

Glyphosate Acid Equivalent Information for RR[®] Sugarbeet 2022

- Only use glyphosate products labeled for use in Roundup Ready[®] sugarbeets.
- Do not compare products by lbs. of Active Ingredient/gallon as it is the weight of both the salt and glyphosate acid
- Acid equivalent is only the weight of the glyphosate acid
- Not all glyphosate formulations are created equal and can have varying levels of acid equivalent (ae) per gallon
- **Lbs. of Acid Equivalent/gallon** is how formulations of glyphosate products need to be compared
- Knowing the lbs. of acid equivalent/gallon allows proper rate selection to maximize control
- **Roundup PowerMax[®] has a 4.5 lbs. Acid Equivalent/gallon.**
- **New in 2022: Roundup Powermax[®] 3 has 4.8 lbs. Acid Equivalent/gallon**

Formulation lbs./Gal. Acid Equivalent	Ounces Needed to Apply Acid Equivalent Rates		
	.75 lbs./A	.98 lbs./A	1.125 lbs./A
5.0	19.2	24.5	28.8
4.8	20	26.1	30
4.5	21.3	28	32
4.17	23	30	34.5
4.0	24	31	36
3.75	25.6	33	38.4
3.0	32	41	48

Notes on Surfactants		
Glyphosate products have varying surfactant loads		
Surfactant Load	Additional Nonionic Surfactant	Comments
Full Load	0.25% v/v = 1 qt./100 gallons solution	Highly recommended unless prohibited on label
Partial	0.25% - 0.50% v/v = 1-2 qts. /100 gallons solution	Needed / Highly Recommended
None	0.50% - 1.0% v/v = 2-4 qts. /100 gallons solution	Required

Glyphosate Use Rates
<u>Sugarbeet emergence – 8 leaf</u> Max single application: 1.125 lb ae. Total max use: 1.96 lb ae.
<u>8 leaf – Canopy Closure</u> Max single application: 0.75 lb ae. Total max use: 1.54 lb ae.
<u>Emergence – Harvest Maximum</u> Total max use: 3.38 lb ae.
Allow a 30-day PHI

*Refer to pages 81-83 in 2022 NDSU Weed Guide for Additional Glyphosate Information

Tips on Maximizing Weed Control with Glyphosate Products



- Use maximum allowable rates in every application
- Weed control is best between 9 a.m. and 5 p.m.
- Spray weeds in the 1–2 inch range
- **To improve lambsquarters control:** add a good quality nonionic surfactant at 0.25% v/v to fully loaded formulations (unless prohibited): use 0.25 to 0.50% v/v to partially loaded formulations, and use 0.5 to 1.0% v/v to non-loaded formulations
- Add 8.5 to 17 lbs of AMS per 100 gallons of spray solution. Use AMS @ minimum of 1lb/A if using > 12 gpa spray volume or 8.5 lbs/100 gallons of water
- Lower spray volumes (5-10 GPA) improve weed control if coverage is good
- Rain within 6 hours after application may reduce control
- Avoid spraying with dust on plants
- Avoid spraying with heavy dew on plants, some dew is fine
- Cool weather slows activity and extends time needed to kill weeds
- Frost immediately before application will usually reduce control
- Extended dry soil conditions slow weed growth, reducing glyphosate activity
- Delay cultivation at least three days after glyphosate application to maximize weed control
- Air temperature over 95 degrees F and low humidity during application can reduce weed control
- Avoid mixing foliar fertilizers with glyphosate whenever possible
- Time between glyphosate applications should be 15 to 24 days depending on weed size and density
- Don't spray after sunset as weed control can be reduced
- Understand how to scout for glyphosate resistance

***Refer to pages 81-83 in 2022 NDSU Weed Guide for Additional Glyphosate Information**

CONTACT YOUR AGRICULTURIST or Extension Sugarbeet Weed Control Specialist if you suspect you have resistant weeds in any field.