MERCK
Animal Health

DRY COWS DESERVE COMPLETE CARE

Orbenin-DC™
(cloxacillin benzathine intramammary infusion)

SHUTOUT®

BOVILIS® J-5

BOVILIS® Guardian®

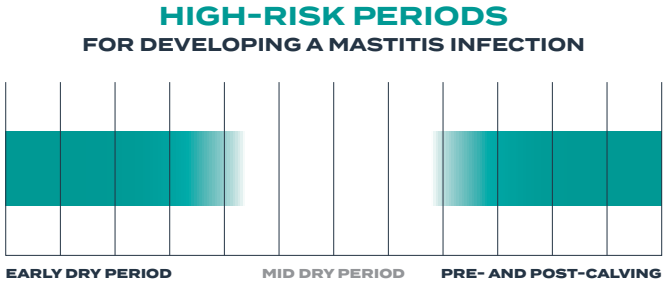

36206
36206

PROTECTION NOW
PRODUCTION LATER

The dry period is a critical time that must be properly managed to ensure cows remain healthy and productive during their next lactation. Cows that are not provided a proper dry period length can have reduced milk production in the next lactation.[1] Another important opportunity during the dry period is to minimize the risk of mastitis after dry-off and in early lactation with targeted use of intramammary therapy and prevention.

Protect your cows from mastitis

Mastitis is recognized as the most common disease in dairy cattle, affecting 99.7% of dairy farms and one in every four dairy cows nationwide.[2] This is a significant concern during the dry period, when cows are most vulnerable to new intramammary infections.[3]



Two to three weeks after dry-off and the 2-3 weeks before and after calving are when cows are at increased risk for developing a mastitis infection.

Whether it's newly developed cases or preexisting subclinical infections that failed to resolve, mastitis infections during the dry period have lasting impacts that carry over into the next lactation. In fact, more than 50% of environmental mastitis cases in the first 100 days in milk originate during the dry period.[3] These infections have negative effects on cows and dairy operations as a whole, with all mastitis costing the industry as much as $2 billion per year.

Benefits of Mastitis Prevention

- ***BETTER MILK QUALITY***
- ***PREVENT PRODUCTION LOSSES***
- ***MAINTAIN REPRODUCTIVE EFFICIENCY[4]***
- ***REDUCED CULLING***
- ***LESS DEATH LOSS***
- ***LOWER DIRECT AND INDIRECT COSTS DUE TO MASTITIS[5]***

Make every calf count with scours prevention

The dry period is also an ideal time to vaccinate cows to protect their calves from scours, which is the #1 killer of pre-weaned calves. Maternal scours vaccines, which increase specific protective antibodies found in colostrum, provide calves defense against the four major bacterial and viral pathogens associated with scours.

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Dry Cow Mastitis Treatment

Most dairy cows are treated with a dry cow antimicrobial, with the primary purpose of curing existing subclinical infections at dry-off. But not all treatments are the same – and neither are all mastitis pathogens. More than 94% of subclinical mastitis infections at dry-off are caused by Gram-positive bacteria[6,7], which makes these bacteria the target for dry cow therapy.

94% ***of all subclinical mastitis infections are Gram-positive.***

ORBENIN-DC delivers effective, targeted treatment of Gram-positive mastitis during the dry period. With no milk withhold after cows have been dry for at least 28 days, ORBENIN-DC gets fresh cows into the milking string fast. Narrow-spectrum ORBENIN-DC supports antibiotic stewardship by targeting Gram-positive bacteria that are most responsive to treatment.

WHY ORBENIN-DC?

- ***AS EFFECTIVE AS LEADING COMPETITORS[6-8]***
- ***TARGETS GRAM-POSITIVE BACTERIA***
- ***ZERO MILK WITHHOLD*** *post-calving after being dry for a minimum of 28 days*
- ***SHORT TIP*** *for fewer intramammary infections*
- ***TRUSTED*** *for more than four decades*

For more information, visit ***OrbeninDC.com***.

MADE IN THE USA

SHUTOUT®

Internal Teat Sealant

During the dry period, a cow's primary natural defense mechanism against mastitis is the formation of a teat canal keratin plug. The formation of this plug can be delayed, and sometimes it fails to form altogether.[9,10] Dry cows are highly susceptible to developing new intramammary infections from environmental bacteria, and the use of an internal teat sealant can reduce the risk by more than 70%.[11]

For cows that receive an internal teat sealant, infections can be further reduced by up to 50% by partial- vs. full-tip insertion.[12] SHUTOUT offers a short-tip option that not only reduces new infection risk but results in less disruption to the keratinized epidermidis within the streak canal, which is needed to form the keratin plug.

