2024
Nutrient Management Record-Keeping Calendar
The Nebraska Nutrient Management Calendar is a product of Nebraska Extension’s Animal Manure Management Team. It was originally developed by: Leslie J. Johnson, Larry Howard, Richard Koelsch, Amy Millmier Schmidt, Charles A. Shapiro, and Charles S. Wortmann.

The authors would like to thank Mara Zelt, Amber Patterson, Lindsey Roark, Javed Iqbal, Aaron Nygren, Beth Zelt, and Agnes Kurtzhals for their contributions and reviews. This publication was produced with the permission of Tamilee Nennich Adolph, on whose work it was based.

Reach out with any of your Manure Management questions!

**NEBRASKA EXTENSION MANURE MANAGEMENT TEAM**

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leslie Johnson</td>
<td>Haskell Ag Lab</td>
<td>402-584-3818</td>
</tr>
<tr>
<td>Javed Iqbal</td>
<td>Agronomy &amp; Horticulture</td>
<td>402-472-1432</td>
</tr>
<tr>
<td>Amy Schmidt</td>
<td>Biological Systems Engineering</td>
<td>402-472-0877</td>
</tr>
<tr>
<td>Todd Whitney</td>
<td>Phelps County</td>
<td>308-995-4222</td>
</tr>
<tr>
<td>Rick Stowell</td>
<td>Biological Systems Engineering</td>
<td>402-472-3912</td>
</tr>
<tr>
<td>Aaron Nygren</td>
<td>Saunders County</td>
<td>402-624-8030</td>
</tr>
<tr>
<td>Alfredo DiCostanzo</td>
<td>Cuming County</td>
<td>402-372-6006</td>
</tr>
</tbody>
</table>

**Jerry Newth**: Animal Manure Management Extension Educator (308) 991-1780
**Glenn Marker**: Nutrient Management & Water Quality (308) 765-9293
**Calvin Smith**: Manure, Mortality & Contamination Management (308) 530-0874
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Records for Nebraska Animal Feeding Operations

**Operation ID:**

**ID Type:**
- [ ] IIS Number
- [ ] Program Number
- [ ] Premises ID
- [ ] Operation Name
- [ ] Other: ________________

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### General Directions
- Record the initials of the person performing the inspection each time (see table below for initial codes).
- Checkmarks will not satisfy the recordkeeping requirements.
- Record any maintenance and/or repairs.
- Correct all deficiencies within 30 days.

### Daily Records and Inspections
- Inspect all waterlines (drinking and cooling) within the drainage area.
- Record any measurable rainfall that occurs at the facility and subsequent liquid storage levels.
- Record wind speed and direction daily during manure pumping activities.
- Collect carcasses and properly dispose of them within 36 hours.

### Weekly Records and Inspections
- Record the liquid depth of the manure storage structure as indicated on the depth marker. Be sure that the recommended pumping levels are indicated on the marker.
- Before use, inspect any equipment used for land application of manure and/or wastewater.
- Inspect all waste control facilities, including lagoons, holding ponds, concrete tanks, pits, and manure storage structures.
- Inspect all stormwater and runoff diversion devices used to channel contaminated stormwater to storage structures.

### Monthly Records and Inspections
- Inspect facilities used for disposal of carcasses. Include composting facilities, containers, and recent burial sites in the inspection.
- Do NOT dispose of carcasses in any liquid manure or process wastewater system.

### Yearly Records and Inspections
- Evaluate the depth of the sludge layer of the lagoon or holding pond.
- At least 1 representative from an operation must attend Land Application Training every 5 years. See go.unl.edu/ManureEd for more information.
- The Nebraska P-Index must be assessed for land application areas every 5 years, prior to land application. See go.unl.edu/Pindex

### Yearly Sample Collection and Analysis
- Collect and analyze manure and/or wastewater samples at least annually. Recommended minimum analysis should include: total nitrogen (N), organic N, and phosphorus.
- Collect soil samples every year prior to site being used for N application.
- Analyze soil samples for phosphorus at least once in 5 years.
- Irrigation water must be sampled and analyzed for nitrates every 5 years.

