

Implementing selective dry cow therapy on farms across New York state

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Selective dry cow therapy (SDCT) is an effective way to use antimicrobials judiciously on dairy farms while decreasing treatment costs and maintaining herd health. In the Netherlands it has been enforced since 2014 and the national somatic cell count (SCC) has decreased. As of 2022 the European Union banned prophylactic use of antibiotics in animal source food production. Each year legislation with similar rules is proposed in New York state but has not yet passed. Many on-farm randomized trials in the USA, some conducted in NYS, show that when SDCT is implemented well, it does not detrimentally impact udder health. SDCT provides a way to save on treatment costs and ease product allocation when antibiotics are on backorder. However, adoption of the

practice has been slow in the USA.

To improve the adoption of this practice in New York, we formed a team of veterinarians to help interested dairy producers and their herd veterinarians (with financial reimbursement for their time) to implement SDCT successfully. Not all farms are a good fit for SDCT. Herds that wish to employ this management practice should already have good udder health (e.g. bulk tank SCC less than 250,000 cells/mL), control of contagious mastitis pathogens (e.g. Strep ag and Staph aureus), and routine detection of clinical mastitis cases. An in-depth discussion between the herd veterinarian and farm stakeholders before adoption is necessary. This discussion should include current practices (e.g. appropriate use of teat sealants), data available to make the selection process

(e.g. DHIA test data), best practices for dry-off and dry pen management (e.g. SOPs for excellent hygiene during the dry-off procedure), and how to monitor progress going forward.

Observing the dry-off procedure performed by all employees involved is a notable area to improve overall herd performance and is critical for SDCT success. A resource for objective evaluation of dry-off procedure was created by veterinarians at Quality Milk Production Services (QMPS) in NY and is a useful tool to monitor employee performance over time (www.dairyoutines.com). This website has materials on how to treat a cow at dry-off and administer teat sealants, among other valuable udder health tools.

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FIGURE 1

Reduction in antibiotic use at dry-off compared to blanket dry cow therapy

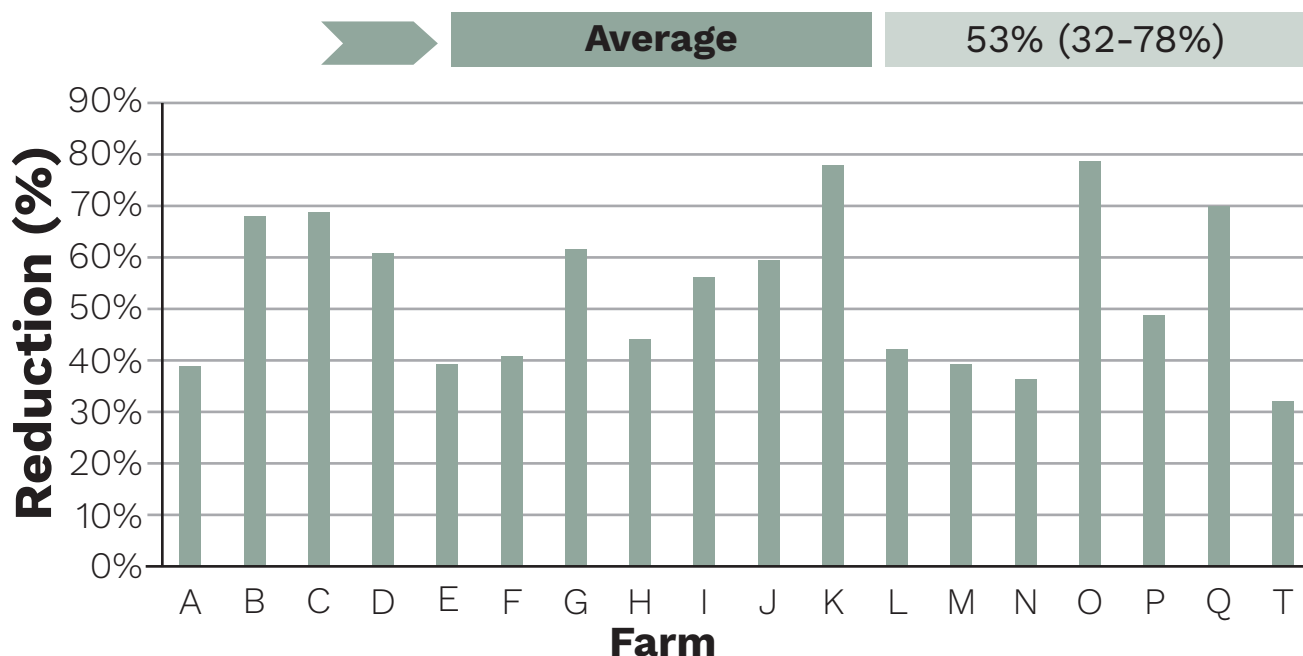
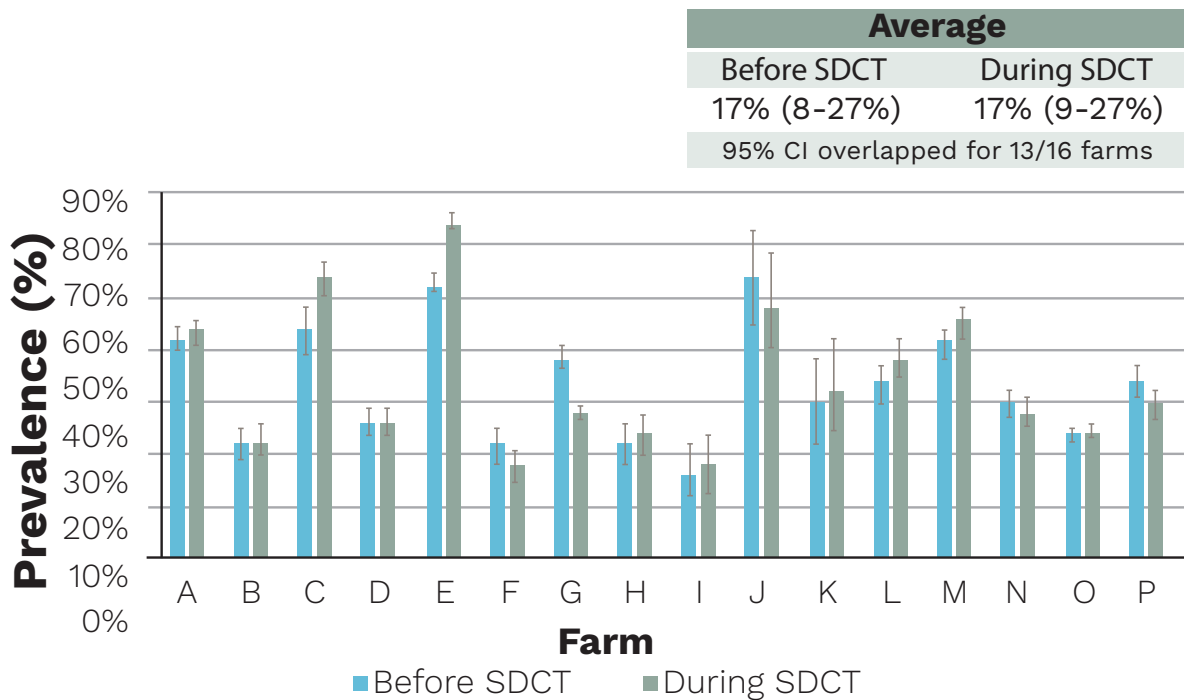