LONG-TIP
INSERTION

LONG-TIP
PARTIAL INSERTION

SHORT-TIP
INSERTION

WHY SHUTOUT?

- ***EXTRA PROTECTION*** *against mastitis during the dry period*
- ***HIGHLY SYRINGEABLE*** *with minimal air in tube and short plunger stroke*
- ***FLEXIBLE*** *short- and long-tip options*
- ***BIODEGRADABLE*** *disinfectant wipes decompose in 6-12 weeks*
- ***AVAILABLE*** *in 144-syringe buckets and 24-syringe boxes*

For more information, visit ***ShutOutForDairy.com***.

BOVILIS® J-5

Mastitis Vaccine

Coliform bacteria are a constant threat to the mammary glands of cows. Gram-negative infections from bacteria like *Escherichia coli* can cause mastitis that leads to milk loss, culling and even death.

BOVILIS J-5 is a Gram-negative core-antigen vaccine that aids in the reduction of mastitis due to *E. coli*. Core-antigen vaccines have been proven to reduce the frequency and severity of clinical coliform mastitis cases.[13]

In comparison to competitor products, BOVILIS J-5 had the lowest endotoxin levels (EU/mL) and was 15-fold below the U.S. Pharmacopeia (USP) recommendation.[14] BOVILIS J-5 is the only core-antigen vaccine brand with its endotoxin levels printed on the label.

	BOVILIS® J-5	ENDOVAC-DAIRY®	ENVIRACOR™ J-5	J-VAC®
Dose	5 mL	2 mL	5 mL	2 mL
Mean EU/mL*	44[a]	85,156[b]	5,936[c]	351,636[d]
Total Mean EU/ Vaccination*	220	170,312	29,680	703,272

[a,b,c,d]Means with different superscripts differ ($P<0.05$).
*Calculated by multiplying dose by mean EU/mL.

WHY BOVILIS J-5?

- ***PROVEN TO FIGHT* E. COLI** *mastitis infections*[15]
- ***REDUCES MASTITIS 2.4-FOLD*** *compared to ENVIRACOR® J-5*[15]
- ***NO NEGATIVE EFFECT*** *on milk production*[15]
- ***LOWEST ENDOTOXIN LEVELS*** *among core-antigen vaccines*[14]
- ***3-DOSE SCHEDULE*** *protects cows during times of highest risk*

For more information, visit ***BovilisJ5.com***.

Beef Quality Assurance

MADE IN THE USA

BOVILIS® Guardian®

Scours Vaccine

Calf scours accounts for half of all deaths of pre-weaned calves.[2] 74% of pre-weaned calves that develop scours are treated with antibiotics,[16] but the cost of scours goes far beyond loss of life and cost of treatment. Scours can also have a negative effect on milk production in the first lactation.[17]

Maternal vaccination of the cow or heifer prior to calving can reduce the incidence of neonatal calf scours in the period just after birth. With BOVILIS GUARDIAN and proper colostrum management, costly losses can be prevented and the next generation of the herd will have a healthy and productive start in life.

BOVILIS GUARDIAN protects calves against four major bacterial and viral pathogens associated with scours.

- Rotavirus Group A Serotype G6
- Coronavirus types 1 and 3
- *Clostridium perfringens* types C and D
- *E. coli* type K99

WHY BOVILIS GUARDIAN?

COMPREHENSIVE *protection in a scours vaccine*

MOST SOPHISTICATED *sub-unit* E. coli *technology*

MINIMAL *vaccine endotoxin exposure*

LONG-LASTING ACTIVITY *due to patented water and oil adjuvant*[18-20]

FLEXIBLE *dosing schedule*

For more information, visit ***GuardianForCattle.com***.

Beef Quality Assurance

MADE IN THE USA

GIVING YOUR DRY COWS THE COMPLETE CARE THEY DESERVE

It's just another way ***Merck Animal Health Works*** for you.

BOVILIS® Guardian® BOVILIS® J-5 SHUTOUT® Orbenin-DC™ (cloxacillin benzathine intramammary infusion)

For more information, talk to your veterinarian or visit CompleteDryCowCare.com.

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ORBENIN-DC: For use in dry cows only. Do not use within four weeks (28 days) of calving. Treated animals must not be slaughtered for food purposes within four weeks (28 days) of treatment. For additional information, see the product label.

BOVILIS J-5: This product contains oil adjuvant. In the event of accidental self-injection, seek medical attention immediately. For additional information, see the product label.

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