

How to Maximize Glufosinate (Liberty) Activity

- 1. Use the best quality glufosinate formulation. Not all glufosinate formulations are created equal!**
- 2. Apply as many of the most effective preemergence herbicide sites of action at maximum rates for a crop as possible based upon soil texture, organic matter, and pH and cost of the herbicides.**
 - A. For maximum waterhemp and kochia control in a glufosinate-resistant soybean, the best preemergence herbicides for these weeds are sulfentrazone, metribuzin, and pyroxasulfone.
 - B. For maximum weed control in glufosinate-resistant canola, apply trifluralin and/or ethalfluralin.
- 3. Environmental conditions at time of glufosinate application is important. Apply glufosinate during high humidity and sunny conditions, followed by high temperatures and low wind speeds.**
 - A. Consult page 133 in the 2026 ND Weed Control Guide regarding Delta T. Apply glufosinate at a Delta T below 16 degrees Fahrenheit and please stop spraying when the Delta T value is greater than 18 degrees Fahrenheit with wind speeds greater than 8 miles per hour. During low wind speeds and slow sprayer travel speeds Delta T values may be a little higher.
- 4. Apply glufosinate to pigweed (including waterhemp) species LESS THAN 3 INCHES in height, kochia can be 4 to 6 inches in height.**
- 5. Apply glufosinate at 20 gallons per acre spray volume!**
- 6. Almost always include spray grade ammonium sulfate (3 pounds per acre) with glufosinate, however a few new adjuvant products may be as effective as 3 pounds per acre of spray grade ammonium sulfate.**
- 7. Apply glufosinate using medium to coarse spray droplets, especially when the weed and/or crop density is so dense the soil is not visible. A droplet size on the higher end of a coarse droplet size may be desired when the Delta T value is above 16 degrees Fahrenheit.**
- 8. Apply the maximum single application rate for all glufosinate products to maximize weed control. Always add Enlist One to glufosinate in E3 soybean to maximize pigweed (including waterhemp) species control.**
- 9. Apply glufosinate at a travel speed of less than 9 miles per hour, especially when weed plants are so tall and dense the soil is not visible. This is especially true for field borders.**
- 10. If a second postemergence herbicide application is necessary, apply 14 days after the first application.**
- 11. Dust/soil particles on weed leaves can create an impenetrable layer for the glufosinate to enter plant leaves.**
- 12. Maintain a properly calibrated sprayer and adjust boom height (no more than 20 to 25 inches) above the target maintaining a consistent boom height across the spray boom.**
- 13. Do not apply glufosinate at night. Only apply between sunrise and two hours before sunset.**
- 14. If a plant survives a glufosinate application, please pull the plant and remove it from the field to stop glufosinate resistance.**

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