

BAZILE GROUNDWATER MANAGEMENT AREA (BGMA) 2018 SURVEY RESULTS



Thank You!

The BGMA Project Group would like to thank all landowners & operators who participated in the survey.

The information you provided helps the BGMA Project Group better understand landowner and operator management in the BGMA.



Perceptions

How do the landowners and operators feel about the nitrate issues in the BGMA?



Nitrogen Fertilizer Practices

What practices are the operators currently using? Are there practices that affect their nitrogen management decisions?



Land Use

How is the land in the BGMA being utilized? What types of operations currently exist?



Landowner & Operator Perceptions



Landowner and operators concern for the nitrate levels in the groundwater averaged 3.70 on a scale from 1 to 5.

81% of landowners and operators indicated they thought nitrogen fertilizer and/or over application of nitrogen fertilizer is causing the high nitrate levels in the groundwater.

Only **9%** of landowners and operators were **UNAWARE** of the health effects associated with high nitrate levels in drinking water
 ⇒ The average concern level was 3.89 on a scale of 1 to 5.

50% of landowners and operators suggested split application, timing of application, and/or rate of application of nitrogen fertilizer as a way to reduce nitrate levels in groundwater.

BGMA Survey Fast Fact:

271 of 900 (32%) surveys were completed
 98 from landowners
 173 from operators

Nitrogen Fertilizer Practices



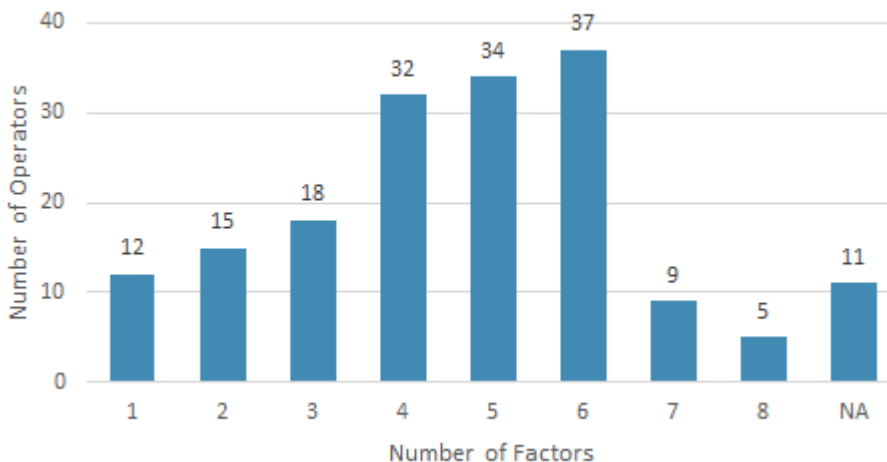
Operators take part in nitrogen management decisions **82%** of the time.

Crop Consultants and/or Fertilizer Dealers take part in the nitrogen management decisions **59%** of the time.

WHO DETERMINES NITROGEN APPLICATION



Number of Factors to Determine N Application



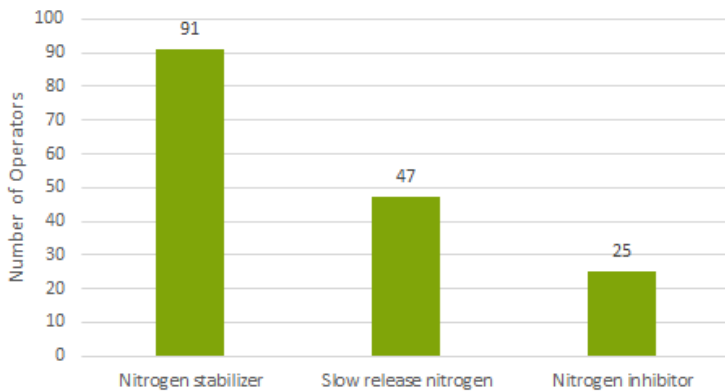
The factors most commonly used to determine how much nitrogen fertilizer to apply are expected yield, soil nitrate content, legume credit, soil organic matter, and nitrate in irrigation water.

On average operators utilize **4.4 factors** when making their nitrogen fertilizer application decisions.

Nitrogen Fertilizer Practices (cont.)



