

## Dairy Heifer Reproductive Management Seminar

The most profitable age for first calving is between twenty-four and twenty-six months. Heifers that calve later produce slightly more milk during their first lactation. However, increased costs of raising late-calving heifers, the delay in recovering investment costs, and reduced production per day of herd life outweigh the slight increase in milk yield. If heifers are managed well, they are large enough to breed at fifteen months and calve at twenty-four months of age.

A heifer reaches puberty when normal sexual behavior is exhibited and ovulation occurs. Onset of puberty is more closely related to body weight than to age. Heifers reach puberty when body weight is 30% to 40% that of average adult weight. Occasionally, the first few estrous cycles occur without behavior signs of heat. These are called silent heats. On the other hand, some of the first standing heats are followed by anovulation (no ovulation).

Frequency of silent heat and anovulation decreases as heifers experience more cycles. For these reasons and because they are not yet large enough, heifers should not be bred when they first reach puberty. If growth is slowed down by underfeeding, disease, or parasites puberty is delayed.

With regard to nutrition, low dietary energy levels can lead to ovarian inactivity.

Inadequate protein intake and nutritional problems leading to anemia can cause silent or irregular heats. Deficiencies of phosphorus, vitamin A and E may also affect reproduction. Heifers approaching breeding age should be watched closely for heat to insure that they are cycling. A veterinarian can examine heifers to

determine which ones are cycling and also determine if there are any congenital reproductive abnormalities.

There are numerous advantages to artificial insemination and dairymen should consider breeding their heifers to the better AI bulls. The most important advantage is the improved genetic merit of the calves sired by AI bulls. Daughters of AI sires have at least 900 pound milk production advantage over daughters of non-AI sires.

A successful AI program involves routine heat detection and timely insemination. Although the average interval between heats for heifers is twenty days there is a normal range of eighteen to twenty-four days. Because considerable variation exists between animals, dairy farmers should record all heat dates on a chart so that they can anticipate future heats. To monitor heats accurately, heifers must be clearly identified with neck chains, large ear tags, or freeze brands.

Heifers should be checked for heat twice a day. If heat detection is routine and frequent, heifers should be inseminated twelve hours after the beginning of standing heat. When the onset of heat cannot be accurately determined, heifers should be bred soon after standing heat is noticed. Dairymen who cannot routinely check for heat should consider using heat synchronization and a concentrated AI breeding program for selected months during the year.

Heat detection aids, such as heat mount detectors, crayon or chalk markings, surgically altered bulls or androgenized heifers equipped with chin-ball markers, can make heat detection easier and more efficient.

When selecting AI sires to breed heifers, primary emphasis should be placed on production merit. From among these bulls, the choice should be further narrowed to those bulls with the least expected calving difficulty. Thirty-five to fifty days after insemination heifers should be ex-

mined for pregnancy.

Accurate breeding records are important for predicting calving dates. Heifers close to calving should be observed frequently. They should be moved to the calving area several days to a week before the anticipated calving date.

The best calving area is a level,

dry, easily accessible grassy pasture. A good alternative is a large, dry, well bedded maternity pen. Maternity pens should be kept clean and reserved solely for calving. Selecting sires for calving ease, raising heifers to adequate size and using proper calving management practices will minimize calving problems.

## Franklin County Extension



The 1989 Executive Committee of the Franklin County (PA) Cooperative Extension Association was selected at the recent Board of Director's reorganizational meeting in Chambersburg. They are (seated, l. to r.): Michael John of Waynesboro - President; Phillip Lobaugh of Chambersburg - Vice President; (standing left to right): Dana Meyers of Chambersburg - secretary; Joel Rotz of Chambersburg - director; and Mark Gayman of Waynesboro - director. John Hart serves as treasurer. The executive committee, along with the Board of Directors, is responsible for funding and directing the Penn State Cooperative Extension educational programs for Franklin County.

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