

# Technical Bulletin

## Spin-Aid<sup>®</sup> Herbicide

## Revised Spin-Aid<sup>®</sup> 24(c) Label for Minnesota and North Dakota

A revised 24(c) label to update recommendations for adding Spin-Aid<sup>®</sup> to help control glyphosate tolerant common lambsquarters, glyphosate resistant kochia/common ragweed and a Spin-Aid combination with clopyralid, to prevent selection for clopyralid resistance in common ragweed populations, has been granted.

Research supporting the "revised" 24(c) label was conducted by Tom Peters, Extension Sugarbeet Weed Specialist. Belchim USA is pursuing a full Section 3 registration in sugarbeet.

### WHAT HAS CHANGED FOR 2024

#### General:

- ✓ Spin-Aid rate is adjusted to allow further crop development to ensure crop safety with higher rates
- ✓ Daytime temperature recommendations and rates adjusted accordingly\*
- ✓ Clarity on AMS and adjuvant recommendations
- ✓ Allows for use at sugarbeet cotyledon stage for kochia control
- ✓ Added common ragweed control recommendations
- ✓ Glyphosate and clopyralid have been converted to pounds acid equivalent to allow for use of generics

### IS SPIN-AID SAFE FOR ALL SUGARBEET VARIETIES? YES!!

- ✓ In 2023, Peters conducted field trials evaluating sugarbeet hybrids across diverse genetic backgrounds
- ✓ There was no significant reduction in: root yield, sucrose or recoverable sucrose

**Common Lambsquarters Control Program:** Rates to be applied based upon crop stage; Target Less Than 4" CLQ:

One or Two Application Program	Application Options	Sugarbeet Stage	Day-time Maximum Air Temperature <80° F OR Apply After 4pm
			Spin-Aid + ethofumesate (Fl oz/A)
	A	2-leaf	16 + 4 <sup>1</sup>
If necessary	B	4-leaf	24 + 4 <sup>1</sup>
If necessary	C	6-leaf	24 + 4 <sup>1</sup>

<sup>1</sup> Glyphosate 0.94 lbae/A. Must wait 10 days in between glyphosate applications

**Add AMS anytime glyphosate is added**  
**Add HSMOC or NIS to all glyphosate tank mixtures**  
**Add MSO if just Spin-Aid & ethofumesate in the tank**

**Kochia:** Rates to be applied based upon crop stage; Target Less Than dime-size Kochia:

- ✓ For maximum control, apply 6 pt/a of ethofumesate to soil pre-emergence
- ✓ Can apply at cotyledon sugarbeet stage (good for early emerging Kochia in no-till)
- ✓ If tilled, Kochia will emerge later.
- ✓ Apply Spin-Aid based on size of Kochia
- ✓ Minimum 2 applications will be required

**Kochia Control Programs:** Rates to be applied based upon crop stage; Target Less Than dime-size Kochia:

Minimum Two or Maximum Three Application Program	Application Options	Sugarbeet Stage	Day-time Maximum Air Temperature <80°F OR Apply After 4pm	Day-time Maximum Air Temperature >80°F
			Spin-Aid + ethofumesate (Fl oz/A)	Spin-Aid + ethofumesate (Fl oz/A)
	A	healthy cotyledon	12 + 4 <sup>1</sup>	8 + 4 <sup>1</sup>
Again 5-7 days later	B	2-leaf	16 + 4 <sup>1</sup>	12 + 4 <sup>1</sup>
Again 5-7 days later	C	4-leaf	20 + 4 <sup>1</sup>	16 + 4 <sup>1</sup>
Again 5-7 days later	D	6-leaf	28 + 4 <sup>1</sup>	24 + 4 <sup>1</sup>

<sup>1</sup> Glyphosate 0.94 lbae/A. Must wait 10 days in between glyphosate applications

Add AMS anytime glyphosate is added  
Add HSMOC or NIS to all glyphosate tank mixtures  
Add MSO if just Spin-Aid & ethofumesate in the tank

**Common Ragweed:** Rates to be applied based upon crop stage and weed size

- ✓ New addition to the 24(c) label to help prevent the selection for clopyralid resistance. The Stinger HL label mentions adding phenmedipham (Spin-Aid) for increasing control; this is the purpose of this 24(c) Label to allow for the only phenmedipham product in sugarbeet.
- ✓ Data clearly shows enhanced control and accelerated speed of kill; especially needed on CRW >2 inch tall. This is important to prevent giving time for the weed's metabolic defense mechanisms from breaking down clopyralid; *that is how resistance starts.*

**Common Ragweed Control Programs:** Less Than 2 inch CRW

Planned One Application Program	Application Options	Sugarbeet Stage	Day-time Maximum Temperature <80° OR Apply After 4pm
			Spin-Aid + ethofumesate (Fl oz/A)
	A	2-leaf	16 + 4 <sup>1+2</sup>
	B	4-leaf	24 + 4 <sup>1+2</sup>
<b>OR</b>			
Planned Two Application Program	Application Number	Sugarbeet Stage	Spin-Aid + ethofumesate (Fl oz/A)
	1	2-leaf	16 + 4 <sup>1+2</sup>
Again 10 days later	2	4-leaf	16 + 4 <sup>1+2</sup>

<sup>1</sup> Glyphosate 0.94 lbae/A. Must wait 10 days in between glyphosate applications  
<sup>2</sup> Clopyralid 0.07 lbae/A. (5lbae/gal product = 1.8oz/ac; 3lbae/gal product = 3.0oz/ac)

Add AMS anytime glyphosate is added  
Add HSMOC or NIS to all tank mixtures

**Common Ragweed Control Programs:** 2 - 4 inch CRW

Planned Two Application Program	Application Number	Sugarbeet Stage	Day-time Maximum Air Temperature <80°F OR Apply After 4pm
			Spin-Aid + ethofumesate (Fl oz/A)
	1	4-6 leaf	24 + 4 <sup>1+2</sup>
Again 10 days later	2	6-8 leaf	24 + 4 <sup>1+2</sup>

<sup>1</sup> Glyphosate 0.94 lbae/A. Must wait 10 days in between glyphosate applications  
<sup>2</sup> Clopyralid 0.07-0.094 lbae/A. (5lbae/gal product = 1.8-2.4oz/ac; 3lbae/gal product = 3.0-4.0oz/ac)

Add AMS anytime glyphosate is added  
Add HSMOC or NIS to all tank mixtures

### \* WHY DAY TIME TEMPERATURE RECOMMENDATIONS?

Sugarbeet rapidly metabolizes phenmedipham to less toxic compounds leading to crop safety. However, in >80°F and high light conditions, the photosystem inhibition (PSII)

mode of action of phenmedipham can act faster than the sugarbeet plant can deactivate it. Therefore, the temperature/time of day application recommendations.