The Benefits of Grazing…..*beyond grass!*

Kerri Bartlett and Jim Grace
Extension Educators

There is no doubt that raising heifers on grass can be very beneficial. Pasture is an excellent, low cost forage source for dairy replacement heifers. But the benefits don't stop there. Anecdotal evidence has long suggested that heifers raised on pasture have greater muscle tone and are in better physical shape after spending the summer "exercising" to get their food. We decided to test this theory by conducting a two-year grazing project with short bred dairy heifers.

Vaughn Emo, a Steuben County farmer, has created a niche market that specializes in raising heifers on pasture. Vaughn receives the heifers from a large western NY dairy in early May and raises them primarily on grass throughout the summer. The heifers return to the farm in late fall when there is no grass left for them to graze. Jeff True, owner of True Farms, has sent his short bred heifers to Vaughn for many years and is always pleased with the heifer's performance. Jeff's comments spurred us to submit a proposal to NYS Agriculture and Markets for a Farmland Viability Grant that would compare heifers raised in a management intensive grazing (MIG) system to herd mates raised in confinement (a traditional freestall barn). Jeff and Vaughn were eager to participate and get some "real" numbers to back up the theory that the MIG heifers outperform their confinement raised herd mates. The study was designed to follow the two groups through their first lactation. The objective being to determine if it is advantageous (indicated by improved health status, decreased incidence of dystocia and metabolic disorders, increased milk production and lower cull rate) to raise heifers on pasture prior to calving.

Project details

A large group of short-bred Holstein dairy heifers were body condition scored (BCS) at True Farms in April. Jeff randomly selected which heifers were sent to pasture. Heifers raised on pasture were rotated to new paddocks every 1 to 3 days depending on the size of the paddock and the amount of grass available. The heifers were fed a small amount of grain everyday, with a maximum amount of 6 to 7lbs/head/day. During the hottest portion of the summer, when there was very little grass, heifers were also supplemented with baleage. The confinement heifers were raised in a traditional freestall barn and fed a TMR. The TMR consisted of primarily haylage and dry hay with a few pounds of corn silage. The MIG heifers returned to True Farms in early November. They joined their herd mates and all heifers were treated the same from that point on. After calving the heifers were moved to a first lactation group, housed in a traditional freestall barn.

Results

Calving scores were recorded for each heifer. Heifer health and reproduction performance was tracked through Dairy Comp 305 and milk production was tracked with Dairy One testing service. The results are summarized in the tables below.

	Initial BCS	**Final BCS**	**Change**
MIG Heifers	3.46	3.08	-0.38
Confinement	3.55	3.52	-0.02

There was no difference in initial BCS however; the MIG heifers had a significant decrease in

BCS.

Reproductive performance

	Calving Score	Services/ conception	Calving interval
MIG Heifers	1.82	2.04	12.73
Confinement	2.22	3.46	14.08

There was a significant reduction in calving score (1= no assistance and 5= very difficult) for the MIG heifers. This is attributed to heifers being in better physical condition (less adipose tissue, more lean tissue, and greater muscle tone) as indicated by their lower BCS prior to calving. Although not statistically significant there was a strong trend for MIG heifers to have fewer services per conception and therefore a shorter calving interval. With additional studies with greater numbers of heifers we would expect these results to be statistically significant.

There were no differences in milk production, milk fat or milk protein between groups.

Conclusion

These results indicate that raising bred heifers in a management intensive grazing system has beneficial impacts beyond the growing season. The improved health and reproductive performance is advantageous for these first calf heifers making the transition to lactating cows. In addition there can be a huge economic impact from raising bred heifers on pasture. An average figure of $2.00 per day is the cost of an open cow. Using this amount, and also taking into consideration the amount spent on breeding fees, we can conservatively estimate that the heifers raised in confinement cost the farm an additional $85 to 100 per head. On a small dairy with 30 to 40 bred heifers this equates to $3,000 to 4,000 that could be saved if MIG was implemented. On a large dairy the savings could easily top $10,000!

Additional farms and numbers of heifers are needed to support these results. We are hopeful more dairy farmers will consider MIG for their replacement animals. If you are interested in learning more about grazing please contact Jim Grace or Kerri Bartlett.

We would like to thank True Farms and Vaughn Emo for participating in this project. We would like to thank Dr. Tom Overton for the statistical analysis. This project was made possible with a NYS Agriculture and Markets Farmland Viability Grant.