What Operators Use

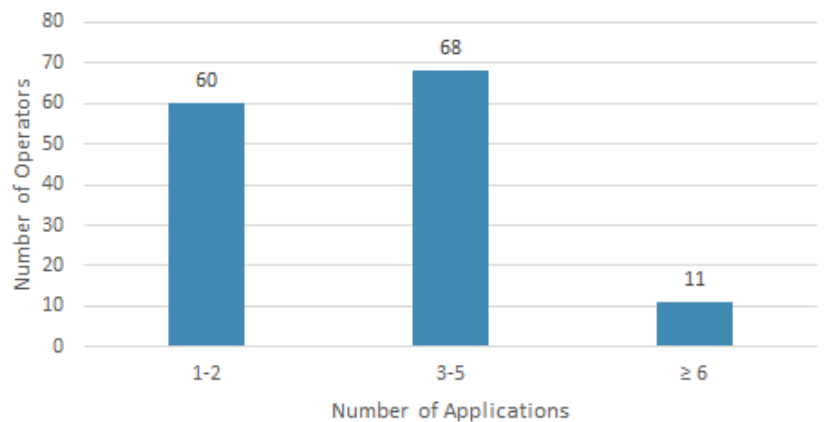


70% of operators utilize slow release nitrogen, a nitrogen inhibitor, and/or a nitrogen stabilizer.

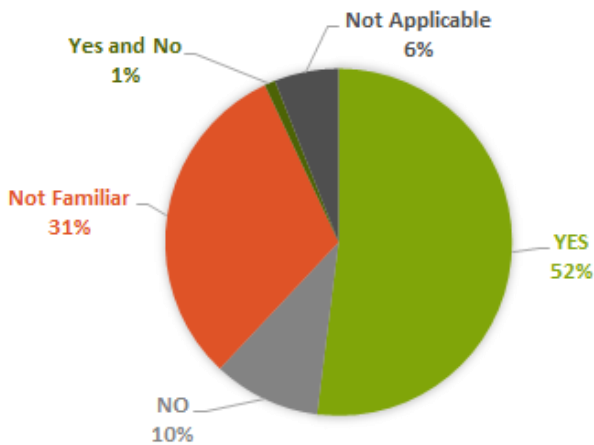
- Of the operators who use these products:
- ⇒ **80%** incorporate a nitrogen stabilizer
 - ⇒ **41%** incorporate slow release nitrogen
 - ⇒ **22%** incorporate a nitrogen inhibitor

87% of operators split apply nitrogen on average 3.1 times throughout the cropping season. The most common number of applications is **2**.

Number of Split Applications



UNL ALGORITHM CONFIDENCE

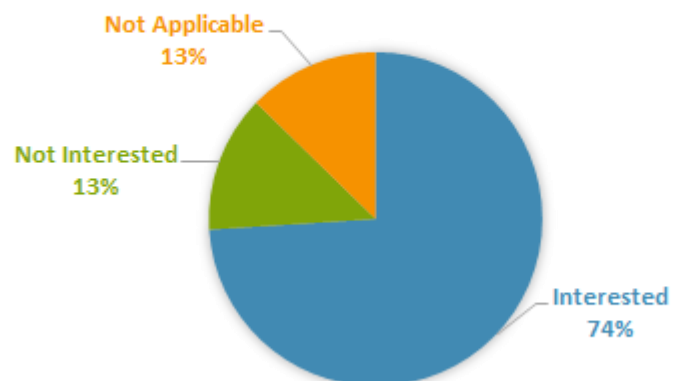


About half, **52%**, of operators have confidence in the UNL Algorithm for calculating recommended nitrogen fertilizer application rates. **31%** of operators said they are not familiar with the algorithm.



Of the **74%** of operators who would like to improve their nitrogen fertilizer efficiency, the most commonly indicated interests were in employing variable rate application, nitrogen stabilizers, slow release nitrogen, and nitrogen inhibitors.

OPERATORS INTERESTED IN IMPROVING FERTILIZER EFFICIENCY



Land Use

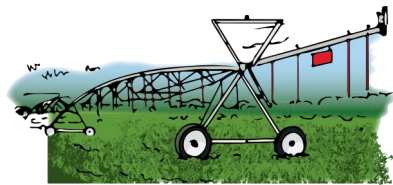


In their crop rotations **95%** of operators include corn, **93%** include soybeans, **40%** include alfalfa, and **19%** include other crops.

51% of operators produce corn AND beans in their rotations.

Some of the common “other” crops planted in the BGMA include oats, grass, wheat, pasture, rye, sorghum, and CRP.

The most common “other” crop produced in the BGMA is **oats**.

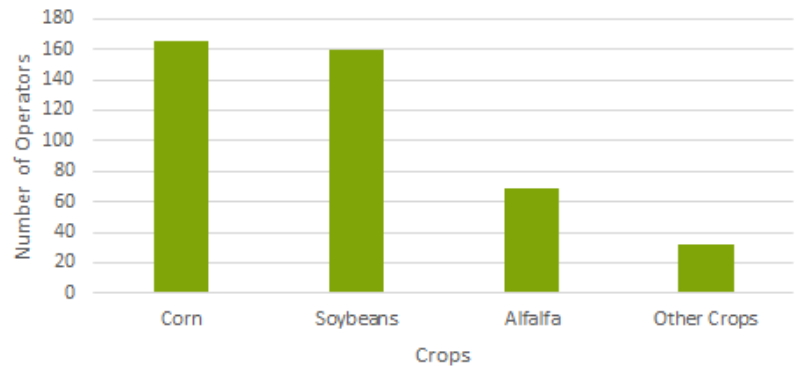


The average typical yield for **IRRIGATED** corn is **230 bu/ac** with an average nitrogen application rate of **208 lbs N/ac** or **0.90 lbs N/bu**.

