

# MONITORING, RECORD-KEEPING AND CONTINGENCY PLANNING

## MONITORING

You should monitor whenever nutrients are applied. In most cases, monitoring can be as simple as a visual inspection to make sure things are going as planned.

For example, when spreading manure on cropland, check to make sure that the manure is spread evenly and that tile drains show no evidence of liquid nutrients entering the tile drainage system. If you find manure entering the tile drainage system, the contaminated portion of the drainage system should be isolated and the contingency plan should be put in place.

Monitoring doesn't take much effort, and it can help head off significant problems and allow you to respond quickly in case of an accident.

## RECORD-KEEPING

There are two main reasons for record-keeping.

The first is that it provides the information required to fine-tune your manure and nutrient management plan and helps to record how closely the plan fits with reality.

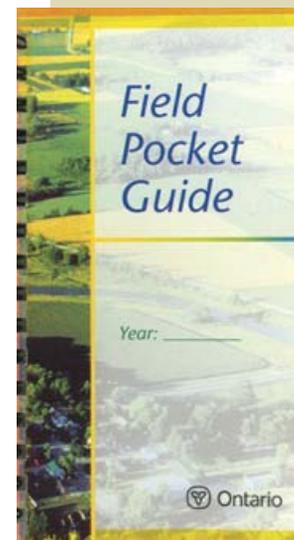
The second is that it helps demonstrate accountability and diligence. In the small chance that something goes wrong, or if someone questions what was done (i.e., odour or water complaint from neighbour), having the records of what was done, and when, will help resolve conflicts.

Keep the nutrient management plan as simple as possible, but have the details in the record-keeping.

Records could itemize the following.

### Cropping Practices

- ▶ nutrient types applied and application dates, rates, and methods
- ▶ manure analysis records if manure is being managed differently at different levels in the storage
- ▶ incorporation method and date
- ▶ weather conditions around application and incorporation dates
- ▶ rainfall records to determine water content changes from the norm
- ▶ for spreading: date, time, location, quantity, setbacks
- ▶ date and times of tile outlet monitoring including observations
- ▶ commercial fertilizer bills showing volume and timing of application
- ▶ crop type and planting date
- ▶ tillage method and date
- ▶ harvest date and yield



These days, farmers have many options – high-tech and low – for storing records.

### **Livestock Information**

- ▶ feed records, especially to justify or monitor manure nutrient reductions
- ▶ inventory of livestock on the farm (monthly basis)
- ▶ inventory of feed
- ▶ record of livestock groupings and batch feeding
- ▶ biosecurity protocols for the operation
- ▶ manure volume generated – an accurate measurement of the nutrients generated on a farm is an important aspect of manure storage planning
- ▶ manure analysis results

### **Other Information**

- ▶ documentation of any other time/conditions when a contingency plan is utilized, including location, estimated volumes and remediation measures
- ▶ what was done to resolve any complaints
- ▶ imported nutrient-containing materials, date, tons or volume, description of the material (i.e., agreements)
- ▶ biosecurity protocols for the operation

Your record-keeping efforts can result in a lot of information. That's why it's worth the effort to organize your records so that it can be readily accessed. There are many different systems for record-keeping, including: software options, GPS-type systems, hand-held palm pilots, and the old-fashioned field books.



**Record-keeping demonstrates farm stewardship to society.**

## **CONTINGENCY PLANNING**

A contingency plan is a document that sets out actions to be taken in the event that a nutrient management strategy or nutrient management plan cannot be followed.

For example, manure in the storage facility described in your nutrient management strategy may become filled with rainwater. Another example is a "spill" or unanticipated release of nutrients. Preparing contingency plans in advance simplifies the implementation of corrective action on short notice.

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**1 Identify potential contingencies.** The contingency is the answer to questions such as:

- ▶ What procedure will I follow if a spill occurs?
- ▶ What steps will I take to contain, eliminate and clean up a spill? (at the storage, at the transfer site, in the field)
- ▶ What will I do if my operation has more nutrients than planned? (i.e., livestock must be held for longer than planned, thus increasing the volume of manure)
- ▶ If wet weather delays application of nutrients and storage is nearing capacity, where will I transport the nutrients?
- ▶ If excess rainfall fills the nutrient storage to capacity, where will I transfer or spread the nutrients/manure?
- ▶ If soil conditions are not compatible with planned spreading operations, how will I compensate or what are my alternatives?

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**2 Identify the resources required** in case the contingency must be put in place. Some of these resources could include:

- ▶ finding a local custom applicator with a vacuum tanker
- ▶ locating tile outlets for monitoring
- ▶ making a list of the telephone numbers required and remembering the list's location.

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**3 Communicate the contingency plan** to those involved in the operation. It's important that all farm help, family members, custom applicators etc. are aware of the details of the contingency plan and the location of the emergency list(s), and are able to follow through on the required actions.

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**4 Post contact phone numbers by all phones** for immediate access in case of a spill:

- ▶ Spills Action Centre (1-800-268-6060)
- ▶ other phone numbers that should be readily accessible:
  - ▷ local Ontario Ministry of the Environment office
  - ▷ bulldozer or backhoe operator
  - ▷ custom applicator (preferably one that has a vacuum tanker)
  - ▷ municipality
  - ▷ neighbours




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**5 Document what was done when an emergency occurred.** Detailed reports of what was done, when, who was called and what was discussed will help in case of complaint or spills followup.

If you ever need to put your contingency plan into effect, evaluate and fine-tune it.

