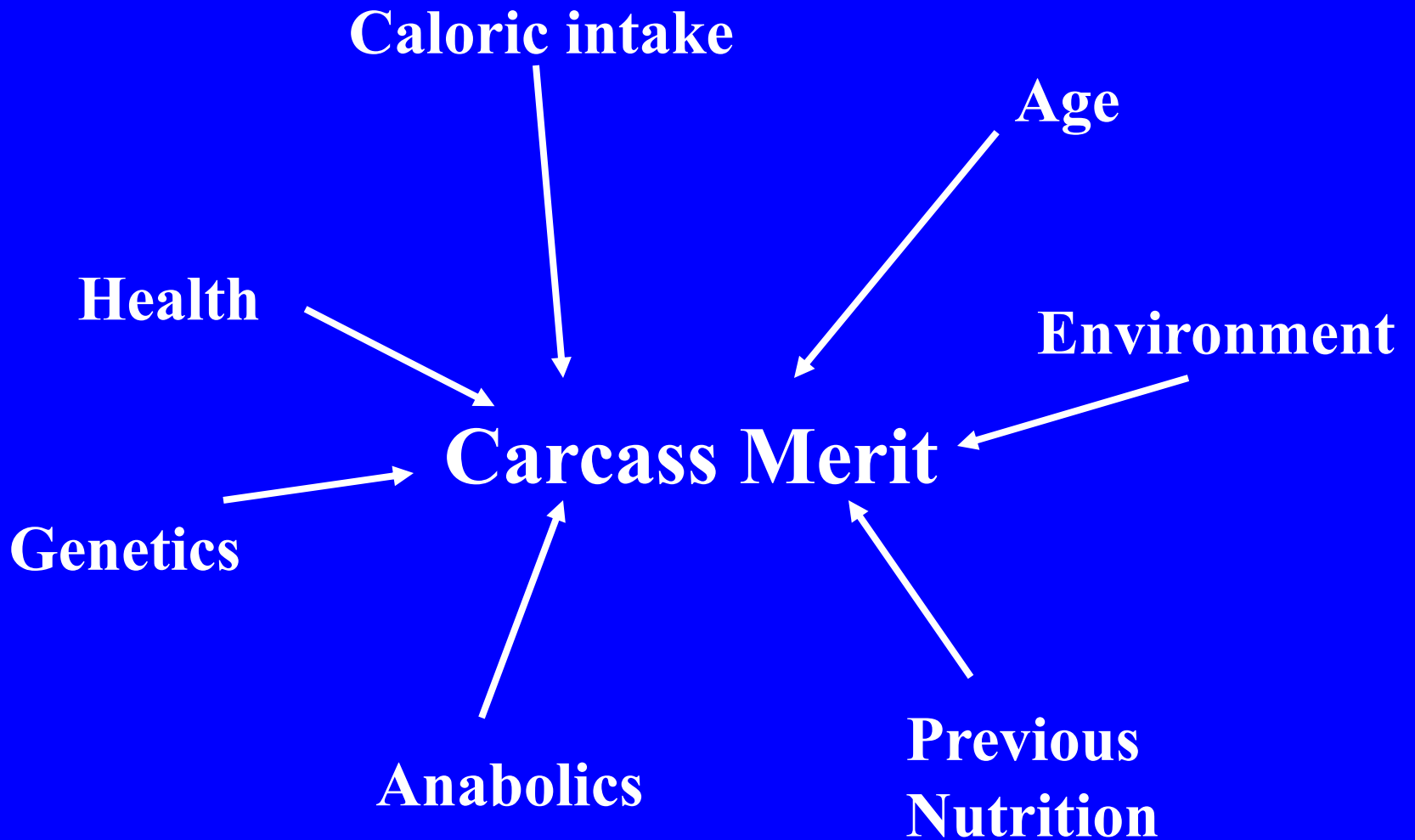
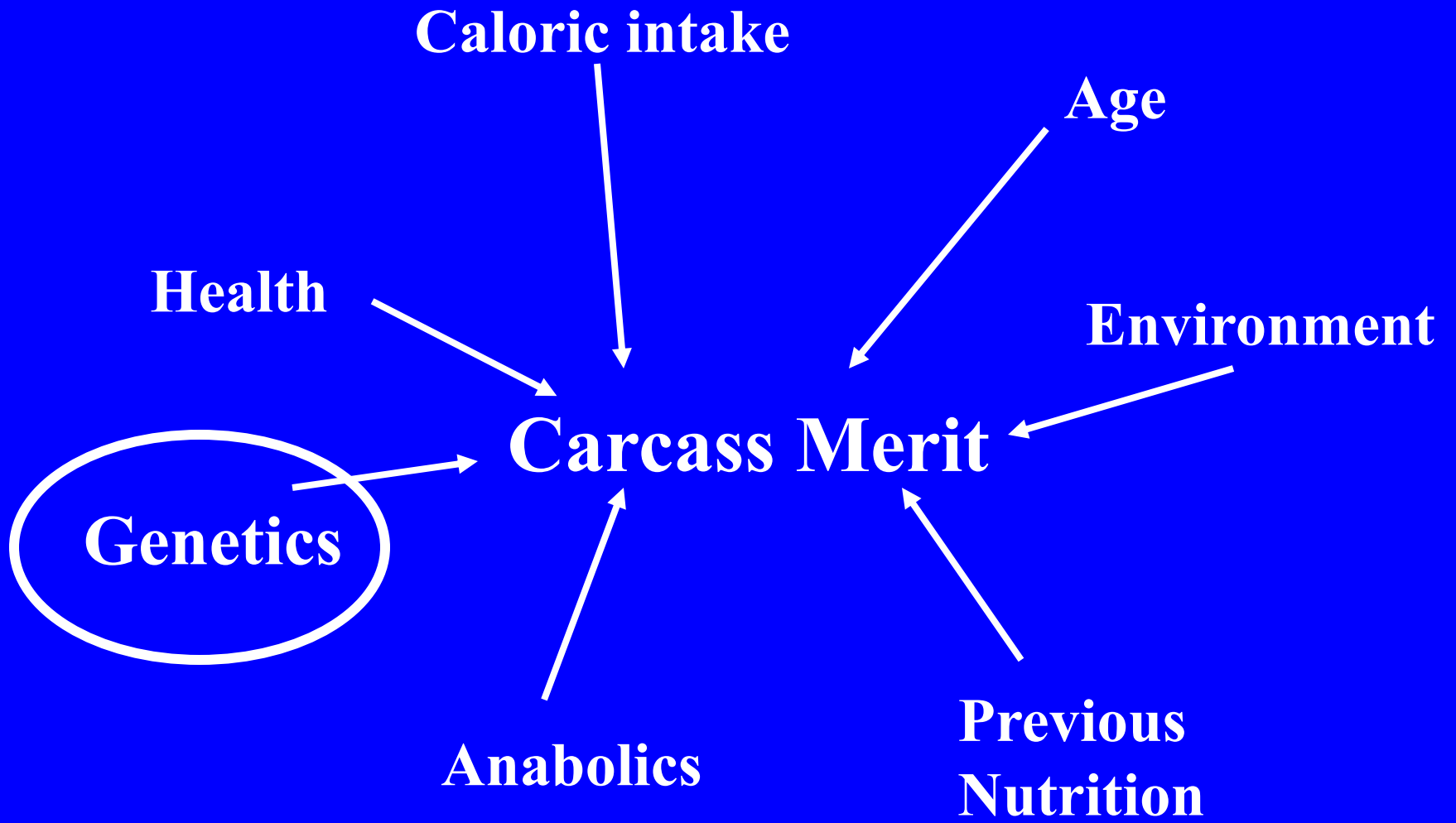