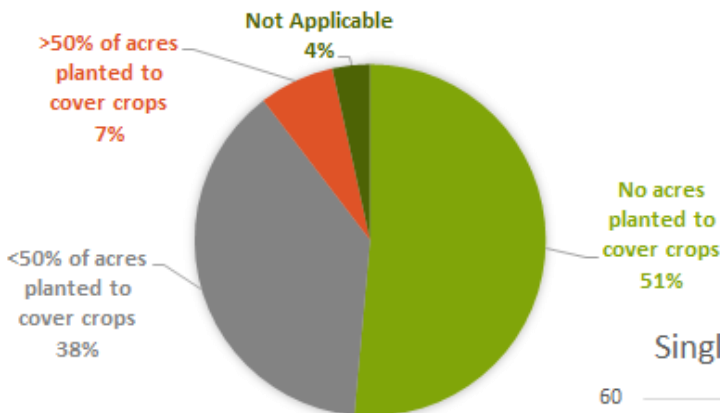
The average typical yield for **DRYLAND** corn is **146 bu/ac** with an average nitrogen rate of **127 lbs N/ac** or **0.87 lbs N/bu**.



Crops included in BGMA Operators' Crop Rotations



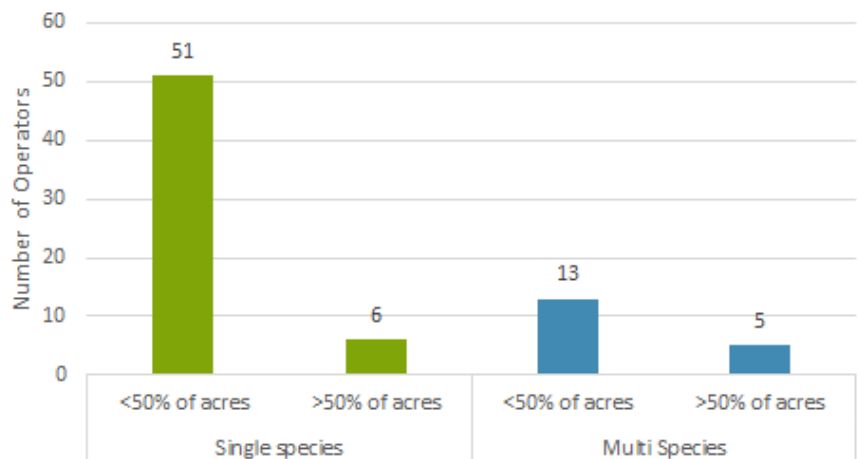
COVER CROPS USE



51% of operators **DO NOT** plant cover crops.

Of the operators that plant cover crops, **76%** plant single species and **24%** plant multi species.

Single Species & Multi Species Cover Crop Use



Cost Share Programs

Did you know the agencies in the BGMA offer cost share incentives???

62% of operators in the BGMA are aware of cost share programs offered for nitrogen management practices.

Agencies in the BGMA offer cost share on:

- Deep soil sampling
- Crop tissue analysis
- Nutrient analysis
- Variable rate fertilizer application
- Nitrification inhibitors
- Soil moisture sensors
- Irrigation water nitrate sampling
- Flow meters
- Cover crops
- No till/reduced tillage
- Well decommissioning

**Not a complete list of available programs. Each agency may offer additional programs.

Contact Phil Steinkamp or your local NRD or NRCS for more information.

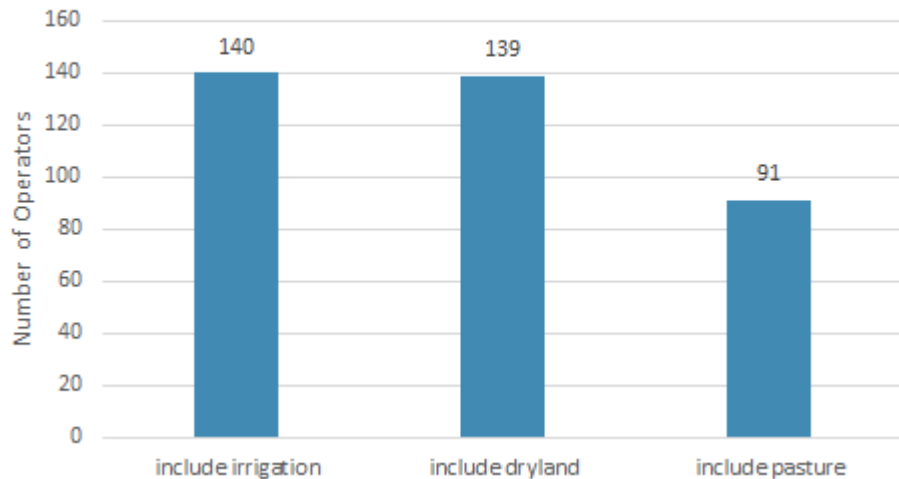


Land Use (cont.)

