

## Is Selective Dry Cow Therapy Right For Your Herd? - Revisited

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Blanket dry cow therapy (**BDCT**), the treatment of all cows at dry off with antimicrobial infusions in each quarter, has been a linchpin of mastitis control. A 2013 survey of over 600 herds found that 85% of herds use BDCT and bulk tank somatic cell counts (**BTSCC**) tend to be lower in herds that use BDCT. However, with increased public concern over food safety and antimicrobial resistance, reflection on milk quality dogma is not a bad idea. Despite the success of BDCT to prevent and cure intramammary infections (**IMI**) over the dry period, the landscape of mastitis has changed in the fifty years since this management tool was first applied. The predominant mastitis-causing bacteria in many herds have shifted from contagious to environmental-reservoirs, such as coliforms. Improved housing, bedding, feeding and the use of internal teat sealants have all played a role in reducing the rate of IMI during the dry period. So is it time to consider selective dry cow therapy (**SDCT**), i.e., treatment at dry off of only infected cows? Maybe, but each herd will need to consider this option carefully to ensure that their dry cow program is 'tailored to fit' their needs.

Before you consider SDCT, you must have all other parts of your milk quality program in place and protocols consistently followed. Herds that have BTSCC > 200,000 cells/mL are not the best candidates for SDCT. Metrics for outcomes (e.g., the percent of cows at first test date with subclinical mastitis or clinical mastitis rate in the first 60 DIM) need to be tracked regularly. Also, the decision to treat or not treat cows at dry off has to be based on sound information regarding infection status of each cow. Herd-specific plans, at the very least, must include clinical mastitis history and individual cow SCC before dry off. Also, most studies suggest that a second tier of selection, bacterial culture of low SCC cows, should be added before giving the "green light" not to treat a cow at dry off.

There are a few speed bumps for SDCT, beyond the need to carefully construct an evidenced-based treatment selection protocol. In the U.S., fewer herds are tracking subclinical mastitis (DHI SCC or CMT). Without this information, it is nearly impossible to track the impact of changes in dry cow treatment programs—bulk tank SCC are inadequate to measure change. Because of greater emphasis on so-called 'parlor efficiency', increased rate of cow throughout in many larger dairies pressures milking operators to not spend time stripping milk from teats, let alone identify clinical mastitis. Thus, critical outcomes to assess the efficacy of change in a dry cow therapy program, such as new and cured IMI over the dry cow period, and clinical mastitis in the first 30 to 60 DIM, will be unavailable in these herds. Also, < 15% of herds routinely incorporate milk culture, often stating that labor is an issue. ***The bottom line for the decision to use SDCT is either do it correctly or flirt with disaster.***

BDCT also has risks, e.g., employees who are poorly trained in infusion techniques. But increased mastitis in early lactation, as a result of a poorly designed or executed SDCT protocol, can be costly. Cows with a first test date SCC  $\geq$  200,000 cells/mL produce about 1,600 lb less milk than cows with first test date SCC  $<$  200,000 cells/mL, and were two to three times more likely to have clinical mastitis and be culled by 60 DIM (Kirkpatrick and Olson, 2015). Clinical mastitis in the first 30 DIM is likely to have a greater economic impact on a cow as compared to cases later in lactation, with one estimate of \$444 per case (Rollin et al., 2015). Finally, milk weights at dry off in many herds rival peak milk production from 25 years ago. This increases the risk for teat canals to remain open during the dry period (Dingwell et al., 2004), which especially increases the need to use internal teat sealants when using SDCT.

### Summary

Selective dry cow therapy can lead to less antimicrobial drug use and better use of labor resources. However, herds that consider this approach should follow three rules in order for SDCT to be effective.

- 1) Have a sound dry cow management control program in place- e.g. bedding, ventilation, feeding to reduce metabolic stress in transition cows. Internal teat sealants are strongly recommended.
- 2) Use evidence-based criteria to select treated cows from non-treated cows—this includes SCC, clinical mastitis history, and preferably milk culture.
- 3) Monitor subclinical and clinical mastitis in early lactation cows—this requires individual cow SCC and complete records

### References

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