Nutrition School, Day 2

A '3' Equals A '10' For The Ideal Cow Body Condition

BY JOYCE BUPP
York Co. Correspondent

YORK — While some athletes strive for a perfect score of 10, and school students favor earning perfect 100s, Penn State's Jud Heinrichs leans toward a score of 3 as ideal.

Or, at least Heinrichs sees "3s" as near perfection when evaluating cows for body conditioning, or the "fat cow syndrome."

The dairy specialist outlined his scale for "body conditioning scoring" during the second in a series of Extension nutrition schools being hosted in Berks, Lancaster and York counties. Dry cow management was the focus of the second session, featuring Heinrichs and a panel of local dairymen at each location.

Body conditioning scoring allows dairymen to evaluate their cattle on a scale of 1 to 5, to determine if animals are carrying adequate, too much or too little flesh to maintain production and fetus development. Only two areas of the cow's body, prone to visible fat layering, are considered: the tailhead, or area covering the pelvis from the pinbones to the peak of the tailhead, and the loin, or "short ribs" section, where the horizontal projections from the lumbar vertebrae form a ledge-shelf effect over the eye muscle.

"It's easy to walk down a row of cows and quickly look at these areas for body conditioning," Heinrichs advises. He urges dairymen to make frequent checks, of both dry and milking cows, using this scale to pinpoint underfed and overfed individuals. A score of 1 indicates severe underconditioning; a score of 5 means an overconditioned, obese cow.

A cow scoring 1 on the scale is "very sick or very malnourished for whatever reason," according to the dairy specialist. The "skin and bones effect" leaves the chine, loin and rump region sharp and prominent. Individual short ribs have limited flesh covering and can be easily felt through the hide. The area below the tailhead and between the pinbones is severely depressed, forming a cavity, and causing the area to appear extremely sharp.

Cows given a 2 score carry some flesh over the short ribs but are still thin enough that the ribs can almost be visibly counted, with a definite ledge and shelf formation. A caved-in effect is evident between the tailhead and pins.

"A cow ranked 2 should cause you concern about her protein and energy intake. She may not be eating, she may have breeding problems, and she is probably going to be too thin at dryoff," says Heinrichs.

The ideal 3 cow will have a bit of shelf-effect sharpness at the short ribs, but the individual bones can't be counted or sharply felt when touched. Tailhead should be smooth, but with no rounded patches of fat evident.

Cows at the 4 level of the scale are carrying too much flesh and show no shelf effect over the short ribs area. Herds with a great many over-fleshed animals may have ration balancing problems and are likely low in milk production.

At the upper end of the scale, or 5, are individuals Heinrichs likens to "Charolais headed for the butcher." Fat patches simply bury the tailhead prominence and the animal's bone structure cannot be felt under the heavy layer of fatty covering.

All herds will have some individuals in the 2 and 4 range of the scale. However, if more than a few 4s are found in late lactation cows, and fresh cows score as 2s, it should trigger concern about the feeding program. To better track a herd's body conditioning problem individuals. Heinrichs suggests that dairymen keep a record of body scoring on a monthly basis.

Dry Cow Feeding

Dry cow rations can heavily influence problems of too thin or too fat cows. A simple rule of thumb, says Heinrichs, is to aim for a ration made up of half corn silage and half orchard or mixed hay grass. A problem unique to the southeastern part of Pennsylvania is that alfalfa hays are often too high in protein balancing dry cow diets.

And, while overfeeding grain to dry cows can quickly lead to overfed, obese cows at freshening, total withholding of grain can lead to a later loss in production.

Small quantities of grain help maintain the delicate balance of microflora that must be present in a cow s rumen in order for it to properly handle feedstuffs and maintain the necessary acidic level for absorption of vital minerals. Total withholding of grain eliminates that desirable bacteria. At freshening, when grains are suddenly re-introduced to a cow's diet, often at high levels, the digestive system simply cannot utilize the feed without adequate microflora levels.

Recommended dry cow grain feeding level is .5 percent of the cow's body weight, or three to five pounds grain for a cow weighing 1,200 to 1,500 pounds. At freshening, grain should be boosted to 1 percent of body weight, and then increased about one pound per day to a maximum of 2 percent body weight by two weeks after fresh date.