### Yearly Site Requirements
- Complete and submit an annual report for the previous year to NDEE by March 1 (NPDES permits only).
- Keep records on site for a minimum of 5 years.

---

### Additional Information and Space for Records

**Name** | **Initials**
---|---
**Name** | **Initials**
**Name** | **Initials**

Disclaimer: The information in this calendar should assist producers to meet legal requirements and protect environmentally sensitive areas around their operations. The use of this calendar and accompanying information is intended to serve as a guide and does not guarantee compliance with the NDEE rules and regulations.
**Manure & Wastewater Applied**

Weather information for each date of application, the day prior to, and day after application should be recorded on the calendar or kept separately.

<table>
<thead>
<tr>
<th>Field ID &amp; Location</th>
<th>Acres Applied</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manure Source</td>
<td>Application Method</td>
<td></td>
</tr>
<tr>
<td>Application Rate</td>
<td>Available N/acre*</td>
<td>Applied P</td>
</tr>
</tbody>
</table>

**When Applying Effluent:** Start Pump Time | Stop Pump Time

Total Hours Pumped: Time of Monitoring:

<table>
<thead>
<tr>
<th>Field ID &amp; Location</th>
<th>Acres Applied</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>Available N/acre*</td>
<td>Applied P</td>
</tr>
</tbody>
</table>

**When Applying Effluent:** Start Pump Time | Stop Pump Time

Total Hours Pumped: Time of Monitoring:

*Nitrogen availability calculation worksheet can be found at the end of this publication.

**Employee Training**

At least 1 representative must complete Land Application Training every 5 years.

<table>
<thead>
<tr>
<th>Training Type</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Employees Trained</td>
<td></td>
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<tr>
<td>Trainer &amp; Location</td>
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<td>Employees Trained</td>
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<tr>
<td>Trainer &amp; Location</td>
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**Annual Reports & Fees**

For those with National Pollutant Discharge Elimination System (NPDES) permits, March 1 is the deadline for Annual Reports & fees to be submitted to NDEE.

Reports should include:
- Maximum number of livestock
- Amount of manure generated
- Transferred manure
- Land application area & contact person
- Discharge summary
- Nutrient management plan statement
- Land application nutrient calculations & supporting data

The form found at the end of this publication can be used for your annual report.

**Notes:**

*Additional information and space for records are provided on the back page.
More manure information can be found at manure.uni.edu and lipel.org.

*The University of Nebraska–Lincoln does not discriminate based upon any protected status. Please see go.unl.edu/honardiscrimination.*
<table>
<thead>
<tr>
<th>SUN</th>
<th>MON</th>
<th>TUE</th>
<th>WED</th>
<th>THU</th>
<th>FRI</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall</td>
<td>Wind</td>
<td>Waterline Inspection</td>
<td>Rainfall</td>
<td>Wind</td>
<td>Waterline Inspection</td>
<td>Rainfall</td>
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<td>Rainfall</td>
</tr>
</tbody>
</table>

**In case of a spill or discharge,** take immediate measures to contain the spill and contact NDDE at 1-402-471-4239 within 24 hours. Written reports of a spill must be submitted within 5 days.

