

Glyphosate and Conventional Herbicide Tank-Mixes for Weed Resistance Management:



This is not a substitute for reading product labels/Contact Agriculturist for further information

* The glyphosate rates below are based on using a 4.5 lb acid equivalent/gallon product such as Roundup PowerMAX®.

* Maximize glyphosate labeled Rates: (4.5 lb a.e example Roundup PowerMAX®)	56 oz/A total maximum up to 8-lf stage, 32 oz/A maximum single application 44 oz/A total maximum after 8-lf stage, 22 oz/a maximum single application 96 oz/A total maximum per growing season, emergence through harvest
* Minimum of 10 days between glyphosate applications *All applications are based on Broadcast Rate*	
* HSMOC adjuvant is required when tank-mixing glyphosate with Conventional herbicides to avoid antagonism	
* Always include AMS at 1 lb/A or liquid equivalent with any glyphosate application **Unless Mixing with Lay-by (oil), Consider using ¾ Rate.	

Sugarbeet Waterhemp Management for All Planting Dates

PPI/PRE:	Ethofumesate = 1-3 pt/A & Dual Magnum = 0.5 pt/A	OR	Ethofumesate = 5-7.5 pt/a	OR	Dual Magnum = 0.5 pt/A
*Dual Magnum - Syngenta requires farmers to sign indemnified label for PPI/PRE application and must be the branded product					
1st Application on 2-Leaf Sugarbeets:*					
Glyphosate = 28 - 32 fl oz/A	Betamix = 12 fl oz/A OR Progress = 9 fl oz/A	Ethofumesate = 4 fl oz/A	Outlook = 12 fl oz/A, OR Dual = 1 pt/A, OR Warrant = 3 pt/A		
2nd Application 10-14 Days After Treatment:*					
Glyphosate = 24 - 28 fl oz/A	Betamix = 16 fl oz/A OR Progress = 12 fl oz/A	Ethofumesate = 4 fl oz/A	Outlook = 12 fl oz/A, OR Dual = 1 pt/A, OR Warrant = 3 pt/A		
3rd Application 10-14 Days After Treatment*:					
Glyphosate = 22 fl oz/A	Betamix = 22 fl oz/A OR Progress = 1 pt/A	Ethofumesate = 4 fl oz/A			
Rescue: Contact Agriculturist	Betamix = 2-3 pt/A OR Progress = 1.5-2.2 pt/A	UpBeet = .75 - 1 oz/A	Ethofumesate = 4 fl oz/A		
*Use following Adjuvants for glyphosate/conventional herbicide tank-mix		HSMOC = 1 pt/A	NIS = .25% v/v	AMS = 1 lb/A	

ALS and Glyphosate Resistant Kochia Management

PPI/PRE:	Ethofumesate = 5-7.5 pt/A				
1st Application on Cotyledon Kochia:*					
Glyphosate = 28 - 32 fl oz/A	Betamix = 12 fl oz/A OR Progress = 9 fl oz/A	Ethofumesate = 4 fl oz/A			
2nd Application 10-14 Days After Treatment - Cotyledon Kochia & 4 lf Sugarbeet:*					
Glyphosate = 24 - 28 fl oz/A	Betamix = 16 fl oz/A OR Progress = 12 fl oz/A	Ethofumesate = 4 fl oz/A			
3rd Application 10-14 Days After Treatment:*					
Glyphosate = 22 fl oz/A	Betamix = 22 fl oz/A or Progress = 1 pt/A	Ethofumesate = 4 fl oz/A			
4th Application 10-14 Days After Treatment (if needed):*					
Glyphosate = 22 fl oz/a	Betamix = 2-3 pt/ OR Progress = 1.5-2.2 pt/A				
*Use following Adjuvants for glyphosate/conventional herbicide tank-mix	HSMOC = 1 pt/A	NIS = .25% v/v	AMS = 1 lb/A		



Resistant Ragweed Management



1st Application on Cotyledon Sugarbeets:	Glyphosate = 28 - 32 fl oz/A	Stinger = 3 - 4 fl oz/A	OR	Stinger HL = 1.8 – 2.4 fl oz/A
2nd Application 10-14 Days After Treatment:	Glyphosate = 24 - 28 fl oz/A	Stinger = 3 - 4 fl oz/A	OR	Stinger HL = 1.8 – 2.4 fl oz/A
3rd Application 10-14 Days After Treatment (if needed):	Glyphosate = 22 fl oz/A	Stinger = 3 - 4 fl oz/A	OR	Stinger HL = 1.8 – 2.4 fl oz/A
*Use following Adjuvants for glyphosate/conventional herbicide tank-mix	NIS = 0.25%v/v	AMS =1 lb/A		Stinger HL rate is 60% of Stinger.

Product Notes:

- **Stinger:** Labeled on cotyledon to 8-lf sugarbeets; total maximum per season = 10.7 fl oz/A (6.4 fl oz/A for Stinger HL); 45 day PHI
- **Nortron/Ethotron:** up to 7.5 pt/A PRE or PPI; up to 12 oz/A POST; 90 day PHI
- **Willowood Ethofumesate 4SC:** up to 7.5 pt/A PRE or PPI; up to 12 oz/A POST; 45 day PHI
- **Betamix & Progress = 75 day PHI**
- **Glyphosate = 30 day PHI** (see top page for in season totals)
- **UpBeet:** total maximum per season = 2.5 oz/A; 60 day PHI
- **Outlook:** total maximum in season = 24 oz/A: <21 oz/A in single app. See plantback; 60 day PHI
- **Dual Magnum & Generics** {(S- metolachlor) (see top page for pre note)}; max season post <2.6 pts/A; 60 day PHI
- **Warrant = 70 day PHI**

Generic Betamix products are:	Sugarbeet Mix	&	Phen-Des 8+8
Generic Progress Product is:	BnB Plus		

Note on Post Quadris Application: Quadris **SHOULD NOT be tank-mixed with the Conventional Herbicides (includes Lay-bys) or applied right before or after a Conventional application as sugarbeet injury will occur. Optimal timing is 3 days before or 3 days after application.**

Tank-mixing Order for Glyphosate and Conventional Herbicides

1. Fill spray tank 1/2 full of clean water (warmed water is best)
2. If used – slurry UpBeet, Warrant in warm water (**WDG's**)
3. Add AMS liquid or dry (**water conditioner**)
4. If used – Add Slurried WDG to tank
5. If used – Add Nortron(Ethofumesate) (**SC**)
6. Fill 2/3 full of water
7. Add Betamix, Progress, Outlook, Dual Magnum (**EC**)
8. If used - Add Stinger (**SL**)
9. Add glyphosate
10. Add **additives** (NIS, COC, MSO, HSMOC and drift/deposition agents)
11. Finish filling spray tank – continue agitation
12. Spray tank empty as soon as possible

WARNING: This information is based on pesticides registered with EPA in January 2021. Sugarbeet treated with a non-registered pesticide or other chemical may have illegal residues and violate the grower 5-year agreement and will not be accepted by American Crystal Sugar Company for delivery. When applying pesticides in 2021, check labels registered with EPA for proper pesticide use recommendations.