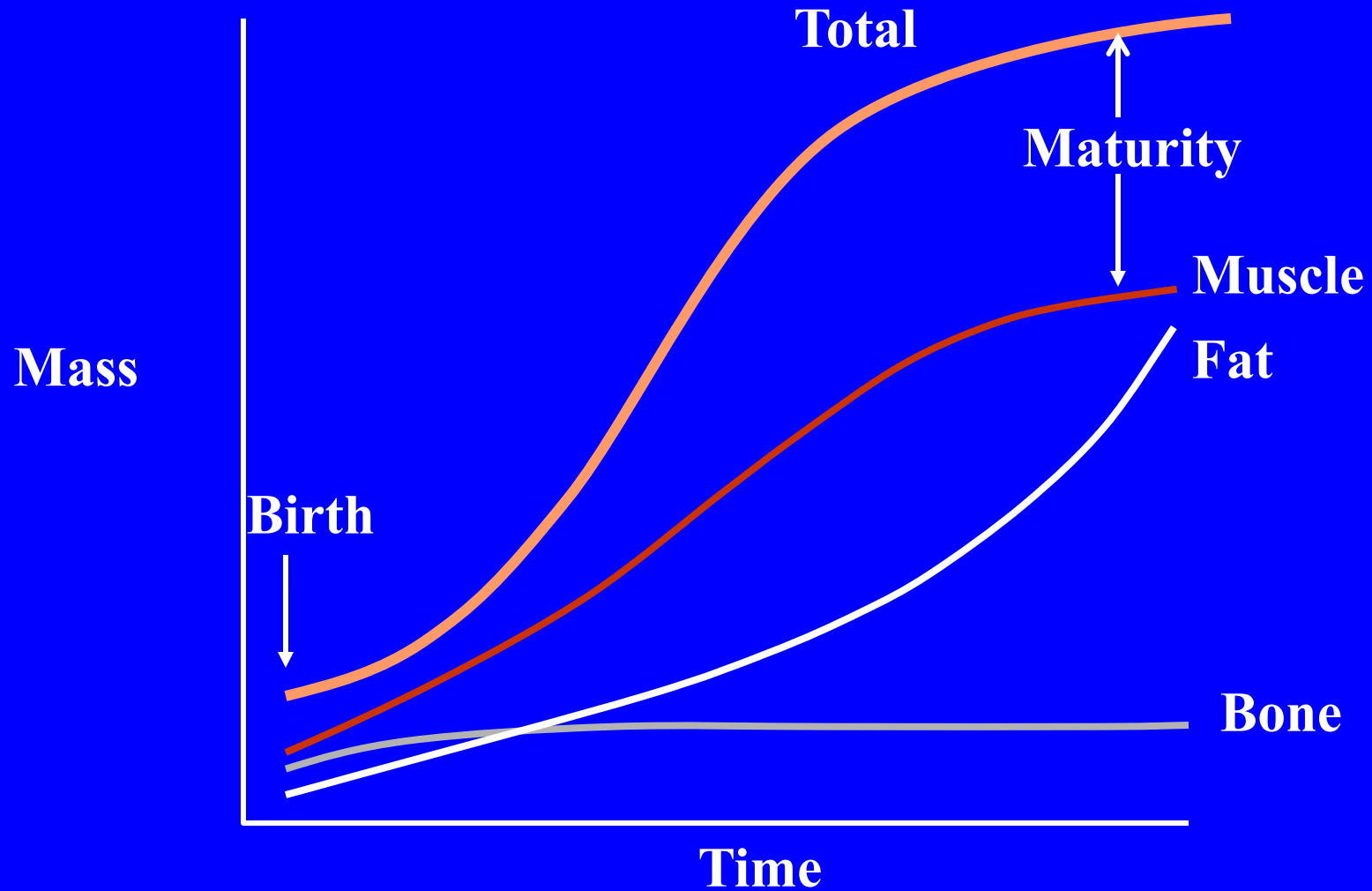
Nutrition: What you feed really does matter

**2005 Beef Cattle Short Course
Gainesville, FL**





Normal postnatal growth curves of bone, muscle, and fat.

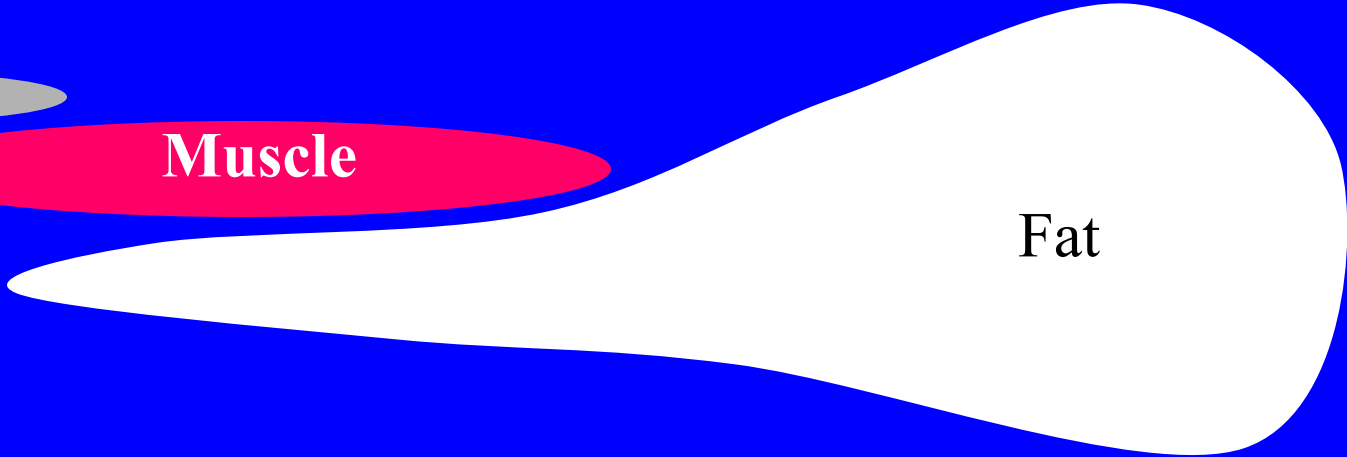


Intrinsic Growth Curve

- **Priority and Progression of Tissue Development**
 - **CNS, Skeletal system**
 - **Viscera**
 - **Skeletal muscle**
 - **Adipose**

