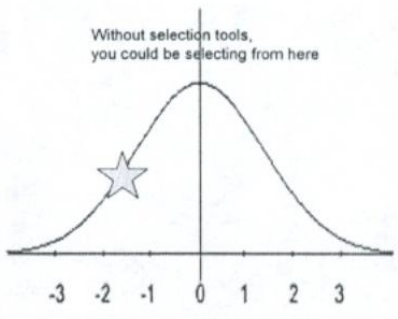
Selected Population



Selected Population



Standard Population



West Virginia Ram test

Ram	Weight	Adj LEA	Adj fat	Group
1	130	2.6	.07	B
3	158	3.0	.12	A/B
5	162	2.1	.10	C
8	157	2.4	.15	C
11	132	3.4	.14	A
14	118	2.3	.14	C
15	169	3.7	.19	A
16	167	3.4	.13	A
18	140	3.0	.23	A/B

Summary

1. Must understand genetic variance
   +/- .25
2. Scanning weight is critical
   Close to physical maturity / market weight
   Suffolks – 110 pounds
   Not early selection tool
3. Different breeds and different types will have different adjustment ratios
4. Should look at population and not individual
5. Must understand the need for sampling
6. Buy tested rams – maximize opportunities

Suggestions

- When LEA's are given, ask for actual and weight take
- Ask how adjustments are calculated

Future

- Study the regression equation
- NSIP is going to start to include
  Varies with types of sheep in program
- Will take a large base to develop accuracy

Questions

www.Hallsuffolks.com