

Heifer Management to Make Successful Cows

Florida Beef Cattle Short Course
May 8th, 2014

Justin Rhinehart
Beef Cattle Specialist





Reasoning

- Developmental period
 - Period from weaning to first calving
 - Influences lifetime productivity and longevity
- Properly developed heifers:
 - Calve early in the first calving season
 - Calve early in subsequent calving seasons
 - Wean heavier calves
 - Remain in the cow herd longer

Timeline of Heifer Development

Time Period	Days
Sixty day breeding season	60
Gestation period for brood cow	285
Birth to weaning	210
Weaning to breeding	240
Gestation period for heifer	280
Calving until re-breeding	80
Rebreeding until pregnancy exam	45
Total time in days	1200 Days
Total time in months	40 Months (3+ Years)

How much does a replacement cost?

	Retained	Purchased
Deferred Revenue*	\$1,260	-----
Development†	\$450	-----
Opportunity Cost‡	\$270	-----
Purchase Price ^Δ	-----	\$2,000
Total	\$1,980	\$2,000

* 700 pound heifer at \$180/cwt.

† Includes nutrition, breeding, labor and death loss.

‡ Revenue lost from running three fewer cows with the recourses that used to develop five heifers.

^Δ Estimated average purchase price for heavy-breed, superior genetic replacements in 2012

Objectives

- Breed early in the first breeding season
- Minimize calving difficulties
- Wean acceptable calves
- Breed early in the second breeding season
- Minimize overall cost
- Optimize profit
- Improve genetics

Decisions

- Cow/Calf Producer
 - Retained or Purchased
 - Custom or Home Development
- Stocker Operator
 - Steers, Heifers or Cows
 - Owned or Contract



Selection Categories

Ages

- Weaning
- Yearling
- Post-breeding

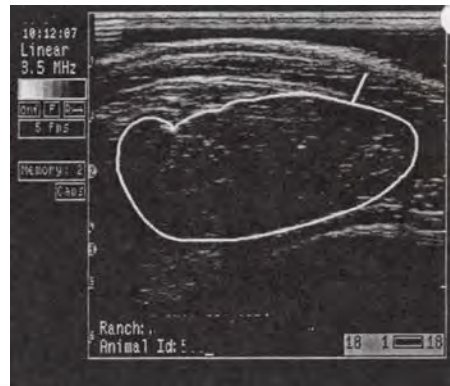


Criteria

- Reproductive success
- Records
 - Pedigrees and EPDs
- Phenotypic characteristics
 - Skeletal structure
 - Performance

Genetic Selection

- Expected Progeny Differences (EPDs)
- Performance records
 - Dam and sire
 - Sibs and half-sibs
 - Weaning weights, yearling weights, feedlot and carcass