Bone

Muscle

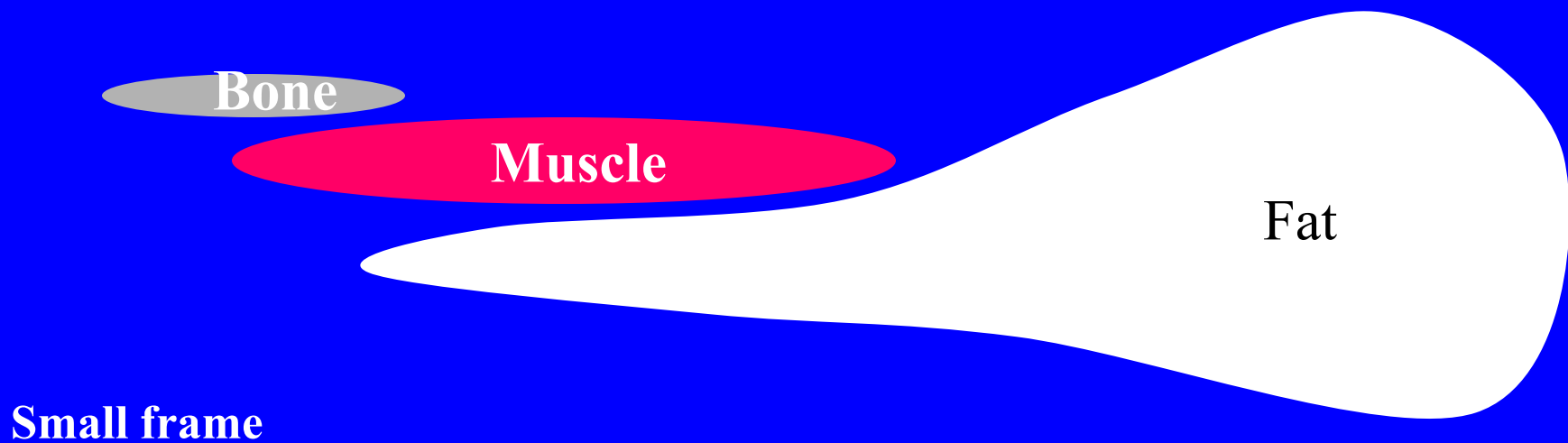


Fat

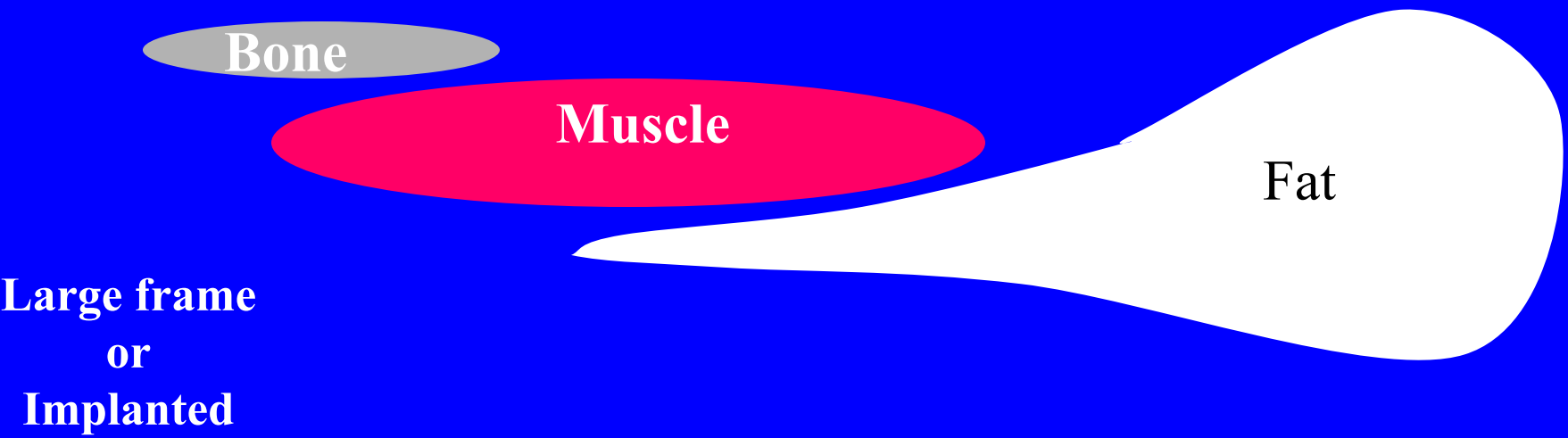
Small framed

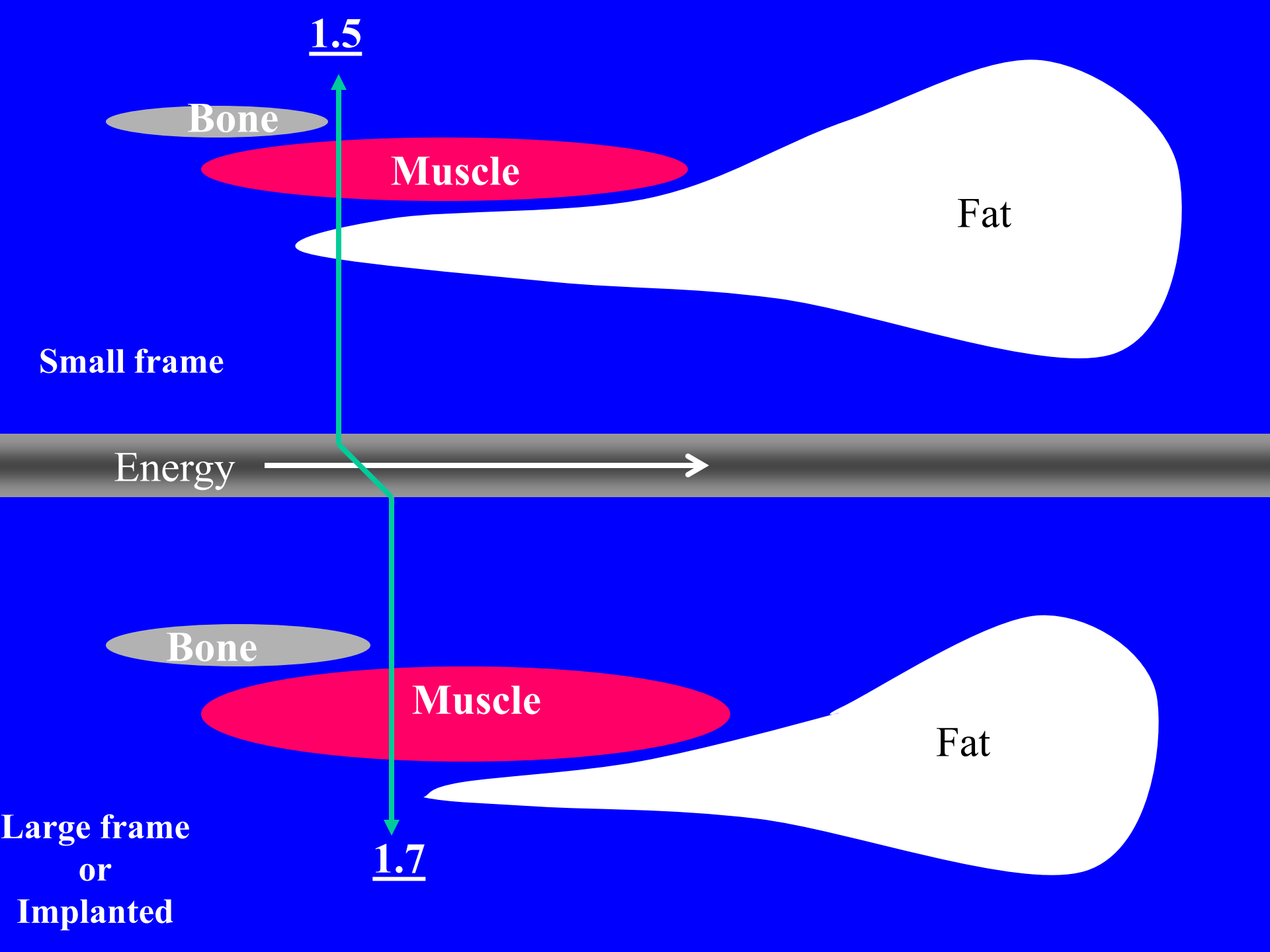
Energy

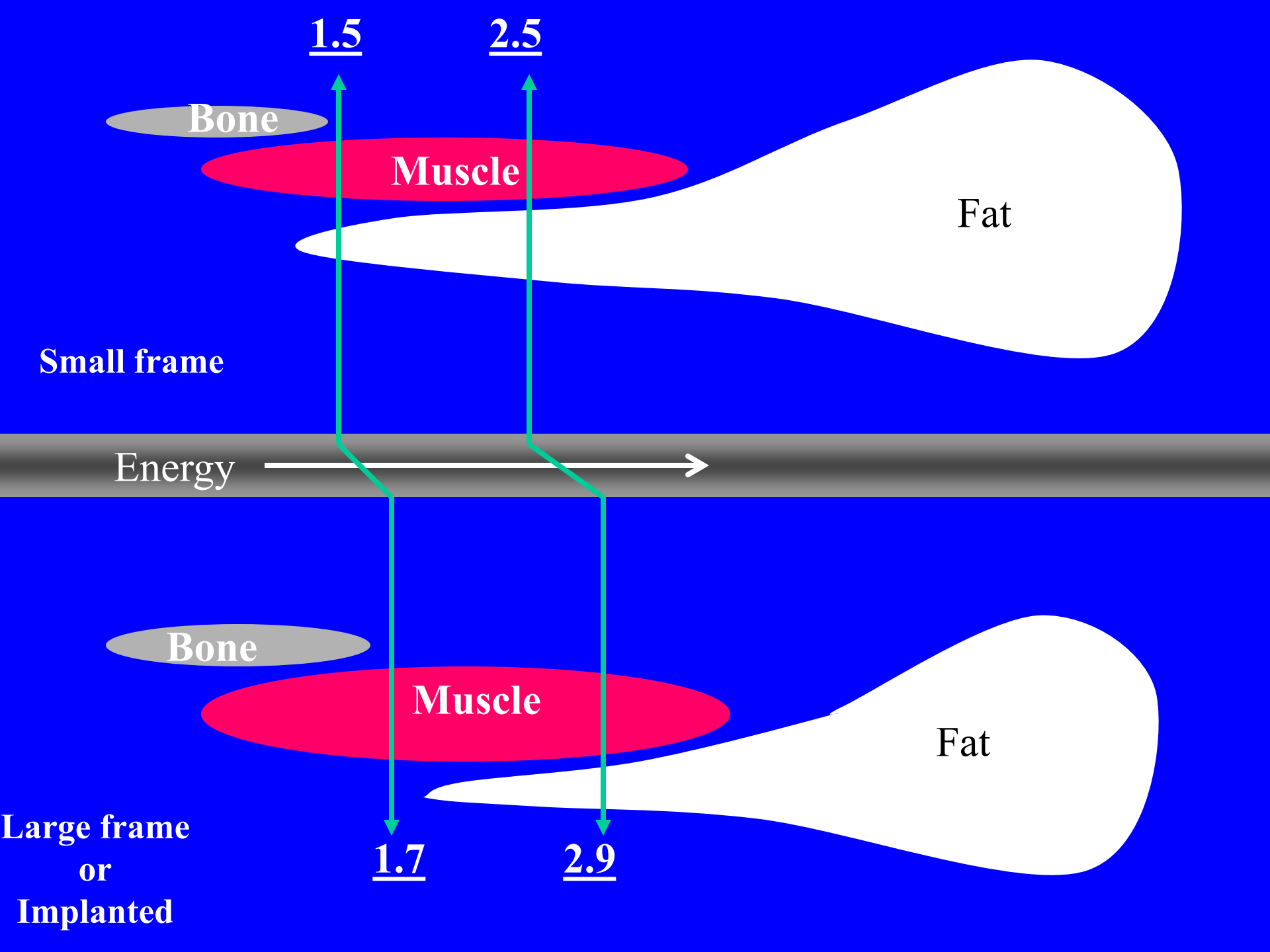




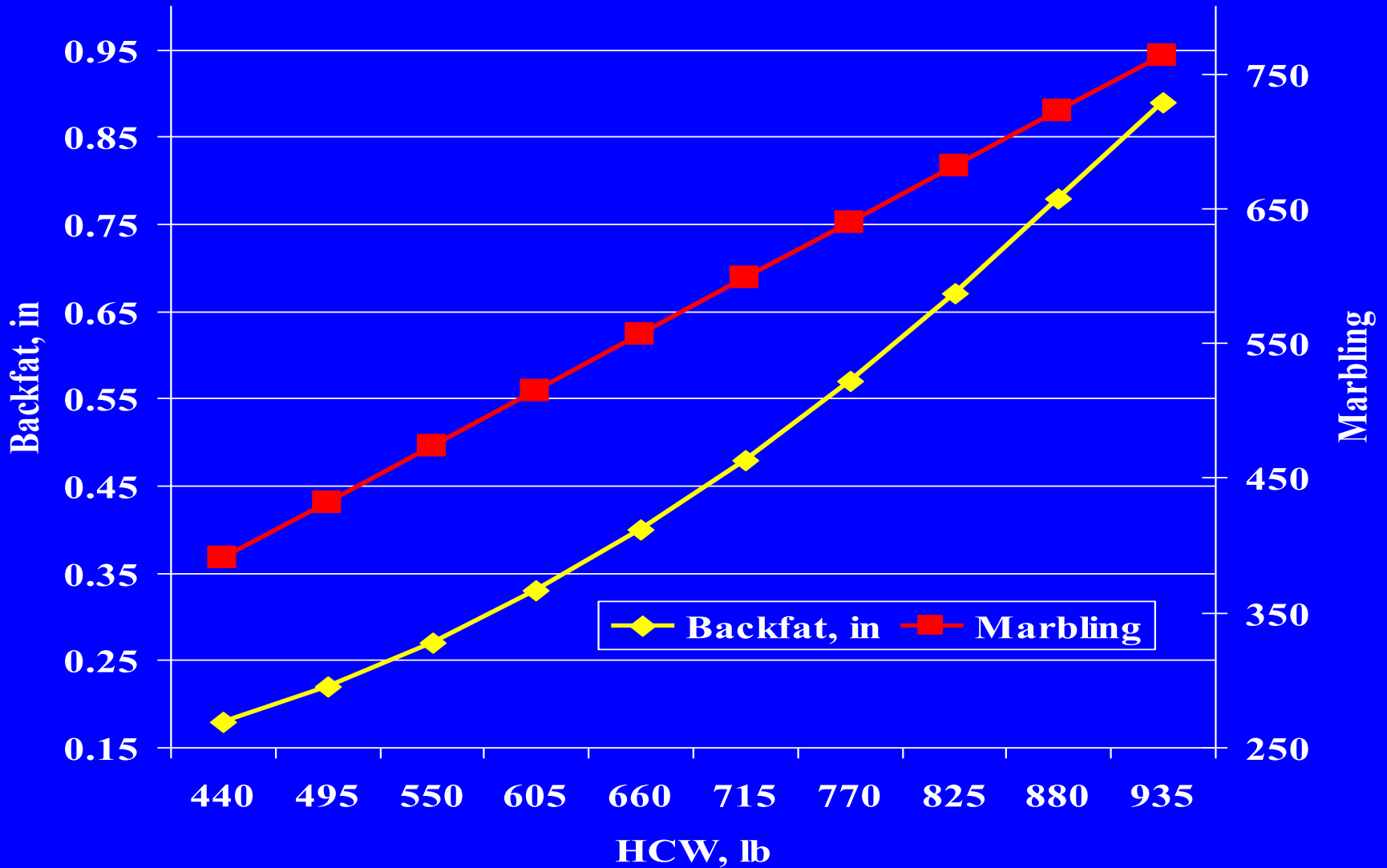
Energy →



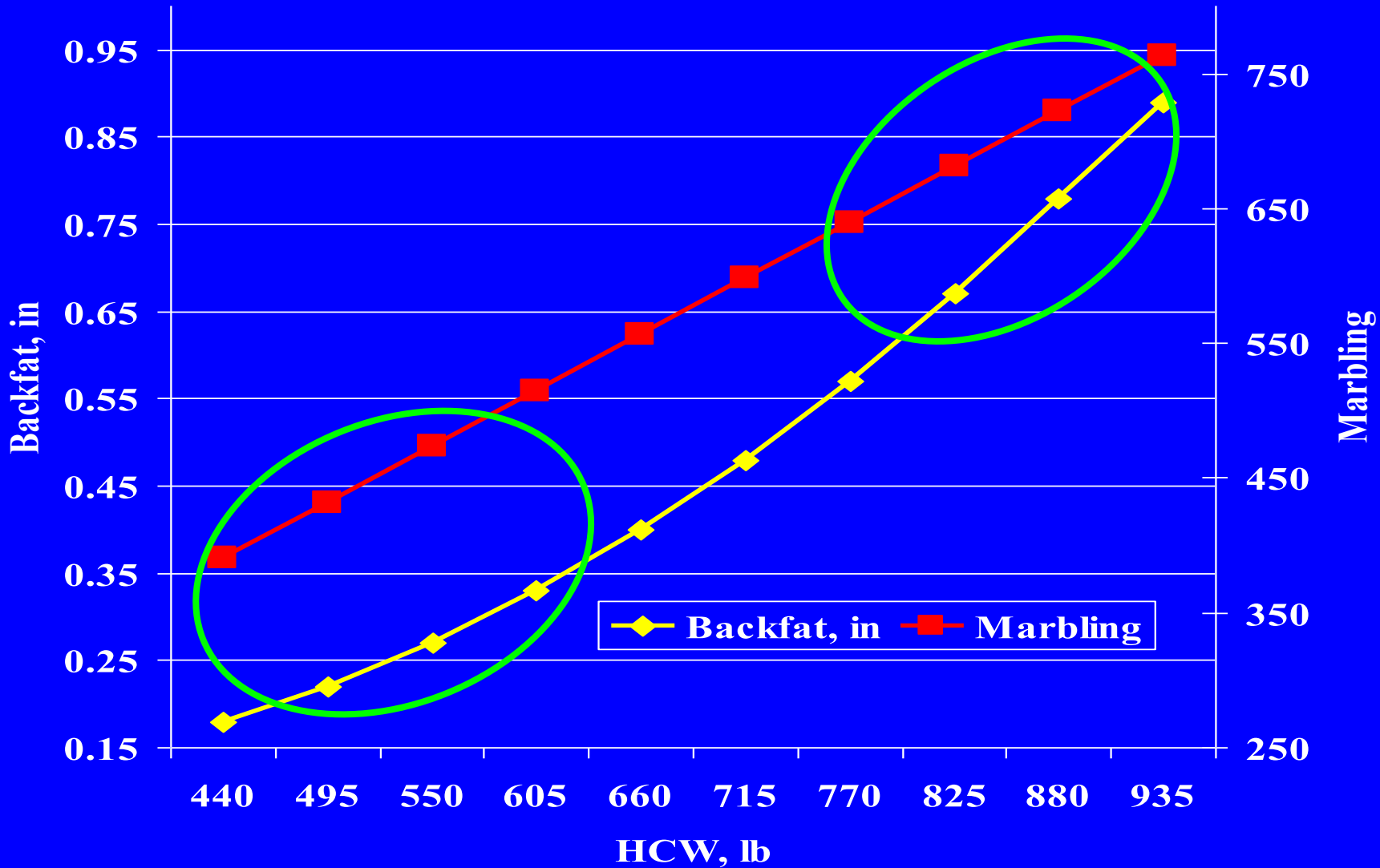




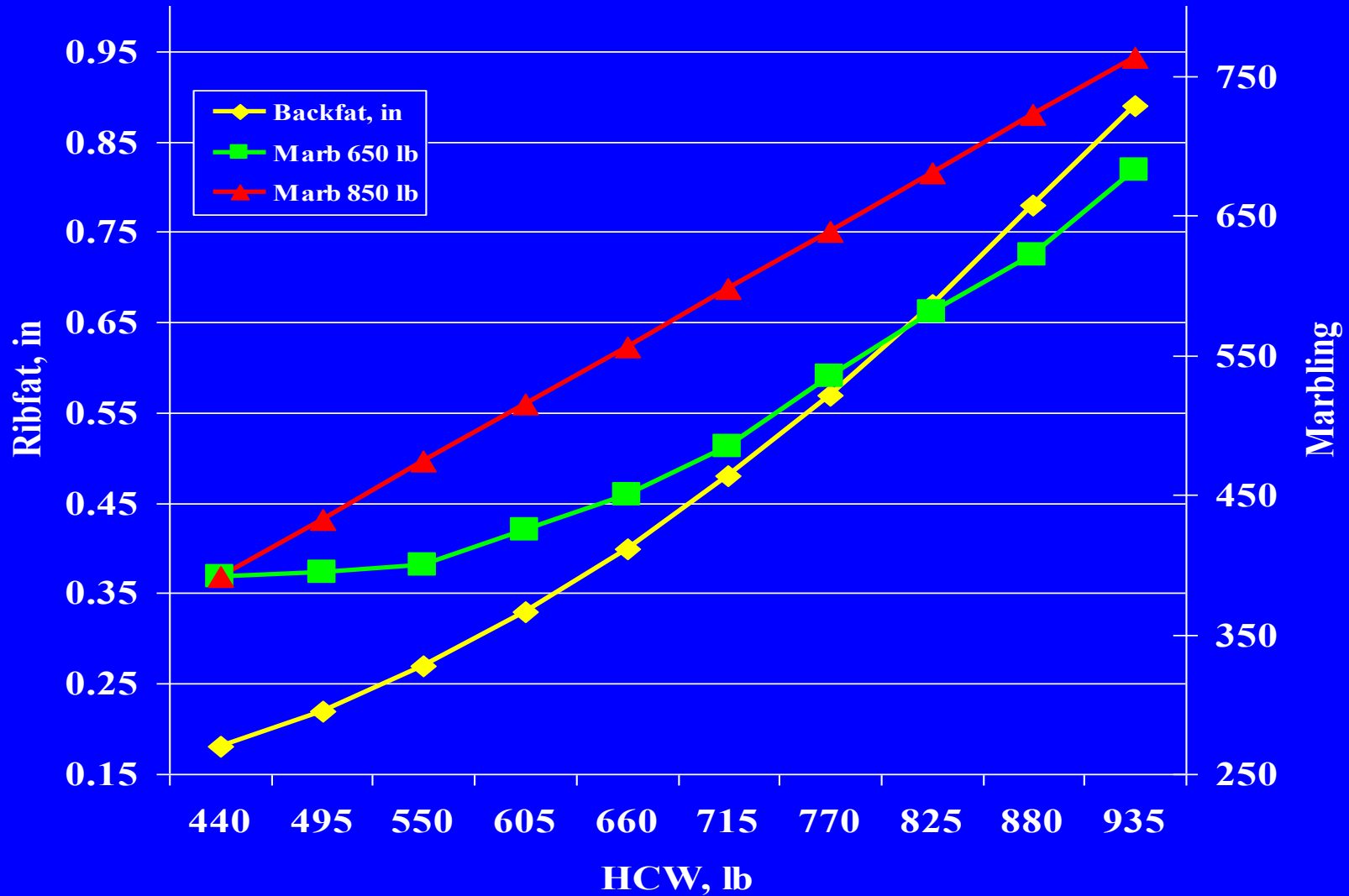
Backfat and Marbling Regressed Against Hot Carcass Weight



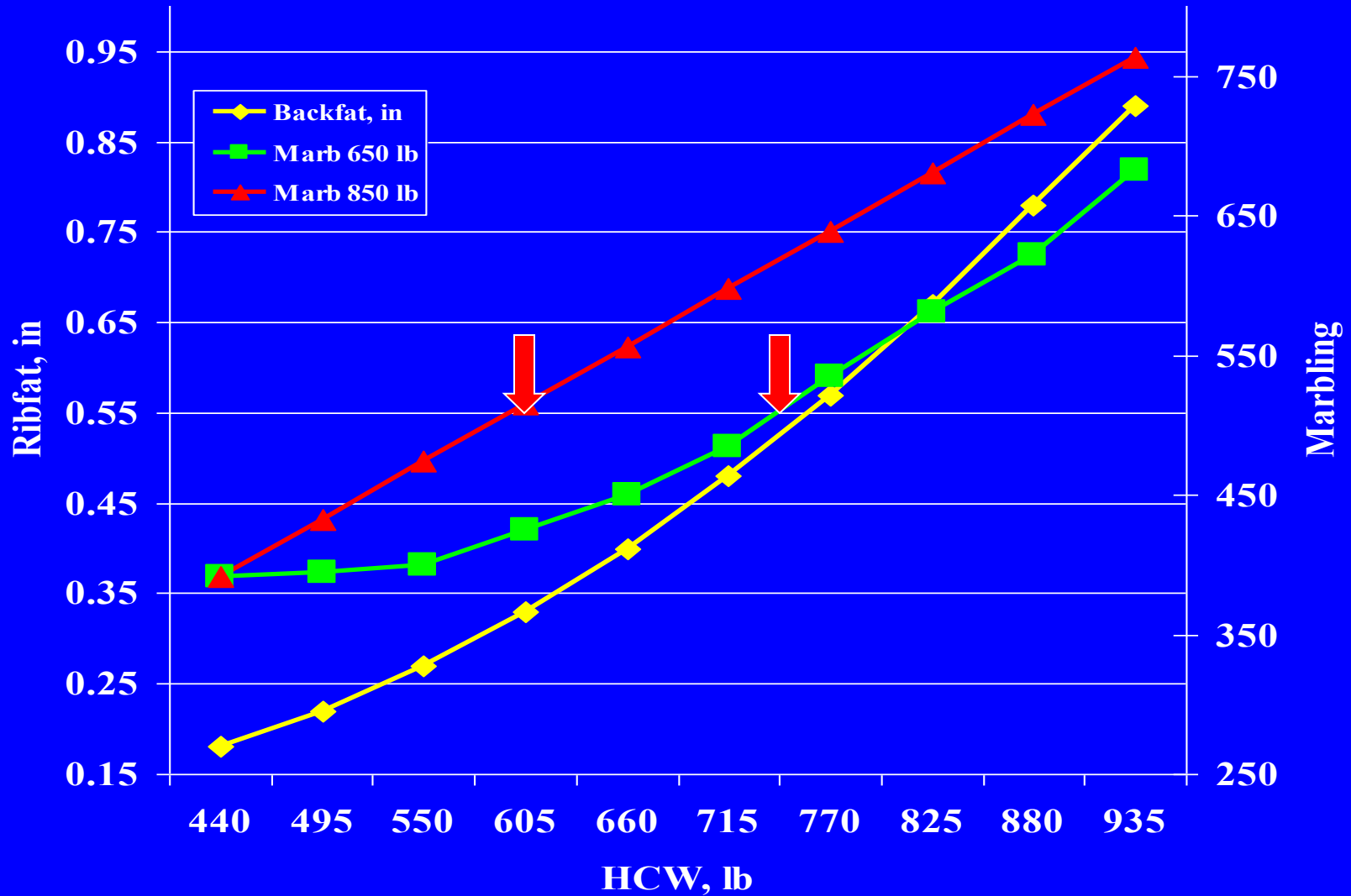
Backfat and Marbling Regressed Against Hot Carcass Weight



Ribfat and Marbling Regressed Against Hot Carcass Weight



Ribfat and Marbling Regressed Against Hot Carcass Weight



Rules of the Game

- **Marbling development is an intrinsic component of growth.**
- **Subcutaneous fat deposition is not.**
- **Management can alter either of these in dramatic fashion**

