Economics of Composting & Compost Application

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Economics of Composting

“Manure is a headache that many livestock operators wish would just go away.”
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“You can spend a lot of time and money composting, but you can spend a lot on chemical fertilizers too.”
Economics of Composting

“Manure is a headache that many livestock operators wish would just go away.”

“You can spend a lot of time and money composting, but you can spend a lot on chemical fertilizers too.”

“Composting adds diversity to my operation. It’s a potential revenue source that can increase income without having to increase acres.”

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Topics to be covered

• Why compost?
• Equipment and equipment costs
• Case studies: How composting fits into the operation of three producers.
Why compost?

- Reduce chemical fertilizer costs
- Reduced transport costs
- Potential revenue source
- Superior quality & soil health benefits
Compost reduces fertilizer costs – AND benefits soil

<table>
<thead>
<tr>
<th>Nutrient content (lb/ton compost)</th>
<th>Price of chemical fertilizer (price/lb)</th>
<th>Nutrient value (per ton compost)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>$0.27 - 0.38</td>
<td>$5.40 - $7.60</td>
</tr>
<tr>
<td>$20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$P_2O_5$</td>
<td>$0.41</td>
<td>$6.56</td>
</tr>
<tr>
<td>$16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$K_2O$</td>
<td>$0.28</td>
<td>$6.16</td>
</tr>
<tr>
<td>$22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$18.12 - $20.32</td>
</tr>
</tbody>
</table>

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Compost reduces fertilizer costs – AND benefits soil

- Reduce chemical fertilizers expenses by 50%
Compost reduces fertilizer costs – AND benefits soil

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- “If the cost of make and applying compost is less than the cost of an equivalent amount of chemical fertilizer, then the decision is a no brainer.”
Compost reduces fertilizer costs – AND benefits soil

- “If the cost of make and applying compost is less than the cost of an equivalent amount of chemical fertilizer, then the decision is a no brainer.”

- “Even if I am just breaking even, it is worthwhile because I know compost is bringing benefit to the soil that chemical fertilizer does not.”
Composting reduces hauling costs

- “The economics of composting really boils down to freight.”
Composting reduces hauling costs

- “The economics of composting really boils down to freight.”

- “Essentially, producers can haul compost twice as far as manure for the same money.”
Compost offers a potential source of revenue

Composting offers the potential to diversify operations. For some producers, it could be a niche that provides an additional avenue for earning revenue.
Superior Quality of Compost

- Reduces the number of viable weed seeds and soil pathogens
Superior Quality of Compost

- Reduces the number of viable weed seeds and soil pathogens
- Improves planting ease
Superior Quality of Compost

• Reduces the number of viable weed seeds and soil pathogens

• Improves planting ease

• Uniformity
Soil Health Benefits

- Compost amendment supported high yield and at the same time increased soil organic matter.
Soil Health Benefits

• Compost amendment supported high yield and at the same time increased soil organic matter.

• Chemical fertilizer and raw dairy manure produced high yields but did little or nothing to improve the soil.
Why is organic matter a big deal?

• Serves as a buffer for crop production systems during extreme conditions.
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• Serves as a buffer for crop production systems during extreme conditions.

• There is always mineralization going on.
Thank you!