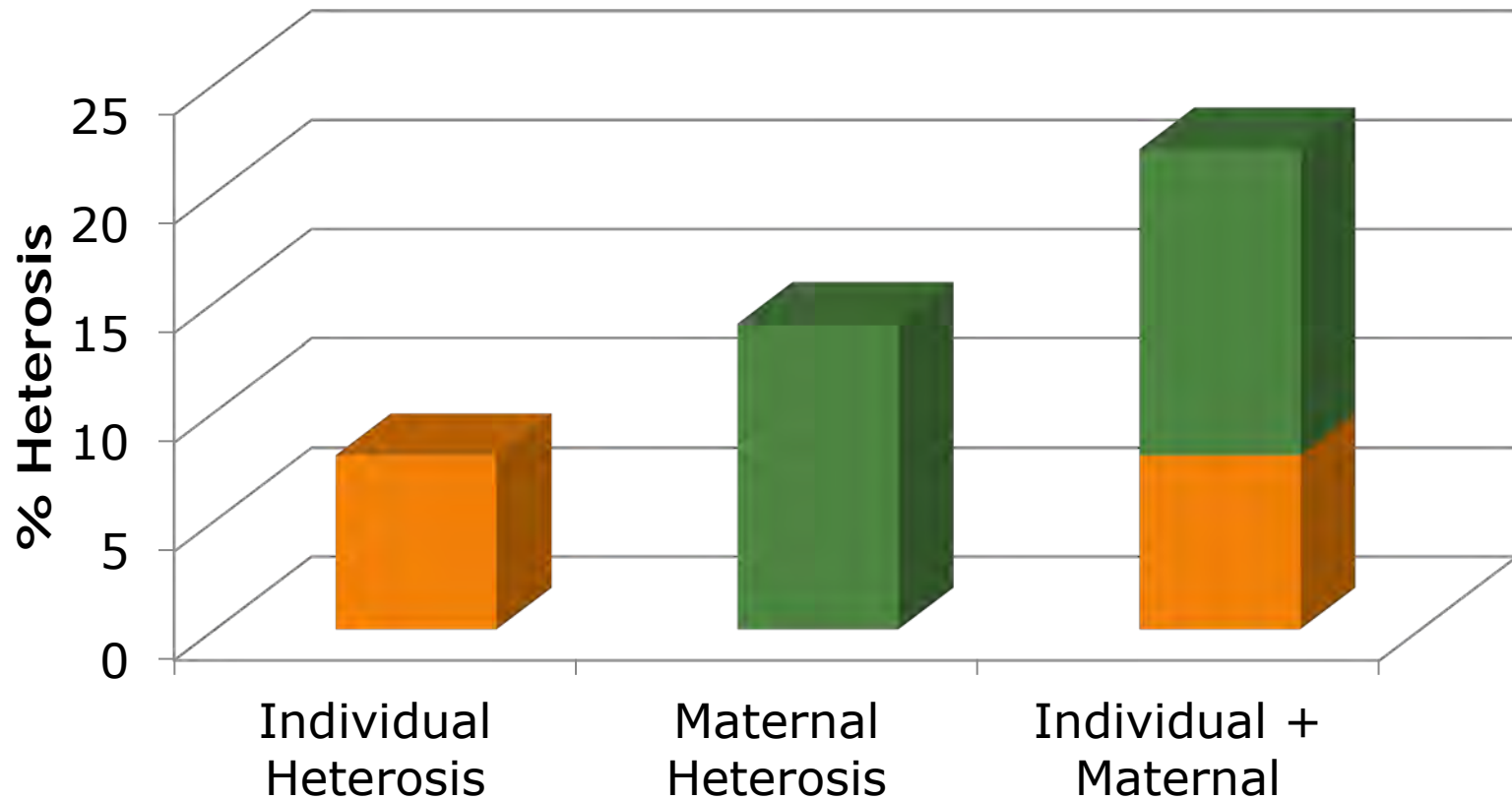
Select for Docility

- Temperament is moderately heritable
- Retain and buy heifers from docile cows
- Use docile bulls
- Docility EPDs

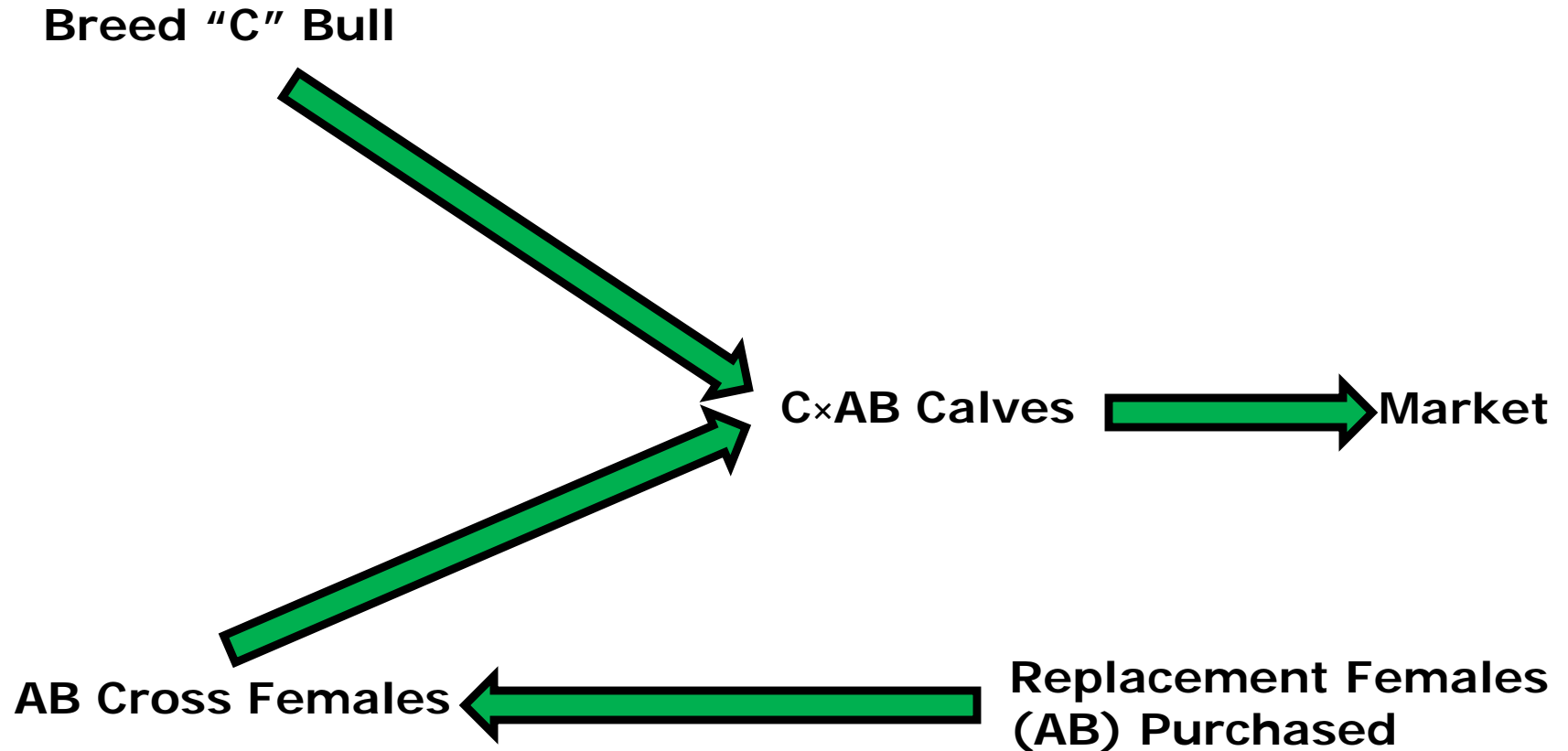
Response of a trait to heterosis

Trait	Heritability	Heterosis
Reproduction	Low	High
Growth	Moderate	Moderate
Carcass	High	Low

