

# Agricultural Beet

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David Mettler – Research Agronomist

## Maximizing the Efficacy of Glyphosate

Reduced efficacy of glyphosate on weeds can occur due to tough environmental conditions but can also be caused by application decisions. The bullet points below cover management practices to achieve the best efficacy from your glyphosate application.

<b>Conditions that can decrease weed control</b>	<ul style="list-style-type: none"><li>• Large weeds ( &gt; 3" )</li><li>• Cool temperatures</li><li>• Low humidity</li><li>• Dry conditions/drought</li><li>• Dirty water</li></ul>
<b>Ways to maximize herbicide activity</b>	<ul style="list-style-type: none"><li>• Small weeds ( &lt; 2" )</li><li>• Use max rate of glyphosate allowed</li><li>• Use full rate of AMS/AMS replacement for water source</li><li>• Use full rate of NIS</li><li>• Application timing (good spray day/weather conditions)</li></ul>

- Almost all weeds are easier to kill when they are **small** (1-2") and **actively growing**. Also, if it is too cold, too hot or too dry, and the plants are not growing well, control will be reduced. **Low humidity** is also a problem as the spray droplets may evaporate before the glyphosate is absorbed by the leaf.
- Read the label and be sure to use the max labelled use rate for the crop stage. Please refer to a previous Ag Beet that discussed glyphosate rates: <https://www.smbosc.com/agronomy/Weeds/Roundup%20PowerMAX%203.pdf>
- **Nonionic surfactants** that are labeled for use with herbicides may be used. Use a surfactant concentration of 0.25 to 0.5 percent (1 to 2 quarts per 100 gallons of spray solution) when adding surfactant that contains at least 70 percent active ingredient, or a 1-percent surfactant concentration (4 quarts per 100 gallons of spray solution) when adding surfactant that contains less than 70 percent active ingredient.
- Unless otherwise directed, the addition of 1 to 2 percent dry **ammonium sulfate** by weight (8.5 to 17 pounds per 100 gallons of water), could increase the performance, particularly under hard water conditions, drought conditions or when tank-mixed with certain residual herbicides. An equivalent amount of a liquid formulation of ammonium sulfate may also be used. **Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides**
- Glyphosate binds to soil particles so having a clean water source is important as **dirty water** could lead to reduced herbicide effectiveness.

If you observe reduced efficacy from a glyphosate application on lambsquarters or from a Stinger (clopyralid) application on ragweed, please contact your agriculturist so that we can be aware of any potential herbicide resistance development.



Southern Minnesota Beet Sugar Cooperative  
Renville, MN  
[www.smbosc.com](http://www.smbosc.com) | 320.329.8305