Selective Dry Cow Therapy

Dry cow therapy has proven to be a successful component to mastitis control. Dry cow treatment is used to treat existing infections and to prevent new infections during the dry period. When dry cow treatment is practiced, most commonly all four quarters of every cow are treated. While the total amount of antibiotic used on a typical farm for dry cow therapy is fairly small, the number of antibiotic treatments is significant. Our industry is facing greater pressure to decrease antibiotic use. Selective dry cow therapy, that is, only treating some cows, is usually not recommended because of the inability to know which cows will actually benefit from treatment. A recent paper in the Journal of Dairy Science (Cameron, 2014) examined the use of selective dry cow therapy, an internal teat sealant, and milk culture to see if selective dry cow therapy could produce results similar to blanket dry cow therapy.

The study was done in Canada using 16 dairy herds. Only herds with bulk tank somatic cell counts of less than 250,000 were enrolled. Enrolled cows needed to have a monthly SCC of less than 200,000 on each of the last three tests before drying off, no clinical mastitis in the same time period, not antimicrobial treatment in the last 14 days, at least 3 functional quarters, and all quarters scoring <2 on the California mastitis test on the day before drying up. The study was designed to compare selective dry cow therapy based on culture findings to blanket dry cow therapy. Milk samples were taken for culture the day before dry up. The control group of cows was given Orbeseal and Spectramast DC at dry up. The treatment group was assigned a treatment based on milk culture results. A composite sample of all quarters was used for the milk culture. Cows that were negative on culture were treated with Orbeseal only; no dry cow antibiotic was given. Cows that had a positive milk culture were treated with Spectramast DC and Orbeseal in all quarters. There were a total of 729 cows enrolled; 369 were in the control group, and 360 were in the selective treatment group. Of the 360 cows in the selective treatment group, 46.8% were classified as uninfected based on culture results, and thus were treated with Orbeseal only.

There was no difference between the prevalence of intramammary infections after calving as determined by bacterial culture on days 3-4 and 5-18 post calving for cows in the selective treatment group and the cows in the blanket treatment group. There was no difference in clinical mastitis in the first 120 days after calving between groups as well. There was no difference in milk production during the next lactation for the two groups. No difference is somatic cell count was observed between groups. Similar studies have been done in the past, but in those cases, Orbeseal was not used; cows with negative culture at dry up were left untreated. In those studies, cows in the blanket dry cow treatment group had lower somatic cell counts in the subsequent lactation. The comparison to the current study suggests that Orbeseal is important in preventing new infections in cows not treated with a dry cow antibiotic.

The farms enrolled in this study would have reduced dry cow antibiotic treatments by about 50% for the group of cows that qualified for the study. There is not likely a significant cost savings to the selective dry cow program since there is additional labor and cost to sample and culture cows, though. Does this mean dairy herds should consider selective dry cow therapy instead of blanket therapy? The study does not answer that question, and every herd is different. Also, adopting selective dry cow therapy should be done only after a discussion with the herd veterinarian. The study does show that such a program can be just as effective as blanket therapy, but we have to remember that the study was done in herds with average herd SCC of less than 250,000, and only in cows that met five specific criteria. Herds with
very good udder health might find that the vast majority of their cows would meet all five criteria, and thus selective therapy might be an acceptable option for them. Herds with only average udder health might find that only a small number of cows would meet the criteria, and thus selective dry cow therapy would only be available for those few cows. In such cases there would be little incentive to change to selective dry cow therapy. The study results should, in no way, be used to suggest that selective dry cow therapy is appropriate for all cows. Blanket dry cow therapy has been an effective mastitis control strategy for many herds for a lot of years. Switching to selective therapy might be an acceptable option for some herds, but should not be adopted by everyone.