Pennsylvania Inter-Agency Nutrient Management Annual Conference

ACT 38 NMP AND NBS USER GUIDES

Jerry Martin & Don Orner • Penn State Extension
NMP Version 6.0 Excel User Guides

- NMP Version 6.0 has lots of worksheets or sections that need to be completed.
- Most are connected by formulas or macros
- Worksheets are arranged in the order to be completed and printed
- Guidance is provided in the Excel workbook and through “How-To” documents.
NMP Version 6.0 Excel User Guides

Guidance is provided in the worksheet - NMP Instructions

Instructions to Complete a Nutrient Management Plan

1. Complete Manure Group Information
   1.1. Go to Farm Specific Animal List worksheet and select the animals raised on the farm.
   1.2. Go to Appendix 3 Input worksheet and enter the Manure Group Name
   1.3. Go to Manure Average Input worksheet and enter the manure analysis information.
   1.4. Return to the Appendix 3 Input worksheet and enter the following information.
      1.4.1 Manure Group Site Description and Season Applied
      1.4.2 Inventory Method and appropriate information
      1.4.3 Manure Exported Amount
      1.4.4 Rainfall worksheet (Optional)- Total Rainfall and Runoff
      1.4.5 Animal group Information as appropriate
      1.4.6 The additional Optional worksheets; Animal Type-Manure Production, Animal Weight Calculator, Crop List Options, Residual N Calculator, and Grazing Group Manure Calculator may be needed or used to complete the plan information.

2. Create Farm Crop List
   2.1. Go to Create Farm Crop List
      2.1.1 Select the crops to be used in the NMP.
      If the crop isn’t listed then go to the Crop List Option worksheet and add it.

3. Complete the Field Specific Information
   3.1. Go to the App 4 Input worksheet and complete the field specific Information
Animal Group 1 Total Bedding
The amount of bedding used during the timeframe for this manure group. If it’s a liquid manure group then enter the amount of bedding in gallons.

If no bedding is added enter a Zero "0"
If the inventory method of "Records“ was selected, the cell will be grey and you don’t need to enter the total bedding.

The amount of bedding used is obtained from operation records and information. For some manure types the amount of bedding is included in Daily Manure Production values found in the Penn State Agronomy Guide, Table 1.2-13 (refer to comments column). If bedding is included in the Daily Manure Production values leave this row blank.

For solid manure, calculate the amount of bedding by using the following equation:
• Pounds of bedding used per period (day, week, month) x Number of periods (days, weeks, months) that manure is accumulated in this manure group ÷ 2,000 = Tons of Bedding

For liquid manure, calculate the amount of bedding by using the following equations:
• Pounds of bedding used per period (day, week, month) x Number of periods (days, weeks, months) that manure is accumulated in this manure group = Pounds of Bedding Per Manure Group Period.

• Use Supplement 6: Density of Bedding Materials to determine the density (pounds per cubic foot) of the type of bedding material used.

• Pounds of Bedding Per Manure Group Period ÷ Density (pounds per cubic foot) = Cubic Feet of Bedding Per Manure Group Period.

• Cubic Feet of Bedding Per Manure Group Period ÷ 2 (bedding volume is reduced by one-half during use) x 7.48 gallons per cubic foot = Gallons of Bedding Per Manure Group Period (round to the nearest hundred gallons)

Calculations for bedding used are to be shown in Appendix 10: Supporting Information and Documentation of the Nutrient Management Plan.
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix 3 Manure Group Information Crop Yrs. 2019</td>
<td>Lagoon Fall Liquid</td>
<td></td>
</tr>
</tbody>
</table>

**Manure Report Date**
- November 1, 2016

**Laboratory Name**
- AASL

**Manure Type**
- Dairy

**Manure Unit (lbs/ton or 1000 gal)**
- lb/1000 gal

**Total Nitrogen (N) (lbs/ton or 1000 gal)**
- 25.00

**Ammonium N (NH₃-N) (lbs/ton or 1000 gal)**
- 7.80

**Total Organic N (lbs/ton or 1000 gal)**
- 17.20

**Total Phosphate (P₂O₅) (lbs/ton or 1000 gal)**
- 10.00

**Total Potash (K₂O) (lbs/ton or 1000 gal)**
- 21.00

**Percent Solids**
- 7.40

**PSC Value (analytical or book value)**
- 0.80

**Percent Moisture**
- 92.60

**Manure Group AEU's**
- 60.78

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**Percent Solids**

The Percent Solids is entered in the Manure Average Input tab.

The average of the Percent Solids results are transferred here.

If a manure group name is selected and the Percent Solids is blank then "Complete percent solids" will be displayed.

If the percent solids is less than 5% and Table 1.2-15 is used to determine Nitrogen Availability, the ammonium nitrogen availability is increased by 20 percent.

This is to account for soaking in on application.

