Seasonal Guidelines for Applying Manure

**SPRING**
- Apply manure prior to tillage.
- Apply manure to no-till corn.
- Inject liquid manure using sweeps, which allows better soil/manure contact.
- Avoid applying manure on established alfalfa.
- Avoid spreading manure on snow or partially frozen soil.
- Avoid applying manure on saturated (very wet) soils.

**SUMMER**
- Spread manure on old hay fields.
- Consider using contained temporary storage.
- Avoid spreading manure on waterways and other areas of concentrated flow.
- **Storage note:** If you have manure storage, avoid summer applications.

**FALL**
- Use manure as a mulch on fall plowed fields (post-tillage application).
- Apply manure before or after tillage on fall chisel plowed land.
- Apply manure on corn fields after silage harvest.
- Apply manure on fields rotating out of hay, if they will be fall-tilled.
- Inject liquid manure using sweeps.
- Avoid spreading manure on no-till corn, established alfalfa, and other smooth surfaces that do not catch or store water.
- **Storage note:** If you DO NOT have storage, consider leaving some low risk fields for winter and spring applications.
- **Storage note:** If you DO have storage, plan to empty it at the end of fall (to accommodate the winter's build-up).

**WINTER**
- Apply manure on level, chisel plowed fields (in direction of plowing).
- Apply manure on areas protected from upslope runoff.
- Apply manure on fields with less than 6% slope.
- Avoid manure applications to slopes > 6%.
- Avoid spreading manure on no-till corn and alfalfa fields.
- **Storage note:** If you have manure storage, avoid winter applications.

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*Risk ranking based on Wisconsin P Index model; assumes moderate slopes, silt loam soil, 50 ppm soil test P and 25 tons of manure per acre.*
Three Principles of Sound Phosphorus (P) Management

1. Aim for balance: \( P \text{ in} = P \text{ out} \)
   - Some ins are: fertilizers, manure, feed.
   - Some outs are: crops, meat, milk.

2. Minimize P loss:
   - Keep soil and P on the farm
   - Use conservation practices that keep soil in field. (i.e. buffers, conservation tillage, contour strips).
   - Follow setback guidelines (300 ft from streams and 1000 ft from lakes).
   - Avoid applying manure on frozen soil where slopes are greater than 6%.
   - Reduce dietary P to recommended levels.

3. Identify sites with low risk for P loss and use those for manure applications.
   - Use the Wisconsin P Index to help select fields that are least likely to lose P to surface waters. (i.e. low P soil test, level fields, fields distant from a water body, rough surface fields).
   - Apply nutrients at the rate needed to meet soil test recommendations. Calibrate your manure spreader.
   - Don’t forget about applying manure to fields rotating into legumes; legumes recycle substantial P and K, and can utilize manure-N.

How does manure affect runoff P losses?
- Manure applications reduce runoff volumes and soil loss.
- Incorporating manure increases sediment P losses (erosion), but decreases soluble P losses (runoff).
- Unincorporated manure acts a mulch, provides surface residue cover, and decreases sediment P losses in runoff.
- Unincorporated manure increases soluble P losses.
- Spreading manure on no-till fields or on alfalfa in the fall and winter increases soluble P losses.

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