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## Heifer feeding and management affect efficiency

### Abstract

Heifer feeding and management programs have a great impact on the efficiency of the future dairy herd. Dairies that feed and manage heifers for calving at about 24 mo of age are optimizing milk production, feed cost for raising heifers, number of replacement heifers available, and return on investment. Replacement heifers represent a considerable investment in labor and feed, with no return on that investment until they freshen. A summary of Kansas DHIA Holstein herds shows that some herds are receiving a good return on investment as early as 22 mo of age, whereas other herds are not reaping any return until 31 mo (Figure 1). The summary also shows that herds with heifers freshening at an average age of 24 to 25 mo have the highest Rolling Herd Averages for milk production.; Dairy Day, 1991, Kansas State University, Manhattan, KS, 1991;

### Keywords

Diary Day, 1991; Kansas Agricultural Experiment Station contribution; no. 92-175-S; Report of progress (Kansas Agricultural Experiment Station); 640; Dairy; Heifer; Feeding; Management

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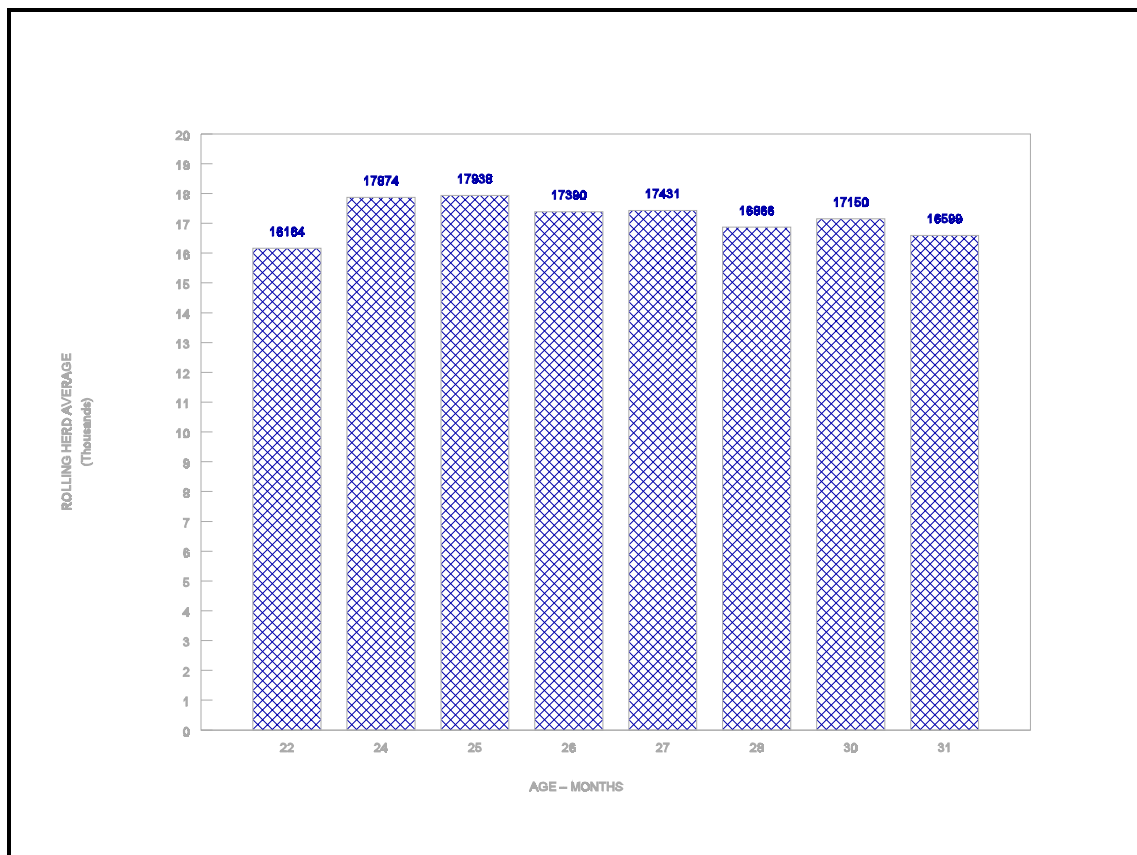
## HEIFER FEEDING AND MANAGEMENT AFFECT EFFICIENCY

*J. R. Dunham*

Heifer feeding and management programs have a great impact on the efficiency of the future dairy herd. Dairies that feed and manage heifers for calving at about 24 mo of age are optimizing milk production, feed cost for raising heifers, number of replacement heifers available, and return on investment.