Heterosis for lbs. Calf/Cow



Purchased Replacements

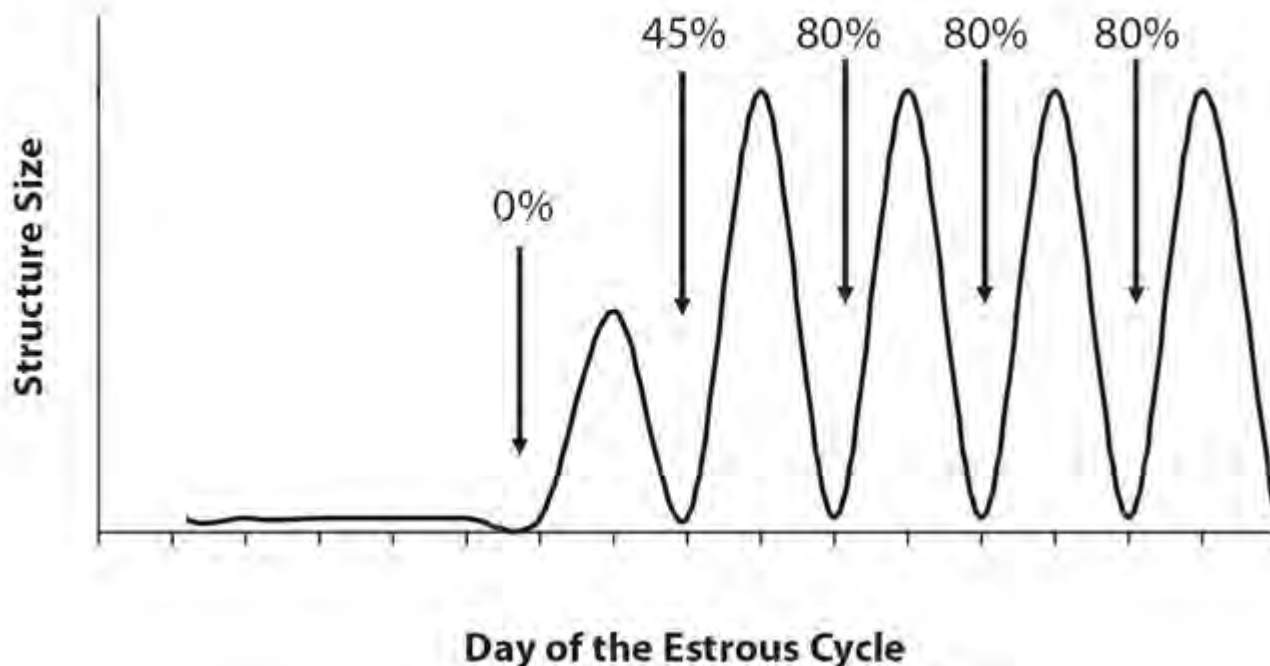


Steps in Heifer Development

- At weaning or purchase
 - Select oldest and heaviest heifers
 - Consider frame score and mature cow size
 - Select more than you need as replacements
 - Set target weight = 67% of mature cow weight
 - Set breeding date

Steps in Heifer Development

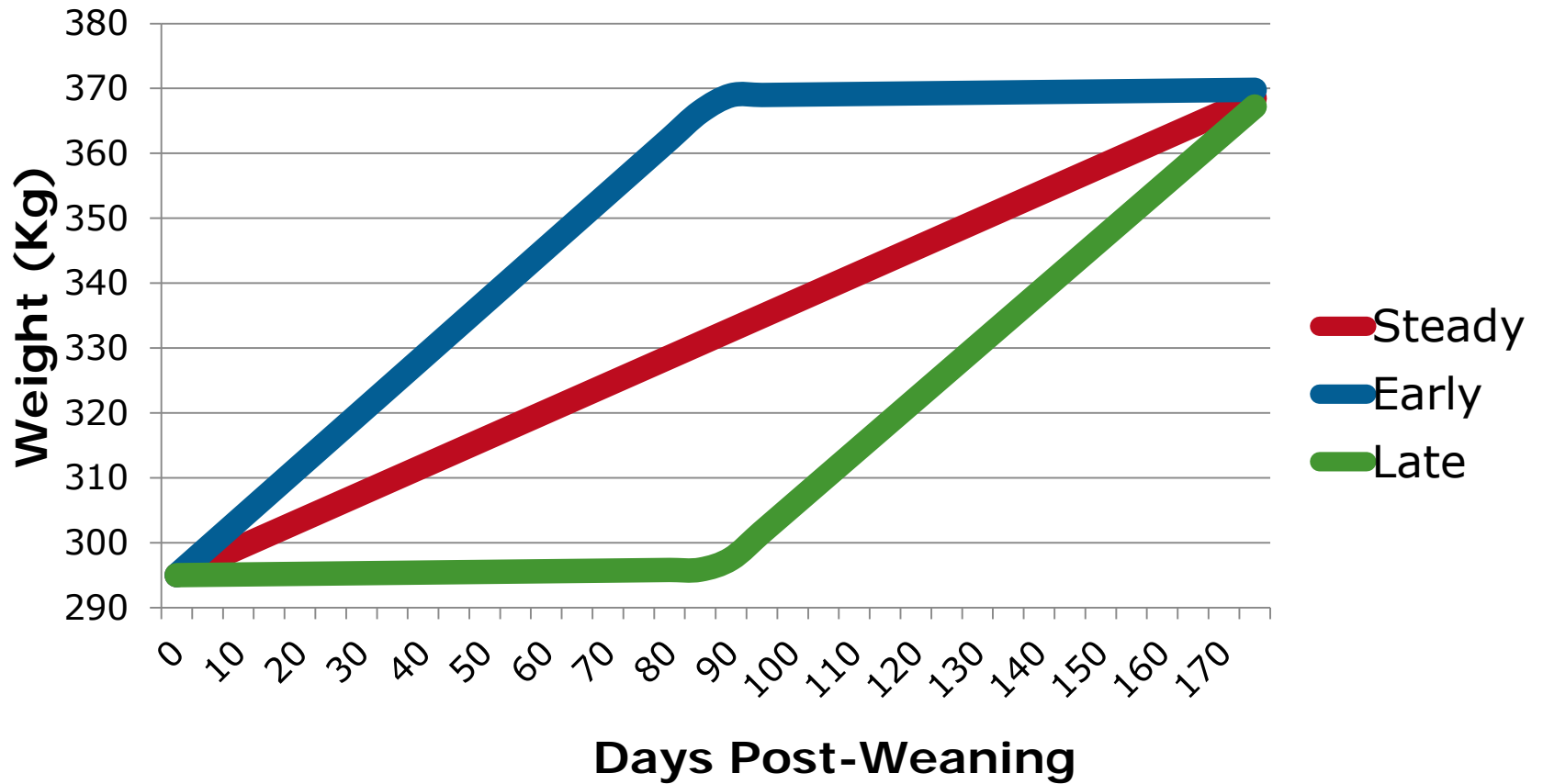
- Fertility increases with each estrous cycle after puberty
- Up to about 80%



