

STATE BOARD OF AGRICULTURAL RESEARCH AND EXTENSION

Dr. William Nganje, Chair, November 14, 2019

I. Background and Accomplishments

- 1) Student placement at 98% or higher.
- 2) Premier Commodity Trading Room (CTR) contributes significantly to research.
- 3) NAMA students were **National Champions**.
- 4) Faculty highly productive – publish 1.5x national average and attract an average of \$4 million in Gifts, grants and contracts.
- 5) Extension and research faculty won national awards.
- 6) All faculty with 30% research appointment or higher have Hatch Projects.
- 7) Department has 25 graduate students; leveraging 3.5 SBARE funded positions annually. **Need for more Grad Students.**
- 8) Department has five research Centers, supporting research and graduate students.
- 9) Houses the ND Tax Model.
- 10) Provide three extension conferences on Crop Outlook, Insurance and Ag Lending.
- 11) Active fund raising for two endowments totaling \$13 million.

II. Research Need for Contribution Studies

Agriculture is one of the key cornerstones of the state's economy, but little is known about the true impact of the industry in ND.

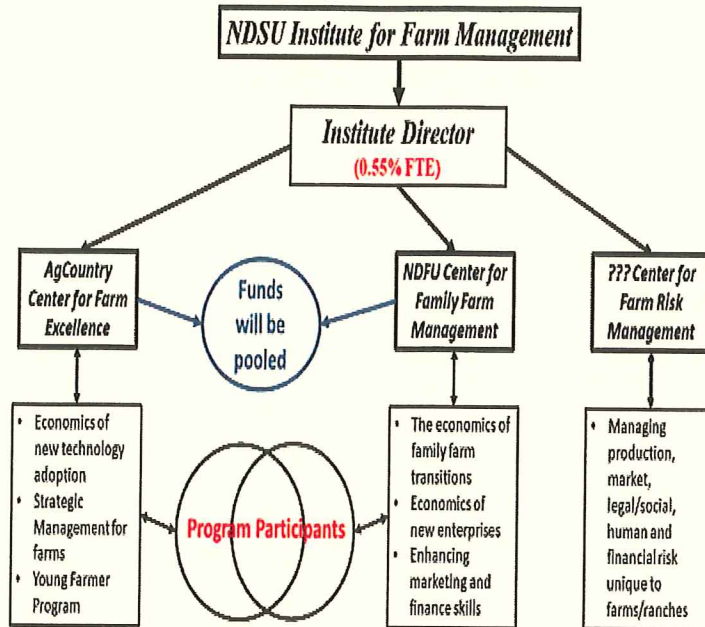
Importance: In 2018, the Department of Agribusiness and Applied Economics was awarded a multi-year grant to conduct a first-ever comprehensive examination of the economic contribution of Agriculture in North Dakota. The study will provide detailed information on employment, payroll and personal income, business activity, and tax revenues related to crop and livestock production, grain handling and livestock marketing, transportation, value-added ag processing, farm input and machinery manufacturing, and agricultural research. This model could be updated every two years for sustained excellence and continuity. **Need for one technician**

III. Extension and Research Support for Farm Transition

Premier Farm Management Institute to enhance the long-term viability of farms.

Importance:

Research activities will focus on high priority issues impacting farm success. Examples include evaluating the impact of emerging technologies, examine systems to enhance efficiency, explore strategies to transfer farm ownership, assess the impact of alternative risk management techniques and support entrepreneurship activities. Extension activities will concentrate on disseminating the findings of the targeted research topics listed above, collaborate with university extension personnel on educational programs important to ND farms and coordinate workshops and/or conferences that will enhance the capacity of farm managers.



Target Endowers: \$4.5 million; Current Commitment: Approximately \$2.0 million. **Need for 0.55% FTE**

IV. Research and Extension Need for Big Data Analytics

Position in data analytics using big data and focus on farm production decisions, marketing, etc. The Specialist would develop research and extension programs. Most modern technology innovations involve varying forms of big data being analyzed to make microeconomics farm management decisions. This includes variable rate fertilizer, seeding, pesticide use etc. In all cases, data is generated intra-field using satellite imagery, sensors and others. This data is then analyzed to determine optimum agronomic decisions, presumably this should be **profit maximization and sustainable returns on investment (ROI)**. Similar procedures could be developed for marketing decisions, among others. **Need for one FTE position**

Scope: Production economics, marketing, among others. Work closely with big data person on bioinformatics and breeding programs; complement efforts in Farm management, Agbiosystems Engineering, Center of Risk and Trading, Data analytics program in the CBA, Grand Farm and AgTech development in ND and the regional (e.g., Sentara and others).

Importance: See link for University of Illinois creating a Digital Ag Center and companies highlighting the importance of this. (e.g., Land o Lakes; John Deere; Cargill, etc.).

https://www.feedstuffs.com/news/university-illinois-creating-digital-ag-center?NL=FP-006&Issue=FP-006_20191010_FP-006_456&sfvc4enews=42&cl=article_2_2&utm_rid=CPG020000_00845716&utm_campaign=43037&utm_medium=email&elq2=4d3841c7625f4453a68577d810ad9a5c