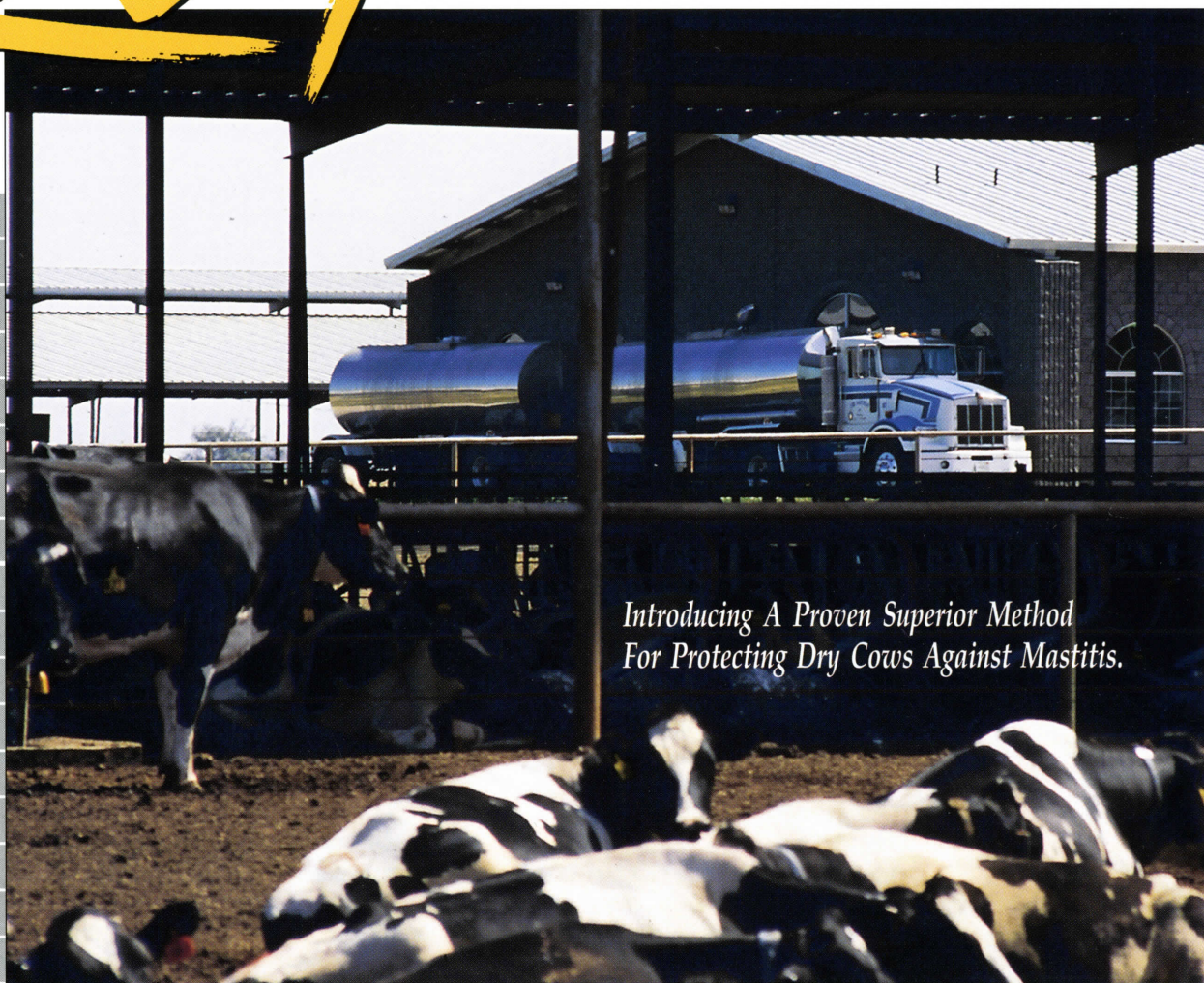


**WESTAGRO®**

# Reports

NUMBER 12

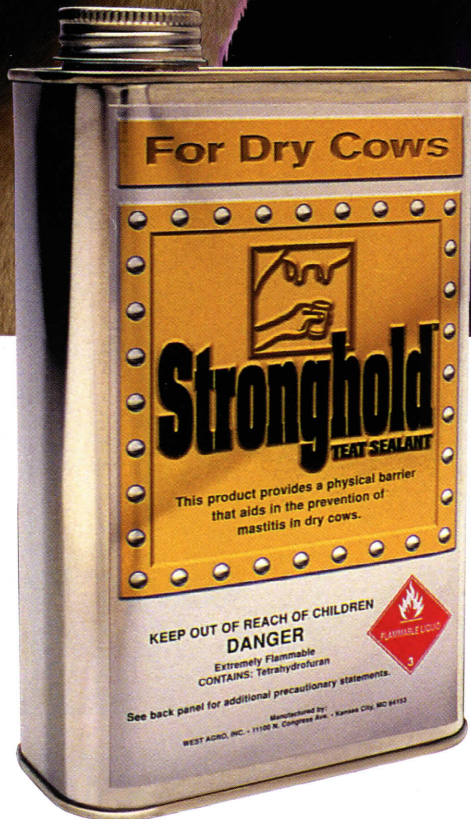


*Introducing A Proven Superior Method  
For Protecting Dry Cows Against Mastitis.*

- *Preventing* Mastitis With New Stronghold™ Dry Cow Teat Sealant
- How To Treat Dry Cows Effectively
- Managing The Dry Cow For Good Health And Production

# Stronghold™ TEAT SEALANT

# A breakthrough



should be used in conjunction with dry cow antibiotic infusion and mastitis vaccine programs.

Jeff Faller, marketing manager for West Agro, says this breakthrough new product helps fill a void in dairy health management. "Until now, most dry cow therapy has focused on treating an existing infection or enhancing the cow's immune system. Stronghold is the first product to help prevent dry cow mastitis by blocking the teat end with a moisture-resistant seal. That is why we are excited about Stronghold Teat Sealant and its positive benefit for dry cows."

Stronghold is applied after the last milking at dry off and again 10 days before calving. Additional applications should be made if the sealant is removed in the 10 days before calving. When applied to the teat, Stronghold dries in less than two minutes and leaves a seamless elastic film over the surface of the teat and teat end.

There are several important reasons why dairy cows are highly susceptible to mastitis during the dry period:

- The cow's immunological system is suppressed for a period following dry off due to changes in nutrition, routine and environment.
- Teats are distended and teat orifices leak milk, giving bacteria an easy entryway to the mammary gland.
- Milk is no longer being flushed from the teats, providing an ideal environment for bacteria to reproduce.
- Teats and udders aren't being continually monitored, cleaned, or dipped during the dry period.

The dry period is the time when many cows are left without protection from mastitis-causing bacteria. To gain the upper hand in the fight with dry cow mastitis, you need an effective program that includes new Stronghold Teat Sealant.

Stronghold is a revolutionary new synthetic polymer that forms a flexible teat-end seal which helps prevent mastitis-causing bacteria from infecting the udder. The bright magenta colored, ready-to-use formula provides three to seven days of protection and

