

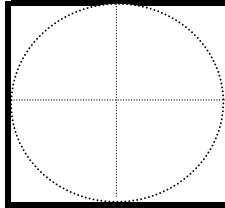
Phase II Groundwater Quality Management Area Reporting Form

Please submit to the Lower Niobrara NRD Office by Dec 31, following each crop year

PO Box 350 Butte NE 68722 Phone 402-775-2343

Revised 9/2005

Name (Certified Operator)	Nitrogen Certification #	Exp. Date	
Address	City	State	Zip Code
Phone Number	Cellular Number		

Field Information		Sketch field and crop layout
FSA Tract # _____ (Obtain number from FSA Office)	County _____	
Legal Description _____ 1/4 _____ 1/4 _____ Sec. _____ Twp. _____ Rng. W	Previous Crop _____	
Field Description _____	Crop _____	
	Crop Year _____	

Nitrogen Applications		
Acres _____		(Total number of acres in field)
Average Soil Nitrate _____ ppm		(Residual soil nitrates from deep soil sample results) (Please attach copy of soil report)
Soil Nitrate Depth _____ inches		(Average depth of soil samples, 24" required)
Irrigation Water Nitrates _____ ppm		(Nitrate concentration in irrigation water see chart on back)
Inches of Water Applied _____ inch		
Legume Credit _____ lbs N/acre		(See chart on back)
Other N Credit _____ lbs N/acre		
Organic Matter(OM) _____ %		(Percent soil organic matter from soil sample analysis. Range from 1%-3%)
Expected Yield (EY) _____ bu/acre		(average of previous 5 years yield plus an additional 5%)
Actual N Applied _____ lbs N/acre	Actual Yield _____	bu/acre

Irrigation Applications		
Well Registration # _____		<u>see www.dnr.state.ne.us</u>
Acres Irrigated _____		
Crop Water Use _____ inches		<u>http://cropwatch.unl.edu/weather/gdd-et/html</u>
Flow Rate _____ gpm		
Total Hours _____		(Total hours of irrigation)
Irrigation Type _____		(Enter type of irrigation system. E.g., High pressure, low pressure, etc.)
Total Rainfall for season _____ inches		(Enter total rainfall during the growing season)

Pesticide Applications	
Pesticide Name _____	Pesticide Name _____
Application Rate _____ oz/ac pt/ac qt/acre	Application Rate _____ oz/ac pt/ac qt/acre
Pesticide Name _____	Pesticide Name _____
Application Rate _____ oz/ac pt/ac qt/acre	Application Rate _____ oz/ac pt/ac qt/acre

POUNDS OF NITROGEN FROM IRRIGATION WATER

		ppm Nitrate Nitrogen in irrigation water								
		10	15	20	25	30	35	40	45	50
inches of irrigation water applied	6	14	20	27	34	41	48	54	61	68
	7	16	24	32	40	48	56	63	71	79
	8	18	27	36	45	54	63	72	81	90
	9	20	31	41	51	61	71	82	92	102
	10	23	34	45	56	68	79	90	102	113
	11	25	37	50	62	75	87	100	112	125
	12	27	41	54	68	82	95	109	122	136
	13	30	44	59	74	88	103	118	133	147
	14	32	48	64	79	95	111	127	143	159
	15	34	51	68	85	102	119	136	153	170
	16	36	54	72	90	109	127	145	159	181

The values above were obtained through the formula:
 (ppm) x (0.23) x (inches of water) = lb of nitrogen in the water

ESTIMATED NITROGEN CREDIT WHEN PREVIOUS CROP IS A LEGUME

Legume Crop	Medium & Fine Textured Soils	Sandy Soils
Alfalfa 70-100% stand (More than 4 plants per sq. ft.)	150	100
Alfalfa 30-69% stand (1.5 to 4 plants per sq. ft.)	120	70
Alfalfa 0-29% stand (Less than 1.5 plants per sq. ft.)	90	40
Sweet clover & red clover	80% of credit allowed for alfalfa	
Soybeans	45	45
Dry edible beans	25	25

UNL FERTILIZER REQUIREMENT FORMULA

$$35 + (1.2 \times \text{EY}) - (\text{RN}) - (0.14 \times \text{EY} \times \text{OM}) - \text{Credits (legume, water, etc)}$$

$$\text{Expected Yield (EY)} = \text{Average yields of past 5 years} + 5\%$$

$$\text{Yields: } \frac{2001 + 2002 + 2003 + 2004 + 2005}{5} \times 1.05 = \text{EY}$$

$$\text{Residual Nitrate (RN)} = \text{Average soil Nitrate (ppm)} \times 8 \text{ lbs/acre}$$

$$\text{Organic Matter Credit} = \text{Organic Matter in Soil} \times 14 \text{ lbs/acre}$$

$$\text{Irrigation Water Credit} = \text{Water Nitrates (ppm)} \times 9 \text{ inches} \times 0.23 \quad \text{or from chart above}$$

$$\text{Legume Credit from chart above}$$