

300 Days Grazing Program



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*“The field is more productive
than ever, the cattle look great
and we have used less fertilizer.”*

~ Shari Swenson, Van Buren County

Introduction



Livestock producers continue to suffer from increasing input costs. Never in history have the costs of feed, fertilizer and fuel increased so dramatically over a short period of time. As a result of increased input cost, producers are challenged to determine what management adjustments are right for their operation. Some have already chosen not to purchase expensive fertilizer, while others reduced the amount of fertilizer based upon what

they could afford. Some producers have adjusted livestock numbers, while others cut costs in other areas. Regardless of how livestock producers elect to manage their costs, production may be negatively impacted, and many livestock producers will be faced with economic losses in the coming years.

In an effort to help livestock producers with managing their “bottom line,” the 300 Day Grazing Program was developed. Since the cost of feed, fertilizer and fuel have increased, the goal of the 300 Day Grazing Program was to implement management changes to enhance the utilization of forages and reduce dependency on supplemental feed and fuel.

Farm demonstrations were developed using management practices to increase the number of grazing days, reduce the need for nitrogen fertilizer and to improve storing and hay feeding efficiency. These demonstrations are designed to measure impacts in order to determine savings or improved returns over conventional management. The demonstrations include stockpiled forages (warm-season and cool-season), improving grazing management (rotational grazing) complementary forages (winter and summer annuals), legume establishment and efficient hay management (storage and feeding). In addition, whole farm demonstrations were conducted.

Stockpiled forages

Stockpiling forage is allowing forage growth to accumulate in one season to use for grazing in a later season. Forages grown in late summer and fall can be deferred for grazing until late fall or winter. This is generally a more cost-effective practice than feeding hay and supplement. Further savings can be realized when considering grazing takes less time, labor, fuel and equipment than moving and feeding hay. Less hay is needed, which reduces hay production costs and allows producers to focus on quality of hay produced.

Stockpiled warm season forages

- The average savings for stockpiling bermudagrass compared to feeding hay averaged \$12, \$42 and \$52 per animal unit (AU; AU = 1,000 lb cow) in 2008, 2009 and 2010, respectively.

Stockpiled cool season forages

- The average savings for stockpiling fescue compared to feeding hay averaged \$42, \$54 and \$48 per animal unit in 2008, 2009 and 2010, respectively.
- The greatest savings documented was \$83.50/AU, which came from a farm that strip-grazed stockpiled fescue/white clover and did not need to apply N fertilizer.

“By stockpiling fescue, I have cut the number of hay feeding days in half, saving me over \$3,500.”

~ Lee Jones, Washington County

Improving grazing management

Rotational or controlled grazing can potentially increase forage availability over a continuous grazing by more than 50 percent. Because of the increase in forage availability, several management options to potentially increase profitability become available. These options include increasing the number of cattle, grazing flexibility, stockpiling forage, extending grazing during drought, reduced input costs and time savings.

Controlled grazing management systems emphasize providing adequate forage availability and forage quality to meet the nutritional needs of livestock, promoting forage stand persistence and species diversity. With controlled grazing management systems, the producer decides when a pasture has been grazed close enough without negatively affecting animal performance. At this point, livestock can be moved to a different pasture. With this system of grazing a pasture for a period of time and then resting it while livestock are grazing other pastures, forage re-growth can occur.

- A meat goat producer saved \$1,079 on 800 feet of new fencing, compared to the cost of traditional fence required to contain the livestock.
- “ ... My pastures had less weeds, and the lespedeza forage is better than ever. My cost for parasite control in the goats decreased by \$160 due to the improved pasture management” – Jeff Barksdale, Faulkner County registered Boer goat producer

“I got more grazing days for my meat goats and could graze more animals than I could before starting the 300 Day Grazing Program.”

~ Jeff Barksdale, Faulkner County


tire tanks were installed, saving \$790 per tank, for a total savings of \$15,640 over the cost of using traditional freeze proof tanks.

