

# Animal Growth

## ANSC 1000

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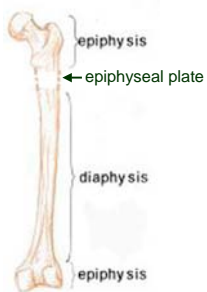
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### Bone Growth

#### A. Structure and areas of growth



Sheep: break joint vs. spool joint (Fig. 8.12 in text)

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### Bone Growth

B. Amount of cartilage (or degree of ossification) used to estimate carcass maturity

C. Frame size measurements in beef cattle  
(See Table 8.3 in text and pg. 327-330)

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## Adipose Tissue

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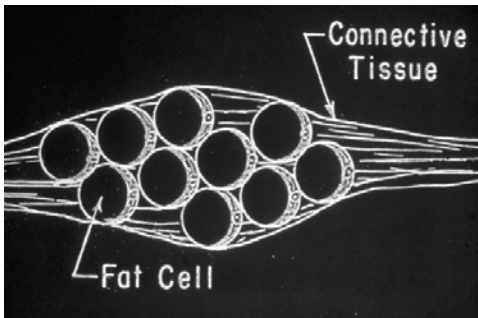
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## Adipose Tissue



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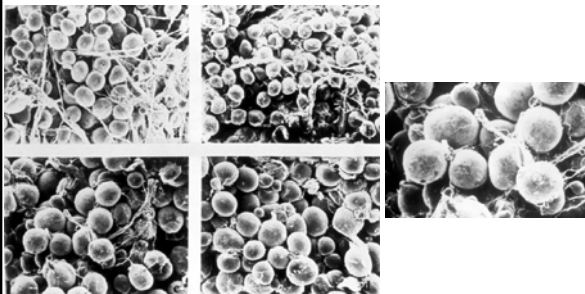
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## Adipose Cells



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**Fat Depots in the Body**  
(in general order from earliest to last site)

1. Internal fat (KPH fat on the carcass)
2. Subcutaneous fat
3. Intermuscular fat
4. Interamascular fat

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**Internal Fat**



KPH fat on carcass  
~ 3.5% of carcass weight

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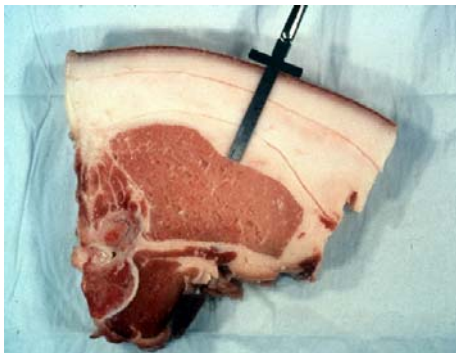
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**Subcutaneous Fat**



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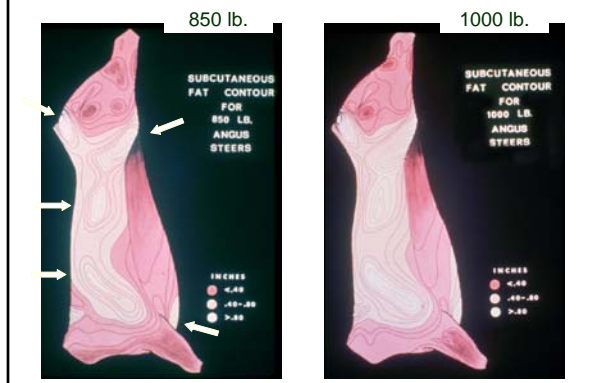
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## Subcutaneous Fat



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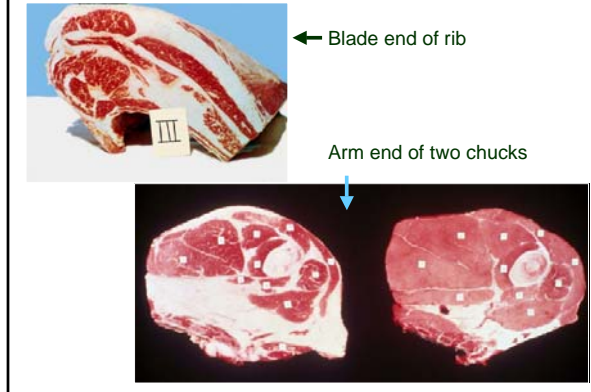
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## Intermuscular Fat



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## Intramuscular Fat

See Fig. 8.4 in text for examples of degrees of marbling (intramuscular fat) in the rib-eye muscle. There are color pictures illustrating degrees of marbling in the meats material on your instructor's web site.

