Animal Growth

ANSC 1000

Bone Growth

A. Structure and areas of growth

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

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)
Adipose Tissue

Adipose Tissue

Adipose Cells
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. Intramuscular fat

Internal Fat

KPH fat on carcass
~ 3.5% of carcass weight

Subcutaneous Fat
Subcutaneous Fat

850 lb.  1000 lb.

Intermuscular Fat

Blade end of rib

Arm end of two chucks

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.
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\textsuperscript{th}/13\textsuperscript{th} ribs, 
  ~5 in. off top
- Know anatomy...false readings

Sex of Animal & Fat Deposition

Leaner → → → Fatter

Muscle Growth & Development
Muscle Growth & Development

Body Composition
Tying it all Together
Growth Curve

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

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

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

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

Frame Size Comparisons

Frame Size Comparisons

Frame Size Comparisons
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.,

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...