Impairments to IMF

- **Energy Balance or ADG-** insufficient for the cattle at that stage of growth
- **Implants-** too much for the diet & cattle
- **Disease-** setback to energy balance
- **Intervention-** may be proactive or reactive

Early Calf Growth and Marbling

(Myers et al)

Weaning Management

Early Creep Normal

ADG, kg

177-231d

231-443d

Early Calf Growth and Marbling

(Myers et al)

Weaning Management

	<u>Early</u>	<u>Creep</u>	<u>Normal</u>	<u>SEM</u>
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ADG, kg

177-231d ^{ab}	3.17	1.81	1.37	.11
231-443d ^a	2.82	3.04	3.04	.04

^aEarly vs. rest (P < .01)

^bCreep vs. normal (P < .05)

Early Calf Growth and Marbling

(Myers et al)

Weaning Management

	<u>Early</u>	<u>Creep</u>	<u>Normal</u>	<u>SEM</u>
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Marbling^a	1198*	1144	1120	18
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^aEarly vs. rest (P < .01)

^bCreep vs. normal (P < .05)

*1100 = Modest^o

Early Calf Growth and Marbling

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Weaning Management

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*1100 = Modest^o

There is Room to Wiggle

	<u>Early</u>	<u>Normal</u>	<u>Diff, lb</u>
Initial BW	487	593	106
End Rec BW	541	618	77
End Bkgd	797	837	40
Final BW	1146	1180	34
Marbling	520	520	0

Health from the beginning

- **Inactive Lung Lesions at Slaughter**
 - 25 to 30 lb decrease in carcass weight
 - Up to 1/3 Grade decrease in marbling
- **Began long ago**
 - Late gestation-neonatal immune system
 - Vaccinations
 - Feeding management

