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**31 Pastureland Ecology 1 provides hands-on training in grazing management for USDA-NRCS professionals.** Matt H. Poore<sup>1</sup>, April D. Shaeffer<sup>1</sup>, Johnny R. Rogers<sup>1</sup>, Andrew R. Weaver<sup>1</sup>, Paul Siciliano<sup>1</sup>, Deidre Harmon<sup>2</sup>, <sup>1</sup>*NC State University*, <sup>2</sup>*Cargill Corporation*

Abstract: Pastureland Ecology 1 is a 2-wk continuing education course taught by cooperating faculty at NC State University for USDA-NRCS Staff. The course was founded in the early 1990s and has been taught 23 times to over 500 participants from all 50 states. Participants primarily include grazing specialists, soil conservationists, and district conservationists. Instruction is split between classroom lectures and hands-on experience with grazing management. Lecture topics include; introduction to pasture ecology, principles of plant growth, determining animal forage needs, pasture design, principles of soil health, principles of grazing management, and grazing management systems for small ruminants, horses and cattle. Small groups of students work with groups of goats, sheep, horses, and beef cattle throughout the course, learning concepts of forage allocation, temporary electric fence, and adaptive management. Popular demonstrations developed over the years include; the reel race, dung beetle buckets, burying underwear to demonstrate soil health, exploring root diversity, and troubleshooting electric fence. Farm tours are conducted to show how concepts being taught are applied on commercial farms. In 2023 there were 29 students from 13 states including VA (4), MD (4), PA (3), OK (4), MI (1), UT (2), TN (3), WV (1), MA (1), OH (1), NM (1), WA (3), and RI (1). Participants had  $8.4 \pm 1.39$  (AVG  $\pm$  SEM) years of experience with NRCS with a range of 1 to 27 yr. Students self-assessed their understanding of major concepts before and after the course. On a 1 to 5 scale students increased their understanding by an average of  $1.05 \pm 0.129$ , averaged over all topics. Topics more familiar to participants had less increase including; Soil Health (0.38), Pasture Condition Evaluation (0.51), and Grazing Management for Beef Cattle (0.79). Less familiar topics had greater increases including Grazing Management for Horses (1.27) and Small Ruminants (1.27), and Temporary Electric Fence (1.43). Pastureland Ecology 1 remains a critical part of the Amazing Grazing Program at NC State University, impacting pasture-based livestock producers across the country. This educational model has proven to be an effective way of teaching the principles of pastureland ecology.

**Keywords:** ecology, hands-on learning, pastureland