

**AgScience Poultry Science Course**  
**Section 2 – Poultry Genetics**  
**Problem Set**

1. Define heritability, and describe its effect on genetic improvement of production animals. Also, explain how poultry geneticists have used heritability to improve commercial broiler and turkey genetics
2. Poultry primary breeder companies have a structure specific to their industry. Explain, in detail, the structure of a primary breeder company and the goal of structuring the industry this way.
3. Describe, in detail, how selecting for different production traits has changed (1940s to present). What do these changes indicate about product marketing and consumer demand?
4. Define the concept of selection pressure. Diagram an example of how increased selection pressure can improve specific traits compared to less rigorous selection pressure.
5. Profitability in a company can be increased in a number of ways. Why did poultry geneticists and primary breeder companies focus on increasing breast yield?
6. Diagram the male of female side of a four-way crossing system. Label each level of the system and indicate which birds would not be used in the breeding program. At which level are pure lines first crossed, and why?