FALLEN OAKS CUSTOM CALF RAISING

RANDY AND MINNIE WARD
ST. CHARLES, MINNESOTA

Prepared for the Proceedings of the 71st Minnesota Nutrition Conference by
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BACKGROUND

Minnie and her husband Randy each work off the farm and also have run a custom calf rearing facility for the past three years (Figure 1). The Ward's use one DeLaval automated calf feeder equipped with two nipples in the nursery phase and additional pen space for weaned heifers in the grower phase. The automated calf feeder offers the opportunity to work off the farm and provides more at home time for an active life with a young family.

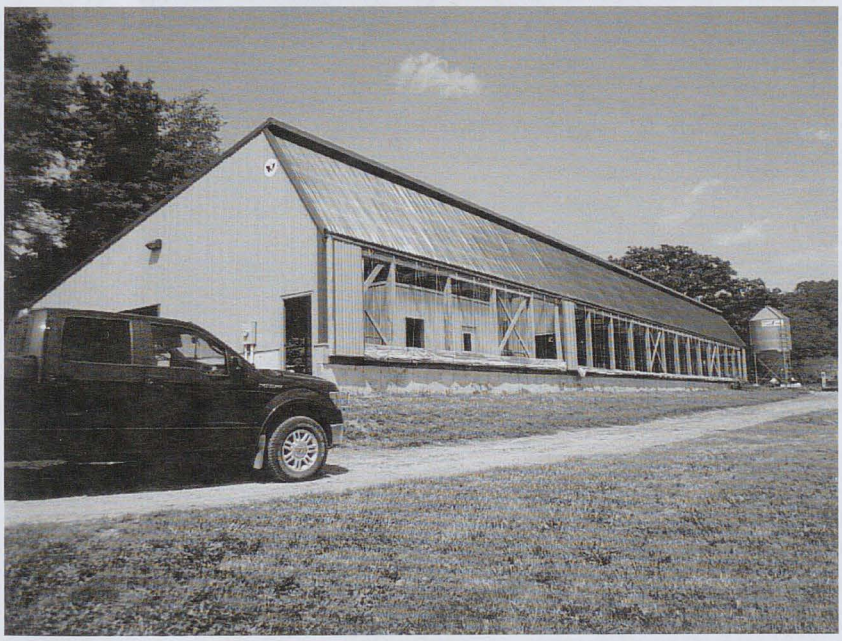

Figure 1. Fallen Oaks calf and heifer barn.

CALF NURSERY MANAGEMENT

The Ward's recently changed from raising dairy heifers to single source bull calves. Bull calves are placed directly into the nursery upon arrival and within 1-2 feedings with help from Minnie or Randy are able to use the milk nipple by themselves. All calves receive Calf Guard prior to colostrum feeding and also Ecolizer for E-coli control. Upon arrival, calves are given intranasal IBR/PI3 vaccines but this practice has been discontinued. Calves have access to 25 square feet/calf and use corn stalks as a preferred bedding substrate over straw due to price and

availability. A new outside calf pen addition to the confinement pen was constructed this summer to offer added space per calf (Figure 2). Ventilation in the calf barn is accomplished by two thirty-five inch fans and a combination of open and curtain side walls.

Figure 2. Recently installed outdoor exercise area.

FEEDING MANAGEMENT

Calves are offered up to 10 meals/day or a total of 8 liters daily. Smaller calves are offered less milk. The current MR is a 20:20 fed at 18% solids through a De Laval automatic milk feeder. During the winter months the amount of solids offered is > 20% and calf blankets are also used for up to 2 weeks during the winter. Calves are programmed to receive their allotment via neck collar transponders. Calves are red flagged if lower than adequate intake. Calves are checked at least twice daily. Calves are currently weaned after 35-37 days (Table 1). Calf starter intake is monitored by pen. Starter is a 20% crude protein complete pellet offered in a feed-bunk located inside the pen. The Ward's notice calf starter intake is dramatically increased during the step down milk feeding program towards weaning. Calves are removed as soon as possible after weaning. Initially, calf starter feeding stations were used but did not provide satisfactory starter intake. Calves have access to water in a water fountain located adjacent to the 2 milk feeding stations. Calves do well under the system with growth rates in phase 1 sometimes approaching 2 lbs daily (Table 2).

Table 1. Fallen Oaks milk replacer feeding plan using an automated calf feeder.

Day	Amount of milk replacer fed (L)
1-7	5-6
8-19	6
20-45	6-8

Table 2. Calf performance data snapshot.

Calf ID	Birth date	Total protein, mg/dL	Birth body weight, lb	Body weight at transition, lb	Average daily gain, lb
2666	2-23-2009	5.2	87	254	3.48
2667	2-23-2009	5.0	88	212	2.54
2668	2-24-2009	5.4	91	252	3.50
2669	2-25-2009	5.0	92	228	3.03
2670	2-25-2009	4.8	87	212	2.60
2671	2-28-2009	5.6	92	208	2.58
2672	3-1-2009	5.2	91	208	2.25
2673	3-1-2009	5.8	85	180	1.77
2674	3-3-2009	4.8	89	191	2.04
2675	3-5-2009	NA	74	178	2.21
2676	3-9-2009	5	94	205	2.31
2677	3-10-2009	5.5	87	198	2.35
2678	3-11-2009	6.7	85	258	3.33
2679	3-13-2009	5.4	94	233	2.78
2680	3-15-2009	5.3	97	199	2.13
2681	3-15-2009	5.8	89	211	2.54
2682	3-17-2009	5.7	97	204	2.33
2683	3-18-2009	5.7	97	211	2.53
2684	3-18-2009	5.1	92	209	2.50

Upon arrival all calves are weighed, blood is collected for total protein analysis and the vaccination program is initiated. Depending upon the age and calf strength upon arrival, calves are either placed directly on the calf feeder or offered a bottle for the first few feedings. Weaning is accomplished over a three day period and calves are moved into a weaning or transition pen at around forty-five days of age. Heifer calves are fed an accelerated milk replacer program (28:20) and fed increasing amounts of total solids during the winter. Bull calves are typically fed a lower protein milk replacer 20:20 to 25:20.

RECOMMENDATIONS

The main challenge to calf health at Fallen Oaks is respiratory disease. In regards to pen design, the Ward's are now considering a complete concrete floor for the nursery pen to improve clean-out and sanitation. The Ward's indicated that keeping dry bedding under the nipple of the automated calf feeder is a significant challenge. A new drainage system underneath the nipple of each calf feeder is recommended to remove excess moisture and reduce bedding costs. The automated calf feeder nipples are hand sanitized daily and a preference would have been for the nipples to be inside the mixing room to help prevent freezing in the winter. There is an air conditioner in the mixing area to keep the milk powder from building up a crust in the mixer outlet. The DeLaval machine has had very minimal maintenance over the last 3 years. The Ward's suggest installing head locks or another means of catching calves to improve the ease of routine calf procedures and for administering medication. The major benefit of feeding milk to calves with an automated calf feeding system is consistency in mixing milk including percent solids and water temperature. The Ward's warn that an automated calf feeder does not replace good management and a sound colostrum program.

TAKE HOME MESSAGES

Calf nursery environment is critically important. Square footage available to the calf should exceed 30 square feet. Proper ventilation is critically important to keeping air fresh, bedding dry, and calves healthy. Understanding air flow dynamics and constraints during different season are important aspects of designing and managing a proper ventilation system in an automated calf feeding barn. Calf growers that are considering building a barn for an automated calf feeder should visit with other producers to gain a better understanding of optimal barn design and calf feeder use. The Ward's like ability to feed calves consistently and the labor savings the automated feeder offers.