Exciting developments in antibiotic therapy have demonstrated greater success in treating calfhood pneumonia and reducing its impact. The potential lifetime value a healthy calf can return to dairy is the most compelling reason yet to consider using DRAXXIN® (tulathromycin) Injectable Solution. DRAXXIN was the first antibiotic on the market labeled to control and treat all four bacteriological pathogens associated with calfhood pneumonia.

**CAUSES OF PNEUMONIA IN DAIRY CALVES**

- Mannheimia haemolytica
- Pasteurella multocida
- Histophilus somni
- Mycoplasma bovis

DRAXXIN is convenient and flexible:

- **Treats all four**

DRAXXIN has a broad-spectrum label claim for the control and treatment of the major causes of dairy calfhood pneumonia.

- **One shot**

Convenient full course of therapy in a single dose.

- **Effective**

Superior efficacy to treat pneumonia when compared with Baytril®, Nuflor® and Micotil® in field studies.²

- **Low dose**

1.1 mL volume per 100 pounds.

- **Convenient sizes**

Available in 50 mL, 100 mL, 250 mL and 500 mL vials.

**Important Safety Information:**

- Do not use in female dairy cattle 20 months of age or older.
- Do not use in calves to be processed for veal. A pre-slaughter withdrawal time has not been determined for pre-ruminating calves. Effects on reproductive performance, pregnancy and lactation have not been determined. DRAXXIN has a pre-slaughter withdrawal time of 18 days.

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**DRAXXIN reduces the incidence and severity of disease resulting in several economic opportunities:³**

- Improved gain of post-weaned dairy calves
- Earlier breeding and freshening
- Lower total raising costs

**Convenient and effective.**

- Treats all four
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**DRAXXIN makes a difference.**

The single-dose convenience you want. The effectiveness you need. Learn more at www.draxxin.com

DRAXXIN makes a difference.

**PROTECTION FOR A LIFETIME**

Keeping calves healthy will lead to a lifetime of better performance.

5. Data on file. 08PETDRA01. Zoetis Inc.
Exciting developments in antibiotic therapy have demonstrated greater success in treating calfhood pneumonia and reducing its impact. The potential lifetime value a healthy calf can return to a dairy is the most compelling reason yet to consider using Draxxin® (tulathromycin) Injectable Solution.

Draxxin was the first anti-infective on the market labeled to control and treat all four bacteriological pathogens associated with calfhood pneumonia.

**CAUSES OF PNEUMONIA IN DAIRY CALVES**

<table>
<thead>
<tr>
<th>Microbiological Pathogens</th>
<th>Pasteurella multocida</th>
<th>Mannheimia haemolytica</th>
<th>Histophilus somni</th>
<th>Mycoplasma bovis</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
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Exciting developments in antibiotic therapy have demonstrated greater success in treating calfhood pneumonia and reducing its impact. The potential lifetime value a healthy calf can return to a dairy is the most compelling reason yet to consider using Draxxin® (tulathromycin) Injectable Solution.

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**DRAXXIN LABEL**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treats all four</td>
<td>Draxxin has a broad-spectrum label claim for the control and treatment of the major causes of dairy calfhood pneumonia.</td>
</tr>
<tr>
<td>One shot</td>
<td>Convenient full course of therapy in a single dose.</td>
</tr>
<tr>
<td>Effective</td>
<td>Superior efficacy to treat pneumonia when compared with Baytril®, Nuflor® and Micotil® in field studies.3</td>
</tr>
<tr>
<td>Low dose</td>
<td>11.3 mL volume per 100 pounds.</td>
</tr>
<tr>
<td>Convenient sizes</td>
<td>Available in 50 mL, 100 mL, 250 mL and 500 mL vials.</td>
</tr>
</tbody>
</table>

**DRAXXIN is convenient and flexible:** Treats all four. Draxxin has a broad-spectrum label claim for the control and treatment of the major causes of dairy calfhood pneumonia. One shot. Convenient full course of therapy in a single dose. Effective. Superior efficacy to treat pneumonia when compared with Baytril®, Nuflor® and Micotil® in field studies.3 Low dose. 11.3 mL volume per 100 pounds. Convenient sizes. Available in 50 mL, 100 mL, 250 mL and 500 mL vials.

**DRAXXIN reduces the incidence and severity of disease resulting in several economic opportunities3**

- √ Improved gain of post-weaned dairy calves
- √ Earlier breeding and freshening
- √ Lower total raising costs

**PROTECTION FOR A LIFETIME**

Keeping calves healthy will lead to a lifetime of better performance.