## PROJECTED STRONGHOLD PAYBACK PER 100 COWS Increased Pounds of Milk and Increased Milk Revenue

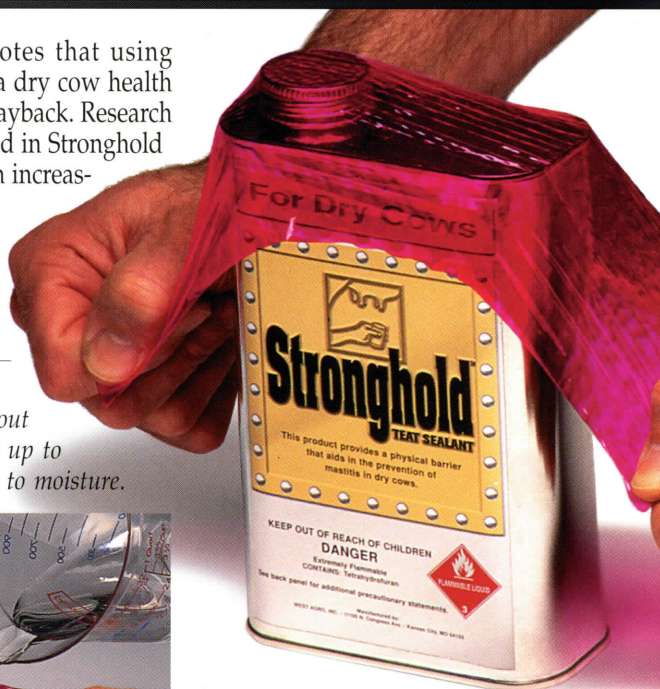
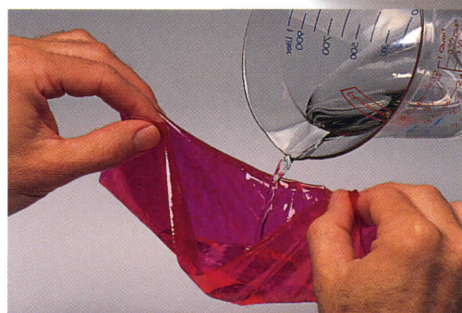
	Rolling Herd Average (lbs.)			
	15,000	20,000	25,000	30,000
<b>Heifers</b>	<b>6,956 lbs.</b>	<b>9,275 lbs.</b>	<b>11,594 lbs.</b>	<b>13,912 lbs.</b>
	<b>\$835</b>	<b>\$1,113</b>	<b>\$1,391</b>	<b>\$1,669</b>
<b>Cows</b>	<b>15,448 lbs.</b>	<b>20,650 lbs.</b>	<b>25,813 lbs.</b>	<b>30,975 lbs.</b>
	<b>\$1,859</b>	<b>\$2,478</b>	<b>\$3,098</b>	<b>\$3,717</b>
<b>Herd Average</b>	<b>12,469 lbs.</b>	<b>16,625 lbs.</b>	<b>20,781 lbs.</b>	<b>24,938 lbs.</b>
	<b>\$1,496</b>	<b>\$1,995</b>	<b>\$2,494</b>	<b>\$2,993</b>

Assumes: 35% milk loss in one quarter; \$12/cwt. milk price; 2 applications of Stronghold.  
Reduction in infected animals per 100 treated: Heifers = 5.3; Cows = 11.8; Herd Average = 9.5.

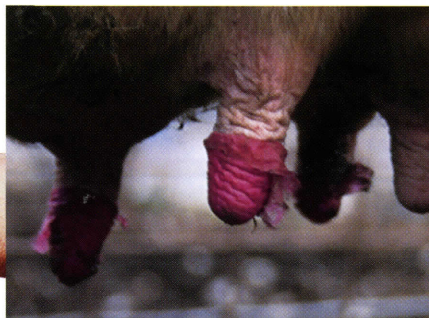
# n dry cow mastitis prevention.

In addition, Faller notes that using Stronghold Teat Sealant in a dry cow health program has a significant payback. Research shows that every \$1 invested in Stronghold returns up to \$10 or more in increased milk production alone. (See chart, below left.)

Stronghold forms a tough, impermeable seal that locks out mastitis-causing bacteria for up to 3-7 days. And it is resistant to moisture.



Stronghold naturally sheds off teats after 3-7 days, but can be removed easily if necessary. (Shown below and left.)



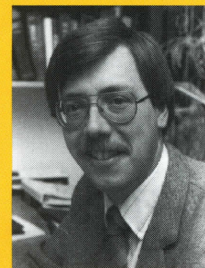
## Researchers recommend Stronghold for protection against dry cow mastitis.

"Stronghold is not meant to treat mastitis, but to physically protect the teats and keep bacteria from invading. So far I'm impressed with the product. In the tests we've conducted, we saw a 30 to 40 percent reduction in new infections at calving. When used properly, I think it can be an effective management tool to help prevent mastitis infections in dry cows."



Dr. Steve Nickerson  
Louisiana State  
University Ag Center,  
Homer, La.

"There is a move among dairy producers to be more responsible with antibiotic use. Sometimes, antibiotics alone aren't successful for dry cow mastitis prevention because they leak out. But Stronghold can help keep antibiotics in longer. And the initial results of extensive mastitis challenge tests we are conducting show that the teat sealant can be effective in a dry cow program."