**In the event of a spill, call the Spills Action Centre.**

### Why have a contingency plan?

- ▶ to protect the environment, your family, your business and your livestock
- ▶ accidents can, and will, happen
- ▶ to demonstrate “due diligence”
- ▶ so that you can react when there’s an emergency – do not panic!

## SOME CONTINGENCY SCENARIOS

### If you have more manure than planned

If the application rates for nutrients in a nutrient management plan are at the maximum, you should be prepared to set up alternative uses for the nutrient. Some possibilities include:

- ▶ find a broker who can take the excess nutrients
- ▶ find a neighbour (e.g., cash cropper) who will accept the excess nutrients.

### If you have more nutrient than the storage design capacity

In some cases, usually due to adverse weather conditions, manure storages may be in danger of overflowing. The preferred solution is to land-apply the manure where doing so will not result in an adverse effect. Other options include:

- ▶ transfer the nutrients to another available storage
- ▶ find a broker who can take the excess nutrients
- ▶ acquire more land.

### If you have to change the timing of manure application

- ▶ adjust nutrient amounts to reflect the change in timing
- ▶ don’t exceed the maximum annual nutrient application rate or the maximum rate per application
- ▶ adjust subsequent applications of nutrients to accommodate the change in timing of the nutrient application
- ▶ record the change in your nutrient management plan.

### If you change crops

Nutrient amounts and formulation should be adjusted (where possible) to account for a change in crop. If the nutrients have already been applied, the amount and formulation should be adjusted for the next crop where possible, to account for the previous crop change.

### If you have a spill

This is an important issue. Your contingency plan should outline the required equipment, contacts and safety precautions. The idea is to minimize the potential for a spill, and if one does occur, to ensure that the operator and the employees know what actions to implement.

Contingency plans should address the impact of probable changes to annual crop choices.



## SPILLS

### To avoid a spill

Spread the nutrient according to your nutrient management plan or put it in an adequate nutrient storage for later application. In addition:

- ▶ calibrate your manure application equipment regularly so that you can follow the rate specified in your plan
- ▶ follow setbacks to surface water required by the nutrient management plan for the site
- ▶ mark all tile outlets and catchbasins for nutrient application and inspection purposes
- ▶ for a direct-flow system, use two people with a radio link or an automatic shutdown system
- ▶ follow your nutrient management plan for the appropriate tillage practices
- ▶ avoid spreading before rain events.

### To stop a spill

- 1 Immediately stop the cause of the spill if possible.
- 2 Shut down the appropriate pumps and valves.
- 3 Ensure the system cannot be restarted.
- 4 Contact the 24-hour Spills Action Centre at 1-800-268-6060 or your local Ontario Ministry of the Environment office.

### To contain a spill

- 1 Minimize opportunity for manure to enter tile drains or plug the tiles in the event that flow appears to be contaminating the tile drains.
- 2 If the spill is moving over the ground surface, build an earthen berm using farm or commercial equipment, such as backhoes or dump trucks.
- 3 Notify downstream users.

To stop a spill, shut down pumps and valves.



Contain spills. Prevent entry into ditches, culverts and tile drain systems.



**It is an offence under the provincial Environmental Protection Act and the federal Fisheries Act to pollute a stream and kill fish.**



**When a manure spill occurs, call the Spills Action Centre, 1-800-268-6060.**

### CHECKLIST FOR A CONTINGENCY PLAN FOR SPILLS

A properly developed contingency plan has the following components.

- ✓ A mission statement – your objective(s)
- ✓ A list of preventative BMPs and routine equipment inspection
- ✓ A list of contingency measures
- ✓ A step-by-step procedures list for eliminating the source
- ✓ A list – near each phone – of all essential emergency call numbers
- ✓ A map of the facilities indicating areas of risk and location of cleanup equipment and supplies – you should have a secure location for the map and your contingency plan (such as the Ontario Soil and Crop Improvement Association emergency tube)
- ✓ A list of who's responsible for what
- ✓ Documented proof of staff and family training, plus any preventative measures taken
- ✓ An account of how the spill will be cleaned up
- ✓ A formatted blank form to be completed after a spill was properly dealt with

## For More Information

### PUBLICATIONS

The Ontario Ministry of Agriculture, Food and Rural Affairs has extensive information on manure management. You can find factsheets on composting, livestock watering, manure storage and application, soil testing, odour control, manure agreements, and much more. Many helpful publications on specific aspects of the Nutrient Management Act, its regulation and protocols are also available.

For a full list of titles and information on how to obtain copies, please visit the ministry's website:

*Ministry website:*  
[www.omafra.gov.on.ca](http://www.omafra.gov.on.ca)

*Publications:*  
[www.omafra.gov.on.ca/english/products/product.html](http://www.omafra.gov.on.ca/english/products/product.html)

*Nutrient Management Act:*  
[www.omafra.gov.on.ca/english/agops/index.html](http://www.omafra.gov.on.ca/english/agops/index.html)

If you do not have access to the Internet, please visit your nearest ministry office or call the ministry toll-free (see below).

### ONTARIO GOVERNMENT CONTACTS

Ontario Ministry of Agriculture, Food and Rural Affairs  
Agricultural Information Contact Centre  
1-877-424-1300  
[www.omafra.gov.on.ca](http://www.omafra.gov.on.ca)  
[ag.info@omafra.gov.on.ca](mailto:ag.info@omafra.gov.on.ca)

Ontario Ministry of the Environment  
Public Information Centre  
1-800-565-4923  
[www.ene.gov.on.ca](http://www.ene.gov.on.ca)  
[picemail@ene.gov.on.ca](mailto:picemail@ene.gov.on.ca)

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