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J.L. Morrill

M.K. Schmidt

A.J. Cullen

M.B. Morrill

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Evaluation of an early weaning program for dairy calves

Abstract

One experiment was conducted to compare an early weaning program, using a prestarter, when calves were weaned at 2 or 3 wk of age with programs using conventional feeds and weaning at 3 or 6 wk of age. Daily gains to 8 wk of age were 1.19 and 1.03 pound for calves fed a commercial starter and weaned at 6 and 3 weeks of age, respectively; and were 1.1 and .97 for calves on the early weaning program and weaned at 3 and 2 wk of age, respectively. Another experiment was conducted to test one variation of the early weaning program. Calves fed according to the early weaning program and receiving a high quality, fibrous starter gained an average of 1.3 lb per day to 6 wk of age. Calves fed prestarter but no starter until weaning did not perform as well.; Dairy Day, 1984, Kansas State University, Manhattan, KS, 1984;

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KEVALUATION OF AN EARLY WEANING PROGRAM FOR DAIRY CALVES**S**

J. L. Morrill, M. K. Schmidt, A. J. Cullen,

and M. B. Morrill¹**U**

Summary

One experiment was conducted to compare an early weaning program, using a prestarter², when calves were weaned at 2 or 3 wk of age with programs using conventional feeds and weaning at 3 or 6 wk of age. Daily gains to 8 wk of age were 1.19 and 1.03 pound for calves fed a commercial starter and weaned at 6 and 3 weeks of age, respectively; and were 1.1 and .97 for calves on the early weaning program and weaned at 3 and 2 wk of age, respectively.

Another experiment was conducted to test one variation of the early weaning program. Calves fed according to the early weaning program and receiving a high quality, fibrous starter gained an average of 1.3 lb per day to 6 wk of age. Calves fed prestarter but no starter until weaning did not perform as well.

Introduction

The results of earlier experiments had led to the development of an early weaning program (see page 5). The program had not been tested in a direct comparison with more conventional programs so this was done in Experiment 1 of this study. In Experiment 2 we tested one modification of the early weaning program to see if it could be simplified even more.

Experimental Procedure

Sixty-eight Holstein heifer calves were used in Experiment 1. Calves in Groups 1 and 2 were fed prestarter ad libitum until they were consuming $\frac{1}{2}$ lb each daily, then every day each calf was fed a mixture of $\frac{1}{2}$ lb of prestarter and whatever amount of low-fiber commercial calf starter it would consume. Calves in Groups 3 and 4 were fed the same calf starter ad libitum. Chopped brome hay was available to all calves. Ages at weaning were 2, 3, 3 and 6 wk for Groups 1-4, respectively. Feed consumption, weight gains, and observations of health were recorded.

In Experiment 2, calves in one group were fed prestarter ad libitum until they were consuming $\frac{1}{2}$ lb each daily, then every day each calf was fed a mixture of $\frac{1}{2}$ lb of prestarter and all of a palatable, high fiber starter it would consume. They were weaned at 2 wk of age. Calves in the other group were fed only prestarter until weaning at 2 wk of age; after weaning they were fed the same as calves in the other group. Feed consumption, weight gains, and observations of health were recorded.

¹Department of Statistics²Calfweena, Merrick Foods, Union Center, WI.

Results and Discussion

Weight gains and feed consumption in Experiment 1 are shown in Table 1. Weight gains in any one wk were significantly different only in wk 3 when calves in Group 1 had been weaned and other calves had not. Sickness and mortality were very low in all groups and clinical appearance of all calves was similar.

Weight gains and feed consumption in Experiment 2 are shown in Table 2. The benefit of adding starter to the ration before weaning is obvious.

Calves in Group 1 in Experiment 1 did not gain as well as early-weaned calves in earlier experiments or as those in Group 1 in Experiment 2 of this study. Part of that difference may have been due to extreme weather conditions during some of the time Experiment 1 was underway. However, the starter used may have been a factor. The starter used in earlier studies and in Experiment 2 of this study was a high-fiber starter and was readily consumed by the calves.

The daily gain of 1.3 lb to 6 wk of age would be considered acceptable and, since calves have already gone through weaning stress, growth after 6 wk of age is very good.

Table 1. Weekly dry feed consumption and weight gains in Experiment 1

| Group | Week | | | | | | | | Overall |
|--------------------------|------|-----|------------------|------|------|-------------------|------|------|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Dry feed consumption, lb | | | | | | | | | |
| 1 | 2.2 | 4.0 | 9.9 | 14.1 | 18.5 | 24.6 ^a | 28.4 | 30.6 | 132.0 |
| 2 | 1.9 | 3.5 | 6.6 | 13.6 | 19.1 | 24.4 ^a | 28.2 | 32.6 | 130.2 |
| 3 | 1.1 | 3.1 | 6.4 | 14.5 | 19.8 | 25.7 ^a | 29.7 | 33.7 | 134.0 |
| 4 | 1.3 | 3.5 | 6.2 | 8.6 | 13.0 | 15.0 ^b | 26.4 | 32.8 | 106.7 |
| Body weight gain, lb | | | | | | | | | |
| 1 | 4.4 | 4.2 | 0 ^a | 2.9 | 9.9 | 10.1 | 11.4 | 11.2 | 54.1 |
| 2 | 4.4 | 4.0 | 6.8 ^b | 1.3 | 7.9 | 10.6 | 10.8 | 15.6 | 61.4 |
| 3 | 3.3 | 4.6 | 6.4 ^b | 2.2 | 7.9 | 10.6 | 10.3 | 12.5 | 57.9 |
| 4 | 3.7 | 3.7 | 6.6 ^b | 6.6 | 8.1 | 12.8 | 12.3 | 12.3 | 66.4 |

^{a, b} Means with different superscripts are significantly different (P<.05).

Table 2. Weekly gain and feed consumed by calves in Experiment 2^a

| Week | Gain, lb | | Feed, lb | | | |
|-------|----------|---------|------------|---------|---------|---------|
| | Group 1 | Group 2 | Prestarter | | Starter | |
| | | | Group 1 | Group 2 | Group 1 | Group 2 |
| 1 | 5.9 | 3.5 | 2.4 | 2.6 | .7 | 0 |
| 2 | 5.5 | 3.7 | 2.4 | 3.1 | 1.5 | 0 |
| 3 | 1.1 | 0 | 3.1 | 2.9 | 7.7 | 5.9 |
| 4 | 9.0 | 5.3 | 3.1 | 3.1 | 15.4 | 9.7 |
| 5 | 13.2 | 10.1 | 3.3 | 3.1 | 21.6 | 15.0 |
| 6 | 18.3 | 9.9 | 3.3 | 3.1 | 30.6 | 19.4 |
| Total | 53.0 | 32.6 | 17.6 | 17.8 | 77.4 | 49.9 |

^aAll calves were weaned at 2 wk of age.

