

## 2013-15 Program Initiatives as Ranked by SBARE

**Unranked Response to Legislative Request** – Addressing oil revenue shortfall at Dickinson Research Extension Center (DREC) \$800,000 Operating, Dickinson REC – Permanent funds to offset reduced oil revenue - Oil revenues have declined due to decreased production in the last several years. Past legislative sessions have made efforts to offset this reduced revenue, but these efforts were temporary. Last session, a request was granted to provide \$800,000 to offset reduced oil revenues, but SBARE was tasked by the Legislature with determining and suggesting a permanent solution to this issue.



### 1 Crops Initiative - Enhancing Crop Development and Protection Efforts

**Situation:** Agriculture accounts for 25 percent of the state's economy. Related activities (e.g., sale of products, manufacturing, transportation of commodities, professional services, processing) increase that to more than 40 percent. Developing improved crop varieties and protecting crops from diseases and pests are fundamental to North Dakota farmers' competitive success and profitability. Research in areas such as bioinformatics and statistical genomics will provide scientists with cutting-edge tools.

**Need:** Nematologist and support staff, bioinformaticist, statistical genomicist and support staff (5.0 FTE, Main Station) and operating support for crop variety development, disease control (Main Station, CREC, LREC, DREC); increased support for NDAWN (1.0 FTE, Main Station) - \$2,470,000



### 2 Enhancing Research Capacity at the RECs

**Situation:** The RECs play a very important role in carrying out applied research in the Agricultural Experiment Station. Their involvement in important regional and state research activities has expanded, and support for these activities from farmers and ranchers is strong. The ability of the scientists stationed at the RECs to address important and emerging problems, such as weed and disease control, will increase as the technical sophistication of farming and ranching practices increases.

**Need:** Operating support (LREC, CGREC, NCREC, DREC, WREC, CREC, HREC); scientists to focus on control of weeds and plant pathogens (2.0 FTE: HREC, WREC); technical support (6.0 FTE: LREC, CGREC, NCREC, DREC, WREC, CREC) - \$1,860,000



### 3 Livestock Initiative - Improving Livestock Productivity and Protection

**Situation:** North Dakota livestock producers are committed to producing the safest, highest-quality food products. Increasing demand for our meat products nationally and internationally will require additional emphasis on productivity and present additional opportunities for specialty markets and improved profitability. Through research, we can identify sustainable, profitable opportunities to improve livestock productivity in North Dakota.

**Need:** Scientists (2.0 FTE, Main Station); operating and technical support (4.0 FTE: HREC, CREC, CGREC, DREC); operating and technical support (4.0 FTE, Main Station) - \$2,100,000



### 4 Risk Management and Trade in Domestic and Global Markets

**Situation:** Risk in agriculture has increased three to four times since 1980 due to changes in technology, weather, farm policy, markets and food safety issues. North Dakota leads the nation in the production of 15 crop commodities; no other state has the incentive to develop new risk management products for these commodities. Also, North Dakota relies heavily on exports to global markets; thus, monitoring and evaluating changes in farm policies helps producers develop global market strategies.

**Need:** Ag market risk scientist, econometrician, policy and trade issues research scientists (5.0 FTE, Main Station) - \$1,000,000



### 5 Sustaining Water, Air and Land Quality to Maintain and Improve North Dakota's Agriculture

**Situation:** North Dakota agriculture is committed to producing the highest-quality products in an environmentally sustainable manner. However, agriculture may be perceived poorly and face unreasonable regulations for its impacts on water, air and land resources. Additionally, the oil industry's impacts on air and land resources may result in significant impacts on North Dakota Agriculture.

**Need:** Operating funds and equipment to measure water quality parameters and develop nutrient recommendations; technical support (2.0 FTE, Main Station) - \$380,000

### 1. Agronomy Laboratories

Agronomy laboratories at the Carrington, Hettinger, Langdon and Central Grasslands Research Extension Centers need to be replaced. Current facilities (an old potato warehouse, converted granary and an equipment storage building with a dirt floor, for example) were not designed as lab space and do not meet worker safety and protection standards. Current facilities also lack modern research technology and storage space. New labs would provide adequate facilities to conduct research and compile research data that the region's producers need to solve crop production problems. - \$5,925,000

### 2. Seed-cleaning Plants

Seed-cleaning facilities at NCREC, CREC, WREC, and LREC need to be replaced. Current facilities are antiquated, lack reliable capability to ensure good seed quality, are slow and inefficient. Current facilities were designed to handle cereal crops and are not capable of cleaning pulse crops and other fragile seed that are in high demand by the state's farmers. Also, these facilities pose considerable worker safety issues. SBARE was charged with developing a plan to determine the best, cost-effective model to replace these out-of-date facilities. SBARE chose a model that allows for four self-contained (portable) seed conditioning units at each of the centers that produce foundation grade seed which would meet producer demands for high quality seed of new, high yielding, high quality varieties. - \$3,470,000.

### 3. Livestock Facilities

The Carrington Research Extension Center needs a multiuse feedlot research support facility and the addition of at least 16 pens to improve its feedlot research capabilities, assist in sustaining Institutional Animal Care and Use Committee compliance, attain worker protection standards and reduce maintenance costs for equipment. Sixteen more pens would hold 160 head of cattle and allow the center to conduct one additional experiment per feedout period. Additional pens would allow for more treatments and replications in feedlot studies. The Hettinger Research Extension Center is in need of a multipurpose livestock processing barn and educational facility to address the center's research needs and provide state-of-the-art training and educational events. - \$1,650,000

### One-time Request — Vet Diagnostic Lab

Identifying and preventing disease outbreaks in the animal herds in the state is the responsibility of the Veterinary Diagnostic Lab (VDL). Livestock feeds can be tested for mycotoxins, molds, and phytoestrogens. Liquid chromatography with mass spectrometry capability (LC/MS/MS) can be used to test animal feeds for natural contamination by field and storage molds. In addition, the expanding oilfield presents challenges to livestock producers in western North Dakota. Pipeline breaks, semi-truck chemical spills, and down-hole accidents can contaminate ground and surface water sources. The proximity of livestock to drilling sites can result in poisoning from ingestion of water/feedstuffs contaminated with crude oil, condensate, salt water, heavy metals and/or caustic chemicals. Diagnosis of these cases requires sophisticated equipment. - \$400,000 equipment