**Dairy Wellness Makes a Difference™**

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Do not use in calves to be processed for veal. A pre-slaughter withdrawal time has not been determined for pre-ruminating calves. Effects on reproductive performance, pregnancy and lactation have not been determined. Draxxin has a pre-slaughter withdrawal time of 18 days.

**Causes of pneumonia in dairy calves**

- Mannheimia haemolytica
- Pasteurella multocida
- Histophilus somni
- Mycoplasma bovis

**Treatments per 50 mL Draxxin (180 lbs per calf)**

- √ 1.1 mL volume per 100 pounds.

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- One shot. Convenient full course of therapy in a single dose.
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Pneumonia is among the leading causes of dairy call mortality, accounting for 22 percent of all pre-weaning calf losses. It’s also the leading cause of mortality in post-weaning heifers. For those that do survive, their lifetime performance is diminished from damaged lungs and a compromised respiratory system.

- Greater calfhood mortality – 2.4 times more likely to die from 3 to 30 months of age
- Reduction in growth – up to 22 pounds less gain during first six months of life
- High treatment costs
- Increased labor demands
- Diminished reproductive performance
- Reduced lifetime milk production

Pneumonia is a disease that reduces dairy operation profits. Heifers treated for the disease during their first three months of life do not reach their potential.

**DRAXXIN RESULTS IN LESS RESPIRATORY DISEASE**

**New York Study**
1,392 calves (P < 0.001)

**Texas Study**
206 calves

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Incidence of Pneumonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAXXIN</td>
<td>13.2%</td>
</tr>
<tr>
<td>Control</td>
<td>22.4%</td>
</tr>
<tr>
<td>Oxytetracycline</td>
<td>9.3%</td>
</tr>
</tbody>
</table>

**DRAXXIN goes to work.**

Recent field studies demonstrate the outstanding effectiveness of DRAXXIN in dairy calves.

**Better health. Better gain.**

Experts say that average daily gain (ADG) is probably the best method to monitor progress toward some of the basic heel-to-hoof performance goals. (1) Heifers that are healthier have higher ADG and sell perform at a higher rate throughout life.

In all three studies, researchers tracked ADG, demonstrating the further value of DRAXXIN.

**Table 4.**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Telithromycin</th>
<th>Comparator</th>
<th>Length of Trial</th>
<th>Lbs Advantage to DRAXXIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York Study</td>
<td>242.3 (wb weight)</td>
<td>2.06 (ADG)</td>
<td>50 days</td>
<td>10.8 lbs</td>
</tr>
<tr>
<td>Texas Study</td>
<td>205.5 (wb weight)</td>
<td>1.75 (ADG)</td>
<td>28 days</td>
<td>10.7 lbs</td>
</tr>
<tr>
<td>New Mexico Study</td>
<td>173 (wb weight)</td>
<td>1.56 (ADG)</td>
<td>28 days</td>
<td>4.8 lbs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>43 days</td>
<td>3.3 lbs</td>
</tr>
</tbody>
</table>

Faster gain creates opportunities for early weaners. Improving ADG through healthier, more aggressively growing calves fed proper nutrion pays off in a number of ways. Not only will these herd replacements be at less risk of disease, but they also can be bred to fresen as an early age in life. Research shows long-term financial benefits to calving heifers at 22 to 24 months of age.

**DISCOUNTED INCOME OVER FEED COSTS IS HIGHER FOR EARLIER AGE AT FIRST CALVING**

- Age at first calving: 22.3 months vs. 23.7 months vs. 25.6 months

**Figure 1.**

**Figure 2.**

**Figure 3.**

**Figure 4.**

**Figure 5.**

**Figure 6.**

**Figure 7.**

**Figure 8.**

**Figure 9.**

**Figure 10.**

**Figure 11.**

**Figure 12.**

**Figure 13.**

**Figure 14.**

**Figure 15.**

**Figure 16.**

**Figure 17.**

**Figure 18.**

**Figure 19.**

**Figure 20.**

**Figure 21.**

**Figure 22.**

**Figure 23.**

**Figure 24.**

**Figure 25.**

**Figure 26.**

**Figure 27.**

**Figure 28.**

**Figure 29.**

**Figure 30.**

**Figure 31.**

**Figure 32.**

**Figure 33.**

**Figure 34.**

**Figure 35.**

**Figure 36.**

**Figure 37.**

**Figure 38.**

**Figure 39.**

**Figure 40.**
DRAXXIN® goes to work.

Recent field studies demonstrate the outstanding effectiveness of DRAXXIN in dairy calves.


