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°F (to reduce nitrification)
- Surface fall application subject to same snowmelt losses as winter application
**APPLICATION TIMING: WINTER (FROZEN CONDITIONS)**

<table>
<thead>
<tr>
<th>Advantage?</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>▪ Reduced compaction if on frozen ground?</td>
<td>▪ High nutrient loss potential</td>
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<td>– Snowmelt runoff, frozen ground</td>
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<td>▪ Potential to burn perennial crops</td>
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<td>▪ If winter application necessary:</td>
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<td>– Apply only on level ground</td>
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<td>– Fields with more residue are best</td>
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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!
Thank you!