Steps in Heifer Development

- Decide on growth pattern
- Develop ration(s) to gain appropriate weight
- Weigh heifers to ensure weight gain is on target
- Use body condition scoring (BCS)

Growth Pattern



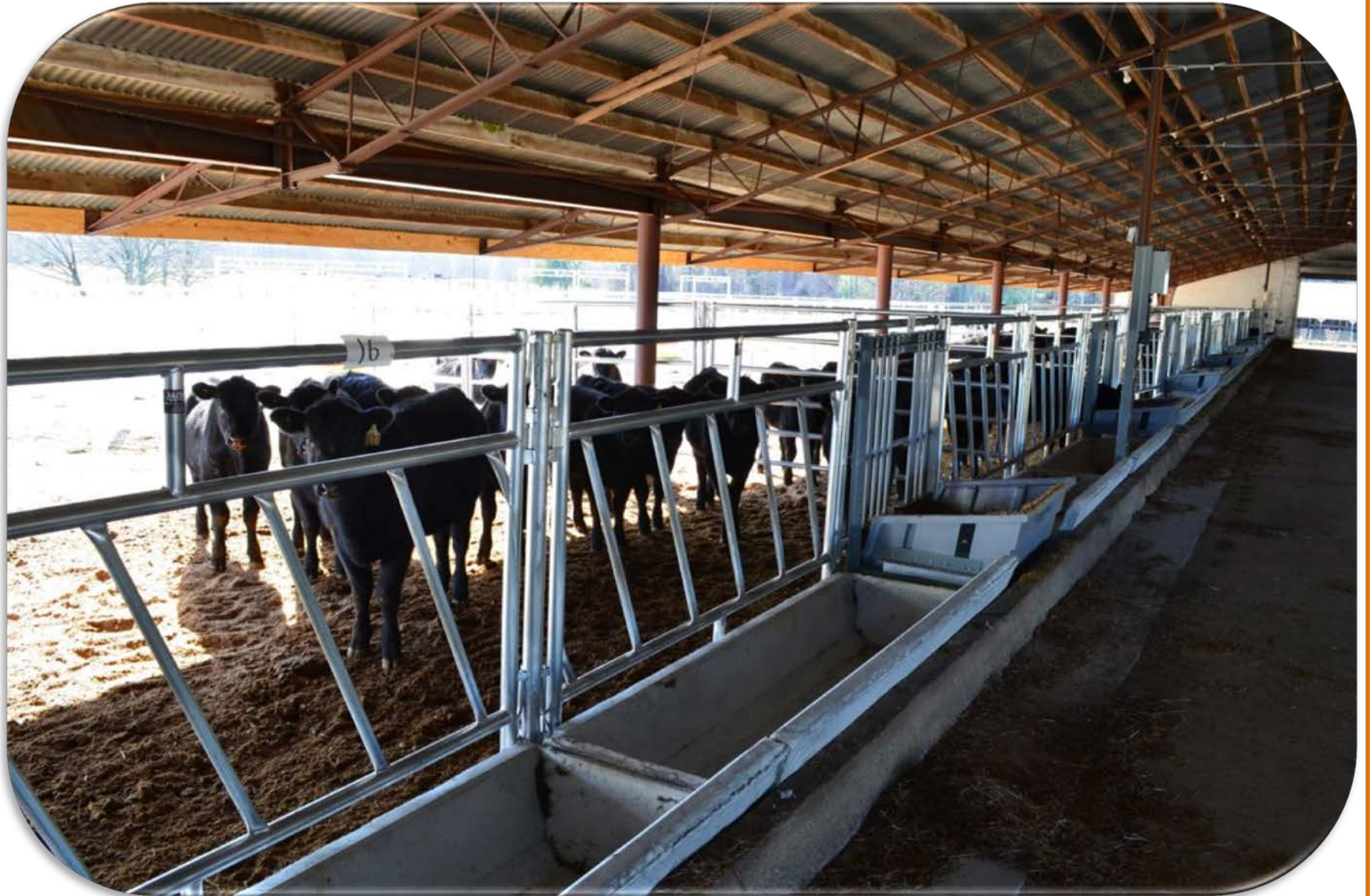
New Concepts in Nutritional Development

- Genetic improvement has advanced the age at puberty
 - The 60% target weight might now be out of date
 - Can reduce input cost of purchased feed
- Intensive management systems might maximize pregnancy rates but do not optimize profitability

Fetal Programming

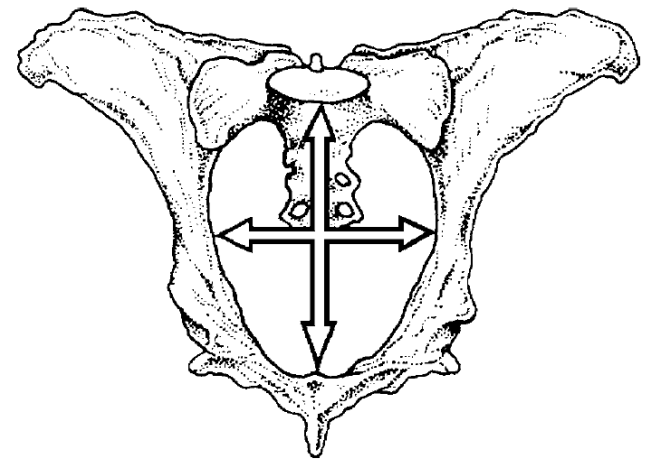
		Supp. Grass	Grass	Supp. Stalks	Stalks
Steers	Weaning Wt. (lb)	528	483	516	533
	Carcass Wt. (lb)	825	789	820	819
	Quality Grade	82.5	77.8	86.8	64.4
