

Rules and tips for land application

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Every state or region has their own rules

- Land application of compost or manure is often regulated
 - Rates
 - Setbacks from waterways or other sensitive features
 - Timing

Check in your area for the rules and regulations to make sure you stay compliant!



Rules of thumb – Application rates

- Do not apply more available N than the crop can take up
- Consider applying at a rate that meets crop P needs



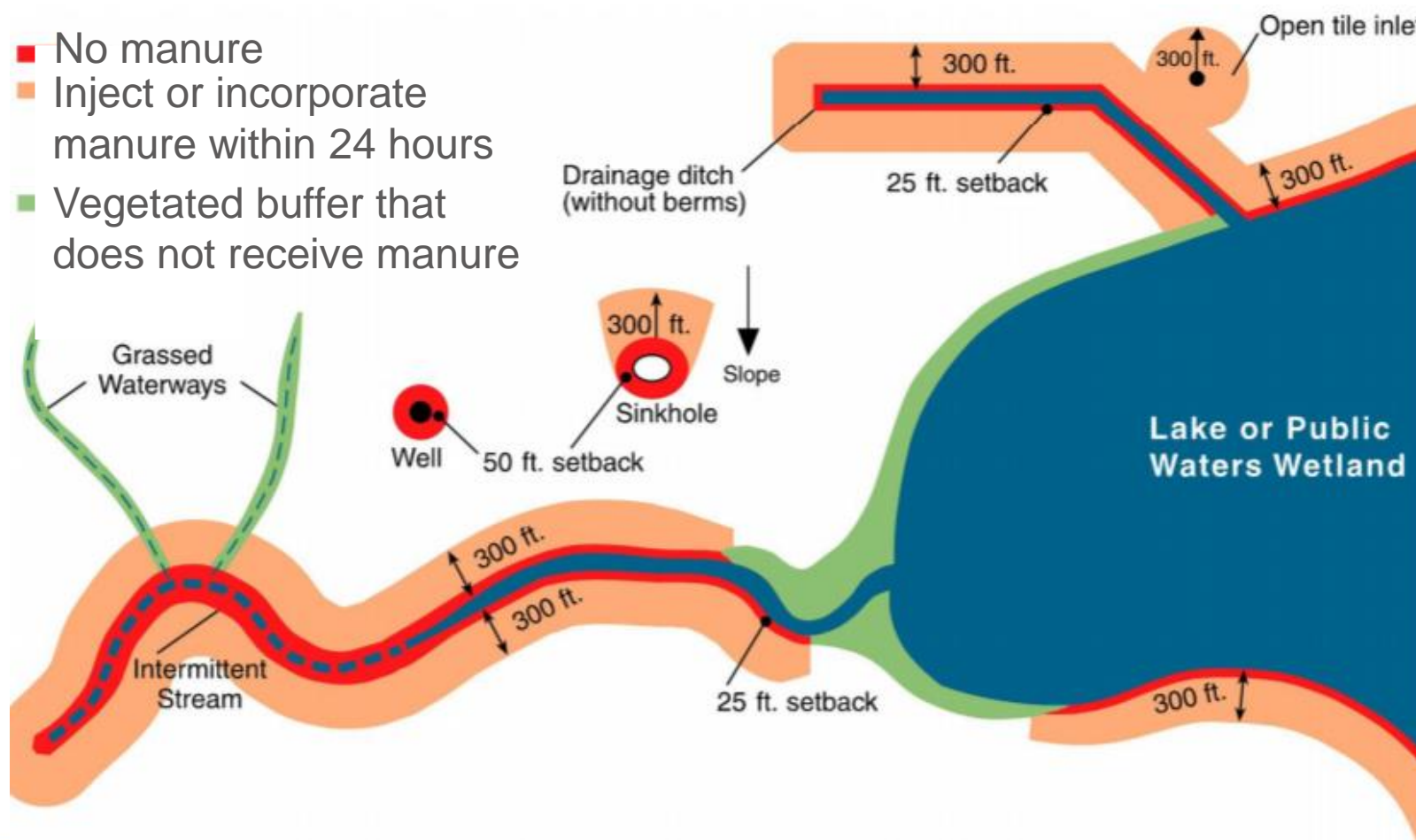
Rules of thumb – Setbacks

- If applying compost without incorporating it into the soil, stay back several hundred feet from waterways, ditches, sinkholes, wells, etc
- Do not apply in grasses waterways or places where water preferentially flows



Minnesota setback requirements

- No manure
- Inject or incorporate manure within 24 hours
- Vegetated buffer that does not receive manure



*This graphic summarizes the State setback requirements. County and/or Township requirements may be more restrictive.