Crop operations in the BGMA include irrigated, dryland and pasture acres. **81%** of operations include irrigated acres, **80%** include dryland acres, and **53%** include pasture acres.

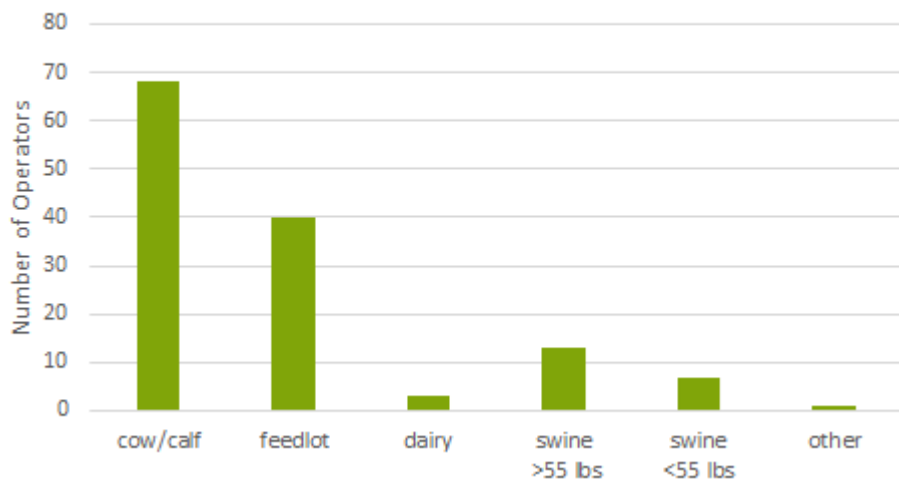


BGMA Land Use



57% of operators in the BGMA manage some livestock in their operations.

Livestock in the BGMA



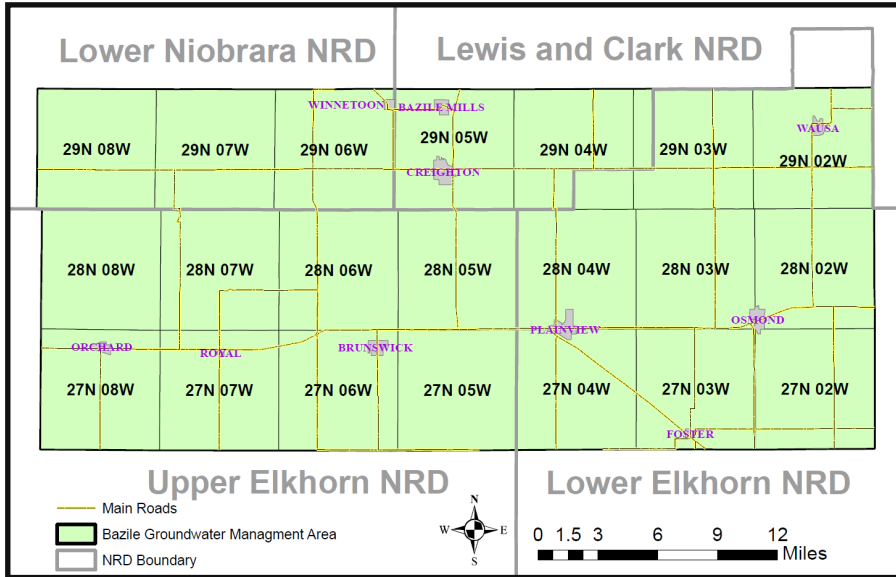
Full Survey Report Available

If you would like to see the full report from this survey contact Phil Steinkamp, your local NRD, or visit

<https://lcnrd.nebraska.gov/>




NEBRASKA
DEPT. OF ENVIRONMENTAL QUALITY



Bazile Groundwater Management Area

Contact
Phil Steinkamp
 BGMA Project Coordinator
 (402) 929-0542
 philsteinkamp@gmail.com



BGMA Partners
 Lewis & Clark NRD
 Lower Elkhorn NRD
 Lower Niobrara NRD
 Upper Elkhorn NRD
 NE Department of Environmental Quality
 Natural Resources Conservation Service

Phil Steinkamp
BGMA Project Coordinator
 1508 Square Turn Boulevard
 Norfolk, NE 68701



PLACE
STAMP
HERE