This does not apply to late fall or winter applications.
NMP Guidance Documents are available on the NM Website

Pennsylvania Nutrient Management Program
Version 6.0 - October 2017

Nutrient Management Plan Standard Format

NMP Excel 6.0 - October 2017
Excel 2007 - 2016

NMP Word 6.0 - October 2017
Microsoft Word, 54.7 KB

NMP Word User Guide
PDF, 79.4 KB

Nutrient Management Plan Standard Format

NMP Excel User Guide

Overview of the Excel NMP Version 5 Layout
• How to Complete Farm Specific Animal List Worksheet
• How to Complete NMP Appendix 3 Input Worksheet
• How to Complete Manure Analysis Average Input Worksheet
• How to Complete Create Farm Crop List Worksheet
• How to Complete NMP Appendix 4 Input Worksheet
NMP Version 6.0 Excel User Guides

A brief description of each How-To or module is listed and a link to the pdf

Overview of the Excel NMP Version 6 Layout

This document provide an overview of the Nutrient Management Plan Excel spreadsheet. It will cover topics such as: compatibility with Excel versions and computers; downloading the file; setting up the file and computer for use; navigating the NMP spreadsheet; column header notes; freeze panes; overview of the various worksheets; and document revision history.

Overview of the Excel NMP Version 6 Layout 2017-10.pdf — PDF document, 586 KB (601043 bytes)
Thank You for your attention!

Any Questions??
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ACT 38 NMP WORD USER GUIDE
NMP Word Portion User Guide

• “How To” Guidance on the follow:
  – Using the “Data Entry” boxes
  – Adding the “Developer Tab” to the ribbon
    • Enables the protection tool option
  – Protecting and Unprotecting the planning tool
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ACT 38 NBS WORD USER GUIDE
NBS Word User Guide

• Previous “Supplement 3” in the NM Technical Manual was updated

• “Required Importer Information” section was added

• The previous sample NBS was replaced with the NM Technical Manual – Version 10 sample NBS – Supplement 4: Sample Nutrient Balance Sheet (Word)
The sample NBS in Supplement 4 of the NM Technical Manual was enhanced to include the following scenarios:

- Imported manure on pasture
- Multiple application of imported manure
- Imported manure on a double crop
- Phosphorus banking
NBS Version 4 Excel User Guides

• NBS Version 4.2 has lots of worksheets or sections that need to be completed.

• Most are connected by formulas or macros

• Worksheets are arranged in the order to be completed and printed

• Guidance is provided in the Excel workbook and through “How-To” documents.
Guidance is provided in the worksheet – NBS Instructions

Instructions to Complete a Nutrient Balance Sheet

1. Complete NBS Cover Page

2. Complete Manure Group Information
   1.1. Go to Manure Group Input worksheet
       1.1.1 Enter the Manure Group Name
       1.1.2 Enter the Manure Group Analysis date, lab name, and units for the analysis
       1.1.3 Enter the Manure Analysis N, NH₄-N, P₂O₅, K₂O in the appropriate units and % solids
       1.1.4 Enter the Manure P Source Coefficient (PSC) if Option 3 "P Index" will be used.

3. Create Farm Crop List
   2.1. Go to Create Farm Crop List
       2.1.1 Select the crops to be used in the NBS.
       Click on the crops that will be used on the NBS, this will create a customized list to choose from with the Crop List Option worksheet and add it.

4. Complete the Field Specific Information
   3.1. Go to the NBS Input worksheet and complete the field specific information
       3.1.1 Crop Group Information
       Enter a descriptive name for the crop group for each NBS
       3.1.2 Enter the field IDs that this crop group applies to. This may be all fields in the importing farm.
       3.1.3 Enter the total acres that this crop group applies to
       3.1.4 Enter the NBS Option for the NBS (Select from drop down list)
       Option 1 - P based NBS
       Option 2 - N based NBS
       Option 3 - P Index based NBS

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NBS Version 4 Excel User Guides

Input Page Guidance is provided in Column or Row Headers
Hover over or click the cells with red triangles

Manure Plan Option
A Manure Plan Option needs to be selected for each crop group. When planning Double Crops and Multiple Applications the option selection must be the same.

Option 1 - P Removal
- P removal rates
- 150’ application setback from streams, lakes or ponds
- No winter application
- Optional P Banking permitted for 2 or 3 years

Option 2 - Nitrogen Requirement
- N requirement rates
- Soil test required with Mehlich 3 P < 200 ppm
- 150’ application setback from streams, lakes or ponds
- No winter application
- No P Banking permitted

Option 3 - P Index
- P Index evaluation of fields
- Soil test required
- P Index and Winter Matrix required for winter application
- No P Banking permitted
NBS Version 4 Excel User Guides will soon be available on the NM Website.
NBS Version 4 Excel User Guides

A brief description of each How-To or module is listed and a link to the pdf
Thank You for your attention!

Any Questions??