When labels don't work

- **Single Ranch Source- 156 steer calves**
 - Common calving, vaccinations
 - Some PC, some bawling
- **Common Fdlt Arrival & Mgmt**
 - Initial 35d Pull Rate
 - Bawling 4.2%
 - PC 15.3%
- **How did this go wrong?**

When labels don't work

- **191 bawling steer calves**
 - 46Mcal NE_g /cwt
 - Fed all they wanted v all they needed
- **Initial 45d Pull Rate**
 - Ad libitum 17.8%
 - Managed 2.2%

Initial 28 d Feedlot Performance

Management

Control

Preconditioned

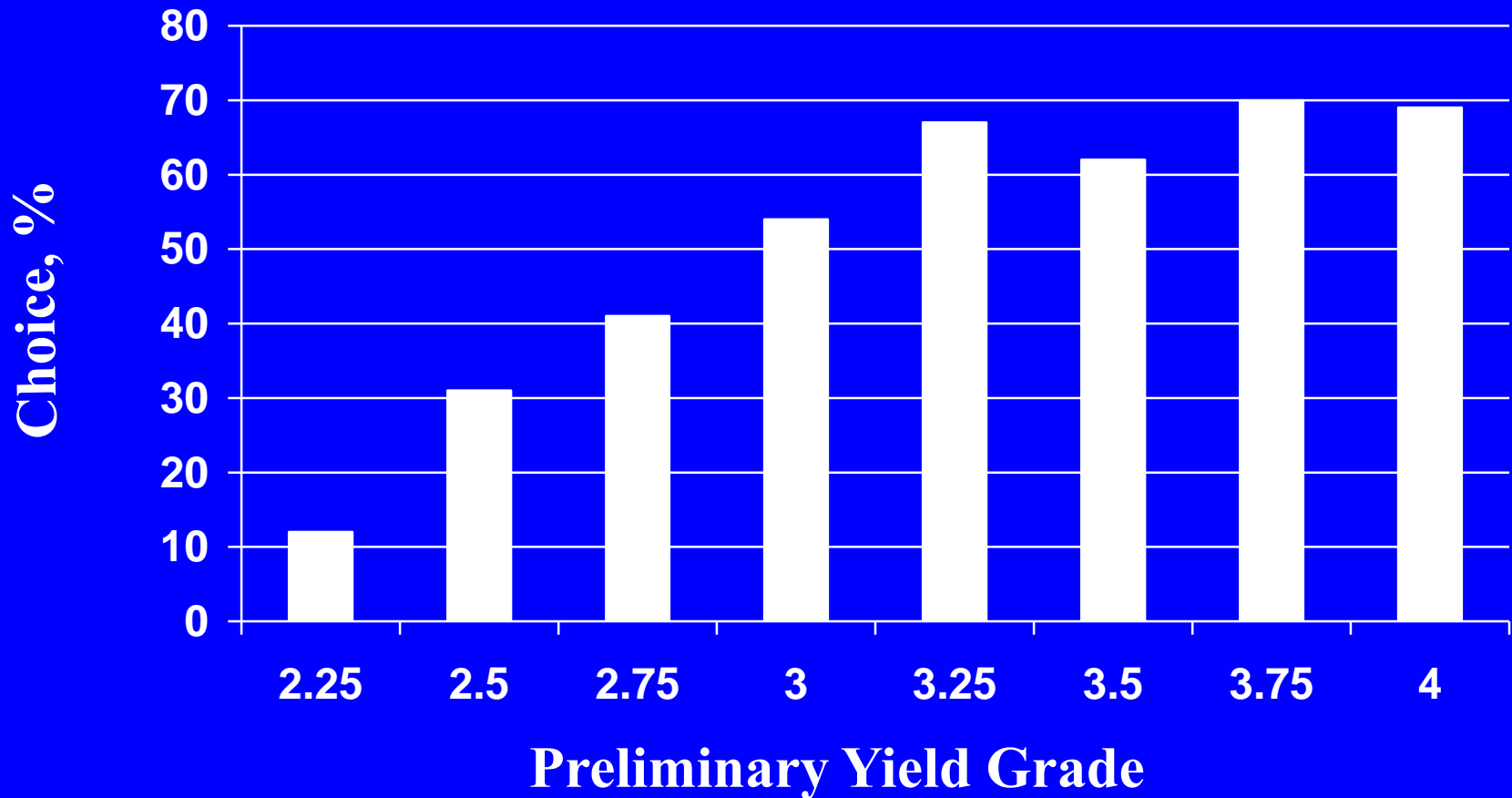
Diet NE_G	53	46	53	46
ADG^a	3.28	3.37	3.87	3.74
DMI^b	12.91	11.46	14.28	13.20
F/G	3.94	3.41	3.69	3.53
Morbidity pts^c	170	148	224	122

^amanagement effect (P<.05)

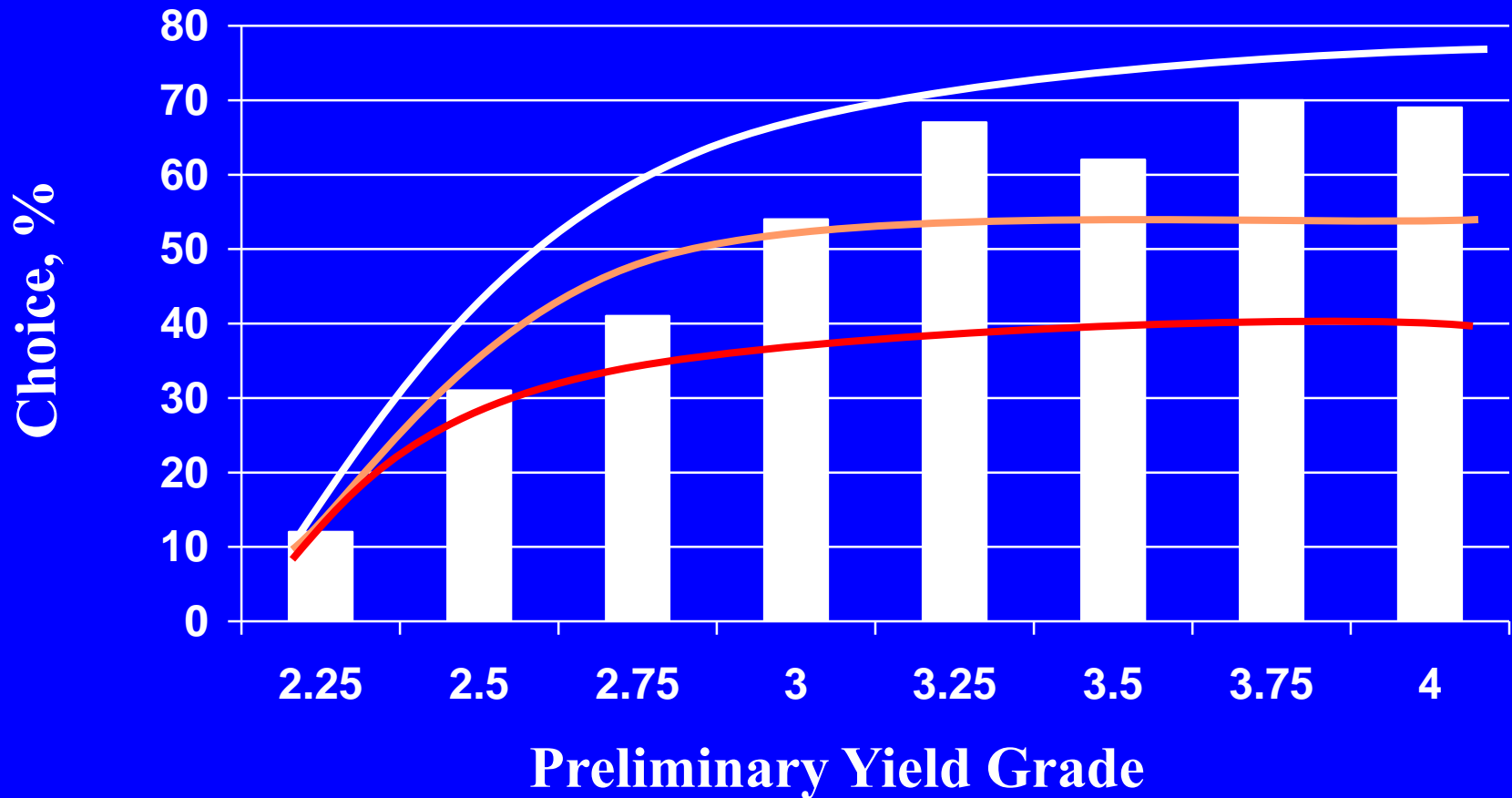
^bdiet effect (P<.05)

^cmanagement x diet (P<.05)

