

To: State Board of Agricultural Research and Education  
From: Central Grasslands Research Extension Center Advisory Board

Mark Birdsall, SBARE Chair:

The Central Grasslands Research Extension Center Advisory Board met December 12, 2019 for a center update and developed a priority list of needs. This list was selected based on the future direction of research and Extension, creating a center that is meeting current and future needs of the livestock industry while enhancing the states natural resources to provide greater ecosystem services, healthy soils and plant community, and habitat for wildlife and pollinators. We addressed the priority based on programs, facilities, equipment and operating. Our first priority was related programming; second, third and fourth priority facilities; and fifth operating.

Priority List:

- 1) Conduct integrated livestock/cropping research and Extension programming that relates to Agro Biodiversity – restoring chemical and physical properties of cropland and grassland soils, and increasing plant diversity on rangelands. Specifically, study management treatments that
  - a. increase carbon in the soil, both in terms of carbon credits and carbon sequestration;
  - b. increase plant diversity to create sustainable livestock grazing, improve habitat for birds, mammals and invertebrates (including pollinators);
  - c. investigate the role of microbiota in plant invaded landscapes and identify drivers that impact the microbiota (or vice versus) by studying new management techniques for plant diversity enhancement;
  - d. enhance livestock health, reproduction and performance through adding value to the land;
  - e. Use precision agriculture techniques to enhance land and livestock management;
  - f. This program will create interdisciplinary teams including Range Science, Soil Science, Animal Science, Crop and Weed Science, Agricultural Engineering, Microbiology, partner RECs, and USDA-ARS Mandan.
  
- 2) Build a superintendents house. The current house is dilapidated and crumbling from the basement up, sliding into the woody draw. A house is needed to provide a safe, secure, full-time residence for the center. The house is also needed to recruit permanent future superintendents. Without a Superintendents house, the center will struggle to recruit new directors in the future, as there is no available housing in the area, leaving new directors purchasing a house in Jamestown (45 miles away) or Bismarck (80 miles away).

- 3) To expand our livestock research, the animal handling facilities are old, in need of update and expansion, and have many safety concerns. To conduct nutrition animal research, the pen system needs updating. The current pen system is the same facilities that were present when the center was purchased in late 1970s.
- 4) Build a new storage facility to store commodities used to feed the centers livestock for herd maintenance and animal research. This building would be dual used to also store equipment to protect from environmental conditions, especially during the winter. Example combine, sprayer, headers, and tractors.
- 5) To expand our interdisciplinary collaborations, operating expenditures will be needed. As we expand the use of graduate students, working closely with main station scientists and other RECs creates an added operating expense for travel, new technology, laboratory analysis, housing, and day-to-day center operating.

We want to thank the State Board of Agricultural Research and Education for their hard work and continued support of the North Dakota Agricultural Research Center and NDSU Extension. The Central Grasslands Research and Extension Center Advisory Board members include Gary Aichele, Jace Doan, Charlotte Heim, Richie Heinrich, Cody Kreft, Martin Marchello, Darrell Oswald, Krista Reiser, Arlyn Scherbenske, David Toledo, Robert Weigel, Tim Faller, and Charlie Stoltenow.

Sincerely,

Darrell Oswald, Advisory Board Chair