Improving Productivity of Low-Producing Forage Stands

Around 80% of cattle feed is forage-based; therefore, producing high quality forage and maintaining productive stands several years after forage establishment is critical to beef production. Depleted pastures pose a major issue for farmers, but rejuvenation can be a management strategy that provides rapid improvement, new vigor, or increased usefulness.

In an article recently published in *Crop, Forage & Turfgrass Management*, researchers report on a three-year field-scale study from a grazing reserve in northwestern Alberta where 11 pasture rejuvenation options were evaluated.

The team found that three methods (spray Roundup and direct seeding in the spring, fertilizer application, and broadcast seeding with aerate/spike in the spring) had consistently higher forage yield over control treatments (range: 18 to 90%). Legume composition was as much as 29% for spray Roundup and direct seeding in the spring compared with 2–17% for other methods including the control. The Roundup and direct seeding in the spring resulted in the most profit compared with the control ($380/ha).

Ensuring adequate weed suppression prior to direct seeding is critical to success, and while fertilization may provide an initial forage yield boost, it may not persist past the first couple of years after application. Adapted from Omokanye, A., D. Westerlund, H. Lardner, L. Vihvelin, and L. Sreekumar. 2019. Evaluation of methods of pasture rejuvenation for improved forage production. *Crop Forage Turfgrass Manage.* 5:180103. View the full article at http://dx.doi.org/10.2134/cftm2018.12.0103

Instructors Share How to Best Teach Organic Agriculture

Many students are excited to learn about organic agriculture. As a result, courses have popped up in recent decades at universities around the country. However, unique challenges face instructors teaching these classes—they must teach across multiple disciplines and stay in step with changing regulations.

In an article recently published in the *Natural Sciences Education*, researchers shared findings from 19 interviews with experienced instructors from universities across the United States. Instructors discussed critical concepts and skills they focus on when teaching organic agriculture. By summarizing teaching practices across many perspectives, collective gaps in curriculum were also identified.

The critical concepts most often included in organic agriculture teaching are soil fertility, ecology, and certification standards while systems thinking and nutrient management are the most challenging things for students to learn. Instructors rarely addressed topics of climate change, social dimensions, and livestock management in their organic agriculture courses.

This article lays the groundwork for future curriculum development for organic agriculture teaching. Instructors expressed concern about the lack of resources specific to teaching students about organic agriculture. Developing new open educational resources can create opportunities for collaboration and continue to provide improved education for students. Adapted from Jabbour, R., and M.E. Pellissier. 2019. Instructor priorities for undergraduate organic agriculture education. *Nat. Sci. Edu.* 48. View the full open access article online at http://dx.doi.org/doi:10.4195/nse2019.06.0010

Undergraduate students plant a research project focused on cover crops. Experiential learning is a cornerstone of organic agriculture education.