# INTENSIVE GRAZING MANAGEMENT FOR DAIRY HEIFERS

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**ABSTRACT**
After grazing our milking herd on intensive rotational grazing for three years utilizing many paddocks and different types and configurations of fencing to control the wise use of the grass and legume species already on our farm, we moved to develop our second farm into a commercial heifer growing project. This paper will attempt to share our practical experience through three years of grazing upwards of 400 Ayrshire and Holstein heifers from six months of age until just prior to calving. Our ultimate objective is year end financial solvency.

**KEYWORDS**
Dairy heifers, intensive grazing utilizing existing plants, profits

**INTRODUCTION**
I had been dairy farming for 35 years, although not reared on a farm, using the customary techniques of land utilization of rotational corn and alfalfa. These crops were ensiled and then fed to our milking herd in a free stall, confinement housing system. The land has been in our family since 1755 and my grandchildren are the tenth generation to live from the bounty of this land. The concept of rotational grazing to thereby reduce input costs with the intent of a profit at year end intrigued my interest for 5 years or more and we began this project with our Ayrshire milking herd in 1991. Three years later we expanded our meager grazing knowledge to utilize more of our acreage in grazing commercial dairy heifers. This paper will attempt to share some successes as well as failure and to share a few of our objectives for the future.

In this introduction I would be remiss if I did not credit our state organization, *The Pennsylvania Forage and Grassland Council*, of which I have been a charter member. As a result of the learning experience through our state I became a member of the *American Forage and Grassland Council*, having served as that organization's first farmer president. Being in that position it was my high honor to have attended the XVII International Grassland Congress in New Zealand and Australia. These organizations and the people that comprise them have given me the keen insight on Forage and Grassland production and utilization.

**METHODS**
On our farm over the years it has become a wonderful challenge to meet the increasing costs of doing business with "old fashioned" ingenuity at the same time utilizing modern and up-to-date technology. In spending nearly the time span of a generation in farming, it has been a stimulating experience to think in terms of grazing management and how to get the most for the least. I would define "the least" as the way of reducing the input costs of capital, energy, labor, and machinery. Since the mid to late 1970's there seems to have been no end in these costs escalating and to be able to manage these has been difficult.

The simple fact of livestock harvesting their own feed is making more and more sense as time goes forward. The old adage of what goes around, comes around, may not be far off the mark in the grazing scenario. The key on our farm however has been to maintain these profitable levels while at the same time de-escalating our input costs.

Grazing has indeed permitted us to eliminate many of our high powered tractors and the expensive machinery needed for a total confinement feeding operation.

**RESULTS AND DISCUSSION**
**High Milk Production:** In three years time our production per cow on our Ayrshire herd went from 6,500 kg per cow to 8,500 kg based on our DHIA figures. This was accomplished through the help of Drs. Larry Muller and Steve Fales from the Pennsylvania State University where a great amount of pasture research has and is being accomplished. Much help was also derived through Mr. Sonny Golden, a private nutritional/grazing consultant who was able to give us tremendous on-farm practical guidance.

So if higher milk production was possible, why not raise young stock by allowing them to do the harvesting as much as possible?

**We Take the Plunge:** Our first decision was to put up high tensile 4 wire fence around the perimeter of our former cropland acres. As previously explained, approximately 1/2 of our land was in alfalfa-grass sods and the balance in corn stalks. On 1/3 of the corn stalk acreage we utilized a no-till drill and the balance was frost seeded (even some on snow) with a typical cyclone seeder. Our objective was to get forage growing on the corn stalk acres as quickly as possible. Thus a smorgasbord of seeds were used including: alfalfa, birdsfoot trefoil, clovers, and grasses of many varieties. Fifteen acres were seeded in trefoil and tall fescue as our expectation was for stockpiling these acres in order to extend our grazing season and allow our dairy heifers to graze these acres as almost freeze dried hay in the winter time.

The first year we even built our temporary poly-wire fences on the previous crop contour in order to allow better management of our seedings.

Another part of the "plunge" was the buying of the dairy heifers to properly stock our developing pasture acres. A big mistake was to assume that we would be able to purchase enough of these animals locally. They just have not been available, thus the first year we had far too much forage that was not properly used. We did make some silage in our bunker silos and also a bit of dry hay. We quickly saw two things: one was that we needed outside help in purchasing animals and second, when we harvested our grass as hay or silage, the ability of the plants to bounce back and give us pasture quickly just did not happen. The other problem was it did not rain up to our normal amounts. So, early into the season too much forage, then not enough. This is all a part of the experience that one deals with in the agriculture business.

Thus far in our 3 years of grazing heifers we have been getting 0.6 kg of gain per animal per day. Total cost (U.S.) $1.82 per kg. has been our experience thus far. This has all input costs including a land charge. All costs are detailed in the accompanying table #1.

Our limited experience has helped us understand to a greater degree certain facets of grazing. One is that many animals on smaller acres or paddock gives us much better control of the available forage, despite the fact that it requires moving the animals more often. The high density of animals forces them to consume everything green which gives us much better control of weeds and other relatively

undesirable plants. By the same measure all herbage is utilized and then the animals are moved before hunger begins. This then leads to another of our challenges, that of encouraging the growth of many more plants on the hectare or down to a square foot. In Pennsylvania the practice of frost seeding is a common practice on grazing land and does have reasonable success. We have continued this practice for two primary reasons. As stated, we need more plants per hectare and secondly our objective is to have a better balance of legumes and grasses to provide more protein and as well deal with bloat when many legumes predominate over grasses.

Another beautiful feature of intensive rotational grazing is the ability of many native desirable plants to germinate and produce forage for our livestock. This is very satisfying to experience as I have a great love of conserving as well as preserving the soil and useful plants on our lands. It is my belief that we need to think not only of ourselves, but future generations and their opportunity to enjoy a lifestyle such as we enjoy.

Further support for growing heifers under this management technique is the farmer acceptance of these grass reared animals. As one of our buyers exclaimed, “I did not know heifers could have that kind of finish on grass.”

**IN CONCLUSION**

Intensive rotational grazing can be a gentle way of utilizing our land resources for the commercial goals of raising dairy replacements. Matching land area with numbers of cattle will always be challenging. Definitely input costs are lower. Profits in agriculture, as in any business, are always for the keen manager. To be a part of society that is in concert with the creator and applying the proper stewardship of caring for land and animals is an exhilarating experience in this journey through life.

**TABLE 1**

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|---|---|---|
| Purchase Heifer | $533.00 | |
| Interest | 75.00 | |
| Fencing | 40.00 | |
| Land | 40.00 | |
| Labor/Management | 75.00 | |
| Machinery | 100.00 | |
| Fuel | 10.00 | |
| Insurance | 10.00 | |
| Salt/Minerals | 13.00 | |
| Grass/Legume Seed | 15.00 | |
| **TOTAL COST (U.S.)** | **$911.00** | $911.00 ÷ 500 kg Heifer = $1.82 per kg. |