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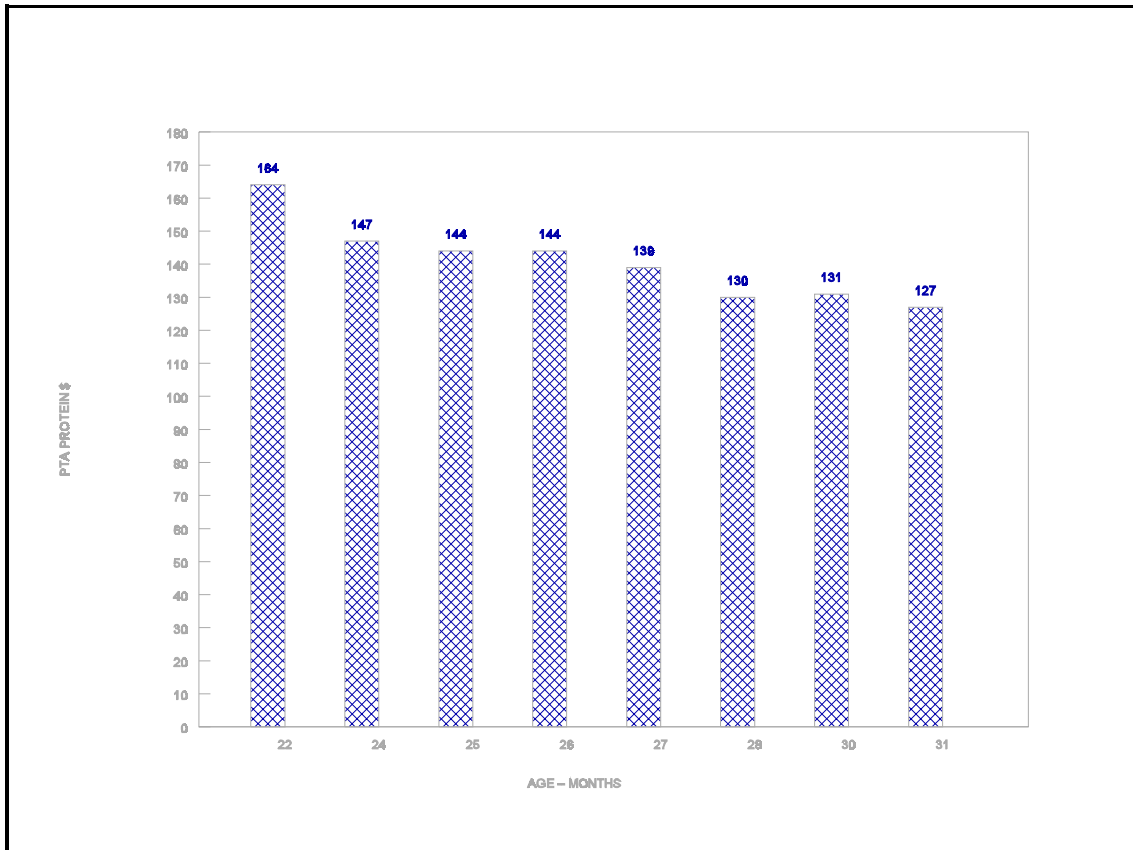
that investment until they freshen. A summary of Kansas DHIA Holstein herds shows that some herds are receiving a good return on investment as early as 22 mo of age, whereas other herds are not reaping any return until 31 mo (Figure 1). The summary also shows that herds with heifers freshening at an average age of 24 to 25 mo have the highest Rolling Herd Averages for milk production.



**Figure 1. Rolling Herd Average vs Age at First Calving.**

These same herds seem to emphasize sire selection as indicated by the PTA\$ values of first lactation heifers in Figure 2. Therefore, a return on the genetic investment is being realized earlier. In addition, herds with heifers freshening

at about 24 mo of age have more replacements available than herds with heifers freshening at older ages.



**Figure 2. PTA\$ of First Lactation Heifers vs Age at First Calving.**

Having heifers freshening at about 24 mo of age is a realistic goal. However, heifers must be well grown in order to perform up to their potential when freshening this young. A rather constant rate of growth, 1.75 lb per day, is required from 3 mo of age until calving at 24 mo. These heifers will weigh about 1350 lb before calving. A key to proper heifer development is a constant rate of growth.

Total feed cost is less when heifers are grown fast enough to freshen at 24 mo, even though feed cost per day is more. Heifers freshening at an older age and growing at a slower rate have more total feed cost, because the maintenance cost is paid for a longer period. Table 1 shows the estimated amount of feed required for growing heifers to 1350 lb at various rates of growth.

**Table 1. Estimated Feed Requirements for Growing Heifers from Three Months of Age to 1350 Pounds**

Age at Calving (mo)	Rate of Growth (lb)	Soybean Meal (lb)	Grain (lb)	Hay (lb)	Feed Cost* (\$)
29	1.45	1325	3174	11423	593.54
27	1.55	1304	3083	10185	552.75
26	1.65	1263	3185	9705	538.54
24	1.75	1340	3576	8108	513.58

\*Feed prices used -- Soybean Meal = \$9.50/cwt, Grain = \$4.00/cwt, and Hay = \$3.00/cwt.

Even with all of the advantages of Holstein heifers freshening at 24 mo of age, too many herds are not taking advantage of this opportunity. The average age of first lactation Holsteins in Kansas DHIA herds is 27.3 mo. However, progress is being made, because the average age was 28.2 mo during 1988.

For more information, a bulletin, "Raising Dairy Heifers", is available at your County Extension Office. Also, a computer program to formulate heifer rations is available from your County Extension Office or from KSU Extension Dairy Science.