Dr. Ken Lesley  
University of Guelph  
Ontario, Canada

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If you would like more information, please check any of the following:

- |   |   |
|---|---|
| <input type="checkbox"/> Stronghold™ Dry Cow Teat Sealant               | <input type="checkbox"/> Pharmacia & Upjohn Quartermaster®                    |
| <input type="checkbox"/> West Agro Teat Dips                            | <input type="checkbox"/> Pharmacia & Upjohn J-5 Bacterin                      |
| <input type="checkbox"/> The full line of West Agro products.           | <input type="checkbox"/> Pharmacia & Upjohn Albadry Plus®                     |
| <input type="checkbox"/> I'm interested in selling Stronghold.          | <input type="checkbox"/> Pharmacia & Upjohn Albacillin®                       |
| <input type="checkbox"/> I'm interested in becoming a West Agro dealer. | <input type="checkbox"/> Pharmacia & Upjohn Pirsue®                           |
| <input type="checkbox"/> _____ additional copies of this publication.   | <input type="checkbox"/> _____ additional copies of "How to dry treat a cow." |

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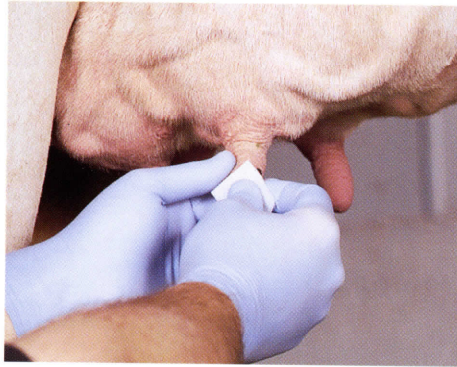
(AREA CODE) \_\_\_\_\_ TELEPHONE NO. \_\_\_\_\_ NO. OF DAIRY COWS SERVICED \_\_\_\_\_

# How to dry treat a cow.

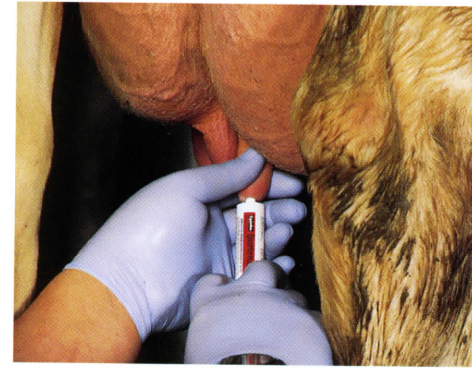
Stronghold Teat Sealant helps protect dry cows against mastitis during the dry period where 40—50% of mastitis cases occur. Stronghold's tough, impermeable seal locks out mastitis-causing bacteria and seals in antibiotic infusions.



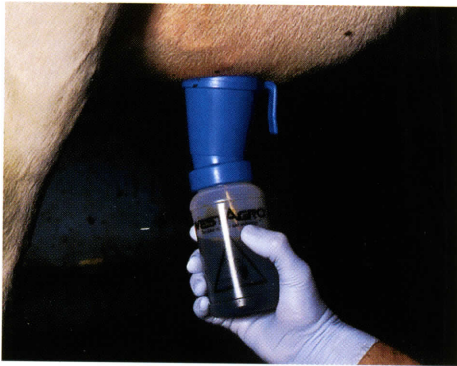
1) After last milking at dry off, apply a fast-acting, low-emollient sanitizing teat dip such as IodoZyme®. Allow contact for 30 seconds, then thoroughly dry teats with a clean towel.



2) Wipe each teat with a separate alcohol pad.



3) Treat each teat with dry cow antibiotic.



4) Apply a fast-acting, low-emollient teat dip.



5) Then thoroughly dry teats with towel while avoiding leakage of milk and antibiotics. Teats must be dry to ensure Stronghold will adhere properly.



6) Fill Stronghold product applicator cup to directed level.



7) For maximum adherence, apply Stronghold to the entire length of teat. Allow to dry completely before releasing cow.



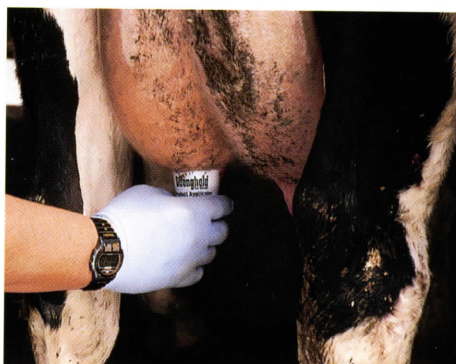
8) Immediately dispose of unused product and applicator cup after use.



