

Reproductive Efficiency Begins with the Heifers

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Heifer Selection

- ◉ Moderate frame
- ◉ Efficient, easy keeper
- ◉ Fertile
 - Reach puberty by 12 months
 - Conceive early in breeding season
 - Rebreed every 12 months

Buy or Raise?

HOME RAISED

- Select replacements from proven females
- Known genetics
 - Fit my program
- Requires additional mngt
 - Heifer bulls or AI
 - Separate pastures/pens
- Delayed income- 2 yr
- Opens, culls
- Death loss

PURCHASED

- Biosecurity
- Unknown genetics
- Easier
- Doesn't require committed resources
- Genetic improvement
- Know your source
- Opportunities
 - Synchronized
 - Calving ease bulls

Age at Calving

- 2 yr old has more calves over lifetime
 - Higher inputs to get her ready
 - May require some assistance at calving
 - Earlier return on investment
- 3 yr old is bigger at breeding and calving
 - Less intensive development
 - More developed at calving
 - Cost more to calve later

Puberty

Need to be cycling by target age
2-3 cycles prior to breeding

Function of age and weight

Genetics

- Daughters of bulls with high SC
- Breed
- Pedigree
- Crossbred

Environment

- Nutrition

Growth rate prior to weaning

Growth rate weaning to breeding

Fertility

AI

- Estrus synchronization
- Proper timing and technique
- High quality semen

Natural service

- Fertile bulls passed BSE
- Confirmation and body condition
- Ratio
 - Young bull- 15-20 heifers
 - Experienced bull- 30-40 heifers
 - Caution: size

Calving ease bulls

Vaccinations

2 doses of MLV prebreeding

- BVD and IBR (BHV)

Vibrio- *C. fetus*; transmitted by bulls

Leptospirosis

Fertilization failure

Embryonic mortality and abortion

Calving

Heifers have higher calf loss than cows

- Require more supervision

Heifers are not experienced mothers

Assist if >2 hr with no progress

- Depends on observation frequency

Labor in heifers is naturally longer

Heifer Development

Nutritional restriction

- Light prebreeding BW
- Fewer heifers at puberty prebreeding
- Lower pregnancy rates
- Late breeding dates

Leading to

- Late calving
- Lower lifetime production
- Exit herd at younger age
- Weaning lighter calves

Heifer Development

65% target weight

- Increased percentage cycling
- Increase percentage bred AI and first 21 days
- Calve ahead of cow herd

Relied on process feeds

- Risk of over condition-lower life fertility and increased risk of calving problems
- Increase over all development costs

Heifer Development

55% target weight

- Restrict ADG in post-weaning period
- Protein supplementation (ADG < 1.5 lb/day)
- Pre-breeding increase in nutrition

No differences in AI CR or season PR

- AI; 69 vs 58%; PR 94 vs 92%

22% less development costs

Fewer restricted growth heifers at puberty

- Synchronization may have induced puberty

Heifer Development

55% TW

More heifers reach puberty
More heifers conceive AI
Calve earlier

Higher input costs
Risk of too fleshy

55%

- Fewer heifers reach puberty by breeding
- Lower AI conception
- Usually calve later
- May have higher cull rate

- Lower input costs
- Selection tool

Raising Heifers

Opportunity to save \$ in development

Adequate supplement

Good nutrition program prior to
breeding

Estrus synchronization

Vaccinations

Preg check early and sell opens