

Research Ruminator

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NDSU Dickinson Research Extension Center

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Schauer named DREC Interim Director



Christopher Schauer, director of North Dakota State University's Hettinger Research Extension Center (HREC), has agreed to also serve as interim director of the Dickinson Research Extension Center (DREC) until a permanent director is selected. Kris Ringwall was the DREC's director from 1992 to November 2018, when he became director of the Livestock and Forage Centre of Excellence at the University of Saskatchewan in Saskatoon, Canada. Dr. Schauer has been the Director at the HREC since 2006, where he also leads an active sheep and beef research program while managing the nation's largest university owned and operated research sheep flock. Chris and his wife, Ronda, and their 5 children also own Schauer Sheep Company and are active in 4H, FFA, music, and Boy Scouts.

"I look forward to helping the DREC staff and the land managers of the region transition to the next Director. I don't anticipate large programmatic changes to the DREC, but you may notice small changes as we look to the future of agriculture in the region and state. I feel it is my job to support the current staff while *setting the table for success for the future*. I hope I can help not just the next Director, but all of the staff, look forward to the next 100 years of research and outreach at the Dickinson REC. The DREC was founded in 1905, and it has changed dramatically through time – it is time for that type of change for the next 100 years."

Agronomy & Economy

Area Extension DREC Cropping Systems Specialist Ryan Buetow and Assistant Professor of Farm Management Education Levi Helmuth with Bismarck State College cover topics of interest in agronomy

and economy in brief audio spots heard on KDIX radio at 1230AM or 100.7FM in Dickinson, ND. Each episode is also accessible on the DREC website under *Agronomy & Economy* on the left hand navigational links list on the DREC home page at:

<https://www.ag.ndsu.edu/dickinsonrec>

Autecology of Western Wheatgrass

The autecology of Western wheatgrass, *Pascopyrum smithii*, is one of the prairie plant species included in a long ecological study conducted at the NDSU Dickinson Research Extension Center during 67 growing seasons from 1946 to 2012. Western wheatgrass is the state grass of North Dakota, and is a native, long-lived perennial, cool-season grass, that is tolerant of cold, drought, and periodic flooding, has a high tolerance to alkali and saline soils, and is moderately shade tolerant.

Early aerial growth consists of basal leaves arising from rhizome tiller buds. Leaf blades are 2-10 inches long and less than a quarter inch wide, stiff, thick, deeply ridged on the upper surface, tapering to a point. The creeping rhizome system is extensive. The aggressive rhizomes are primarily in the top 3-4 inches of soil. Depth of root penetration varies with soil conditions, usually ranging from 4 to 7 feet deep.



Western Wheatgrass photo by NRCS

Regeneration is primarily from rhizome tiller buds. Flowering occurs in June. Leaves and flower stalks are highly palatable to livestock. Western wheatgrass increases growth activity shortly

after snow melt. Growth of new leaves is visible by mid-April. Vegetative tillers produce 3.5 new leaves shortly after the first of June, at which time Western wheatgrass is ready for grazing that will stimulate the production of additional tillers, producing increased forage quality and quantity.

To view the full report “Autecology of Western Wheatgrass on the Northern Mixed Grass Prairie” written by Llewellyn L. Manske PhD, Research Professor of Range Science, visit the DREC website and click on the 2018 Annual Report link:

<https://www.ag.ndsu.edu/dickinsonrec/annual-reports>.

Changes to DREC Grounds

The most notable changes to the garden this season is the removal of 90 of the half barrel planters that will gradually be replaced with perennial plants. The DREC showcases a variety of plants which allows our garden visitors to see what grows well in Dickinson, and what folks might wish to include in their own yard and flowerbeds.

We are also changing our approach to grass maintenance in an effort to be more efficient with our resources. Our new mantra is “Mow it high and



Japanese Tree Lilac on DREC grounds

let it lie.” There will also be an area of lawn that will be mowed at three different heights to show how

grass maintained at a greater height benefits the plants and makes the most of rainfall and irrigation.

You will also notice the addition of sign boards placed in various locations on the grounds with informational and educational messages about the center and its natural resources.

Classroom rental fee

Beginning this spring, the DREC will be charging a nominal fee of \$25 for use of the large classroom. To reserve the classroom, contact Phyllis at 701-456-1101.

Soil Health Workshop September 12, 2019

A soil health workshop is planned for Thursday, September 12, 2019 at the DREC Manning Ranch, 2 miles south and 2 ¾ miles west of Manning, ND. The program will run from 9AM to 3PM and feature a variety of speakers, demonstrations, and activities in both the classroom and in the field. More details on the workshop will be available later this summer.

Regenerative Crop/Livestock System Study

Initiated in 2011, a 10-year, integrated crop and livestock research project is comparing continuous spring wheat to a five-crop rotation that includes: spring wheat, winter triticale-hairy vetch, field pea-barley, multi-specie cover crop, and sunflower. The system includes both traditional mechanical crop harvest and utilization by grazing cattle on some of the crops instead of mechanical harvesting. The steers that graze some of the crops result in 61% less time spent in a feedlot for finishing. Spring wheat grown in the five-crop rotation required less nitrogen fertilizer input while producing higher yields compared to continuous spring wheat, providing a greater net return of \$15 per acre.

Agronomy projects and demonstrations

- Evaluation of Fungicide Seed Treatments Under Different Tillage, Crop Rotations & Soil Conditions
- National Sunflower Survey
- Lime Application Effects on Soil pH and HRSW (Hard Red Spring Wheat)
- ND spring wheat stand establishment survey
- Nitrogen relationships of soybean in SW ND
- Impact of plant population on heading date of HRSW
- Crop Rotation, Fertilizer & Fungicide Application Impacts on Barley in SW North Dakota
- Teff management assessment
- Best Pest Management of Flea Beetles & Swede Midge Survey in Canola
- Cover crop demonstration
- Pollinator demonstration