

Peak milk yield occurs between 30 and 60 days in milk for both cows and heifers if the feeding and management program on a dairy are adequate.

On dairies that I am monitoring production, I calculate peak milk yield each month. From a test day report showing individual cow milk weights and days in milk, I average the production of cows between 30 and 60 days in milk. I make separate calculations for first calf heifers and cows in second or greater lactations. On larger dairies, I look at cows at 40 to 49 days in milk to cut down on the numbers but still stay statistically significant.

An excellent article on peak milk yield and lactation curves was written by Larry E. Chase in the 1986 Winter Dairy Management School proceedings published by The Cornell Cooperative Extension Service. It includes a table which compares peak milk yield and 305 day milk production. The table uses data collected by Jeff Keown of Cornell on 470,000 DHI records.

In the future it will be even more important to monitor peak milk yield as we use products like bovine somatotrophin and added fat to change lactation curves in cows.

## Use of a Bovine Nose Twitch, Bilge Pump, and Milk Test for Ketosis

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**Bovine Nose Twitch.** A bovine nose twitch, which has much the same effect as an equine nose twitch used in a horse, is available for use in cattle. Bovine nose twitches are commonly used in Europe, where they are sometimes referred to as Reetz nose holders.<sup>1</sup> I first saw one of these twitches when a student brought one back from Ireland. It looked strange but worked impressively.

I now use my own version of a Reetz nose holder extensively in practice. The twitch is fabricated from an equine humane nose twitch using an industrial rod bender. Because the twitch places steady pressure around the top and bottom of the external nares it gives more control of the head and is more distracting than a nose lead (nose tongs) or a rope halter alone. If no assistant is available to hold the twitch, the handles can be tied together and the twitch left in the cow's nose. It is particularly useful for procedures that require the head to be kept very still, such as administration of sub-conjunctival injections or treatment of ocular cancer. It also works very well for distracting cows while doing teat surgery, tracheal washes, peritoneal taps, or similar standing procedures. Bovine nose twitches are available from the Colorado State University student veterinary bookstore (Vet Supply, P.O. Box 1651, Fort Collins, CO 80522) at a cost of \$25.00 each.

**Bilge Pump.** A large capacity, plastic pump comes in very handy when delivering large volumes of oral solutions to cattle. I have found that a standard plastic bilge pump designed to bail water from sailboats works both inexpensively and effectively. The pump I use (Thirsty-Mate, Model 124PF6, Beckson Marine, Inc., Bridgeport, Conn. 06605) costs about \$18.00 and is available at most sailboat or marine supply stores. I use a large stomach tube (3/4 to 1 inch inside diameter) modified to attach to the bilge pump by

a 20 cc disposable syringe case taped to the end of the tube. This "homemade" bilge pump system delivers large volumes of fluid very quickly, is easy to pump, and doesn't stiffen up as stainless steel pumps tend to do. Care should be taken when using any high-capacity pump not to overload an already full rumen, which could result in regurgitation and/or rupture of the rumen wall.

**Milk Test for Ketosis.** Diagnosis of ketosis in postpartum dairy cows is difficult if you cannot get the cow to urinate or if you cannot detect the odor of ketones on the cow's breath. In such cases, I use a ketone test powder (Ketonate™, Labanco Inc., Box 483, Addison, IL 60101) to test for milk ketones. The powder is quite inexpensive (about \$3.00 for a 15 gram bottle) and is easy to use. It contains the same nitroprusside reagent found in urine dipsticks, but is in a different formulation to that it is sensitive enough to detect ketone bodies in milk (ketone bodies are not concentrated in milk as they are in urine). This powder contains the same chemicals as Rothera's reagent (1 part sodium nitroprusside, 25 parts sodium carbonate, and 20 parts ammonium sulfate) but does not state the proportions of the chemicals on the label. The test procedure is quite simple. Place a small quantity (about 1/4 gram) of Ketonate™ powder on a plain white surface (I use a CMT paddle), then deposit 1 or 2 drops of milk on the powder. Results can be read after two minutes, with a purple color denoting a positive test for ketone bodies. Colostrum milk may not provide a suitable test sample.

### Reference

1. Stober, M: Handling cattle. in Rosenberger G (ed): Clinical Examination of Cattle. Philadelphia, WB Saunders, 1979, pp 3-5.