



## Dairy Heifer Nutrition: Weaning to Maturation

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#### Goals of Heifer Rearing Program :

1. Heifers reach puberty at approximately 10-11 months of age and weighing 600-650 lb.
2. Heifers bred at 14-15 months of age, 50-52" tall at the hip, and weighing 750-900 lb.
3. Calving at 24 months of age, weighing 1200 lb. post-calving (1300-1350 lb. immediately pre-calving), with a BCS of 3.5-4 (1-5 scale).
4. Maintain a relatively constant rate of gain of 1.6-1.8 lb/day from birth up through calving.
5. ≤ 2% mortality in heifer population from 1 week to 2 yr. of age.
6. Optimize feed costs and minimize animal morbidity.

#### Background/Economical Information:

- University of Wisconsin Data (2000) noted that the average cost to raise a heifer to calving is \$1360 (range: \$922-\$1807) and that feed accounts for 60% of the cost to raise a heifer from weaning to calving (versus 38% of the cost from birth until weaning).
- Lifetime productivity is maximized when heifers calve at 22.5-24 months of age, **provided** they are of adequate size.
- Decreasing the average at first calving from 28 months to 24 months in a 120 cow dairy herd consisting of 33% heifers would result in annual savings of \$9600-\$14400!

#### Weaning to 6 Months of Age (converting from monogastric to ruminant)

- Wean heifers based upon dry feed consumption more so than age (most dairy calves are weaned between 4-8 weeks of age).
- Feed a high quality calf starter that is: palatable (contains molasses), textured (vs. pelleted), and contains some fiber (e.g. whole or crimped oats, cottonseed hulls).
- Once heifers are **regularly consuming ≥ 2 lb** of calf starter per day they can be weaned.
- Be certain to group calves according to body weight/size.
- **Do not begin feeding wet forage until calves are weaned!!**
- Although generally discouraged, haylages, **IF** of good to excellent quality, have been used successfully by good managers in some post-weaning calf rations.

#### 6 Months to Breeding (13-16 months of age)

- Utilize forages as the primary basis of rations during this period. Feed grain/concentrates only in amounts needed to balance the ration for the desired amount of daily gain. Have forages analyzed so that quality/nutrient content is known, not estimated.
- Limit corn silage to no more than 50% of forage intake
- Ionophores (monensin, lasalocid) may be fed during this period to increase feed efficiency and prevent/decrease the incidence of clinical coccidiosis.
- **Puberty is a function of weight, not age!** Expect Holstein heifers to reach puberty when they weigh 600-650 lb.
- **Excessive energy intake during this period hinders mammary growth!**
- Heifers which are over conditioned deposit excessive fat in their developing udders, resulting in decreased working mammary tissue and ultimately the potential for decreased milk production.

#### Breeding to Calving (23-25 months of age)

- Continue to maximize forages, feeding only enough concentrate(s) to meet animals' requirements. Usually 1-8 lb of concentrate/head/day, depending on forage quality.
- No supplemental concentrate may be needed for the majority of this period IF on excellent quality hay, haylage, or pasture.
- Begin lead feeding concentrates for the last 1-2 months of gestation in preparation for the forthcoming lactation and lactating ration.
- Continue to feed ionophores in order to maintain an increased feed efficiency (unless heifers are in excess body condition).

#### How Does Your Heifer Program Measure Up?

A representative sample of any given heifer population should be measured, condition scored, and weighed 3-4 times between weaning and calving.

#### **Body condition score (BCS) guidelines for growing dairy heifers.**

AGE	BCS (1-5 scale)
Birth – 4 months	2.0 – 2.75
4 months – 22 months	2.75 – 3.5
22 months – calving	3.25 – 3.75