Heifers	Weaning Wt. (lb)	478	454	479	480
	Age @ Puberty	352	372	347	360
	Preg. Rate (%)	90.5	77.1	87.8	83.3

Funston et al., 2009 *Nebraska Beef Report*



Steps in Heifer Development

- One month before breeding season
 - Perform pelvic area measurements
 - Cull heifers with unacceptable pelvic area
 - What is an unacceptable pelvic area?



Steps in Heifer Development

- One month before breeding season
 - Reproductive tract scores (RTS)
 - Cull heifers that are sexually immature



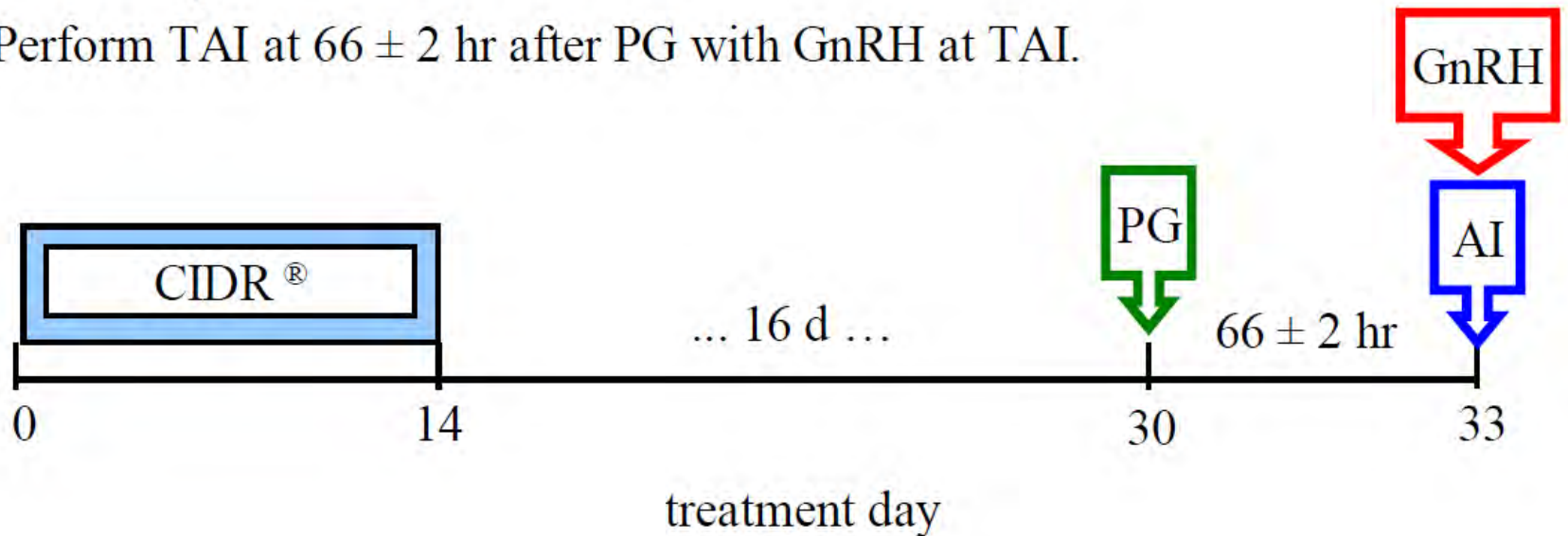
Steps in Heifer Development

- 1 month before breeding season
 - Vaccinate against Vibrio, Lepto, and respiratory/reproductive disease complex (IBR, BVD, etc.).
 - Develop synchronization system (use some type of progestagen)



