



## HASTINGS WELLHEAD PROTECTION GROUNDWATER MANAGEMENT ACTIVITIES

### I. MANAGEMENT REQUIREMENTS FOR FARMING ACTIVITIES

#### A. When Initiated

1. The following requirements will be initiated on July 1, 2013.

#### B. Requirements

##### 1. Nitrogen Application.

- a. Anhydrous ammonia may not be applied prior to November 1.
  - a-1. A nitrification inhibitor must be applied with all anhydrous ammonia applications made between November 1 and March 1 at the manufacturer's recommended rate.
- b. Liquid and dry nitrogen fertilizers may not be applied between September 1st and March 1.
- c. All pre-plant nitrogen applied on or after March 1 at a rate greater than 100 pounds of actual nitrogen per acre, must be applied with a nitrification inhibitor at the manufacturer's recommended rate.

2. **Fertilizer Application Exceptions.** The following fertilizer application activities are exempt from the provisions of paragraphs 1 (a) and (b).

- a. The application of nitrogen fertilizer for any purpose other than fertilization for spring planted crops.
- b. The application of nitrogen fertilizer for spring planted small grains such as barley, oats, and rye.
- c. The application of nitrogen fertilizer on pastures.
- d. The application of a fertilizer that is not considered a “nitrogen fertilizer” as defined.
  - 1. **Nitrogen fertilizer** means a chemical compound in which the percentage of nitrogen is greater than the percentage of any other nutrient in the compound or, when applied, results in an average application rate of more than Twenty Five (25) pounds of nitrogen per acre over the field onto which it is being applied.
- e. The spreading of animal manure, septage, biosolids and other by-products conducted in compliance with state and federal laws and regulations.

3. **Soil sampling.** At least one 0-8 inch soil sample per 40 acres shall be taken and tested for residual nutrients and organic matter each year and at least one 8-24 inch soil sample per forty (40) acres shall be taken and tested for residual nitrogen each year in which corn or sorghum will be grown following a non-legume crop and/or when livestock, municipal or industrial waste was applied within the last twelve (12) months.

It is recommended that soil samples be collected as described in University of Nebraska NebGuide G1740.

- a. It is recommended that a minimum of eight (8) cores be combined into one (1) sample per each forty (40) acres.
- b. Deep soil sampling (8-24 inches) exemptions will be given for corn-soybeans rotations as referred to by NebGuide G74-174-A.

4. **Irrigation scheduling.** Irrigation scheduling must be conducted on one irrigated field by soil moisture measurements collected with electrical resistance sensors or similar devices at least one farm per operator. Other methods may be approved by the NRD.

5. **Training requirement.** Within 1 year of July 1, 2012, all operators of crop land in the designated Management Area must attend a NRD approved training session and be certified by the NRD. NRD certification must be renewed every four (4) years. The NRD will accept certification by other NRDs. Renewal certification may be received by NRD approved methods. Approved methods may include items such as attending another training session, passing a test or completing an approved home study course.

A. Required to attend

- 1. Yes – Owner/Operator.
- 2. Yes – Operator/Tenant – if decision maker.
- 3. Yes – Family Farm Operator – all who make management decisions.
- 4. Yes – Hired Hand – if he or she is responsible for making decisions about fertilizer rates and irrigation operations.
- 5. Yes – Crop consultants – if serving operators and making recommendations.
- 6. No – Hired hands working under direction of decision maker.
- 7. No – Custom Operator – if working at the direction of the decision maker.

6. **Annual Reports.** By April 1<sup>st</sup> of each year, each operator in the Management Area is required to report information regarding the use of best management practices. Forms will be provided by the NRD. The report must include the following information:
  - A. The nitrogen application rate must be calculated for each field where corn is grown. Calculations shall be based on University of Nebraska recommended procedures and must account for soil analysis and all other nitrogen credits.
    1. Nitrogen credits include, but are not limited to:
      - 1a. Irrigation water nitrates (if known)
      - 1b. Previous crops
      - 1c. Livestock, municipal and industrial waste
    2. A copy of the soil sample must accompany the annual report.
    3. Farmers are encouraged to apply no more than the amount of nitrogen needed as determined by the University of Nebraska recommendation.

## II. MANAGEMENT REQUIREMENTS FOR URBAN AND RURAL HOME OWNERS

- A. The following requirements will be initiated on July 1, 2013:
  1. Within one (1) year of July 1, 2012, all lawn care services that apply nitrogen to lawns are required to complete a lawn nitrogen course recommended by the NRD every four (4) years.
    - a. This would include operators and employees.
  2. Annual reports will be required by all lawn care services on nitrogen use. These reports will be due on December 1<sup>st</sup> of each year.
    - a. Total nitrogen use within the Wellhead Management Area.
    - b. Total number of acres or square footage nitrogen is applied.
  3. All persons who apply nitrogen fertilizer to more than one (1) acre of grass or turf in the Hastings Wellhead Groundwater Management Area are required to attend a lawn nitrogen course or other approved training. This may include web based training. Certification must be renewed every four (4) years
  4. The utilization of mulching mowers and blades are encouraged to reduce the nitrogen use for lawns.
  5. Soil sampling is encouraged before applying nitrogen to a lawn or turf.
  6. All home owners shall adhere to the City of Hastings Storm Water Management Plan.