



# NO ACCESS NO THREAT

OrbeSeal aids in the prevention of new intramammary infections throughout the dry period.



# CLINICAL EFFECTS AND ECONOMIC BENEFIT of an Internal Teat Sealant at Dry-Off

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## INTRODUCTION

Treating all quarters of all cows with a long-acting, dry-cow antibiotic at the time of dry-off is widely recommended in North America.

Although a keratin plug typically seals the teat after dry-off, 23% of teats, and up to 46% in high producing cows, are still open 6 weeks later<sup>3</sup>.

In North America, an internal teat sealant (ITS) used with antimicrobial dry-cow therapy (ADCT) was shown to decrease new intramammary infections (IMI) by 30% and clinical mastitis (CM) in the first 60 days by 33%<sup>4</sup>.

An average economic benefit of \$5.38 US per cow was reported in a study in 3 herds in Wisconsin<sup>5</sup>.

« The objective of this clinical trial was to **compare the efficacy and economic benefit of OrbeSeal + antibiotic dry cow treatment** versus antibiotic dry cow treatment alone in reducing the incidence of clinical mastitis in early lactation. »



First Cases of CM and Incidence Rate of CM (IRCM) from Calving to 105 DIM for the Treatment Groups ADCT + OrbeSeal and ADCT alone.

|  | ADCT + OrbeSeal                            | ADCT      |
|--|--|-----------|
| No. of Cows  | 665  | 669       |
| No. of 1 <sup>st</sup> cases of CM before 105 days (%) | 97 (15%)                                   | 125 (19%) |
|  | (RR) = 0.78, 95% CI 0.61 to 0.99, P = 0.05 |           |
| IRCM (No. of cases/100 cow-days at risk)               | .16  | .21       |
|  | (RR)= 0.78; 95% CI 0.61 to 1.01, P = 0.06  |           |



## METHODS

- 1334 cows from 12 dairy farms were randomly assigned to ADCT or ADCT + OrbeSeal treatments in all 4 quarters at dry-off.
- Only cows with dry periods of 28 to 120 days were included.
- Cows were monitored for CM from calving to 105 DIM.
- Milk samples were cultured from CM cases.
- Production data were obtained from herds' computerized health records (VALACTA; DSA).
- Data including herd, parity, treatment group, dates of calving, CM, culling, milk culture results, and DHI data from the first 3 tests of lactation were analyzed in multivariable logistic, Poisson and Cox statistical models.
- Economic analysis was conducted using Cook's method<sup>5</sup> with milk price = \$0.71 CDN/L and cost of ITS = \$10 CDN/cow.

## RESULTS

ADCT + OrbeSeal  
(accounting for parity, season and herd)

- ▶ Statistical analysis of the data showed that the risk of CM decreased by **25%**.
- ▶ **39%** less likely to have clinical coliform mastitis.
- ▶ **No difference** in risk of CM caused by Streptococci.
- ▶ Net **economic benefit** of the OrbeSeal group of \$20 CDN per cow.

## CONCLUSION

Under field conditions, ADCT+OrbeSeal at dry-off lowered the incidence of CM between calving and 105 DIM by approximately 25%.

The impact is particularly significant for the risk of mastitis caused by *E.coli*.

On average in the present study, adding OrbeSeal to the established dry-cow treatment profitably reduced the incidence of CM at the start of lactation.

- At all times, dry cow materials should be kept away or shielded from possible fecal/urine contamination.
- Disposable gloves should be worn during the disinfection process.
- OrbeSeal must be stored at room temperature (between 60°F-85°F, 15°C-30°C).
- If OrbeSeal becomes difficult to administer in extremely cold weather, it should be warmed to room temperature before use.

**Individual tubes should not be immersed in water.**

- OrbeSeal requires no milk or preslaughter withdrawal. If OrbeSeal is used in conjunction with a dry cow mastitis treatment program, follow the labelled withdrawal period of the antibiotic.



**References**

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