HEIFER BREEDING
Simple steps to accelerate performance.

Lutalyse® (dihydroergocristine)
Sterile Solution

Eazi-Breed CIDR
Cattle health

DAIRY WELLNESS MAKES A DIFFERENCE™
Get heifers ready for work.

Heifers represent the best genetics within the herd, and ensuring they are bred and calve in a timely manner is crucial to future production. Research has shown long-term financial benefits to calving heifers for the first time at younger than 24 months of age.\(^4\)

The decision to breed heifers to calve between 22 and 23 months of age needs to begin before they are ready for first insemination. Set goals and monitor growth to ensure replacement heifers are reaching breeding size targets by 12 to 13 months of age. Heifers must reach height and weight benchmarks to ensure a healthy calving and a smooth transition into higher production.

Monitor performance.

Performance should be monitored on an ongoing basis. An important measure to track is age at first breeding. Set a goal for age at first insemination and see how many heifers are meeting it. Measurement of progress should be evaluated after each pregnancy check.

Building a better heifer.

Important steps must be taken early in a heifer’s life to make sure she grows to her full potential.

**Timely feeding of colostrum** – Deliver 3 to 4 quarts of colostrum within six hours of birth

**High plane of nutrition** – Double a calf’s birth weight and ensure appropriate structural growth by 60 days of age through a higher plane of nutrition pre-weaning

**Adequate housing** – Provide a clean, dry, well-ventilated place for calves to lie down

**Monitor growth** – Ensure calves are growing with routine measurement

![Discounted Income Over Feed Costs is Higher for Earlier Age at First Calving](chart)

<table>
<thead>
<tr>
<th>Age at first calving</th>
<th>End of 310-day lactation</th>
<th>By 38 months of age</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.3 months</td>
<td>$1,801</td>
<td>$2,590</td>
</tr>
<tr>
<td>23.7 months</td>
<td>$1,466</td>
<td>$2,151</td>
</tr>
<tr>
<td>25.9 months</td>
<td>$1,183</td>
<td>$1,838</td>
</tr>
</tbody>
</table>

\(^7\) By 38 months of age
Calving heifers earlier reduces raising investments.

Heifers are an overlooked profit opportunity. According to industry estimates, it costs between $1,595 and $2,935 to raise a heifer from birth until freshening, one of the largest expenses on a dairy.¹

One way to reduce the investment in raising heifers is to calve heifers earlier. Age at first calving can be improved on most dairies. According to U.S. Department of Agriculture (USDA) research, age at first calving has averaged older than 25 months for the past 10 years despite industry recommendations and financial reasons to improve.²

Producers who routinely achieve an age at first calving between 22 and 24 months capture increased return on their heifer-raising investment in many different ways. Every month first calving is delayed beyond 22 months costs producers $100 per heifer in lost milk production opportunity and additional raising costs.²

Reduced raising costs

Improving age at first calving reduces raising costs from birth to freshening²

Earlier investment returns

Heifers that join the milking herd begin to return on raising investment earlier in life

Increased herd management flexibility

Heifers entering the herd earlier can provide opportunities for expansion or voluntary culling

Fewer replacements on the dairy

Heifers calving sooner reduce the total number of replacement heifers needed to meet herd size goals
Improving heifer reproduction is simple.

Setting a goal for age at first calving won’t ensure heifers are bred in time to reach it. Improving age at first calving takes a commitment to more aggressive management of heifer reproduction. Since gestation is a fixed length, first service conception risk and age at first breeding will be the biggest drivers of reproductive efficiency.

Five easy steps.

There are real opportunities to move replacements into the milking herd sooner by taking simple steps to more aggressively manage heifer reproduction.

1. **Move heifers to the breeding pen.**
   - Heifers should be moved into the artificial insemination (AI) breeding pen as they reach height and weight targets and are ready for breeding. Don’t delay based on age. If heifers are big enough, move them into the breeding pen.

2. **Use prostaglandin on date of move.**
   - Administer LUTALYSE® (dinoprost tromethamine) Sterile Solution on the day of movement and again 10 to 12 days later for heifers not yet inseminated. Using it up front can save 10 to 12 days of feed.

3. **Make sure all heifers are inseminated.**
   - Eazi-Breed™ CIDR® should be used for timed breeding on heifers not inseminated during their first 28 days in the breeding pen. This will ensure all heifers are inseminated within 36 days of arrival into the AI pen.

4. **Routine pregnancy checks.**
   - Pregnancy diagnosis must be conducted as routinely as heifers are moved to the breeding pen to identify pregnant females and move them out, making room for new heifers. All pregnancies should be reconfirmed at 70 to 90 days carried calf.

5. **Re-enroll open heifers.**
   - Any heifers that aren’t bred should be immediately submitted to a timed breeding program with LUTALYSE or Eazi-Breed CIDR.

Managing heifer reproduction as intensely as the lactating herd can pay real dividends. Research has found that administering LUTALYSE on the day heifers are moved to the breeding pen, and then again 14 days later for animals not yet inseminated, can improve breeding success. The incremental costs are minimal compared with the benefits calving heifers younger than 24 months of age can have on a dairy’s bottom line.

