



### NORTH AND SOUTH CAROLINA

# Reducing Beef Cattle Production Risks by Enhancing Soil Health, Drought Resilience and Reduced Inputs Through Thoughtful Grazing Management

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## Project Introduction

### Expended Amount: \$49,695

Producers can reduce fertilizer and feed needs, reduce dependence on harvested forages and enhance forage production through enhanced soil health and rainfall infiltration by placing more attention on grazing management. Those who are growing stocker cattle or developing local beef finishing systems are especially at risk so were targeted (through our NC Choices local and niche meats list serve), but most producers would benefit from improved grazing management. The intent of the project was to conduct on-farm demonstrations to teach the relationship between soil health and grazing management. Additionally, three-day Pasture Ecology Schools were held in North and South Carolina to enhance the hands-on management and critical thinking skills that are so important to improving management in these systems.

## Project Participants

We conducted seven on-farm grazing demonstrations and associated workshops in North Carolina. All sites participated by planting a complex annual mixture known as “Ray’s Crazy Mix,” which was a central theme for discussing the effect of roots on soil health. These cooperating farmers were respected in their local communities and were selected for participation because they were interested in improving their grazing management and because they had an interagency team of advisors willing to work with them. The 404 producers attending these workshops were from a broad cross-section of farmers. Participants in the Pasture Ecology Schools mostly included farmers who already practice controlled grazing but desired a more detailed understanding of underlying

principles impacting their systems. They also wanted a more hands-on experience with advanced grazing management techniques. On-farm workshop participants were 82% male and 18% female with 42% being under the age of 50. Topics taught at these workshops were also taught on two national soil health webinars viewed primarily by advisors, with a total attendance of 846; 302 received continuing education credits.

## Project Area

The project was conducted in North and South Carolina. However, benefits of the project extend far beyond those states. Participants from all over the country viewed the national webinars. Additionally, the concepts raised by this project have led to additional activities in Virginia, Kentucky and Georgia.

## Project Outcomes

The central activities of the project included our seven on-farm demonstrations and workshops and the two Pasture Ecology Schools for beef producers. All seven of the cooperating farmers continue to use advanced grazing management techniques and gained a lot of experience from the project. Of the 404 workshop participants, 183 completed evaluations. The total amount of pasture owned or managed by participants who completed an evaluation was 10,683 acres and 6,012 acres as hay. These participants owned 6,015 brood cows, 2,743 stocker/yearling cattle and 287 bulls. Post-workshop responses indicated that 100% of attendees had increased understanding of pasture ecosystems and temporary fencing systems and would recommend the workshop to a friend. Ninety-nine percent of participants indicated a better understanding of base forages, how alternative forages can improve cattle performance and the role

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soil health plays in pasture productivity and had their expectations met in this training. As a result of this workshop, 98% of attendees indicated they plan to improve their grazing management and increase their use of temporary fencing. Of the 42 producers attending the Pasture Ecology Schools, pastureland owned was 5,205 acres, with 1,413 acres as hay. Attendees owned 2,196 brood cows, 541 stockers/yearling cattle and a total of 113 bulls. A total of 39 participants completed an evaluation upon workshop conclusion, indicating a satisfaction level of 3.97 instructors' knowledge, 3.95 for workshop environment and 3.97 for overall quality, where 4.0 is very satisfied. All participants had an improved understanding of complex pasture ecosystems, allocating pasture to cattle, how to use temporary fencing, soil function and health, principles of grazing management, native warm-season grasses and economic considerations for pastures.

Two National Soil Health Webinars were presented as part of the project, which attracted an audience of 846 participants. Most of these participants were advisors nationwide. Of these, 302 received continuing education credits from a professional organization participating in the webinars. Total cost savings by conducting this training by webinar format was \$226,214 and savings in CO<sub>2</sub> emissions 101 tons. Additional activity, including hits on our website (1,057) and a video we promoted at the workshops (>20,000 views during the time of the project), shows broad interest by producers in using management to improve soil health on their farms and to improve their drought resilience and economic returns. Activities of this project have stimulated interest in both South Carolina and North Carolina. In the coming year there are four demonstrations with workshops already scheduled for 2015 in the two states; another Pastureland Ecology School was scheduled for May 2015 in South Carolina. In North Carolina, this project helped us leverage additional resources for educational programs on grazing and soil health. A total of \$995,710 in direct funding (\$2,002,819 including institutional and stakeholder match from the NRCS Conservation Innovation Grant program) and \$95,006 for grazing system development from the North Carolina offices of NRCS were leveraged. Additionally, \$30,000 has been provided by NC State Cooperative Extension to conduct Interagency Team Building Training to better support the on-farm demonstration model.

\***Sandra Martini, H. L. Goodwin** and **Ronald L. Rainey**, Grant Coordinator and Co-Directors, respectively, of the Southern Risk Management Education Center, serve as editors of this report series. To learn more about risk management education programs and resources, visit the Southern Center website (<http://srmec.uark.edu>) or the Extension Risk Management Education Program link ([www.extensionrme.org](http://www.extensionrme.org)).

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## Quotes

"After attending the Amazing Grazing summer workshops, I have incorporated the use of high quality summer annuals into my cattle grazing rotation."

**Buron Lanier, Burgaw, NC**

"Overall we are very thankful we got the opportunity to participate as it was a great hands-on learning experience for us in real life environment."

**Gayle Smith, Greene County, NC**

"I plan to implement more seasonal annuals in the cattle rotation each and every year. Thanks for all your help and please keep in touch!"

**Scott Baucom, Union County, NC**

## Project Success Story

One good example of our impact is Gayle and Nelson Smith from Greene County, NC. Gayle became active in our educational programs through the "Cattle Handling and Leadership Development for Women Producers" program (a subprogram of Amazing Grazing) in 2012. Nelson had recently suffered a stroke, so Gail had to take over management of their livestock farms, which included both swine and beef cattle production. The Smiths practiced rotational or strip grazing in their daily management before they participated in the program, but they had not had good experiences working with either novel fescue or annuals. Unimproved bermuda grass and summer annuals like locally adapted crabgrass, signal grass and goose grass dominated most of their pastures. Eve Honeycutt, livestock agent in Greene County, led the local advisory team that engaged the Smiths in the Summer Grazing Demonstration project conducted by Amazing Grazing with funding from SRMEC. The Smiths attended the Pasture Ecology School in Raleigh and were surprised to see how much residual forage we were leaving behind. We discussed how important leaving substantial residual forage cover is to improving the energy status of the plant and the health of the soil. Gayle made the statement that she now understood their bad experiences with alternative forages were because they had always overgrazed them. She returned home to work with their herdsman to make changes to their grazing approaches. These observations were shared with the workshop participants at their demonstration, and Gayle regularly shares that observation at other workshops they attend. Gayle and Nelson continue to be active in educational programs, and Gayle said, "The more I learn, the more I know I need to understand to make the right management decisions for our farm."