

## General Application Guidelines for Manure from Winter Feeding Stations

Manure is an excellent source of nutrients and organic matter for crop, pasture, and hay, fields. In spite of the known benefits for increasing crop yields, plant nutrients such as commercial fertilizer and manure are under increasing scrutiny due to concerns with water quality. Although healthy stands of perennial vegetation reduce runoff and soil loss, surface applied manure can still pose a risk to water quality. Use the following guidelines to minimize risks to surface and groundwater.

- Take soil tests every four years on fields where manure will be applied. Apply manure on the basis of crop nitrogen needs (N Basis) where soil test phosphorus levels (STP) are below 40-50 lbs. P/acre. Apply on the basis of phosphorus needs (P Basis) when STP levels are greater than 40-50 lbs. P/acre.
- Apply manure at the rate shown in Table 1 below, according to the amount of excess feed in the manure.
- Reduce commercial fertilizer rates when using manure as a nutrient source.
- Pastures grazed intensively seldom need significant applications of supplemental phosphorus or potassium as nearly 80% of these nutrients consumed by livestock are excreted in their manure.
- Service and calibrate application equipment to ensure manure is applied uniformly and at the correct rate. Do not clean application equipment in areas where water can get into a well, stream, river, or other waterbody.
- Do not apply manure within 200 feet of a stream, river, well, sink hole, tile drain inlet, or other waterbody. Consider larger setbacks on slopes greater than 5 percent.
- Do not apply manure on steep slopes unless measures are taken to control both soil erosion and runoff.
- Do not apply manure in sensitive areas (e.g. areas where the water table is 1 foot deep or less, where soils are extremely sandy or gravelly, in wetland areas, on fields that are saturated, on grassed waterways, in drainage areas, next to streams, or in a flood plain).
- Avoid manure applications on frozen or snow covered ground. If manure must be applied on frozen or snow covered ground, do so on areas where surface runoff is controlled.
- Do not apply prior to precipitation events where runoff amount or intensity would be expected to cause runoff.
- Avoid application when soils are wet in order to prevent compaction and rutting.
- Spread at times and in ways that will minimize potential odor problems (e.g. spread when the wind is not blowing, spread in the morning when the air is rising rather than in the afternoon, during holidays, etc.).
- Keep good records of manure applications. Record the crops grown, field(s) and acres that manure is applied to, rate of application, total amount of manure applied, time of application, conditions during application, crop yields, and soil and manure test results.

Table 1	Minimal Feed in Manure		Excess Feed in Manure (>15% solids)	
	Rate (Tons/Acre)		Rate (Tons/Acre)	
	N Basis	P Basis	N Basis	P Basis
Pasture/Alfalfa	11	8	7	3
Corn/Soybeans	24	5	15	3
Wheat/Sorghum	14	6	9	3