**Important Safety Information:** Aseptic technique should be used to reduce the possibility of post-injection bacterial infections. Do not administer in pregnant animals unless cessation of pregnancy is desired. Not for intravenous administration. Women of childbearing age and persons with respiratory problems should exercise extreme caution when handling this product.
Keys to great heifer reproduction.

Move heifers to breeding pen when they reach size goals

- Heifers are ready to move when they reach 55 percent of mature size
- For a Holstein heifer, this is 800 to 850 pounds of body weight and 49 to 51 inches of wither height

<table>
<thead>
<tr>
<th>Current Size Upon Entry:</th>
<th>Goal:</th>
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</thead>
<tbody>
<tr>
<td>Weight</td>
<td>Height</td>
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</tbody>
</table>

Reduce days to first insemination with LUTALYSE® (dinoprost tromethamine) Sterile Solution

- Target between 375 and 400 days

<table>
<thead>
<tr>
<th>Current age at first insemination:</th>
<th>Goal:</th>
</tr>
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</table>

Identify open heifers and rebreed

- All heifers should be confirmed pregnant by 15 months of age

<table>
<thead>
<tr>
<th>Current average age at conception:</th>
<th>Goal:</th>
</tr>
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Monitor appropriate metrics

<table>
<thead>
<tr>
<th>Current pregnancy rate:</th>
<th>Goal:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current heat detection rate:</td>
<td>Goal:</td>
</tr>
<tr>
<td>Current conception rate:</td>
<td>Goal:</td>
</tr>
</tbody>
</table>

Pay attention to management details

- Health of heifers
- Clean pens and corrals
- Sound vaccination program
- Efficiency of lock-ups
- Proper nutrition and feed bunk management

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**LUTALYSE**

**dinoprost tromethamine injection**

**Sterile Solution**

**Description:**
- This product contains the naturally occurring prostaglandin F2 alpha (dinoprost) as the tromethamine salt. Each mL contains dinoprost tromethamine (25 mg) and the following inactive ingredients: sodium dihydrogen phosphate, water for injection, and diluent for injection. The pH is 6.0 to 6.9.
- Contains sodium chloride which is intended for veterinary use only.

**Indications and Uses:**
- **Cattle:** LUTALYSE Sterile Solution is indicated as a luteolytic agent. LUTALYSE is effective only in those cattle having a functional corpus luteum, i.e., those which ovulated at least five days prior to treatment. Future reproductive performance of the treated animal is dependent on the success of the treatment. LUTALYSE is most effective when administered to cattle having a corpus luteum that is due to be involuted by the end of the expected estrous season. The treatment of cows with LUTALYSE that have not ovulated within the expected estrous season is not recommended.
- **Swine:** LUTALYSE Sterile Solution is indicated for parturition induction in swine. The product must be administered at a relatively specific time (treatment window) to elicit a luteolytic response. The acceptable treatment window for LUTALYSE Sterile Solution is from 12 to 24 hours after estrus.

**Dosage and Administration:**
- **Cows:** For intramuscular use for parturition induction in swine. LUTALYSE Sterile Solution is indicated for parturition induction in swine when injected within 3 days of normal predicted farrowing. The response to treatment varies by producer and by the stages of gestation. Induction of abortion in feedlot cattle at stages of gestation beyond 100 days of gestation may result in fetal damage or death. For pregnant cattle injected up to 100 days of gestation, inject a dose of 5 mL LUTALYSE (25 mg PGF2α) subcutaneously at doses of 0.5 and 1.0 mg/kg/day on gestation days 6, 7 and 8 or 9, 10 and 11, or 12 and 13 or 14, followed by a dose of 10 mg LUTALYSE subcutaneously at least 10X on injection (25 mg luteolytic dose vs. 250 mg safe dose), based on studies conducted with cattle. At the approved dose may result in drug residues. Do not use in horses intended for human consumption.

**Contraindications:**
- Do not use in pregnant cattle, unless abortion is desired. Cattle administered a progestin would be expected to have a reduced response to LUTALYSE Sterile Solution.
- Cattle not administered a progestin and not treated with a drug known to suppress luteolysis may respond to LUTALYSE Sterile Solution.

**Precautions:**
- Do not administer intravenously (IV) as this route may potentiate adverse reactions.
- Do not inject into a fetus, since this may result in death of the fetus and abortion.
- Do not administer to cattle with known meniscal tears or other abnormalities which could be incapacitated by luteolysis.

**Warnings:**
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**How Supplied:**
- LUTALYSE Sterile Solution is available in 30 and 100 mL vials.

**Storage Conditions:**
- Store at controlled room temperature 20° to 25°C (68° to 77°F). Protect from freezing.
- Restricted Drug (California, Utah, Maine, Rhode Island, New Mexico)

**DIstributed by:**
- Avant Pharmaceutical and Upjohn Company LLC
- Division of Pfizer

**References:**
- (LUT1213)
- Revised 2007

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