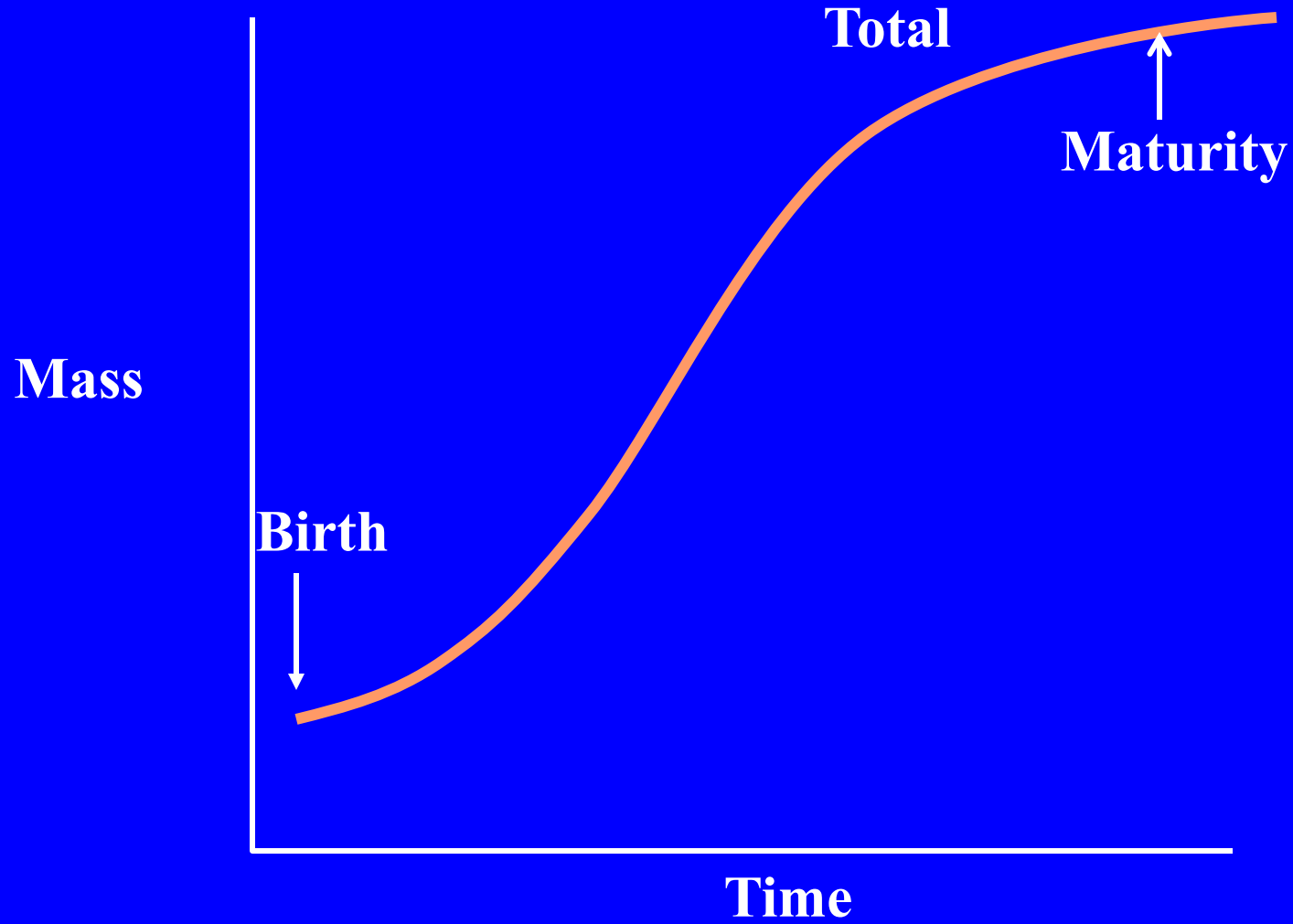
Choice Distribution



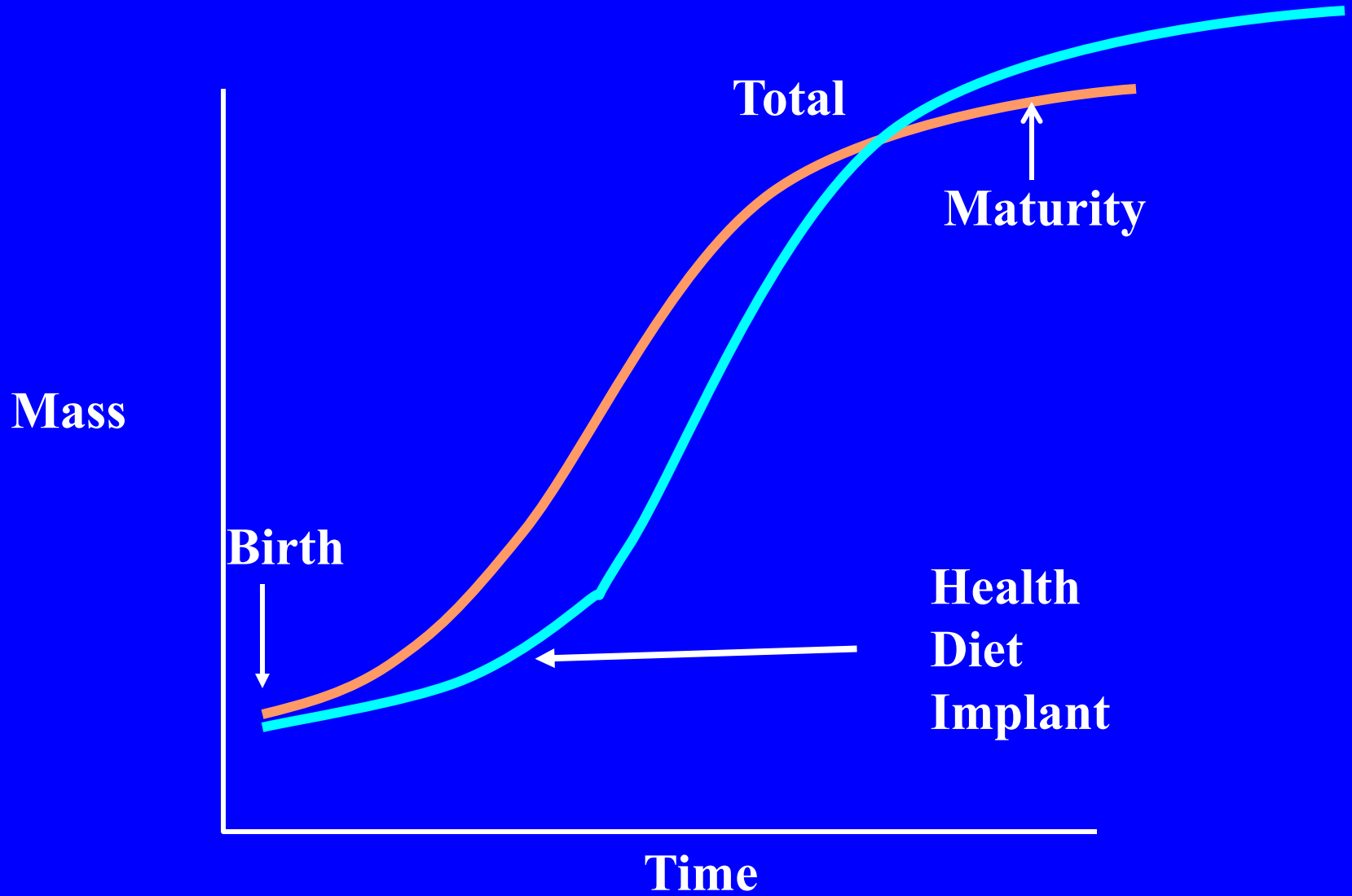
Choice Distribution



Postnatal growth curves



Postnatal growth curves



What you feed them really does matter

- **Cow nutrition late gestation**
- **Calf nutrition prior to vaccination**
- **Growth rate after 120d of age**
- **Post-weaning feed management and nutrition**