9) Vaccinate with J-5 Bacterin at dry off, 30 days later and at calving.



10) Move cows to a clean, dry environment. Feed dry cows according to their nutritional needs.

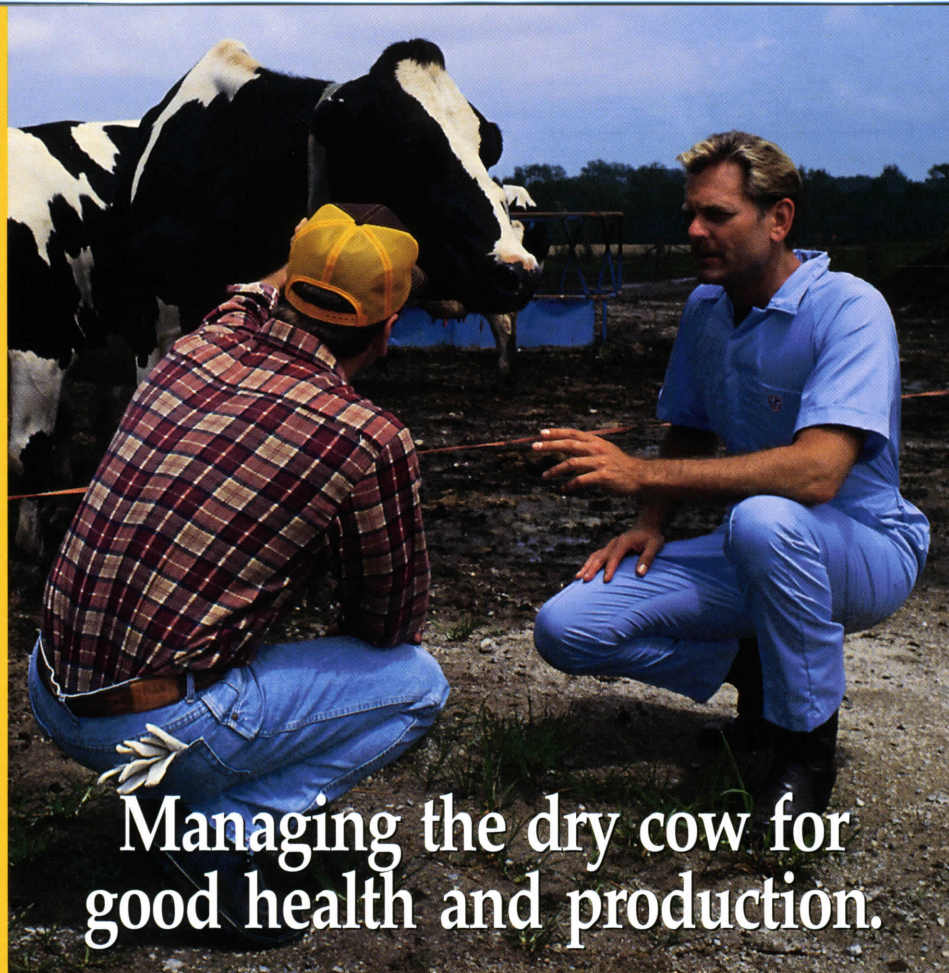


11) Apply Stronghold again 10 days prior to calving. Reapply every 3-4 days if needed.



12) Freshen cows in a clean, dry environment. Remove any remaining Stronghold film at calving.

*NOTE: The use of teat dip containing high levels of emollients may decrease adherence. Observe daily and reapply if sealant is removed prior to calving.*



## Managing the dry cow for good health and production.

The dry period for the dairy cow is intended to be a time of rest and recovery between the end of one lactation and the beginning of the next. But without proper care and good management, it can be a stressful, damaging time for cows, according to Dr. Winston Ingalls, product group director for West Agro.

"It's the responsibility of producers, managers and veterinarians to understand the potential problems of the dry period and implement strategies to overcome them," he explains. "We need to remember that many of the management decisions we make during the dry period have a dramatic impact on the health and productivity of the cow during her lactation."

These management decisions include ar-

eas such as nutrition, parasite control, vaccinations and housing, as well as a dry cow udder health program that includes Stronghold Teat Sealant.

