Introduction to the Poultry Industry
The Poultry Industry

- There are many segments of the poultry industry. These segments are all interlinked and many times owned by the same company. This type of ownership is called Vertical Integration.
Vertical Integration

• It is a style of business management that allows for maximum control of the products produced.
• It is much like a ladder concept, as each segment relies on the segment below it to supply it with what it needs while that segment must produce the product the next segment needs.
• It is like a hierarchy of needs that are met within one company.
• It allows the poultry industry to develop their product efficiently and to produce a high quality product.
The Structure

- Generally has 8 levels
  - Primary Breeders
  - Feed Mill
  - Breeders
  - Hatchery
  - Growout Farms
  - Processing Plants
  - Further Processing
  - Transportation and Marketing
Primary Breeders

- Their responsibility is to develop and reproduce strains of chicken that meet the requirements of chicken producer/processing companies.
Primary Breeders

• Through development and reproduction they aim to achieve desirable characteristics such as abundant white meat and efficient feed conversion.

• Breeder chicks with the appropriate mix of desirable characteristics are then sold to integrated chicken firms.
Feed Mill

- Chicken companies own feed mills that convert raw materials into finished feed according to very specific formulas developed by poultry nutritionists.
- They produce different formulas to feed all of the different nutrition stages of chickens.
Breeders

• Generally operated by contract growers who raise the breeder chicks to adult birds.
• Breeding hens and roosters are kept under tight biosecurity on breeder farms to produce fertile hatching eggs.
• The offspring of breeder parents will then be raised to become broilers for the market.
Hatchery

- Is a specialized facility designed to hatch fertile eggs received from breeder farms.
- Fertile eggs are placed in incubators and carefully monitored to ensure that correct temperature and humidity levels are maintained throughout the entire incubation period.
Hatchery

- Towards the end of incubation, the eggs are placed in hatching trays where the chicks hatch out by pecking their way through the large end of the egg.
Growout Farms

- The newly hatched chicks are transported to growout farms where independent farmers raise them to market weight under contract with the company. The company provides the chicks, feed, and any necessary pharmaceuticals.
Growout Farms

• The farmer provides the growout barns, water, bedding ("litter"), electricity, and his own management skill.

• The chickens reach market weight in six or seven weeks and are collected to be taken to the processing plant.
Processing Plants

• The processing plant harvests the birds by humane standards and are inspected by the USDA for any disease or defects.

• The carcasses are then chilled to limit the growth of bacteria.

• Following chilling they are packaged for distribution or cut into parts.
Further Processing

• They are specialized operations or plants that receive whole chicken or cut-up parts and perform a variety of further processing steps.
• These steps include cooking, breading, or marinating.
Transportation and Marketing

• Chicken products are transported in refrigerated trucks from the processing and further processing plants, and then to the grocery stores, restaurants and other customers.
Value to the Economy

• Vertical integration within the poultry industry gives producers greater control over the production of quality products that successfully meet consumer wants and needs.

• Vertical integration results in a more cost effective production process and a more affordable product for the consumer.
Chicken Breeds

• The Chicken Industry has well over fifty breeds that are recognized by the American Poultry Association. These breeds are broken down by classifications and use. The use of these animals would be layers, meat, and dual use.
Meat Breeds

• They are not really breeds.
• Instead, they are hybrid varieties or combinations of many different breeds.
• These varieties are developed for specific characteristics:
  – grow faster and larger
  – larger breast meat yield
  – more efficient feed conversion
  – more disease resistance
• These varieties are used by broiler producing companies that commercially produce broilers sold in supermarkets.
• Weakness of these varieties.
  – They do not lay as many eggs as the layer breeds.
Specific Variety Used in Industry

• Cornish Cross
  – White Cornish x White Plymouth Rock
    • *Their fast growth allows them to reach 4-5 lbs in 6 weeks and 6-10 lbs in 8-12 weeks.*
  – White Cornish
    • *They are part of the English Class.*
    • *They have a very broad and meaty body.*
  – White Plymouth Rock
    • *They are part of the American Class.*
    • *They tend to be docile and fairly good dual-purpose breed.*
Layer Breeds

• They have been genetically selected for high egg productivity.
• They tend to be small bodied so they are undesirable for meat production.
  – These small bodies allow the bird to put more nutrients toward egg production instead of body size.
• They are divided into two types:
  – Those that lay white or brown eggs.
  – Chicken breeds with white ear lobes lay white eggs, whereas chickens with red ear lobes lay brown eggs.
Specific Breeds Used in Industry

• White Leghorns
  – They are part of the Mediterranean Class.
  – Very good layer of white eggs.
  – Basis of commercial egg industry.
Specific Breeds Used in Industry

• Rhode Island Red
  – They are part of the American Class.
  – They lay brown eggs.
  – Production-bred strains lay very well.
Turkey Breeds

• There are currently eight breeds of turkeys that are recognized by the American Poultry Association. There are several breeds that are not officially recognized as a breed but these are the varieties that are commercially used by the industry. These breeds are predominately used for meat.
Meat Breed

• Broad Breasted White
  – Commercially the most widely-used breed of domesticated turkey.
  – They have shorter breast bones and legs than “standard” turkeys.
    • They are unable to breed naturally and require assistance from humans.
  – Produce more breast meat and their pin feathers are less visible when the carcass is dressed due to their white color.
Broad Breasted White