American Crystal Sugar Company
AgNotes

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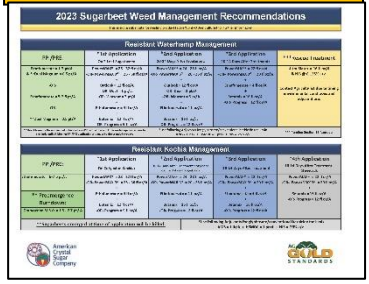
www.crystalsugar.com

AG GOLD STANDARDS

https://www.crystalsugar.com/agronomy/ag-gold-standards/

- Fertility
- Variety Selection
- Stand Establishment
- Weed Control
- Disease & Insect Control
- Harvest

2023 Weed Management Recs



Sugarbeet POST Weed Control 2023

Controlling glyphosate resistant and other hard to control weeds in sugarbeets is always a challenge, as there are not many options once weeds become established.

Ag Note 628 covered pre-plant incorporated (PPI) and preemerge (PRE) options for weed control. This Ag Note will focus on POST applications for weed control and provide links to various quick sheets for more detailed information.

Our most problematic weeds require special attention & proper timing to have successful control. Below are some of those points with links to more detailed control information.

- **Waterhemp**
  - Use a layered soil applied herbicide program:
    - Pre/PPI & Lay-by application @ sugarbeet 2 leaf stage.
  - Tank-mix ethofumesate @ 4-6 fl.oz./acre to increase control.
  - **Ultra Blazer** use is for escaped waterhemp if necessary.
    - Note: It is not recommended to tank-mix Ultra Blazer with the Roundup PowerMAX3 formulation due to increased injury potential as compared to Ultra Blazer mixed with Roundup PowerMAX.
- **Kochia**
  - Apply ethofumesate Pre/PPI.
  - Prior to sugarbeet emergence, a Gramoxone application targeted to seedling kochia.
  - Post application of Spin-Aid targeted to small kochia.
  - Tank-mix ethofumesate @ 4-6 fl.oz./acre to increase control.
- **Common lambsquarters**
  - Common lambsquarters can be a very tough weed to control because of its biology (leaf size, orientation, and waxes on the plant) enabling it to "repel" herbicides and not allow them to effectively get into the plant tissue.
  - Maximize glyphosate activity by mixing with ammonium sulfate (AMS) and non-ionic surfactant (NIS).
  - Repeat glyphosate applications are more effective than single ones.
  - Post application of Spin-Aid to enhance control.
- **Common ragweed**
  - Treat small common ragweed @ 2 inches & 2 times for best control.
  - **2 Stinger formulations:** Stinger HL is more concentrated than Stinger.
    - Both formulations are in the marketplace.
    - Stinger HL is dyed sky-blue.
    - Both labeled for use on sugarbeets from cotyledon to 8 leaf stage.

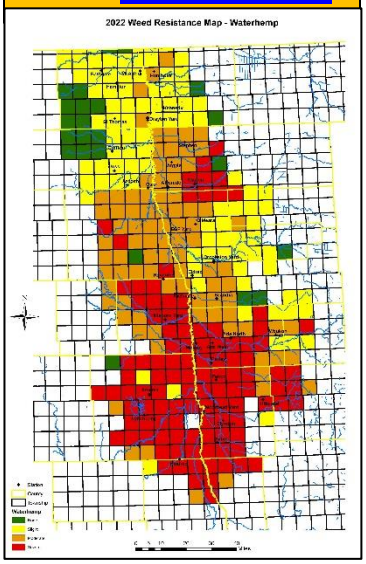
Converting Stinger rate to Stinger HL rate

Product	fl oz./a	fl oz./a	fl oz./a	fl oz./a
Stinger	2	3	4	6
Stinger HL	1.2	1.8	2.4	3.5

Recommended Common Ragweed Rate:
Stinger @ 3 oz./acre followed by 3 oz./acre
Or: Stinger HL @ 1.8 oz./acre followed by 1.8 oz./acre

Links to 2022 Weed Maps

- Kochia
- Waterhemp
- Common Ragweed
- Lambsquarters



For prompt answers to your questions and comments, call and leave a message and Tom Astrup or one of his staff will respond as soon as possible.

Shareholders: 1-800-633-8941

As always, please contact your Agriculturist for more information

Important Notice:

Read and follow label directions on all pesticides, this document is not a substitute.

Optimize Glyphosate Activity – Quick sheet: Glyphosate Acid Equivalent

Not all glyphosate products are created equal, they can have different levels of glyphosate concentration (lbs. acid equivalent/gallon). Different rates of product are required for the various lbs. of acid equivalent to have the same amount of glyphosate applied per acre.

Roundup PowerMAX3® (4.8 lb acid equivalent (a.e.)) is slightly more concentrated than Roundup PowerMAX® (4.5 lb. a.e.). The below table compares Maximum Use Rates.

Max Use rates in sugarbeet (oz./acre)	PowerMax	PowerMAX 3
Single app emergence to 8 leaf stage	32	30
Total apps emergence to 8 leaf stage	56	50
Single app 8 leaf stage and above	22	20
Total apps 8 leaf stage and above	44	40
Total per growing season	96	90

Maximize Glyphosate's Effectiveness

- Spray small weeds.
  - Dr. Peters' studies found 76% control when spraying small waterhemp <2".
- Use the maximum allowable rate for the stage of sugarbeet growth.
  - Ex: Roundup PowerMAX3 @ 25 oz./acre 2X from emergence–8 leaf stage.
- Improve control by adding a good quality nonionic surfactant (NIS).
- Use 8.5 lbs. of AMS per 100 gallons of spray solution.
- Use glyphosate mixtures with ethofumesate (4-6 fl oz./a) to maximize waterhemp and kochia control.

Complex Tank-mixes – Tips to Reduce Sugarbeet Injury

This spring Dr. Peters conducted greenhouse experiments evaluating different herbicide combinations and sugarbeet injury. This was with the new formulations of Roundup PowerMAX3 and Stinger HL which seem more active than the previous formulations.

Below are Dr. Peters' recommendations based on his observations:

- **Reduce or eliminate oil-based additives**
  - Eliminate or reduce HSMOC if using PowerMAX3 and Stinger HL since the new formulations deliver plenty of adjuvant.
- **Use split rates of chloroacetamide herbicides (lay-by)**
  - Split applied rates of Outlook, *S*-metolachlor (Dual Magnum) products and Warrant are safer to sugarbeet than a single application at full rate.
- **Stinger HL**
  - Tank-mixed with PowerMAX3 and Ethofumesate, Stinger HL should be fine at 1.8 oz/acre, probably even at 2.4 oz./acre.
  - Use split applied lay-by (chloroacetamide) rates and no HSMOC.
- **Mustang Max**
  - Fine with PowerMAX3 + ethofumesate + lay-by herbicide.
  - Do not tank mix Stinger HL & Mustang Max with PowerMAX3, ethofumesate, & lay-by as malformation injury might be excessive.
- **Excalia Rhizoctonia Fungicide**
  - No concerns of Excalia causing injury when added to complex tank-mixes.
  - No concerns tank mixing Excalia with only Mustang Maxx insecticide.
- **Quadris Rhizoctonia Fungicide**
  - Do not tank-mix Quadris with oil based conventional pesticides/adjuvants.
  - Time application 3 days before & after conventional pesticide application.
  - No concerns with tank mixing Quadris with PowerMAX3 & Stinger HL.
  - No concerns tank mixing Quadris with only Mustang Maxx insecticide.