



Agricultural Environmental Management ***Making the Most of Manure***

By Barbara Silvestri

This season in our continuing series on New York State's Agricultural Environmental Management (AEM) program, we focus on the *AEM Manure Management Worksheet* and the ways an assessment of your nutrient management practices can benefit your farm.

Not only do AEM practices reduce pollution risks and minimize odor issues, some can even help your bottom line. Reducing commercial fertilizer inputs saves money, while creating conservation buffers might qualify your farm for financial incentives. And protecting the water that your family drinks? Priceless!

Manure can be an excellent crop nutrient source and soil conditioner. If manure is not used in an ecologically sensitive way, however, its pathogens, nutrients, and organic material can contribute to the pollution of surface and groundwater, possibly including your own farm water supply. In addition, land application of manure is the most frequent source of odor complaints from neighbors and the public.

With the help of County Soil and Water Conservation Districts, New York State farmers have a voluntary and confidential way to assess their manure application practices. An essential component is the AEM Risk Assessment, which consists of worksheets selected specifically for your farm's needs. The assessment provides a comprehensive look at your farm's impact on natural resources and critical information for long-term business planning.

The assessment can help you document your environmental stewardship, prioritize areas presenting risk, identify opportunities to save money, and locate technical and financial resources to address potential concerns.

AEM Manure Management Worksheet

Some of the factors assessed by the *Manure Management Worksheet* are listed below, along with suggested practices to minimize risk:

- **Know the nutrient needs of your crops** - Soil test at least every three years to determine appropriate manure application rates to meet crop needs based on realistic yield goals.
- **Monitor the nutrient content of your manure** - Manure samples should be tested at least every other year. Ideally, a history of manure testing should be developed that characterizes the variability of the manure throughout the year.
- **Calibrate manure application equipment** - All manure (and fertilizer) application equipment should be calibrated regularly to determine the amount applied per acre.
- **Keep records of manure applications to fields** - Records should be kept indicating the number of loads of manure applied, the dates of application, weather conditions the day of application, crop yields, crop rotations, and any fertilizer application for each field.
- **Determine the rate of manure application** - Manure should be applied based on crop needs and realistic yield goals. Commercial fertilizer applications are reduced or eliminated in order to account for nutrients in manure.
- **Consider field runoff potential in scheduling manure applications** - The greatest potential for loss of manure from a field occurs when soils are fully saturated and areas of concentrated flow develop. Utilize the Phosphorous Index to prioritize fields based on runoff potential. Avoid

spreading on high risk fields that are saturated, frozen, or prone to flooding and apply manure to high risk fields during the growing season.

- **Do not spread manure near wellheads and springs** - Manure should not be spread within 100 feet of a wellhead or spring. Some well drained soils and soils shallow to bedrock may require additional setbacks and conservation measures such as cover crops and split applications of nutrients to reduce the risk of well contamination.
- **Maintain vegetated buffers along watercourses in fields receiving manure** - A vegetated buffer or filter strip meeting USDA Natural Resources Conservation Service (NRCS) Standards helps protect waterbodies from manure laden runoff. The Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP) can cost-share the establishment of buffers and provide rental payments on land utilized as buffers and filters.
- **Utilize storage** - Even daily spread operations should identify safe temporary manure pile areas to store manure while weather conditions are not conducive to responsible spreading.
- **Consider the timing of manure applications** - In fields where neighbors are a concern, spread on weekdays in the early morning and avoid holidays and local special events. Be aware of the weather forecast for extreme weather events such as heavy rain, snow melt and prevailing winds.
- **Incorporate when feasible** - Incorporate manure at application or shortly after application, when feasible, in accordance with an erosion control plan. This practice reduces runoff and diminishes odor. Note that early fall incorporation may create nitrogen leaching problems.

Did you notice some practices on the list that you are already using or get ideas from others that you might want to try? A free, confidential AEM Risk Assessment will help you to learn more. A resource professional from your local Soil & Water Conservation District, NRCS or Cornell Cooperative Extension can assist you in completing the assessment and review alternatives to reduce risk.

Development of a Conservation Plan is often the next step towards addressing any potential concerns or opportunities identified. The plan may also help you save money and gain access to funding for additional planning or conservation practice implementation that may be necessary to protect water quality.

Join the over 10,000 farmers that have assessed their farming practices through AEM! If you would like to schedule a free, confidential AEM Risk Assessment for your farm, call your County Soil and Water Conservation District. For contact information visit www.nys-soilandwater.org and click on 'Contacts.' To learn more about AEM or to view the worksheets, including the *Manure Management Worksheet*, click on 'AEM,' then 'Technical Tools.'

Watch for future articles on other worksheets that can support your efforts to farm cleaner and greener!