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**Monthly Inspections**

<table>
<thead>
<tr>
<th>Mortality Management System</th>
<th>Date</th>
<th>Notes</th>
<th>Date</th>
<th>Notes</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
</table>

**Weekly Inspections**

<table>
<thead>
<tr>
<th>Lagoon Depth Marker (ft)</th>
<th>Date</th>
<th>Manure Storage &amp; Equip. Inspection</th>
<th>Date</th>
<th>Notes</th>
<th>Date</th>
<th>Water &amp; Runoff Diversion, Containment Devices</th>
<th>Date</th>
<th>Notes</th>
<th>Date</th>
<th>Maintenance or Repairs</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
</table>

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**When working with manure...**

- Be aware. Be safe. Be smart.
- Lethal gases can accumulate in manure tanks and storages. Never enter a manure tank or pit without proper training, equipment and support personnel.
- Methane gas trapped in stored manure can ignite. If foam forms in a manure storage, evacuate, ventilate, and deactivate ignition sources.
Manure & Wastewater Applied

Weather information for each date of application, the day prior to, and day after application should be recorded on the calendar or kept separately.

Field ID & Location_____________ Acres Applied__________ Date__________
Manure Source________________ Application Method____________________
Application Rate_______________ Available N/acre*_____________ Applied P______________
When Applying Effluent: Start Pump Time_____________ Stop Pump Time_____________
Total Hours Pumped:________________ Time of Monitoring:________________

Crop Nutrient Needs for Next Year

Date | Field ID & Location | Crop Type | Yield | Acreage | N Required | P Required
--- | --- | --- | --- | --- | --- | ---

Crops Harvested - Nutrients Removed

<table>
<thead>
<tr>
<th>Date</th>
<th>Field ID &amp; Location</th>
<th>Crop Type</th>
<th>Yield</th>
<th>Acreage</th>
<th>N Removed</th>
<th>P Removed</th>
</tr>
</thead>
</table>

Managing Runoff Holding Ponds During Wet Weather

Excess precipitation, particularly chronic wet weather, can lead to concerns about storages overflowing even when they have been managed correctly.

1. Do not let your manure storage overflow! It is preferable to apply effluent to saturated soil than to allow a storage berm to be overtopped.
2. If a discharge occurs, call your NDEE Field Office or the State Office within 24 hours.

For more info, see manure.unl.edu, search for “Wet Weather”.

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Manure Sold or Given Away

An information sheet containing your operation name & address along with a written statement that manure/wastewater must not enter waters of the state & the nutrient analysis must be provided to the recipient.

Manure Volume/Weight_________________________ Date__________
Recipient Name & Address_________________________
Analysis Number_________________________

More manure information can be found at manure.unl.edu and npelc.org.
In case of a spill or discharge, take immediate measures to contain the spill and contact NDEE at 1-402-471-4239 within 24 hours. Written reports of a spill must be submitted within 5 days.
### Crops Harvested - Nutrients Removed

<table>
<thead>
<tr>
<th>Date</th>
<th>Field ID &amp; Location</th>
<th>Crop Type</th>
<th>Yield</th>
<th>Acreage</th>
<th>N Removed</th>
<th>P Removed</th>
</tr>
</thead>
</table>

Crop removal rates can be found at the back of this publication.

### Crop Nutrient Needs for Next Year

<table>
<thead>
<tr>
<th>Date</th>
<th>Field ID &amp; Location</th>
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### Manure Sold or Given Away

An information sheet containing your operation name & address along with a written statement that manure/wastewater must not enter waters of the state & the nutrient analysis must be provided to the recipient.

**Manure Volume/Weight**

**Date**

**Recipient Name & Address**

**Analysis Number**

### Manure & Wastewater Sampling

<table>
<thead>
<tr>
<th>Sampling Location</th>
<th>Sampling Details</th>
<th>Date of Collection</th>
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<tbody>
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</tbody>
</table>

### Groundwater & Irrigation Water Sampling

Irrigation water samples must be taken and analyzed for nitrates every 5 years.

<table>
<thead>
<tr>
<th>Sampling Location</th>
<th>Date of Collection</th>
<th>Results (ppm nitrate)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### Application Equipment Maintenance

For calibration instruction visit go.unl.edu/calibration.

