

Minimizing equipment costs on a grazing farm
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MAY 0

Goals of our project:

The long term goal is to improve profitability from grazing beef. Other species are planned for the future. We planned to convert the remainder of our farm to grass including grazing maize, tall fescue for stockpiling, and other grass species.

Update on the farm since the grant:

Since we got the grower grant our entire 57 acre farm in Lancaster County, Pennsylvania has been converted to a grazing farm. As a result of the grant we have been able to fence the entire farm. We have also directed marketed our beef cattle and during 1997 were able to sell our hormone and antibiotic free cattle directly to consumers. This year we plan to add pastured poultry to our direct marketed products. We experimented with grazing maize because we did not want to purchase equipment and because it was a low capital intensive way of growing corn to address the summer slump.

Cooperators and their roles:

Marvin Hall and Bill Curran from Penn State were consulted on grazing corn and on weed control. When we began the project there was very little experience in PA with grazing maize. Steve Groff, a Lancaster County farmer was consulted about the hairy vetch.

What we did and how it was done:

On 9/24/95 we broadcast hairy vetch on 2 acres fertilized with manure and previously planted in barley; using a cyclone seeder. In one week the vetch was up and growing. On 3/2/96 we frost seeded birdsfoot trefoil. By the end of April we had seeded endophyte-free tall fescue, orchard grass, matua, timothy, red clover, white clover, and chicory into 20 acres that were previously in cropland. For most of the seeding we used a hand-held cyclone seeder. This brought the whole farm into a grazing farm with no row crops.

Because of the cool, wet spring the hairy vetch grew rapidly and was knee high by May, but still showed no signs of blooming. On the 20th, we decided we had to make some decisions. We intended to mow it in full bloom to kill the vetch and to serve as a cover for weed control. Since the vetch was at least 3 weeks away from full bloom we decided to use Roundup. Our Penn State advisor said in a wet year we would get poor weed control with the vetch, in a dry one we would get good control. It rained for the next four days.

Finally on 6/4/⁹⁶~~98~~ we had 75 pounds of grazing maize no tilled on two acres in 15 inch rows. Within one week up the maize was up and growing and had shades

out grass and weeds by three weeks. Our weed control was not the best because of the very wet conditions.

On 8/10, 60 days later, the corn was in full tassel with ears. We started grazing with our yearling cattle, grazing two hours a day until acclimated (about 10 days) always allowing access to grass. After a short time figured out what this stuff was, our cattle loved it. One day they broke down the fence because they thought they hadn't had enough. That night they laid around acting like they had stomach aches from gorged themselves.

The next year we no tilled grazing maize in 15 inch rows again, but on May 21, this year without the hairy vetch cover crop. We used an herbicide to control weeds and began grazing in July. Due to a drought our yields were disappointing and weeds were not controlled.

Findings and Accomplishments:

We took a sample of the maize on 9/10/96. From 34.7 ft of row we got 44 lbs of green matter, which equals 44,000 lbs/acre, or 22 tons of forage/acre. The following feed value was obtained: 65% moisture, 35 % dry matter, or 7.7 tons of dry matter/acre. This compares to yields of 7 tons/acre for orchard grass or alfalfa or 5 tons/acres for timothy in our area. The maize lasted until the beginning of October. At excellent year for this crop, yielding excellent results.

On 11/2 we moved our cattle to the stockpiled fescue and were able to extend the grazing season until the beginning of December. Next year we should be able to have enough forage stockpiled to carry through to January. This year we over-wintered the yearlings on pasture with no problems, the cows were housed in the barn. We frost seeded pastures torn up by winter outdoors.

We interseeded chicory and matua in one of our pastures. Management of these two species works well because both need to be grazed at least every 30 days. The cattle loved the chicory and would selectively graze this. In the drought it did well. Although last year we had significant winter kill of the matua, this year (1998) is doing well.

Site specific information: none

Economic findings:

Field preparation cost for the two acres of maize cost \$376.50, seed cost \$75. and the spraying cost \$67.21. Total costs were \$518. Dry matter per ton cost was approximately \$67 per ton. ~~\$67~~ 33.60

New ideas, next steps:

I also talked to Penn State faculty about establishing grazing maize in crown vetch--a permanent cover. Although we do not plan to do this, it would be a

good idea for someone to try. Also, using a horticultural oil as a burn down of existing sod would be another option. Consultants probably too worried about weed control.

Will you continue to use the practice:

Although we felt the project was cost effective, the cattle liked the corn and gained weight, we will not be planting grazing maize this year. We are planting switchgrass in the two acre field as our continuing experimentation on crops that are a solution for the summer slump. Since switchgrass is a permanent crop, there is only a one time cost for establishing it. However, we will be sacrificing yields from that two acres this year, since it is slow to establish.

What do we tell other producers:

We are firm believers in grazing and do not plan to turn back. We think its one of the best decisions we made about the farm. Grazing corn is a great idea too and we like it. Perhaps we are so in tune with grazing that we want to work with permanent crops--why we are trying swithgrass. We really like having the time to spend with the calves in the spring rather than planting. It definitely fits with our lifestyle.

Outreach

The results of our project were presented in Feb, 97 at the PASA conference. Many farmers attending the conference expressed interest in the idea and several tried it that year. One farmer from Bradford County tried it and video taped his cows grazing corn. He planted the corn in wider rows. Bradford did not have a drought in 1997 but weather conditions were dry. He cultivated his crop once and then didn't worry about the weeds. As in our project the cattle ate the weeds too. Grazing maize seems to be a good crop for dairy farmers. This farmer tried it as a direct result of my presentation the previous year.

I also discussed the results of our project with faculty at Penn State and several Extension agents. One of those agents is promoting grazing maize and Penn State has begun promoting it this year. I could see a noticeable change in acceptance of the idea over the last two and one half years.