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NEBRASKA AGRONOMY TECHNICAL NOTE HANDBOOK (NEATNH)
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AMENDMENT 16

SUBJECT: ECS – AGRONOMY TECHNICAL NOTE NO. NE-108

Purpose. To transmit Nebraska Agronomy Technical Note No. NE-108.

Effective Date. Effective when received

Filing Instructions. File in the National Agronomy Manual Technical Note Binder and update your Nebraska Agronomy Technical Note Index page in the binder as well.

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Enclosures – Tech Note Index and NEATNH-108

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NEBRASKA TECHNICAL NOTE

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

May 19, 2006

Agronomy Technical Note No. NE-108
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APPLICATION OF LIVESTOCK MANURE, SLUDGE OR AGRICULTURE BY-PRODUCTS ON CONSERVATION RESERVE PROGRAM CONTRACT LANDS

The topics covered in this Technical Note are intended to supplement the requirements outlined in 2-CRP (Rev. 4), Amend. 2, Paragraph 278 – Applying Waste Products on CRP Land; Part A – Application Requirements for Sludge and Agriculture By-Products, Part B – Application Requirements for Animal Waste and Part C – Application Restrictions.

APPLICATION OF LIVESTOCK MANURE, SLUDGE OR AGRICULTURE BY-PRODUCTS ON CONSERVATION RESERVE PROGRAM CONTRACT LANDS

The purpose of this Technical Note is to provide consultants and experienced planners with additional guidance for the land application of livestock manure, sludge or agriculture by-products to CRP contract lands.

General

Soil testing; fertilizer / manure application rate; timing and methods; and nutrient budget formulation must meet all NRD, state, local, or federal rules and regulations and the Standards 590 Nutrient Management Criteria.

Conservation Plan (CPO) Revision

The approved conservation plan (CPO) shall be modified to include 590 Nutrient Management Practices on appropriate field(s) when manure, sludge, or agriculture by-product will be applied. If municipal sludge is being applied, the 633 Waste Utilization Practice will also be included in the CPO and all issues associated with heavy metals must be addressed according to this standard.

Manure Testing

The book value for nutrients in manure can be used in place of the manure testing. If book values are used, guidance found in Neb-Guide G97-1335A, "Determining Crop Available Nutrients from Manure" will be utilized. Manure testing is recommended because it provides actual nutrient content which allows the land owner to make optimum use of the manure while protecting water resources. For more information on manure testing see Neb-Guide G02-1450-A, "Sampling Manures for Nutrient Analysis"; and Neb-Facts NF02-507, "Manure Testing: What to Request?".

Soil Testing

Surface soil tests on the CRP land must be completed prior to applying manure to determine phosphorus levels and plant-available nutrients in the soil. It is important to use the appropriate phosphorus test method based on soil properties (e.g. Bray- P1 test for acid/neutral soils and Olsen P test for alkaline soils). Guidelines for soil sampling including number of samples, sampling methods, and sampling depth for surface soil sampling can be found in Neb-Guide G91-1000-A, "Guidelines for Soil Sampling". Only surface (0-8 inches) soil sampling is required for CRP land.

Application Rates

Soil tests on CRP land for phosphorus that exceed 25 ppm (as determined by the Bray- P1 test) or exceed 17 ppm (as determined by the Olsen- P test) are deemed to have a "high" index value (see Table II. Phosphorus Recommendations for Grasslands in Nebraska found in the Neb-Guide G78-406-A, "Fertilizing Grass Pastures and Haylands"). If soil tests for phosphorus are determined to be a "high" index value (as indicated above), then the amount of manure applied to the CRP land will be a **phosphorus-based limit**. Phosphorus-based limits are based on crop removal rates per 590 Nutrient Management Standard.

If the soil tests for phosphorus from the CRP land are below 25 ppm, as determined by the Bray-1P test, or 17 ppm Olsen-P test, then the amount of manure applied to CRP land can be based on **nitrogen**. Recommendations for nitrogen application on CRP land are based on type of grass and vegetative zone as listed in Table 1 below. To view the four vegetative zones in

Nebraska, see Field Office Technical Guide (FOTG), Section I, B. Maps, 2. Nebraska - Nebraska Vegetation Zones.

Table 1 below outlines the recommended pounds of available nitrogen to apply per acre for cool-season and warm-season grasses depending on whether the CRP land will be harvested through grazing or haying, or will not be harvested during the growing season. If manure has been applied to CRP land prior to the current year of application, manure credits must be accounted for and application rates will be adjusted according to Neb-Guide G97-1335A "Determining Crop Available Nutrients from Manure".

TABLE 1. *NITROGEN RATES FOR CRP LAND

Pounds of Available Nitrogen to Apply per Acre						
Vegetative Zones	Cool Season			Warm Season		
	Grazed CRP	Hayed CRP	CRP No Use	Grazed CRP	Hayed CRP	CRP No Use
I	20-40	30-60	20	20-40	30-50	20
II	40-60	50-75	40	25-50	40-60	25
III	50-80	60-90	50	40-75	50-80	40
IV	80-120	100-150	80	60-90	75-100	60

*Based on available nitrogen, adapted from Neb-Guide G78-406A, Fertilizing Grass Pastures and Haylands

Method of Application

All liquid waste will by applied by injection. All waste will be applied when the wind direction allows minimal odor detection by neighbors and the humidity level is low.

Timing and Location of Application

Land application of manure, sludge or agriculture by-product to CRP land shall not take place during primary nesting or brood rearing season (May 1 through July 15).

When applying manure, sludge or an agriculture by-product, land owners must maintain a minimum setback distance to surface water as outlined in the Nebraska Department of Environmental Quality Title 130 – Rules and Regulations Pertaining to Livestock Waste Control.

References

Determining Crop Available Nutrients from Manure, Neb-Guide G97-1335A. (http://ianrpubs.unl.edu/wastemgt/g1450.htm).

Improving Land Application of Manure, Farm-A-Syst, Fact Sheet 11, University of Nebraska Cooperative Extension EC 98-757-S (http://ianrpubs.unl.edu/water/farm-a-syst/ec757.pdf).

Fertilizing Grass Pastures and Haylands, Neb-Guide 678-406-A (Revised March 1990). (http://ianrpubs.unl.edu/range/g406.htm).

Guidelines for Soil Sampling, Neb-Guide G91-1000-A. (http://ianrpubs.unl.edu/soil/g1000.htm).

Manure Testing: What to Request?; Neb-Facts NF02-507. (http://ianrpubs.unl.edu/wastemgt/nf507.htm).

Nutrient Management (Acre) Code 590, Natural Resources Conservation Service Conservation Practice Standard, NE-T.G. Notice 490, Section IV, NRCS-December 2000.

Sampling Manures for Nutrient Analysis, Neb-Guide G02-1450-A. (http://ianrpubs.unl.edu/wastemgt/g1450.htm).

Nebraska Vegetation Zones, NRCS FOTG, Section I, B. Maps, 2. Nebraska, (http://efotg.nrcs.usda.gov/technical/efotg).