<table>
<thead>
<tr>
<th>Date</th>
<th>Equipment</th>
<th>Maintenance Done/ Calibration Type</th>
<th>Manure Source &amp; Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
Due March 1, 2024

NPDES ANNUAL REPORT to NDEE

Name of Facility: __________________ Facility ID Number: _______________ Section: __________ Township: __________ Range: __________
Address: _______________ City, State and Zip code: __________________

- Livestock - Maximum number of livestock at the CAFO at any one time during the previous calendar year: _______________ head of ______ (species)
- Generated Manure - Total amount of waste generated by the operation during the previous calendar year, including manure and process wastewater: Solid tons = __________ Liquid gallons = __________
- Transferred Manure - The total amount of waste sold or given away by the operation in the previous calendar year, including manure and process wastewater. Solid tons = __________ Liquid gallons = __________

- Land Application Responsibility:
  a. Primary responsibility for land application: Name: ___________________ Phone Number: ___________________ City, State and Zip code: _______________
  b. Is the person authorized to receive and to be accountable for the application of the waste generated by the operation? Yes / No
  c. Most recent date the person completed land application training: _______________

- Land Application Area:
  a. Total number of land application acres covered by CAFO's current Nutrient Management Plan: _______________ acres
  b. Total number of acres used for land application of livestock waste during the previous year: _______________ acres
  c. Discharges - Summary of all livestock waste discharges (including manure and process wastewater) from the production areas and the land application areas during the previous year. The summary must include the following information for each discharge:
    a. Date discharge began _______________ and ended _______________
    b. Time of day/night discharge occurred _______________ and the duration of discharge _______________ hours.
    c. Approximate volume of waste discharged (provide supporting figures) = _______________

- Nutrient Management Plan Information:
  - CAFO's current Nutrient Management Plan on file with the Department was developed and approved by a certified nutrient management planner? Yes / No
  - Changes to Nutrient Management Plan - Yes ( ) or No ( ) if the CAFO has made any changes to the nutrient management plan during the previous calendar year, the changes must be reported to the Department. Supporting documents must be included with the information submitted. The information submitted should include changes in:
    a. Any changes in land application areas:
    b. Methods of soil sampling or soil analysis:
    c. Means of determining land application rates:
    d. Individual field records - For each field crop during the previous 12 months provide:
      a. Actual crop planted and yield:
      b. Actual N and P content of manure, litter, or wastewater applied (include analysis):
      c. Results of calculations made according to NMP:
      d. Amount or volume of manure, litter, and wastewater applied to each field during the past 12 months:
      e. Results of any soil testing for N and P during the preceding 12 months:
      f. Any conversion or availability factors used to determine nutrient availability:
      g. Amount of supplemental fertilizer used in previous 12 months:

NOTE: Changes in nutrient management plans or other major modifications may require the submission of the 1) application to NDEE, 2) the appropriate application fee, and 3) Departmental approval prior to any changes.

---

**Manure & Wastewater Applied**

<table>
<thead>
<tr>
<th>Date</th>
<th>Field ID &amp; Location</th>
<th>Vol or Weight</th>
<th>Acreage Applied</th>
<th>Manure Source</th>
<th>Application Method</th>
<th>Available</th>
<th>Applied</th>
</tr>
</thead>
</table>