For top producing individuals, grain intake can go to 2.5 percent body weight, with maximums of 30 pounds of grain for a 1,200 pound cow, 32.5 for a 1,300 pound cow, and 37.5 pounds grain for a cow weighing 1,500 pounds.

An exception is for heifers still maintaining body growth while malking their first lactation, and which may need higher grain poundages to meet those growth plus production demands on their systems.

Because cows lose a large volume of weight at calving, plus the additional drain milk production puts on their body systems, feed balancing at this stressful time is critical.

A cow freshening without proper feeding in the late dry period will probably never reach her proper milk production levels. An overfed cow may experience calving difficulties, and be more prone to metabolic disorders related to the dry period care and calving, including udder edema, milk fever,

Jud Heinrichs

ketosis, fatty liver syndrome and displaced abomasums.

Again, Heinrichs suggested an ideal, the division of aherdinto five separate groupings. This would allow the milking herd to be divided into recently fresh, early-to-mid lactation, and late lactation groupings, while dry cows would also be separated, splitting those within a month of calving into a separate feeding group.

Forages

While pasturing cattle is not an immediate January concern of Pennsylvania dairymen, Heinrichs also touched on the value of grazing cattle.

Both growth rates of heifers and milk production of mature cattle can be heavily influenced by quality of fresh pasture forages. In a past study on growth rates of heifers on pastures, researchers found young stock which grew taller during summer solely on pasture feeding, but actually lost weight from the beginning of the pasture season to the end.

The addition of legumes to grass-only plantings can greatly boost feed value and recovery after grazing of pasturing areas. A 16 to 18 percent protein level is not out of reach with a well-managed and fertilized stand of quality mixed pasture forage.

Strip grazing, or turning animals into separate stands every day or two, exposes them to fresh, highly palatable, grass more frequently, and helps to better maintain milk production and body growth. Again, splitting a milking herd can better utilize pasture forage, if high milkers are given first chance at fresh pasture, with late lactation cows following in rotation of grazing area.

Forage preservatives have seen increasing popularity in recent years to hold quality of stored feeds and boost nutrient levels. Some are worthwhile, according to Heinrichs, and others have proved less valuable. Most fell into one of four categories, as mold inhibitors, enzymes or anti-oxidants, nutrient and buffer materials, and inoculants.

Mold inhibitors are acid types which help stimulate the growth of bacteria to increase levels of acetic and lactic acid in the fermented product. While they work well on basically all crops, Heinrichs warns that mold inhibitors are not cost effective, except for use in high moisture corn.

Enzymes and anti-oxidants act as catalysts to speed up chemical reactions in the fermenting product. While they promote production of lactic acid, which inhibits undesirable bacterial growth, they work "only if it's going to work anyway." The dairy specialist labels them "good for corn silage, but expensive."

Forages lacking carbohydrates, such as grass, oats, or wheat, may be boosted with the use of nutrient and buffer additives, which feed the products that increase the carbohydrate level and mineral content. These type additives will guarantee a better fermentation process, plus help increase the dry matter level. One drawback is that some types must be stored under high pressure.

Inoculants are a live bacterial microorganism, Heinrichs stresses, which are easily destroyed and may need to be kept under cool conditions. Both direct sunlight and chlorinated water may destroy their effectiveness. They can be used in crops where added bacteria are beneficial.

Another possibility for forage preservation, and one much more heavily used in other areas of the country, is ammonia. Added at the the blower, it reacts immediately with the forage as it is blown into storage, but must have moisture to react properly.

Ammonia lowers re-fermentation, serves as a mold and growth inhibitor and reduces heating levels. The cheapest source of non-protein nitrogen, use of ammonia can boost silage protein levels to the 17 to 18 percent range.

30 YEARS AGO
THIS WEEK

- Two-hundred twenty-six more growers took advantage of the marketing facilities of the Lancaster Poultry Exchange in 1956 than in 1955, Levi H. Brubaker, president, reported at the annual meeting Jan. 17.

In all, 871 growers marketed 6,407,415 birds in 82 sales for an average price of 21.38 cents for the Tuesday sales and 20.65 cents for the Thursday sales. Sixty-two percent of the sales were on Thursday.