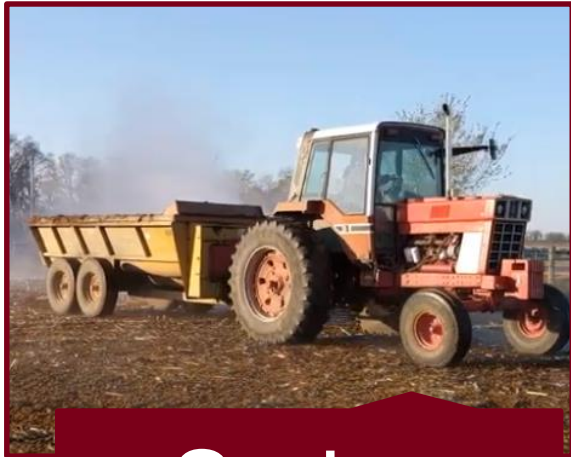
Rules of thumb - Timing

- Apply nutrients closest to the time when plants need them!
 - Prior to planting is best or after a hay cutting



Rules of thumb - Timing

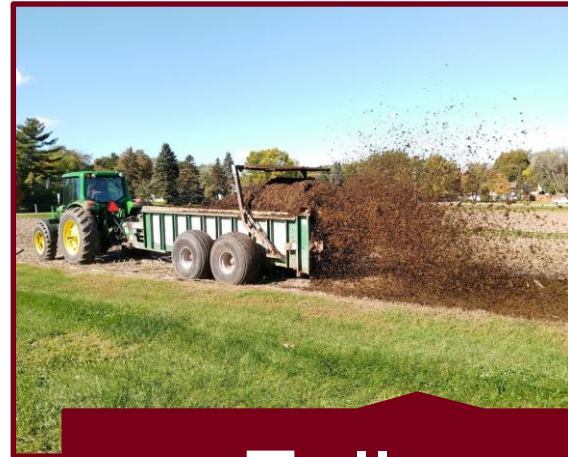
- Pros and cons of different seasons



Spring



Summer



Fall



Winter



APPLICATION TIMING: **SPRING**

Advantages

- Best option since it's closest to when the crops need nutrients
- Can incorporate the manure



Disadvantages

- Logistics
- Greater risk of salt toxicity for germinating seeds and young seedlings
 - Consider testing your compost for soluble salts
 - Incorporating into the soil can help

APPLICATION TIMING: **SUMMER**

Advantages

- Provide nutrients after a hay cutting



Disadvantages

- Can damage standing crops, especially where you turn
- High potential for salt damage when topdressing perennial crops
 - Consider testing your compost for soluble salts

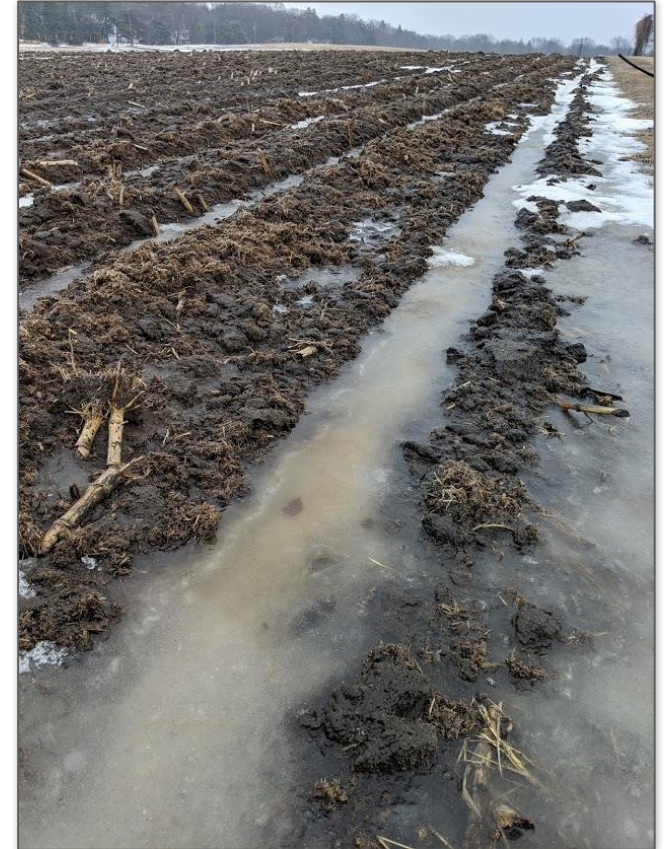
APPLICATION TIMING: FALL

Advantages

- Logistics
- Generally less soil compaction

Disadvantages

- More time for nutrient losses:
 - Other soils, apply when soil temperatures $<50^{\circ}\text{F}$ (to reduce nitrification)
- Surface fall application subject to same snowmelt losses as winter application



APPLICATION TIMING: WINTER (FROZEN CONDITIONS)

Advantage?

- Reduced compaction if on frozen ground?



Disadvantages

- High nutrient loss potential
 - Snowmelt runoff, frozen ground
- Potential to burn perennial crops
- If winter application necessary:
 - Apply only on level ground
 - Fields with more residue are best

Other considerations

- Avoid applying on high slopes
- Consider planting vegetated buffer strips around sensitive features
 - Grasses help slow down runoff and anything that washed away before it gets to waterways
 - It also benefits pollinators!



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Thank you!