**Crop Removal Rates**

<table>
<thead>
<tr>
<th>Crop</th>
<th>DM%</th>
<th>N</th>
<th>P205</th>
<th>Units</th>
<th>Crop</th>
<th>DM%</th>
<th>N</th>
<th>P205</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn (grain)</td>
<td>85</td>
<td>0.70</td>
<td>0.31</td>
<td>lb/bu</td>
<td>Corn (stover)</td>
<td>85</td>
<td>17.7</td>
<td>3.5</td>
<td>lb/ton</td>
</tr>
<tr>
<td>Corn (silage)</td>
<td>35</td>
<td>9.0</td>
<td>3.2</td>
<td>lb/ton</td>
<td>Oats (grain)</td>
<td>86</td>
<td>0.60</td>
<td>0.23</td>
<td>lb/ton</td>
</tr>
<tr>
<td>Oats (straw)</td>
<td>90</td>
<td>12.7</td>
<td>2.5</td>
<td>lb/ton</td>
<td>Wheat (grain)</td>
<td>86.5</td>
<td>1.2</td>
<td>0.50</td>
<td>lb/ton</td>
</tr>
<tr>
<td>Wheat (straw)</td>
<td>90</td>
<td>10.1</td>
<td>2.1</td>
<td>lb/ton</td>
<td>Small Grain Hay</td>
<td>85</td>
<td>34</td>
<td>11.7</td>
<td>lb/ton</td>
</tr>
<tr>
<td>Soybean (grain)</td>
<td>87</td>
<td>3.5</td>
<td>0.79</td>
<td>lb/ton</td>
<td>Alfalfa (hay)</td>
<td>85</td>
<td>46.2</td>
<td>9.3</td>
<td>lb/ton</td>
</tr>
<tr>
<td>Alfalfa (silage)</td>
<td>40</td>
<td>21.8</td>
<td>4.9</td>
<td>lb/ton</td>
<td></td>
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</tbody>
</table>

Other crop information can be found on page 89 of the Manure Application Workbook, which can be found at go.unl.edu/manure_workbooks.
### Crop Available Nitrogen Calculations

<table>
<thead>
<tr>
<th>Site, Product, Crop &amp; Yield Goal</th>
<th>Soil Test N, ppm</th>
<th>Planned N-rate**</th>
<th>NH4N Content**</th>
<th>NH4N Availability Factor</th>
<th>Organic N Content</th>
<th>Organic N Availability Factor</th>
<th>Available Organic N (lb/1000)</th>
<th>N available from manure (lb)</th>
<th>Application rate needed (lb/1000)</th>
<th>Actual application rate (lb/1000)</th>
<th>Commercial manure N applied (lb)</th>
<th>Irrigation N applied (lb)</th>
<th>Other N applied (lb)</th>
<th>Total N applied (lb)</th>
<th>Actual yield (bu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex. Home 5%, Feedlot solids, Corn, 200 bu.</td>
<td>15</td>
<td>100</td>
<td>4.5</td>
<td>0.5</td>
<td>2.4</td>
<td>16.4</td>
<td>0.4</td>
<td>6.6</td>
<td>4</td>
<td>10</td>
<td>90</td>
<td>0</td>
<td>10</td>
<td>100</td>
<td>2.15</td>
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<td>1</td>
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* This number should include all sources of N in brackets. Guidelines for fertilizer rates can be found in UNL publications listed on the manure resources page at go.unl.edu/monurepubs.

** Use *as is* basis from manure analysis. Units should be selected in NH4-N column and used throughout the table.

*** Actual manure application rates should be adjusted for these N applications.

### Availability Factors for Manure Nitrogen

#### Ammonium-N (NH4-N) Available this Year

- **Sidedress Application**
  - Incorporated: 0.95
  - Sprinkler Irrigation
    - >0.4 inches applied: 0.8
    - ≤0.4 inches applied: 0.4

- **Preplant application**
  - Incorporated**: 0.95
  - Immediately: 0.95
  - One day later: 0.50
  - Two days later: 0.25
  - Three days later: 0.15
  - 7+ days later: 0.00

- **Not incorporated**: 0.00

* Applied when air temp is above 50 F.
** Applied when air temp is at or below 50 F.
*** Incorporation can be accomplished by tillage or rainfall of one-half inch or greater.

#### Organic-N Available this Year

- Composted Feedlot Manure: 0.15
- Layer manure with no bedding: 0.45
- All other manures or stored liquids: 0.40

### Future Years

- Next Year: 0.20
- 2 years from now: 0.10
- 3 years from now: 0.05

† Organic-N availability assumes spring seeded crops. For fall seeded crops multiply organic N availability factor by 0.7.