In addition, Dr. Austin Belschner, technical services program manager for Pharmacia & Upjohn, offers the following suggestions on how to best manage the health and nutrition of dairy cows during the dry period:

### **Mastitis Control Management Tips:**

- Bring down production as quickly as possible at dry off.
- Dry treat every quarter of every cow with antibiotic tubes such as Quartermaster® or Albadyr Plus®
- Incorporate good sanitation practices when dry treating.

- Administer J-5 Bacterin at dry off, 30 days later and at calving.
- Keep the environment clean and dry.
- Monitor SCC scores at dry off and again at freshening to measure mastitis control effectiveness.
- Administer lactating-cow antibiotic tubes such as Pharmacia & Upjohn's Pirsue® or Albacillin® to infected quarters.

### **Nutrition Management Tips:**

- Separate dry from lactating cows, then divide dry cow groups according to an early dry group and a close-up group.
- Incorporate body condition scoring into nutritional management.
- Provide an adequate supply of fresh, clean water to dry cows.
- Feed a low-energy, high-fiber ration to early dry cows.
- Adjust the ration to accommodate added nutritional demands of close-up dry cows.
- Consult a veterinarian or nutritionist for help with dry cow rations.

### **Preventive Health Management Tips:**

- Keep dry-cow housing clean and dry.
- Trim feet and treat lesions and warts early in the dry period.
- Provide a sanitizing foot bath for all cows.
- Administer routine vaccinations and parasite control treatment during the dry period.
- Follow all label directions on medications and health-care products.

### **Calving Management Tips:**

- Maintain a sanitary environment.
- Avoid excessive build-up of bedding material, especially if wet.
- Separate cows close to calving from other cows.
- Clip udder hair prior to calving.
- Apply Stronghold Teat Sealant 10 days prior to calving.
- Ensure adequate colostrum intake of newborn calves.
- Use properly functioning milking equipment on fresh cows.
- Do not sell milk from fresh cows until 72 to 96 hours post-freshening.

## Better Stronghold adherence means better protection.

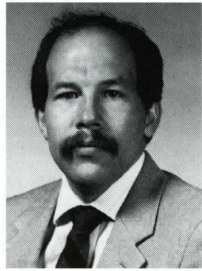
When properly applied, Stronghold offers long-lasting coverage. Here's how to maximize your protection with Stronghold.

- Reduce feed and water intake to cows several days prior to dry off. This lowers milk production. High-producing cows can leak milk, making adherence difficult.
- Clean, dry teats give better adherence than dirty, dusty or wet teats.
- Use a low-emollient (2% or less) iodine teat dip.

- Scrub each teat with a 70% isopropyl alcohol pad, infuse dry cow antibiotic, then dip with a low-emollient iodine teat dip. Thoroughly dry teats.
- Fill product applicator cup to fill line, and apply Stronghold up to base of udder.
- Carefully apply product so that applicator cup or your hands don't scrape against teat and damage sealant.
- Allow cow to stand until Stronghold dries to prevent cow from scraping product off.

- Store product at room temperature. Stronghold is more viscous at cool temperatures so it creates a thicker, long-lasting film. In hot weather, product may need refrigeration.
- Never re-use product or contaminate product by pouring unused portion back into container.
- Properly discard any product that's been exposed to air too long and has formed a "skin".

# Research reveals impact of dry cow mastitis.



Leo Timms, extension dairy specialist at Iowa State University, has been instrumental in identifying the impact of mastitis during the dry period and in developing Stronghold Teat Sealant.

"We've known for years that dry cows represent almost 50 percent of the mastitis problem. And we now know that these cases of dry cow mastitis are primarily related to organisms from the outside getting up inside the teat." In addition, new mastitis infections that are contracted during the dry period can significantly reduce milk production during the following lactation. Research shows that an infection that started in one quarter and continued through the dry period caused a 33 to 37 percent milk loss in the next lactation period.

## EFFECTS OF MASTITIS ON MILK PRODUCTION. MILKING STATUS

Lactation	Dry Period	Lost Production
Infected	Non-infected (cured)	11.3%
Infected	Infected (not cured)	33.2%
Non-infected	Infected (new infection)	36.6%

(Comparison of two adjacent quarters. For example, left rear with right rear quarter. Mellenberger, Michigan State University, 1983.)