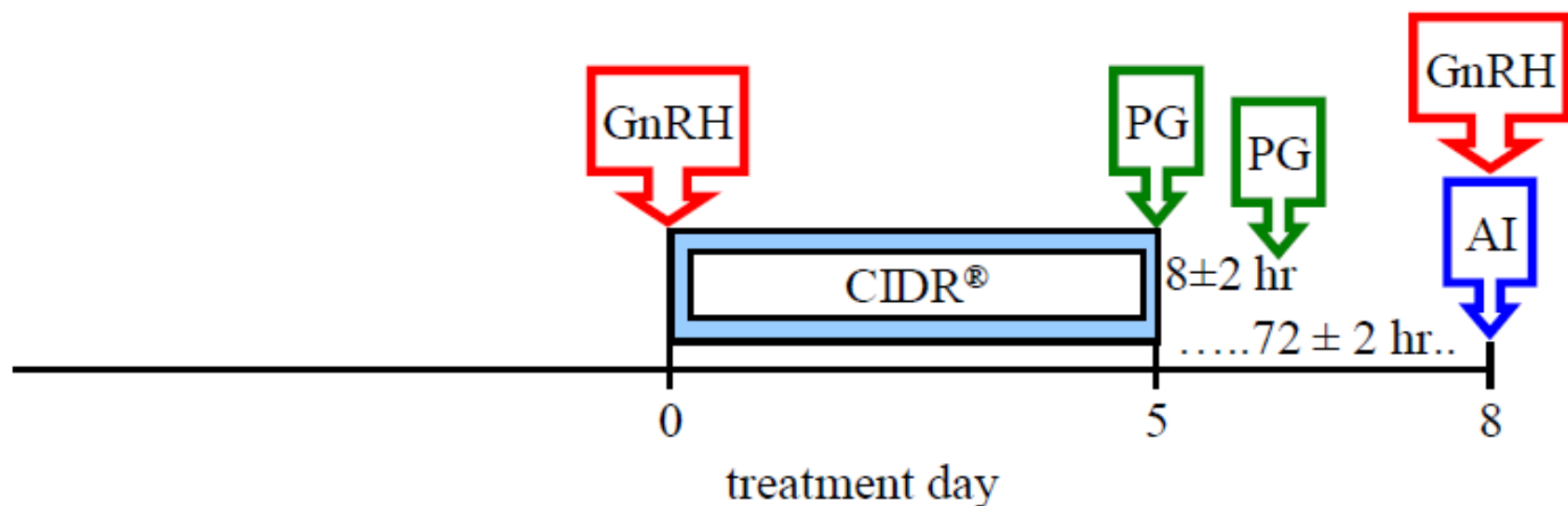
14-day CIDR[®]-PG

Perform TAI at 66 ± 2 hr after PG with GnRH at TAI.



5-day CO-Synch + CIDR[®]

Perform TAI at 72 ± 2 hr after CIDR removal with GnRH at TAI.
Two injections of PG 8 ± 2 hr apart are required for this protocol.



Steps in Heifer Development

- Post – breeding
 - Pregnancy check
 - Cull open and late-bred heifers until replacement number is reached