- “The improving grazing management project has been a successful project in my eyes. After I began to rotate my herd, I saw that I had parts of my fields that could be utilized for other things, such as hay cutting. Even though the weather played a big part on hay feeding, I did not start feeding hay until early December, and I attribute this mostly to the project. Lastly, since starting this project, I was so impressed with the versatility of electric fencing that I enrolled in the EQIP program designated to electric fencing and have built approximately 1 mile of electric fence on my property ...” - Judge Floyd Nutt – Calhoun County

- Fifteen producers saved an averaged \$0.68 per foot, for a total savings of \$17,274 by using electric fencing over the cost of traditional fencing.

- Livestock water tanks were made from large machinery tires. Twenty

Complementary Forages



Forages (summer and winter) can be sod-seeded into dormant grasses to provide grazing during a period when perennial forages are unavailable. These annuals can be seeded as mixtures or in monoculture and can be no-till drilled into sod or seeded into prepared seedbeds. Regardless of the establishment method, warm- and cool-season annuals have excellent forage quality characteristics and are good forage options for

filling the gaps in a 300-day grazing system.

Winter annuals

- Savings from using winter annuals compared to feeding hay averaged \$62 and \$55 per AU in 2009 and 2010, respectively.

Summer annuals

- Crabgrass planted in the spring of 2010 had 80% coverage by the end of summer. The addition of crabgrass helped extend the grazing season by providing grazing when other forages were not actively growing. Enough forage was produced to not only graze the crabgrass but also hay rather than to feed hay during this period.

Efficient Hay Management

Although the goal of the 300 Day Grazing Program is to reduce the dependency of feeding harvested forages (hay), hay feeding will not be eliminated. Therefore, how hay is stored and fed determines how much hay must be harvested. Hay storage practices can impact how much hay is available for winter feeding. In addition, hay feeding practices can affect wastage and inefficiencies which in turn determines how much hay has to be harvested. Practices should be implemented to reduce hay loss during storage and feeding.

Hay storage

- Hay storage demonstrations showed a range of losses for hay stored outside and unprotected from a minimum of 1% to 23%. Hay protected in a barn or under a tarp lost 1% to 15% of dry matter. The 15% loss associated with protected hay was due to storing hay under a cheap tarp that deteriorated quickly with UV exposure.
- Comparing the highest loss (23%) associated with unprotected hay to the average loss (7%), the value of hay storage losses when hay is worth \$30/bale was \$4.84/bale.

Hay feeding

- Hay feeding demonstrations showed that processing hay and feeding the hay in solid-sided feeders resulted in hay feeding losses below 1%, whereas feeding round bale hay unprotected resulted in a 42% hay feeding loss.
- Feeding round bale hay in a ring feeder reduced waste to 13%, and unrolling hay produced a waste of 24%.





Legumes Establishment

Clovers and other legumes are highly desirable species in pastures and hay meadows. They serve several useful functions. Legumes fix nitrogen from air through their symbiotic relationship with Rhizobium bacteria and, therefore, are not dependent on nitrogen fertilizer. The fixed nitrogen is used first to support clover growth, but it becomes available to neighboring grass plants when clover tissue dies or is recycled by grazing livestock. A second valuable role of legumes is to increase pasture forage quality, and as a third advantage, legumes can help sustain forage supplies over the grazing season by providing forage at a time when other species are not as productive.

- White clover stands planted in March 2009 improved to over 50% coverage by September 2009, and red clover planted in March 2010 averaged 60% coverage for the year.
- In 2009, 2010 and 2011, producers completing the legume demonstration documented an average savings of \$917, \$4,600 and \$8,276, respectively, over the cost of nitrogen fertilizer.
- “This field is more productive than ever, the cattle look great, and we have used less fertilizer.” – Shari Swenson

“I will keep using the practices that this project has taught.”
~ Judge Floyd Nutt,
Calhoun County

300 Day Grazing Whole Farm Demos

All of the 300 Day Grazing Program demonstrations had a positive impact on increasing the number of grazing days, reducing nitrogen fertilizer needs, or improving hay management efficiency. Implementing one of these demonstrations may not reach the goal of 300 days of grazing. Three farms were selected to demonstrate how these management practices can be implemented cumulatively to achieve 300 days of grazing. The 300 Day Grazing Whole Farm Program is a three-year commitment.