Experts say that average daily gain (ADG) is probably the best method possible to monitor progress toward some of the basic herd-raising performance goals. Calves that are healthier tend to have higher ADG and sell at a higher rate throughout life.

In all three studies, researchers tracked ADG, demonstrating the further value of DRAXXIN.

Faster gain creates opportunities for earlier weaning.

Improving ADG through healthier, more aggressively growing calves has the potential to pay off in a number of ways. Not only will these herd replacements be at less risk of disease, but they also can be sold to finishers at an earlier age in life. Research shows long-term financial benefits to culling heifers at 22 to 24 months of age.

---

**Table: New York Study Results**

<table>
<thead>
<tr>
<th>Drug</th>
<th>New York Study Incidence (%)</th>
<th>Texas Study Incidence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAXXIN</td>
<td>12.4</td>
<td>22.8</td>
</tr>
<tr>
<td>Oxytetracycline</td>
<td>9.2</td>
<td>16.8</td>
</tr>
</tbody>
</table>

---

**Table: Texas Study Results**

<table>
<thead>
<tr>
<th>Drug</th>
<th>New York Study Incidence (%)</th>
<th>Texas Study Incidence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAXXIN</td>
<td>12.4</td>
<td>22.8</td>
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<tr>
<td>Oxytetracycline</td>
<td>9.2</td>
<td>16.8</td>
</tr>
</tbody>
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---

**Table: New Mexico Study Results**

<table>
<thead>
<tr>
<th>Drug</th>
<th>New York Study Incidence (%)</th>
<th>Texas Study Incidence (%)</th>
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</thead>
<tbody>
<tr>
<td>DRAXXIN</td>
<td>12.4</td>
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</tr>
<tr>
<td>Oxytetracycline</td>
<td>9.2</td>
<td>16.8</td>
</tr>
</tbody>
</table>

---

**Graphic: Discounted Income Over Feed Costs is Higher for Earlier Age at First Calving**

<table>
<thead>
<tr>
<th>Age at First Calving</th>
<th>Discounted Income Over Feed Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.3 months</td>
<td>$100</td>
</tr>
<tr>
<td>23.7 months</td>
<td>$100</td>
</tr>
<tr>
<td>26.0 months</td>
<td>$100</td>
</tr>
</tbody>
</table>
Pneumonia leaves a mark that lasts a lifetime. Pneumonia is a disease that reduces dairy operation profits. Heifers treated for the disease during their first three months of life do not reach their potential:

- Greater calfhood mortality: ~2.4 times more likely to die from 3 to 10 months of age
- Reduction in growth: ~22 pounds less gain during first six months of life
- High treatment costs
- Increased labor demands
- Diminished reproductive performance
- Reduced lifetime milk production

Pneumonia is among the leading causes of dairy calf mortality, accounting for 22 percent of all pre-weaning calf losses. It’s also the leading cause of mortality in post-weaning heifers. For those that do survive, their lifetime performance is diminished from damaged lungs and a compromised respiratory system.

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Experts say that average daily gain (ADG) is probably the best method possible to monitor progress toward some of the basic herd-improvement performance goals. Feathers that are healthier have higher ADG and sell perform at a higher rate throughout life.

In all three studies, researchers tracked ADG, demonstrating the further value of DRAXXIN.

Faster gain creates opportunities for ear ear threshing.

Improving ADG through healthier, more aggressively growing calves feeds proper nutrition pays off in a number of ways. Not only sell these herd replacements at a lower risk of disease, but they also can be sold at a later age in life. Research shows long-term financial benefits to caressing heifers at 22 to 24 months of age.

DISCOUNTED INCOME OVER FEED COSTS IS HIGHER FOR EARLIER AGE AT FIRST CALVING

<table>
<thead>
<tr>
<th>Age at first calving</th>
<th>$1000</th>
<th>$2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.3 months</td>
<td>$500</td>
<td>$1000</td>
</tr>
<tr>
<td>23.7 months</td>
<td>$500</td>
<td>$1000</td>
</tr>
<tr>
<td>25.0 months</td>
<td>$500</td>
<td>$1000</td>
</tr>
</tbody>
</table>

