

Vet's Corner: Diagnosis of Heat Abatement Problem

Armed with renewed focus on heat abatement problems, our practice is picking up some indications of the effect of heat and humidity on local dairy herds. Dr. Jeff Brose led our farm discussion group last month and left us with some methods to prioritize the problem of heat abatement.

Climate's effect on milk production, milk fat depression, lameness, and clinical mastitis cases can be tracked on DHIA. As herd health veterinarians spending a lot of time on breeding programs, we took a look at the effect of excess heat on Conception Rate with the help of the following graph generated on Dairy Comp. In the following herd, CR is very good, ranging between 35 to 44% for 8 months of the year. Then in July, CR begins to drop and does not recover until October. As you may remember, last summer was not very hot in Vermont; there were no periods of excessive heat that lasted more than 3 days so if heat abatement problems existed in that mild summer, this herd could be headed for severe repro performance loss in a hot summer.

Walking around the barn revealed that a primary goal of construction was to retain heat during our cold Vermont winters so that the automatic barn scraper would not freeze. Unfortunately, there was not much flexibility in construction to allow for the barn to be opened up during warm weather. An adequate overshoot roof ridge opening of three feet for the six row barn was open but there was a constriction in ability to have air enter through the sides of the barn. Only 6 feet of curtain wall exists and 2 ½ feet are obstructed with freestall horizontal angle iron structure and a wide plank that keeps cows from lunging into the curtain wall. Side wall space was limited to 3 ½ feet and we would recommend a 14-16 foot high side wall. Eaves were blocked off and it will be an easy fix to remove them so air can enter and follow up the ceiling to the ridge opening.

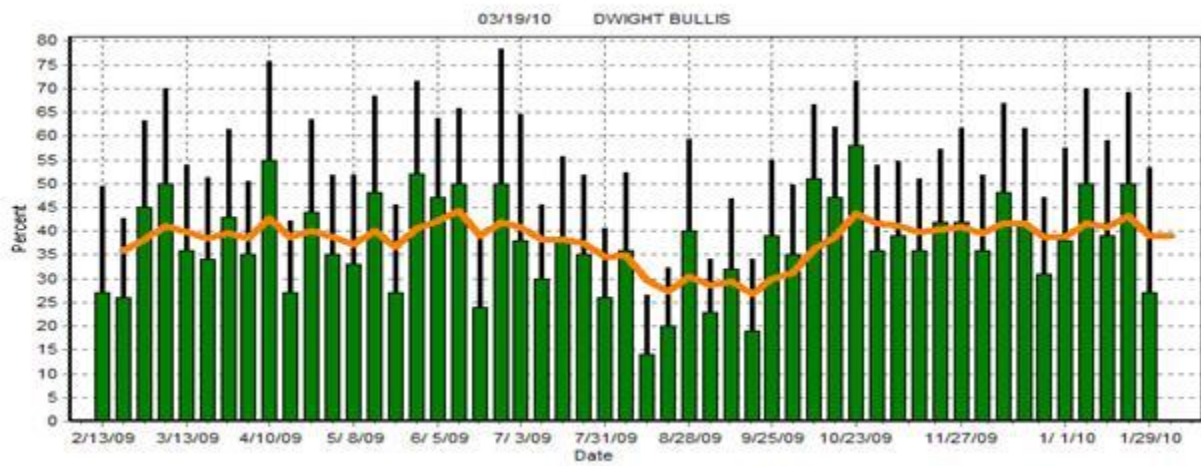
Obviously, this is a barn that will have to be ventilated mechanically and at present there are only two rows of fans directed over the feed bunk. The best solution that we could come up with was to add two rows of fans over the face-to-face freestalls. We recommend 48 inch fans spaced 36 feet apart over the double row free stalls. After this project is completed, we will look into sprinklers installed over the headlocks, because Dr. Brose's work shows greater heat abatement from soaking than forced air.

Are these investments in heat abatement cost effective? Going from 2.5 services to conception to 3.5 for four months in this size dairy cost the farm \$5,000 in last year's mild heat conditions. When the loss from milk production loss, milk fat depression, and increased mastitis flare-ups are added in, there will be plenty of financial incentive to add the two rows of fans.

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