Lawrence County - Practices Implemented

- 55% fescue/clover and 45% bermudagrass
- Rotational grazing with temporary electric wire
- Strip-grazing stockpiled fescue and bermudagrass
- Overseeded red and white clover

Results

- Year 1 = 335 days of grazing and saved more than \$2,200 (2008/09)
- Year 2 = 350 days of grazing and saved more than \$8,000 (2009/10)
- Year 3 = 275 days of grazing (2010/11)

Van Buren County - Practices Implemented

- 75% fescue/clover and 25% bermudagrass
- Rotational grazing with single high tensile and temporary electric wire
- Strip-grazing stockpiled fescue
- Crabgrass
- Overseeded white clover

Results

- Year 1 = 312 days of grazing and saved \$84/AU (2009/10)
- Year 2 = 280 days of grazing and saved more than \$4,700 (2010/11)

Randolph County - Practices Implemented

- 55% fescue/clover, 25% bermudagrass/lespedeza and 20% mixed grasses
- Rotational grazing with temporary electric wire
- Overseeded white clover

Results

- Year 1 = 310 days of grazing (2009/10)
- Year 2 = 300 days of grazing (2010/11)
- Savings of more than \$17,000 on hay cost



Livestock and Forestry Station Demo

In an effort to help livestock producers better manage their “bottom line,” a herd of 38 fall-calving cows was managed under the 300-day grazing demonstration protocols. The concept was to plan forage production in seasonal blocks of summer, fall, winter and spring to match the fall-calving herd. The goals of the program were to 1) enhance forage utilization, 2) demonstrate efficient and targeted fertilizer use, 3) reduce hay feeding to

60 d or less, 4) maintain 90% net calf-crop and 5) wean an average weight of 550 pounds.

Results

- The number of cattle grazed increased 18% and the number of AU increased 26% from year 1 to 3.

- The mature cow calf-crop percentage increased from 84% in year 1 to 97% in year 3.
- Direct expenses decreased by 49%/AU from year 1 to year 3.
- Herd breakeven (total specified cost divided by pounds of beef sold) decreased 29% from year 1 to year 3.
- The average adjusted 205-d weaning weight in year 1 was 437 lbs and improved to 507 in year 3.
- The overall cow efficiency (calf-adjusted 205-d wt/cow wt at weaning) improved from 43% (year 1) to 50% (year 3).
- Weaning weight improved from 471 lbs (year 1) to 603 lbs (year 3). The average value of the entire calf crop increased \$11,544 (59%) from year 1 to year 3.
- Year 1 = 347 days of grazing (2008/09)
- Year 2 = 311 days of grazing (2009/10)
- Year 3 = 330 days of grazing (2010/11)

Summary

- Total direct savings to producers for the three year period was \$191,727.
- Due to the severe weather conditions of 2010, producers employing practices of this program had much better forage production compared to producers not enrolled in the program.
- NRCS used the results of the 300 Day Grazing Program as a foundation to revise EQIP programs and develop the Prescribed Grazing cost-share practice, which is targeted at grazing systems. The Prescribed Grazing practice offers incentives to producers to implement rotational grazing, planting of legumes, proper hay feeding, stockpiling of forage and other recommended forage management practices.
- A report from NRCS documented that more than 115,223 acres of grazing for livestock was managed to improve the quality and quantity of feed on 1,536 farms. Forage grasses were established on more than 7,310 acres to improve livestock nutrition and health on 408 farms. Almost 1 million feet of fencing and 316 water facilities were installed to improve grazing management on 240 farms.
- In 2010, producers received EQIP cost-share funds of more than \$3.2 million for prescribed grazing, fencing, pasture planting and improved watering facilities to improve grazing systems.

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