

5 ASSEMBLING THE NUTRIENT MANAGEMENT PLAN

This chapter contains information on assembling the Nutrient Management Plan. The value of a plan depends largely on how the farmer uses it.

Nutrient Management Planning is not a one-time activity but an ongoing process. To make the plan practical, it must be kept in a form that will make it easy for the farmer to find the information they are looking for and also easy to record new information about manure applications, crop harvests, etc.

There are various ways to organize the information created using the NMP Calculators. One way would be to print out the worksheets once the planner is satisfied that the results meets the objectives. The 2010 updates to the NMP Calculator include a suite of spreadsheets that have been customized for specific crop groupings. The outputs of the various NMP Calculators are different so there is no one standard way of organizing your information. It is most important to organize it in a logical manner.

In addition to the worksheets, the Nutrient Management Plan should consist of written sections that provide context for the plan including the planning advisor's conclusions and recommendations that result from using the NMP Calculator software.

BINDER CHECKLIST

Here is a checklist you can use to ensure that the plan is complete:

A. Title Page

The title page identifies the farm name, contact information, and the date the plan was prepared. A signature on this page or on a separate page is strictly optional and can be used to show that the planning advisor has signed off on the Nutrient Management Plan.

B. Summary

This section contains a brief written summary of the Nutrient Management Plan. The key information includes:

- Goals and objectives of the Nutrient Management Plan
- A general description of the farm including land base and number of livestock
- Description of the manure handling and storage system
- Description of the manure being produced, imported or exported
- Summary of soil sampling procedures and test results
- Discussion of the farm's nutrient application schedule
- Conclusions and recommendations

C. Maps and Diagrams

This section should contain a farmstead map and a field map. The names given each field on the map should match the names used throughout the NMP Calculator worksheets and plan.

These maps will have been prepared during the Data Collection phase (Chapter 2). They may be prepared while developing an Environmental Farm Plan and can be copied to the Nutrient Management Plan. For Nutrient Management Planning, these maps are most useful if they accomplish the following:

- Identify soil sampling units, taking into account variability and usual areas due to differences in cropping, manure and fertilizer application history, topography, soil type or texture (drainage), etc.
- Identify potentially sensitive areas including watercourses, wells, etc. Field sizes (spreadable areas) and land management practices recommended in the plan should reflect this information.

 **Nutrient Management Factsheet Series #2: Soil Sampling**

D. Farm Nutrient Balance Summary

This section contains the summary of nutrient balances for all fields on the farm.

- For the Forage NMP Calculator, print or refer to Worksheet 7. This worksheet summarizes the manure balances for each manure type.
- For the Vegetable NMP Calculator, print or refer to the “Farm Summary” worksheet. This worksheet summarizes the agronomic and crop removal balances as well as manure balances for the whole farm.
- For the Berry NMP Calculator, no worksheet currently provides an estimate for the whole farm. The planner can make a general statement about agronomic balances for individual fields or the farm as a whole (optional).

E. Conclusions and Recommendations

Throughout the entire Nutrient Management Planning process, one of the roles of the planning advisor is to identify areas where practices can be improved to increase nutrient use efficiency and/or reduce risk to the environment. In addition to developing and fine-tuning the nutrient application schedule, written recommendations should address the following:

- ▶ If the calculations determine that the farm is generating more manure nutrients than can be utilized sustainably, the plan should include a strategy for dealing with nutrient surpluses. Options include altering feed rations to reduce nutrient levels in manure, use of cover crops to increase annual crop production, transporting manure off the farm, etc. Recommendations should consider the priority nutrient for each field, and general suggestions are provided in factsheets included in this guide.

 **Nutrient Management Factsheet Series #6: Phosphorus Considerations**

 **Nutrient Management Factsheet Series #7: Potassium Considerations**

- ▶ If the manure application equipment that is being used is not suitable to meet the application objectives of uniformity and accuracy of placement and rate, recommendations should be made for calibrating and adjusting equipment or if necessary, using more suitable equipment.
- ▶ If current manure application practices pose an elevated risk of causing pollution to watercourses or groundwater, the plan should include recommendations to reduce this risk. This may involve increased use of cover crops, increased use of buffers in sensitive areas, or adjustments to timing of application.
- ▶ If current practices present an elevated risk of soil compaction or erosion, the plan should include recommendations to reduce this risk (e.g. avoiding very wet conditions, limiting traffic to specific areas, lower tire pressure, etc.)

The Nutrient Management Plan should complement and enhance the Environmental Farm Plan. When the Nutrient Management Plan is completed and implemented, the process should ensure that any questions in the Environmental Farm Plan Workbook related to nutrient management will be answered with a “Yes” or “Not Applicable.”

F. Individual Field Summaries

This section contains worksheets that give field-specific information.

- For the Forage NMP Calculator, print or refer to Worksheets 5 and 6. These worksheets summarize the agronomic and crop removal balances for each field
- For the Vegetable NMP Calculator, print or refer to the individual field worksheets. Sections 6 and 7 of each worksheet summarize agronomic and crop removal balances, respectively.
- For the Berry NMP Calculator, the planning advisor can print or refer to worksheets 2 and 3 for raspberries (or only worksheet 3 for blueberries) for one or more fields. These worksheets provide recommendations based on the agronomic balance concept only.

See Chapter 3: Nutrient Optimization for more information about the concept of agronomic and crop removal nutrient balances.

G. Laboratory Reports

- Soil test results
- Manure test results
- Forage quality (or crop tissue) test results

In addition to the above lab reports, the planner should attach a summary of sampling protocols if they differed or expanded upon the guidelines in the sampling factsheets.

 **Nutrient Management Factsheet Series #2: Soil Sampling**

 **Nutrient Management Factsheet Series #4: Forage Crop Sampling**

 **Nutrient Management Factsheet Series #5: Manure Sampling**

MULTI-YEAR DATA ORGANIZATION

Ideally, a Nutrient Management Plan should be revisited each year and new reports should be generated to reflect changes in the Nutrient Management Planning strategy. The farmer can choose whether they want to start a new binder each year or add data from multiple years into the same binder.

For subsequent years, the same process for assembling a Nutrient Management Plan should be repeated. If using a new binder each year, the information in the binder should be inserted in the same order each year. It is recommended that a new binder be started every five years or more frequently.