- Members of the Quarryville and Southern Lancaster County locals of Inter-state Milk Producers Cooperative were told Jan. 24 that adoption of a marketwide pool for the Philadelphia milk marketing area will cost either the producer or the consumer two to two and one-half cents a quart.

- Dairymen start receiving $5.95 a hundredweight for milk marketed in the Lancaster area today under a tentative order issued by the Pennsylvania Milk Control Commission.

- Pennsylvania was again second in America in both the number of Holstein registrations and the total of animals transferred last year.

- The potential 1957 crop of European corn borers found in U.S. corn fields last fall is smaller than the previous year's but still large enough to threaten economic damage, according to State-Federal surveys. The North-Central states showed reduced numbers of this costly corn pest, while a build-up of the insect's numbers occurred in Eastern states, the U.S. Department of Agriculture says.

- A herd average of 45.7 lbs. of butterfat won first place in the Progressive Dairy Herd Improvement Assn. in December for Charles Brosius. His cows averaged 925 lbs. of milk.

There were 18 herds with averages of over 35 lbs. of butterfat among the 103 herds tested. In all 3,442 cows were tested in December.

- Unsold Lancaster County tobacco will be marketed through the Lancaster County Tobacco Growers Cooperative Assn starting in about two weeks under a plan proposed Friday night by the coop manager, Mark S. Hess.

York Dairymen Discuss Dry Cow Management

BY JOYCE BUPP
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YORK — A panel of four York and Adams county dairymen compared their dry cow management programs during the Jan. 27 second session of the Extension school on nutrition, hosted at the 4-H Center.

Included in the panel were Jed Beshore, New Cumberland, Allan Zepp, New Oxford, Peter Leise, Glen Rock, and Doug Cope, Dillsburg.

Beshore called dry cow management the "weakest link" in his dairying program. Due to a lack of facilities for separating dry animals from the 50-head milking herd, Beshore said he gives them no special attention until they freshen.

Instead, Beshore compensates by making sure late lactation cows get adequate grain to maintain body weight through the dry period. Free choice access to poorer quality hay and 10 to 15 pounds corn silage per day, fed at night, round out the dry cow's ration.

"It may not be the optimal for maximum return, but if it's successful with the least cost in equipment and facilities, we're better off; the less debt load, the better," figures the New Cumberland dairyman, whose herd averages over 22,000.

The 125-head in Allan Zepp's freestall facility are divided into two groups on a total mixed ration with a computer supplement feeder. At dryoff, cows are treated and immediately turned into the dry pens with bred heifers, sharing the same basic half hay and half corn silage ration.

Selenium is given three weeks prior to due date and at two weeks cows are started on a 12 to 13 percent protein grain mix. After freshening, they go into the high-production TMR grouping, and onto computer feeding after two weeks.

"I'm doing what they say I'm supposed to," says Zepp, with a herd average of over 18,000. "I don't know yet if it's paying the bills."

Leise moves late lactation cows into the lower of two groups in his herd of 80 head He aims at avoiding edema at freshening by eliminating salt and mineral free-choice access.

At dryoff, all cows are treated, with extra attention paid to individuals with mastitis history. Grass hay is the major diet, with occasional admittance to bunk feeder leftovers. Two weeks prior to freshening grain feeding is started, and at freshening, cows are moved into the higher, 65-pound production group. Parlor feed is withheld for the first two weeks, until production begins to show some increase.

"If a cow shows severe edema, I will premilk on occasion, and freeze colostrum. I like to manage for edema prevention," he says. Production for the herd averages over 17,000.

Getting cows in good body condition is Doug Cope's primary concern about his dry cow program. He follows DHIA recommendations and shoots for the optimal 60-day dry period, then withholds grain, dry treats and gives Vitamin A and selenium at dryoff.

Except during severe winter months, when they are housed in a separate wing of the 55-head stall barn, dry cows go out on pasture Small portions of grain, and a bit of hay "to slow the grass down," or milking herd feed leftovers, are included in dry cow rations.

About two weeks prior to freshening, another round of Vitamin A and selenium are given when animals are moved into the barn, clipped and cleaned up. Grain ration is upped and silage and alfalfa hay introduced.

"It takes about four weeks before I have them upped to the desired grain levels," Cope figures. The herd's current rolling milk production is just under 19,000 pounds of milk.