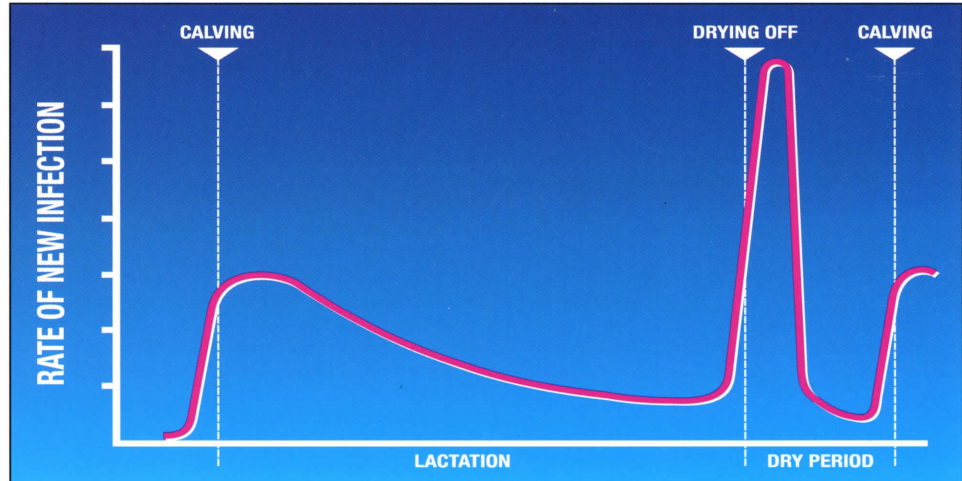
To help prevent mastitis infections during the dry period, and reduce the subsequent production loss, Timms began testing several different products that could block the teat opening and protect the teat surface. He was adamant that the formulation be flexible so the cow could move easily and air could still get to the teat. But, the sealant had to last long enough to keep dirt and bacteria out once the cow was outside of the milking parlor.

"Using Stronghold in conjunction with

dry cow tubes and comparing the results to those treated with only dry cow tubes, we've seen a 47 percent reduction in mastitis cases in cows," Timms explains. "And we've seen

a 19 percent reduction in mastitis cases in heifers. With results this significant, I think Stronghold can provide an economic benefit to dairy producers."

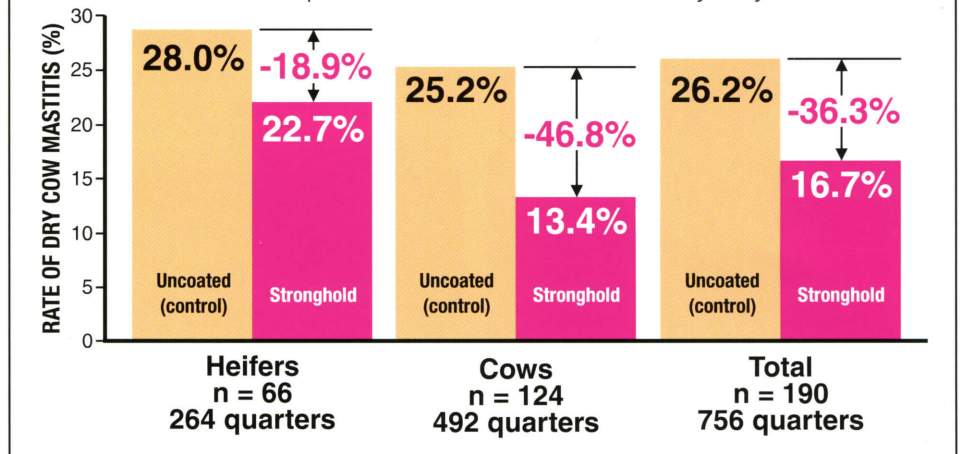
## RELATIVE FREQUENCY OF NEW MASTITIS INFECTIONS DURING LACTATION AND THE DRY PERIOD.\*



\*For cows without dry cow antibiotic treatment.

## REDUCTION IN NEW INTRAMAMMARY INFECTIONS AT CALVING

Natural Exposure Field Trial • Iowa State University Dairy Farm



(Leo Timms, et al., Iowa State University, 1996. Dry cow antibiotics were used on all quarters of all Cows in the study.)

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