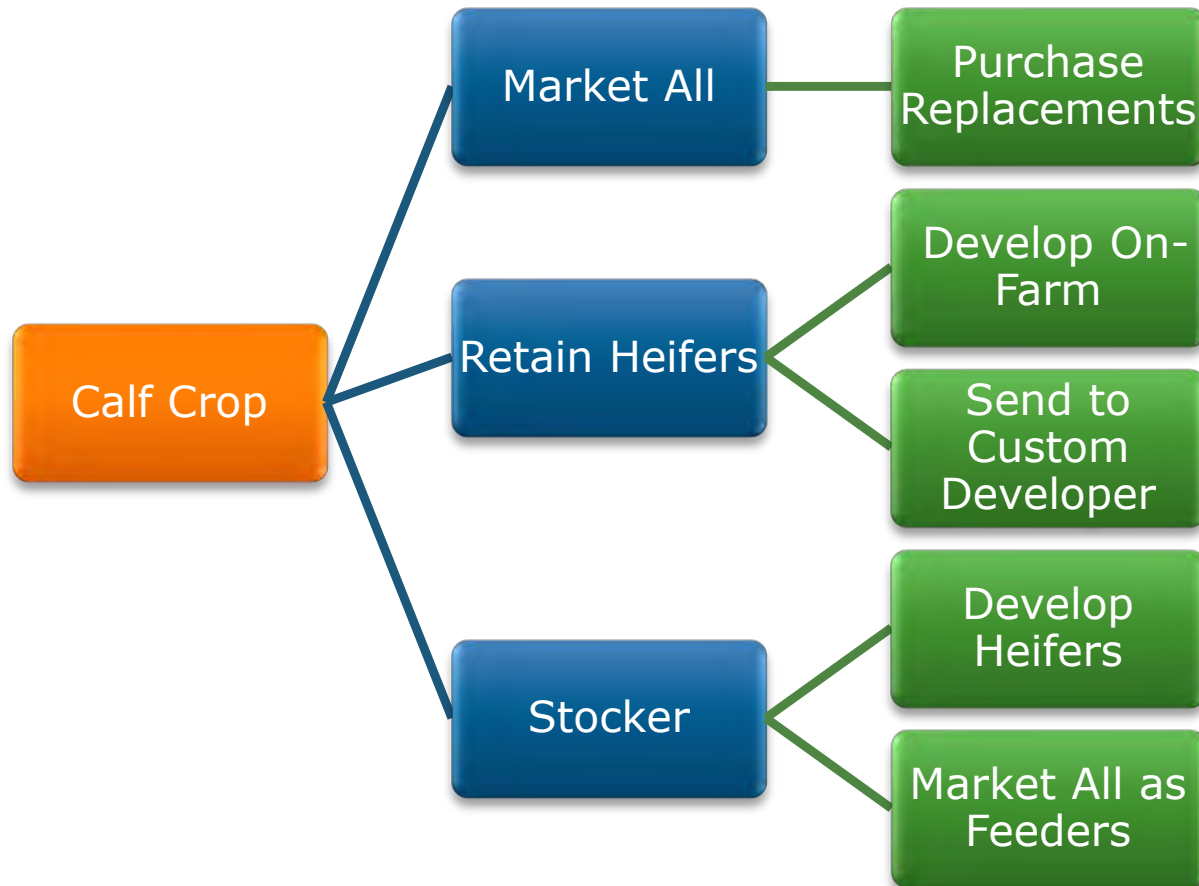


Steps in Heifer Development

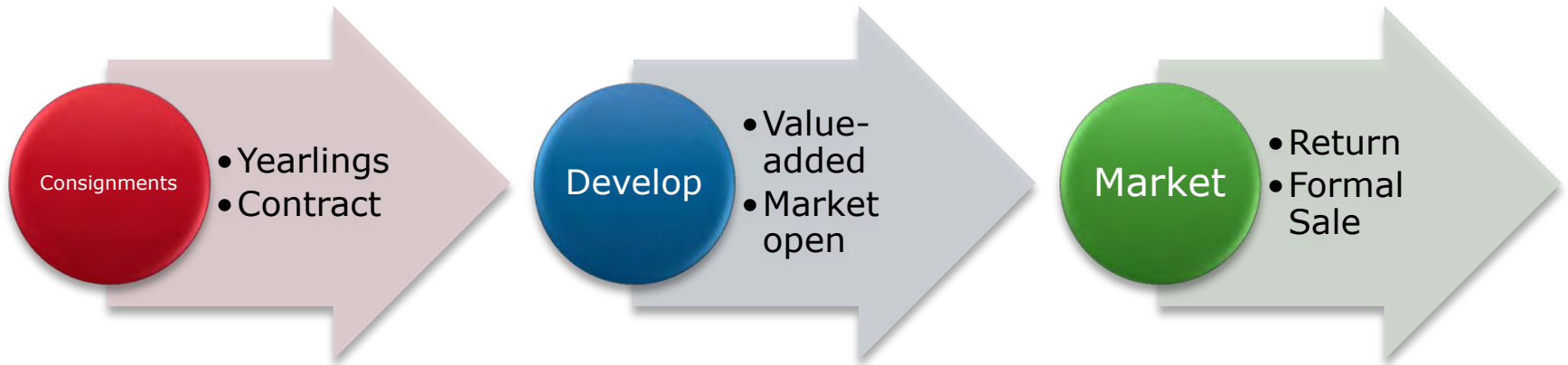
- Post – breeding
 - Heifers should weigh approximately 85 to 90% of mature weight at calving
 - Usually results in 1 lbs./day until calving
 - Maintain BCS of 6
 - More critical analysis of selection traits
 - Give special attention during calving
 - Maintain BCS 5 until re-breeding