FIGURE 2

Average monthly prevalence of cows with a subclinical infection (somatic cell test greater or equal to 200,000)

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Our team enrolled 24 farms over the course of one year with an average herd size of 1,000 cows. 17 of 24 farms have continued SDCT use. Among the farms that discontinued SDCT, three had a “toxic” mastitis case in the dry period, one had a Staph aureus “flare up,” and three had “seasonal” milk quality challenges. A variety of SDCT methods were used to decide which high-risk cows were treated with intramammary antibiotics and a teat sealant, and which low-risk cows had only a teat sealant applied. Most herds used the algorithm that we built into DC305 to distinguish between high- and low-risk cows, with 18 of 24 also using DHIA testing. On average, herds decreased dry cow antibiotic use by 53 percent (**Figure 1**). The metrics we used to monitor herd infection dynamics before and after SDCT included average monthly somatic cell count (approximately 200,000), fresh cow mastitis incidence (approximately 2.8 percent), average herd prevalence of a high first test (approximately 18 percent), average herd prevalence of subclinical infection (**Figure 2**), average new infection risk, and cure risk. For all but a few

herds, 95 percent confidence intervals overlapped for all outcomes before and after starting SDCT and differences were relatively small.

Given the positive outlook from SDCT research findings, we were encouraged to help other veterinarians and producers in our region adopt this method of selective antimicrobial use to save on dry-cow treatment costs and perhaps help avoid imposed legislation.

IN SUMMARY

This project showed that while SDCT is a practical way to employ judicious antimicrobial use on qualified dairy farms, it is not guaranteed to produce success on every farm. Many enrolled farms (17 of 24) continue to have success and are expecting to continue this new norm. Key factors to look for before enrolling are the current milk quality metrics and the data available to create a sound SDCT algorithm to decide between high-risk cows to administer intramammary antibiotics and a teat sealant, and low-risk cows which only get teat sealant administered. In addition, it is

important to monitor its success, dry-off technique, and the dry cow environment. If this cohort is representative of other farms across the nation and world, an opportunity exists for many more farms to adopt this practice. ■

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