Breeds to Choose for Egg and Meat Production on Range Conditions

Kenneth Anderson
Department of Poultry Science
North Carolina State University

What are you going to hear today

• What you will not hear!
  – What is the ideal breed for eggs
  – What is the ideal meat breed
  – Commercial lines are the only way to go
  – Heritage breeds are where it is at

• What will you hear!
  – Decide what fits your operation
  – What product do you want to market
  – What your customers want and are willing to pay for

What type of chicken is for your operation?

• The breed of chickens that a producer selects for his flock depends upon the purpose for which the chickens are intended.
  – Egg laying stock
  – Meat-type birds
  – Dual purpose breeds.

• Each type is genetically selected to satisfy the best attributes for which they are intended

• No single breed of bird will provide the best characteristics for all three purposes.
Choosing a Breed for Range Production

• Producers may choose to use commercial strains
  – Egg production
    • Advantages include being readily available, lightly muscled, high egg production, and feed efficient
    • Disadvantages are little post-production value, needs greater feed supplementation, poor foraging, and nesting behavior
  – Meat production
    • Advantages include being readily available, heavily muscled, fast growing, and feed efficient
    • Disadvantages are weak legs, aortic ruptures, ascites, poor foraging, and poor heat tolerance

Choosing a Breed for Range Production

• Producers may choose to use heritage strains are typically dual purpose
  – Egg production
    • Advantages include being good foraging, inherent nesting behavior, tolerant of poor management, and more local availability
    • Disadvantages are lower egg production, poorer feed efficiency, variability in flock uniformity requires culling, and more heavily muscled
  – Meat production
    • Advantages include being readily available, fewer leg problems, fewer growth-related health problems, good foragers, and good immunity
    • Disadvantages are lighter muscling, slower growing, poorer feed efficiency

Which Pathway will you choose?

• Egg production concentration
  – Higher egg production
  – Meat production is minimal
    • Male birds
    • Old fowl

• Meat production concentration
  – Processed chicken
    – Virtually no egg production

• Dual Purpose production
  – Combination of both meat and egg production
Commercial Production Strains

Commercial Layer Strains
- White Egg Strains
  - Bovans
  - Hy-Line
  - Dekalb
  - Lohmann
- Brown Egg Strains
  - Hy-Line
  - Bovans
  - Hisex
  - Dekalb

Commercial Meat Strains
- Arbor Acres
- Ross
- Cobb-Vantress
- Peterson
- Hubbard
- Hybro

Egg/Meat Production

- Heritage Strains
  - White Egg Breeds
    - Leghorn
    - Minorca
  - Brown Egg Breeds (Dual Purpose)
    - Plymouth Rock
    - Rhode Island Red
    - New Hampshire Red
    - Buckeye
    - Meat Breeds
      - Cornish
- American Livestock Breed Conservancy
  - Information on heirloom breeds
  - Sources
### Selection for the traits wanted

- Egg production and muscle development are two of the most highly heritable traits in chickens.
- However, selection for one trait will negatively influence the other.

### Meat Production

#### Importance of Access
- Hatchery customer service
- Hatchery location
- Delivery
  - Time
  - Personnel
  - Parcel post

#### Other Factors
- All Females
  - No Male Aggression
  - Tranquil flock
- All Males
  - Larger birds in same time period
  - Uniformity
- Customer preference
  - Cornish Game Hen
  - Roaster

### Beyond Cornish Crosses

#### Silver Cross (5 lb~9wk)
- Noll’s Poultry Farm

#### Cobe Red or Black (5 lb~9-10 wk)
- Cobe Farms

#### Other lines
- Shady Lane Poultry Farm, Inc.

#### Other Stocks

- Label Rouge (Canadian source)
  - Selected for free range environment and flavor
  - Low mortality
  - 5 lb in ~12 wks
- FR Broilers
  - S & G Poultry
- Redbro
  - Hubbard ISA Shaver
Reference