Scenarios

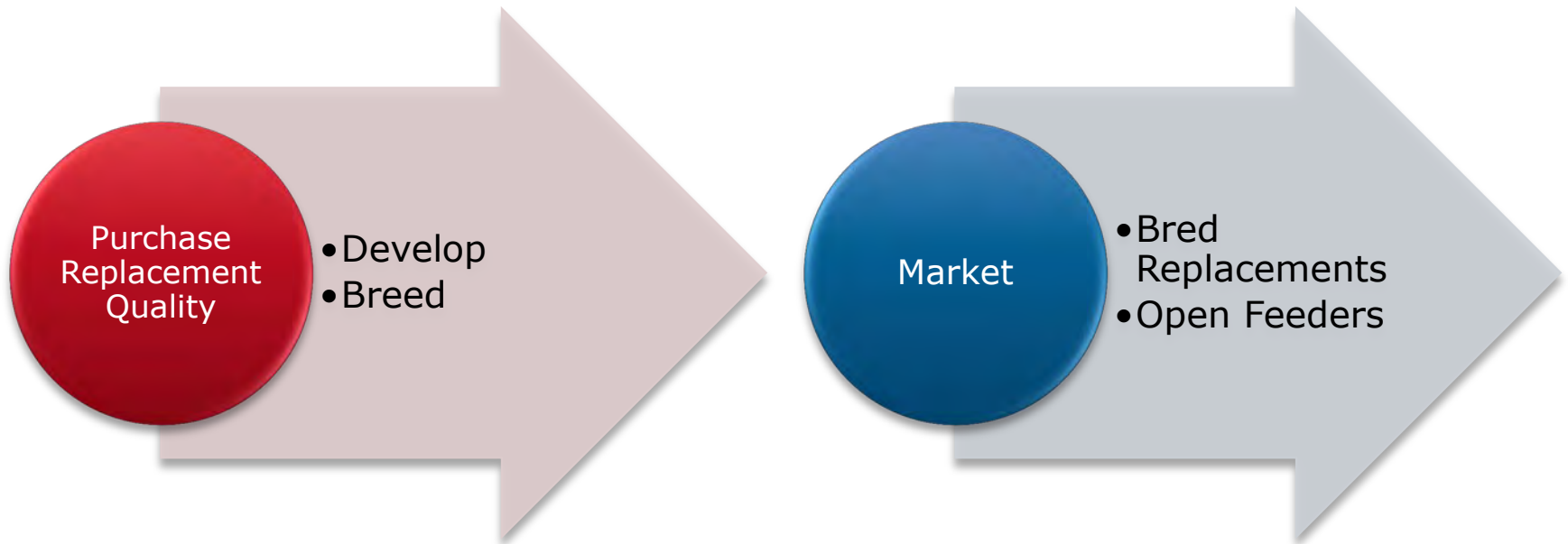
Cow / Calf



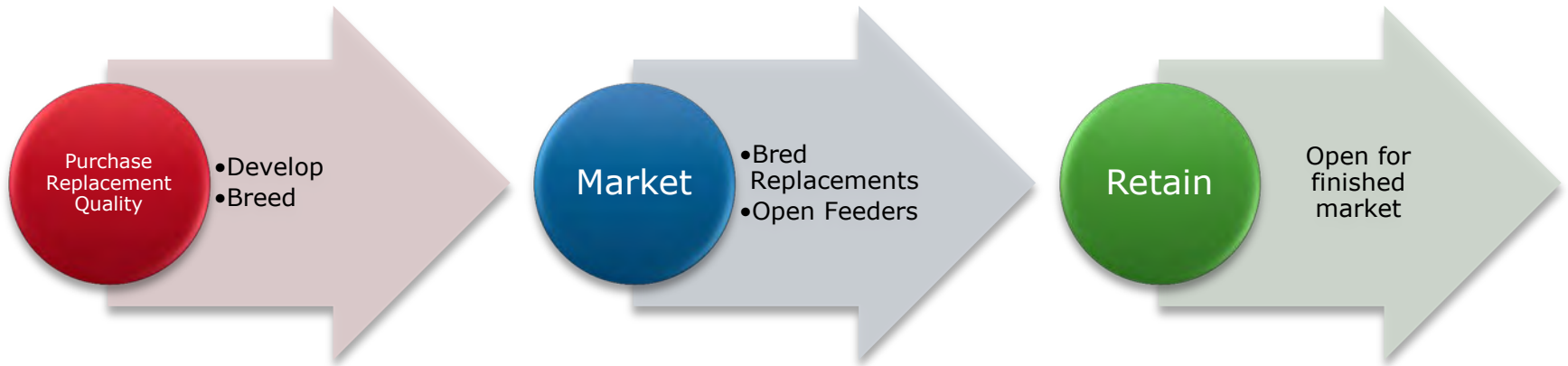
Custom Developer



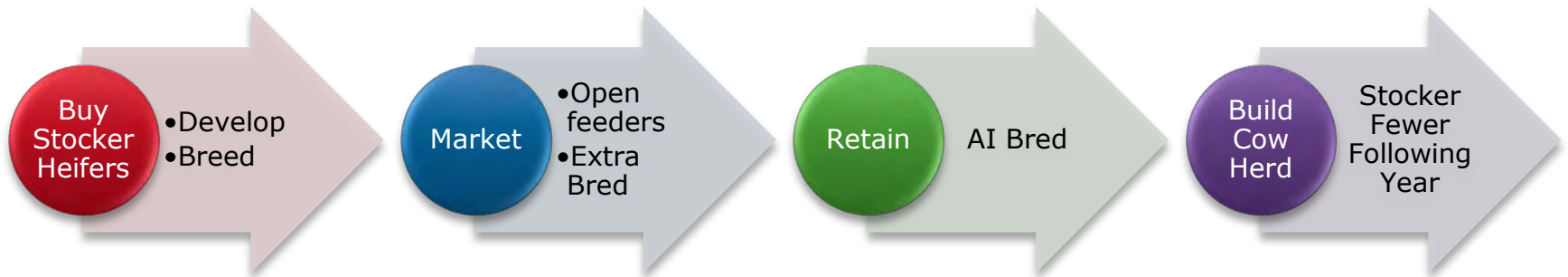
Stocker Operation



Diversified Stocker



New Producer Entry



Take-Home Message

- Developing heifers is a “make or break” period for their value as cows.
- There is a tremendous expense associated with developing heifers.
- In all cases, pregnancy check early!!
- Consider diversification and non-traditional methods (both management and business models).

SOLUTIONS

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