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### Marketing live animals on full feed

- 0.4 to 0.5 inches BF
- 60-70% Choice, very few YG 4
  - breed differences
- Measured between 12<sup>th</sup>/13<sup>th</sup> ribs, ~5 in. off top
- Know anatomy...false readings

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### Sex of Animal & Fat Deposition

Leaner → → → Fatter

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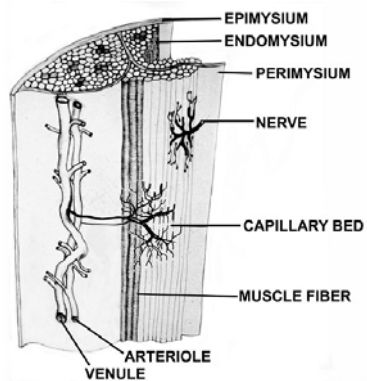
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### Muscle Growth & Development



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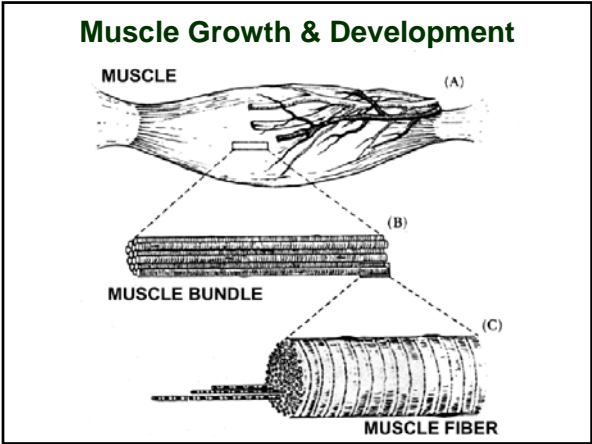
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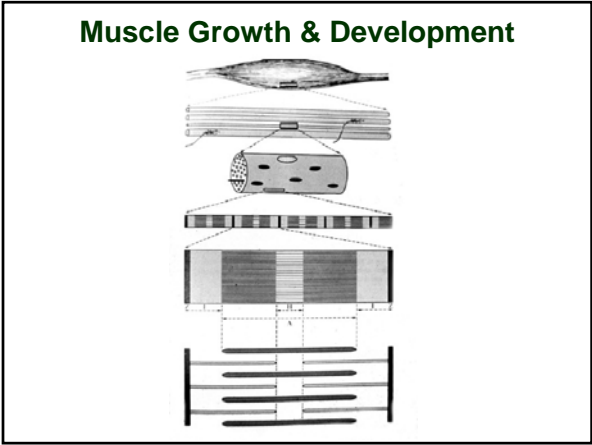
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### Body Composition

Tying it all Together

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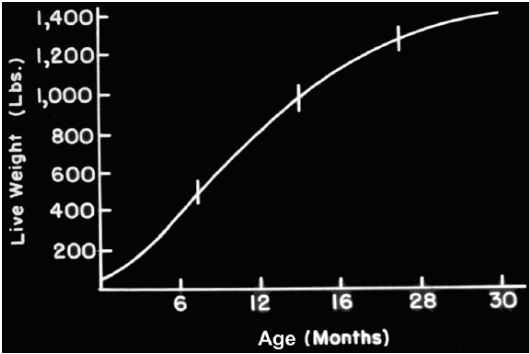
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### Growth Curve



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Pounds of bone, muscle, and fat growth over time...

(Fig. 18.17 in text)  
(Beef and Swine)

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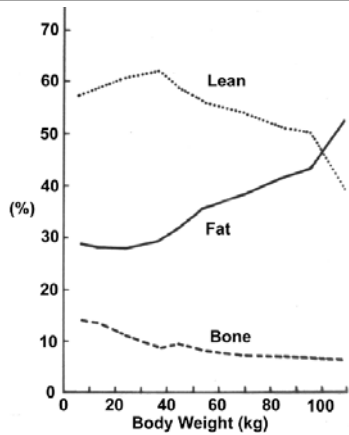
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**Bone,  
muscle  
& fat  
growth  
as a %  
of total  
gain**



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## FRAME SIZE

How frame size alters bone, lean, and fat deposition in cattle

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Frame Size Comparisons



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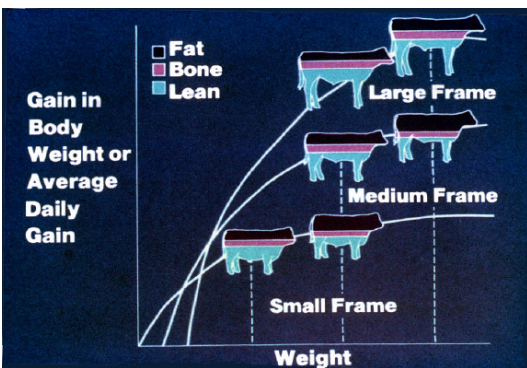
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Frame Size Comparisons



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Frame Size & Feeder Cattle Considerations

Comparing large-framed cattle to smaller framed cattle....

- At any given wt.,
- At a given wt.,
- When fed to a constant wt.,

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Frame Size & Feeder Cattle Considerations

Comparing large-framed cattle to smaller framed cattle....

- When fed to a constant carcass composition,  
(.4-.5" BF) large-framed cattle usually...
- When fed to same carcass comp., stockered yearlings will...

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