**The Implant trick is to match caloric intake
and anabolic potency with the composition of
growth.**

Where are the cattle on the growth curve

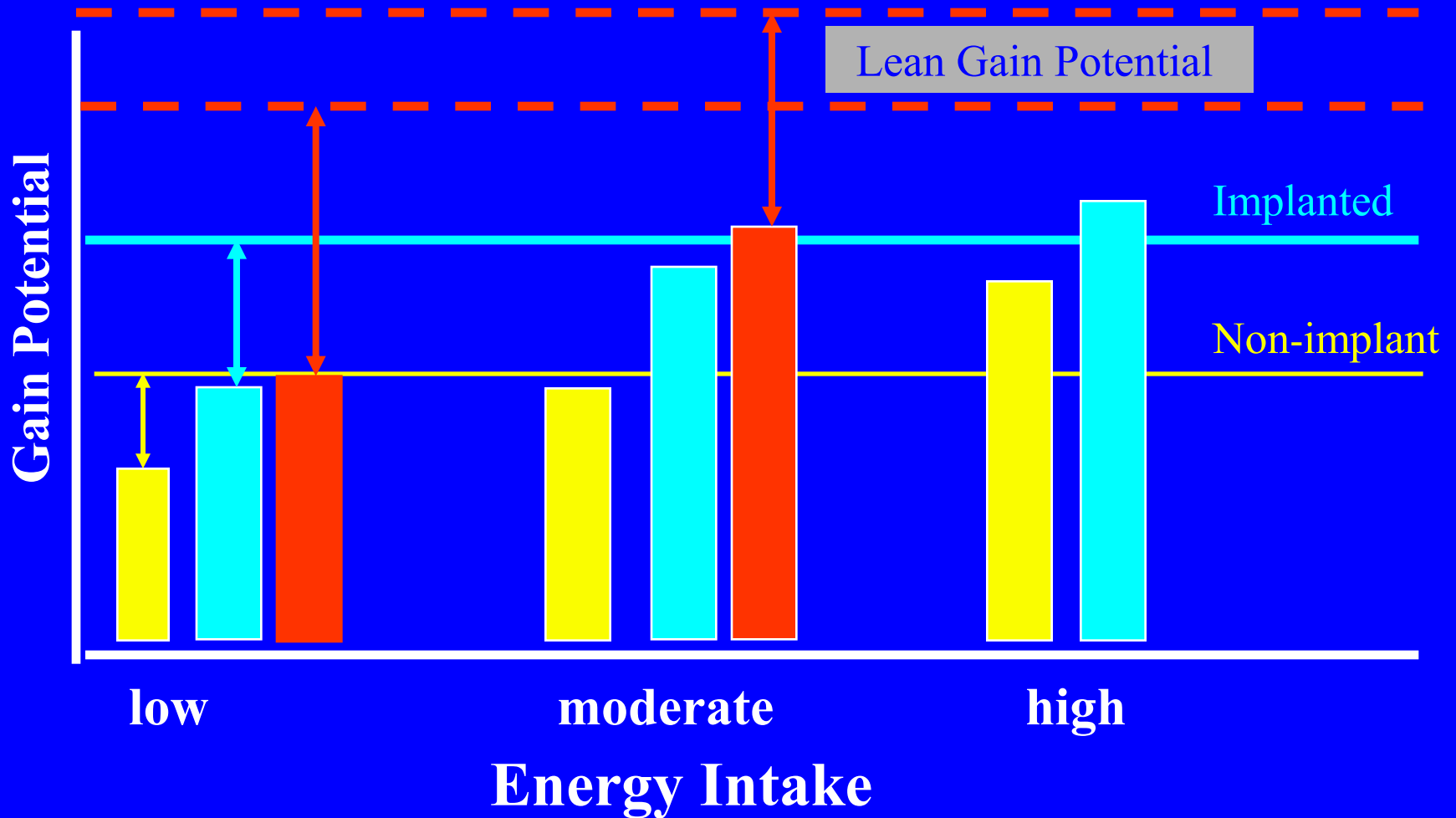
What is the Frame size?

How much flesh do they carry?

How much energy are they EATING?

How potent is the implant?

Matching Implants to Energy Intake



Stage of Growth Response to E₂TBA Implants^a

	<u>Control</u>	<u>650 lb</u>	<u>850 lb</u>
HCW	752^b	777^c	781^c
≥Avg. Choice, %	24	8	23
Low Choice, %	45	53	40
Select, %	31	37	38
Standard, %	0	2	0

^adistributions effect (P<.11)

^{bc}means differ (P<.05)

Yearling Steer Quality Grade Distributions^a

	Ralgro			
	<u>Control</u>	<u>Synovex Plus</u>	<u>revalor-s</u>	<u>revalor-s/56d</u>
HCW, lb	717 ^b	781 ^c	785 ^c	781 ^c
≥Avg Choice, %	21	5	10	11
Low Choice, %	47	38	41	49
Select, %	32	53	48	40
Standard, %	0	4	1	0

^adistributions differ (P<.05)

^{bc}means differ (P<.01)

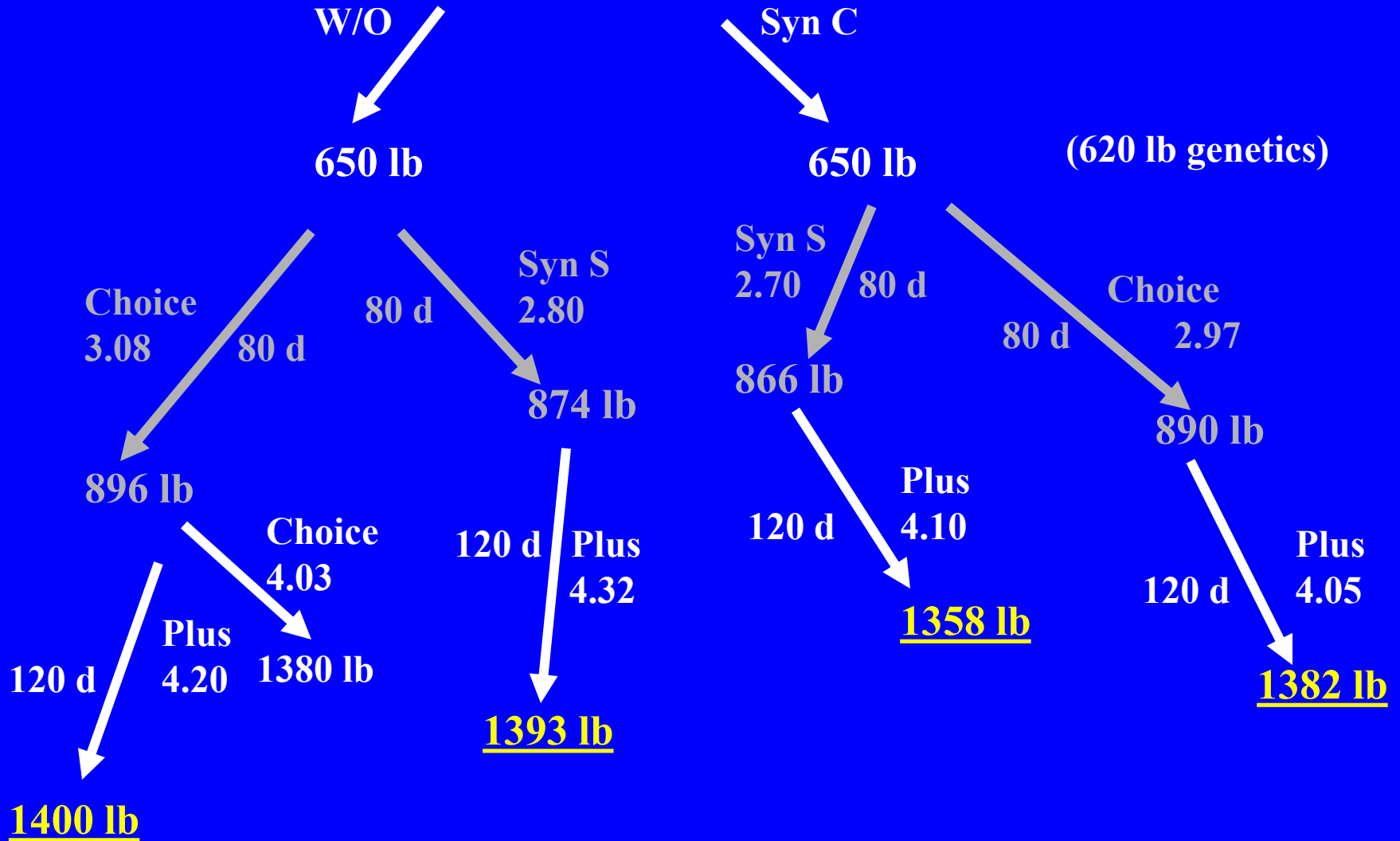
Cattle x Implant Influences on % Choice

	<u>Implant Strategy^a</u>			
Flesh	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
Avg	67	54	58	59
Thin	69	32	44	60

^a Trt P < .01; Block P=.09

RP9670

Hypothetical



Yearling Steer Quality Grade Distributions^a

	Ralgro			
	<u>Control</u>	<u>Synovex Plus</u>	<u>revalor-s</u>	<u>revalor-s/56d</u>
HCW, lb	717 ^b	781 ^c	785 ^c	781 ^c
≥Avg Choice, %	21	5	10	11
Low Choice, %	47	38	41	49
Select, %	32	53	48	40
Standard, %	0	4	1	0
Profit, \$/hd	-33. ⁸⁷	-11. ⁶¹	3. ⁷⁸	11. ⁰⁹

^adistributions differ (P<.05)

^{b,c}means differ (P<.01)

