

# Is Selective Dry Cow Treatment Beneficial?

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The dry period is a very critical time for dairy cows. It is supposed to be a time for the cows to recuperate from the previous lactation and to get ready for the next lactation. Even though it is a break for the cow, the dry period can also be one of the busiest times for intramammary infections. Because the cow is not being milked, any pathogens in the udder are not being removed and, therefore, have the chance to multiply. This is the reason that dry cow treatment is so important. But are cows with a healthy udder at dry off in danger of contracting an intramammary infection during the dry period?

Antimicrobial resistance is becoming a concern and is making the dairy industry rethink treating all cows at dry off, often termed blanket dry cow treatment, which is a very widely used protocol in mastitis management. As this concern grows, farmers are looking into selective dry cow treatment, or only treating problem cows, to cut down on antimicrobial use.

Recently, research has been conducted comparing blanket versus selective dry cow treatment to determine the differences between the two treatments. Researchers from North Carolina compared blanket and selective treatments by comparing the somatic cell counts and culture infection rates in two groups of dairy cows. The cows were split into a blanket treatment group and a selective group. All of the cows in the blanket group and any cows in the selective treatment group that were thought to have subclinical mastitis in any quarter were treated in all quarters at dry off. Cows in the select group that were not considered to be infected were not treated. To determine the differences in the treatments, infection rates of the cows were examined at dry off, day 3 and day 10 in milk of the following lactation (Table 1). The study showed that the culture infection rates of the selective and blanket treated cows were similar at dry off and day 10 in milk. This research showed that selectively treating problem cows has similar results to treating the whole herd at dry off. Based on the results from the North Carolina study, it may be beneficial to treat only the problem cows to improve both bottom line and lowering the probability of antimicrobial resistance.

Another study was conducted by researchers at Ohio State University and DCV-UCLA in Venezuela looking at selective versus blanket dry cow treatment in four different dairy herds in Ohio. Cows with a low somatic cell count were randomly selected to receive or not receive antibiotic treatment at dry off. To determine the difference between the two treatments, intramammary infections during the dry period, clinical mastitis in early lactation and milk production and somatic cell count of the next lactation were examined. Overall somatic cell count was lower in the cows that had been treated but this varied from herd to herd.

The dry period is a very critical time for dairy cattle. Even though it is a time for rest, it can be a very stressful time for cows, making them more susceptible to disease. Mastitis is a very common problem during the dry period. Due to the recent concerns of antimicrobial resistance, selective dry cow treatment may be an option for well-managed herds in the future. Results have shown that this can be beneficial but it is important to take each farm's environment and management into consideration. Dry cow treatments should fit the specific needs of individual farms. At this point, blanket dry cow treatment is recommended for most herds in the Southeast.

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**Table 1.** SCC and culture infection rates of Control and Selective Treatment groups at Dry, Day 3, and Day 10.

Group	SCC (cells/mL)			Culture infection rate (%)		
	Dry	Day 3	Day 10	Dry	Day 3	Day 10
Blanket	204,369 ± 20,712	307,230 ± 31,265	118,394 ± 17,759	18.5	13.7 <sup>a</sup>	14.6
**Selective	238,383 ± 23,373	324,927 ± 31,183	79,161 ± 17,930	20.4	17.0 <sup>b</sup>	11.9

Values with different superscripts different: <sup>ab</sup>  $P = 0.01$ .

\*Blanket Treatment = all cows are treated in all quarters at dry off.

\*\*Selective Treatment = Cows that were determined to have subclinical mastitis by milk leukocyte differential in at least one quarter were treated in all quarters at dry off. Those that were not infected with subclinical mastitis were not treated.