

# NDSU Central Grasslands Research Extension Center

Enhancing Lives while Improving Ecosystem Services and  
Conservation of the Grasslands



## **Agriculture #1 Industry in North Dakota** (ND Dept. Commerce 2022)

- ◆ \$8.88 billion per year in cash receipts (NASS.USDA 2022)
- ◆ 24% of the state's population is employed in the agricultural sector
- ◆ 90% of the state's land is used for agriculture
  - \* 16.4 million acres is range, pasture and hay land
- ◆ 1.85 million head of beef cattle
  - \* Rank 4th in total economic value behind soybeans, wheat, and corn at \$1.15 billion
  - \* Hay production ranks 6th at \$281 million

## **Tourism #3 Industry in North Dakota** (ND State Government 2022)

- ◆ \$3.0 billion per year in visitor spending
- ◆ Much of these dollars are driven by recreational activities associated with our natural resources

## **Central Grasslands Research Extension Center Mission:**

- ◆ Develop grazing management strategies and identifying best forage options that enhance the lives of the ranching community while revitalizing rural communities
- ◆ Study integrated grazing management strategies for range and cropland that regenerates our natural resources (increase carbon capture, increase bio-diversity, reduce water pollutants, and improve the soil biology)
- ◆ Develop best grazing management practices that enhance ecosystem services, bees and butterfly habitat, and bird habitat
- ◆ Assess impacts of management of beef cattle on reproduction and fetal development
- ◆ Train our next generation of land managers, ranchers, decision makers, industry leaders, and professionals

# Accomplishments at CGREC:

## 1. Regenerative Agriculture and Bio-diversity

**We have assessed conservation tools to increase plant diversity and regenerate grazing lands to enhance the resiliency of our forage base for livestock production while improving habitat for wildlife and pollinators. Our outcomes include:**

- a. Reduce invasive grasses by 5 to 15 percent, increased plant diversity by 2x to 3x, and enhanced soil health in terms of carbon sequestration and nutrient use**
- b. Create scientific outputs that describe grazing management strategies that enhance breeding bird and pollinator habitat, which can be used when new policies are developed to show grazing cattle is needed for proper environmental function**

## 2. Add value to grazing lands through enhanced grazing efficiency and economic return

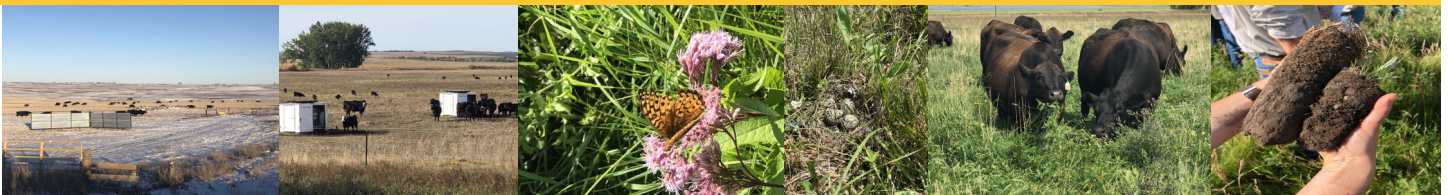
**Our research shows we can increase harvest efficiency by 30 to 60 %, adding economic value to grazing lands by 25 to 35 %.**

## 3. Assess late-season grazing and forage systems

**We have shown economic efficiency through reduced fossil fuel use, labor, and depreciation to equipment while adding value to the land by incorporating grazing/feeding strategies into the winter season.**

## 4. Study precision agriculture to enhance land management, beef cattle reproduction and nutrition

**Add value to livestock in terms of genome selection, feeding efficiency, and fetal development**



## Needs for 2023-2025:

- ◆ Building attractive compensation packages for employees will be crucial in the recruitment and retainment of top talent.
- ◆ Extension of capital projects funded during the 67th legislative assembly, and authorization of \$175,000 for the center's residence (no additional funds requested).
- ◆ A one-time request for \$400,000 to complete the livestock research laboratory and replicated feeding facility.