Breeding Systems

Breeding Livestock Animals

• Various breeding systems exist due to the various types of livestock operations.
• The size of the herd, amount of money available and goals of the producer are all factors that determine the type of system used.
• Some farms use more than one type of mating system.
• In general, cattle use all types of breeding systems while swine and poultry tend to utilize crossbreeding to develop industry owned hybrids.
Types of Breeding Systems

- Straightbreeding - mating animals of the same breed. Types of straightbreeding systems:
  1. Purebred
  2. Inbreeding
  3. Grading Up
Types of breeding systems

- Purebred breeding: a registered purebred male and female of the same breed

Example: Angus x Angus

<table>
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<tr>
<th>BW</th>
<th>WW</th>
<th>YW</th>
<th>Milk</th>
<th>Feed Lot Value</th>
<th>Wearing Wt.</th>
<th>Yearling Wt.</th>
<th>30 Month</th>
<th>3175</th>
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<td>+95</td>
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<td>1520</td>
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Krugerrand of Donamere 490
B&J Krugerrand 6066
B&J Barbara 8366
BAF Donamere 9196
Womack Dark Max 131
B&J Barbara 4196
B&J Barbara 9896
Hoff Hi Flyer SC 7134
Whitestone Fly Traveler 3006
TC Jestress 6004

DB Lady Flyer
Hoff Great Wegstern SC 456
Lady West
Master Lady 563-9
Types of breeding systems

Inbreeding - mating closely related animals. Increases the genetic purity of the stock produced, but is not used as often by the typical producer.

Two types of inbreeding:

- Closebreeding
- Linebreeding
Types of breeding systems

- **Closebreeding:** mating animals that are very closely related.
  
  - Examples: brother x sister
  - Son x mother
  - Father x daughter
Types of breeding systems

- **Linebreeding**: breeding more distant relatives than inbreeding, and can be traced back to one common ancestor

- **Example**: cousin x cousin
Types of breeding systems

- Grading up: mating purebred males (sires) to grade or unregistered or crossbred females (dams) to improve the herd

- Example: Yorkshire boar x Yorkshire- Hampshire sow
Types of breeding systems

- Crossbreeding: mating a male and female of different breeds
- Examples: Angus x Hereford = crossbred calf;
- Crossbred x Purebred = crossbred;
- Crossbred x Crossbred = crossbred
Black Baldies
(Angus x Hereford = crossbred calf)
Types of breeding systems

- Hybrid vigor: the superior traits that come from crossbreeding causing the offspring to have traits better than either parent = Heterosis
Types of breeding systems

Crossbreeding Systems Include:

1. **Terminal sire** - replacement females are bred to a sire and all offspring are sold.

2. **Rotational** - uses a two, three or four breeds to rotate between sires and females. This system requires more intensive management.