DISCOUNTED INCOME OVER FEED COSTS IS HIGHER FOR EARLIER AGE AT FIRST CALVING

**New York Study** 22.3 months vs. 23.7 months 10.8 lbs, P<0.05

**Texas Study** 21.8 months vs. 23.9 months 10.7 lbs, P<0.05

**New Mexico Study** 21.0 months vs. 23.9 months 5.3 lbs, P<0.0001

**DRAXXIN RESULTS IN LESS RESPIRATORY DISEASE**

<table>
<thead>
<tr>
<th>Incidence of Pneumonia</th>
<th>New York Study (P&lt;0.05)</th>
<th>Texas Study (P&lt;0.0001)</th>
<th>New Mexico Study (P&lt;0.0001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>10.8%</td>
<td>10.4%</td>
<td>4.8%</td>
</tr>
<tr>
<td>DRAXXIN</td>
<td>3.8%</td>
<td>1.7%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Oxytetracycline</td>
<td>12.5%</td>
<td>12.5%</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

---

**INDICATIONS**

- Foot Rot
- Bovine respiratory disease
- Actinobacillus pleuropneumoniae
- Pasteurella multocida
- Histophilus somni
- Moraxella bovis
- Mycoplasma hyopneumoniae
- Mycoplasma bovis
- Porphyromonas levii
- Fusobacterium necrophorum

**CONTRAINDICATIONS**

- Hypersensitivity to tulathromycin
- Contraindicated in pregnant horses

**WARNINGS**

- Safe for use in horses of breeding soundness
- Do not exceed recommended dosage

**DOSAGE AND ADMINISTRATION**

- Intramuscular injection
- Neonatal calves and young cattle: 2.2 mg/kg BW
- Cattle: 2.6 mg/kg BW
- Sheep and goats: 2.4 mg/kg BW
- Swine: 2.4 mg/kg BW

**RESIDUE WARNINGS**

- Do not use in animals for which the undiluted product would be a therapeutic agent
- Do not use in ruminants with mastitis
- Do not use in horses within 21 days of slaughter
- Do not use in swine and milk goats with milk for food use

---

**DISCOUNTED INCOME OVER FEED COSTS IS HIGHER**

- Texas Study: 80% vs. 74%
- New York Study: 90% vs. 82%
- New Mexico Study: 81% vs. 76%

**DISCOUNTED INCOME OVER FEED COSTS IS HIGHER FOR EARLIER AGE AT FIRST CALVING**

- New York Study: 22.3 months vs. 23.7 months
- Texas Study: 21.8 months vs. 23.9 months
- New Mexico Study: 21.0 months vs. 23.9 months

**TECHNICAL INFORMATION**

- Oral suspension:
  - Active ingredient: tulathromycin
  - Dilution:
    - Cattle: 2.5 mg/mL
    - Sheep and goats: 2.4 mg/mL
    - Swine: 2.4 mg/mL
    - Sheep and goats: 1.2 mg/mL
  - Administration:
    - Oral: 3 mL/kg BW
    - Oral: 5 mL/kg BW

---

**DISCOUNTED INCOME OVER FEED COSTS IS HIGHER FOR EARLIER AGE AT FIRST CALVING**

- New York Study: 80% vs. 74%
- Texas Study: 90% vs. 82%
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Protection for a lifetime

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DRAXXIN was the first antibiotic on the market labeled to control and treat all four bacteriological pathogens associated with calfhood pneumonia.

<table>
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<tr>
<td>Histophilus somni</td>
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</table>

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  - DRAXXIN has a broad-spectrum label claim for the control and treatment of the major causes of dairy calfhood pneumonia.
- **One shot**
  - Convenient full course of therapy in a single dose.
- **Effective**
  - Superior efficacy to treat pneumonia when compared with Baytril®, Nuflor® and Mioctil® in field studies.
- **Low dose**
  - 1.1 mL volume per 100 pounds.

**Convenient sizes**
Available in 50 mL, 100 mL, 250 mL and 500 mL vials.

**Important Safety Information:**
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Do not use in calves to be processed for veal. A pre-slaughter withdrawal time has not been determined for pre-ruminating calves. Effects on reproductive performance, pregnancy and lactation have not been determined. DRAXXIN has a pre-slaughter withdrawal time of 18 days.

DRAXXIN reduces the incidence and severity of disease resulting in several economic opportunities:
- Improved gain of post-weaned dairy calves
- Earlier breeding and freshening
- Lower total raising costs

**Convenient and effective**
- Treating all four pathogens
- One shot convenient full course of therapy
- Effective superior efficacy
- Low dose 1.1 mL volume per 100 pounds
- Convenient sizes 50 mL, 100 mL, 250 mL, 500 mL vials

**PROTECTION FOR A LIFETIME**

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