



Preemergence Weed Control

David Mettler – Research Agronomist

There are not many options for preemergence weed control in sugar beet, but there are pros and cons to consider when investigating these options. It is likely that sugar beet will be at the 2-leaf stage by May 10 or before waterhemp emergence if you plant by April 20. Thus you may choose to implement the lay-by or split lay-by program for waterhemp control without using a preemergence herbicide. However, don't overlook the preemergence application, even for sugar beet planted before April 20. A preemergence herbicide insures control of early germination weeds and protects against the uncertainty of when precipitation will occur to activate lay-by herbicides. Research has proven that a preemergence application followed by a split-lay is our most consistent program for waterhemp control (Peters, 2017).

The two options for preemergence herbicides in sugar beet are Dual Magnum and ethofumesate. Ethofumesate can be applied at a rate of up to 7.5 pints/acre and will not injure the beets. However, rates greater than 2 pints/acre risk reduction of the nurse crop stand. Dual Magnum is more friendly to the spring nurse crops but it is possible to temporarily stunt sugar beets if the soil is cold and wet or in areas with coarse soil types and low organic matter. University research demonstrates Dual Magnum preemergence at 0.5 to 0.75 pt/A is safe for sugar beet. Depending on soil type and environmental conditions, Dual Magnum is effective at controlling weeds for up to 4 weeks. Ethofumesate may provide an additional 2 weeks longer residual than Dual Magnum.

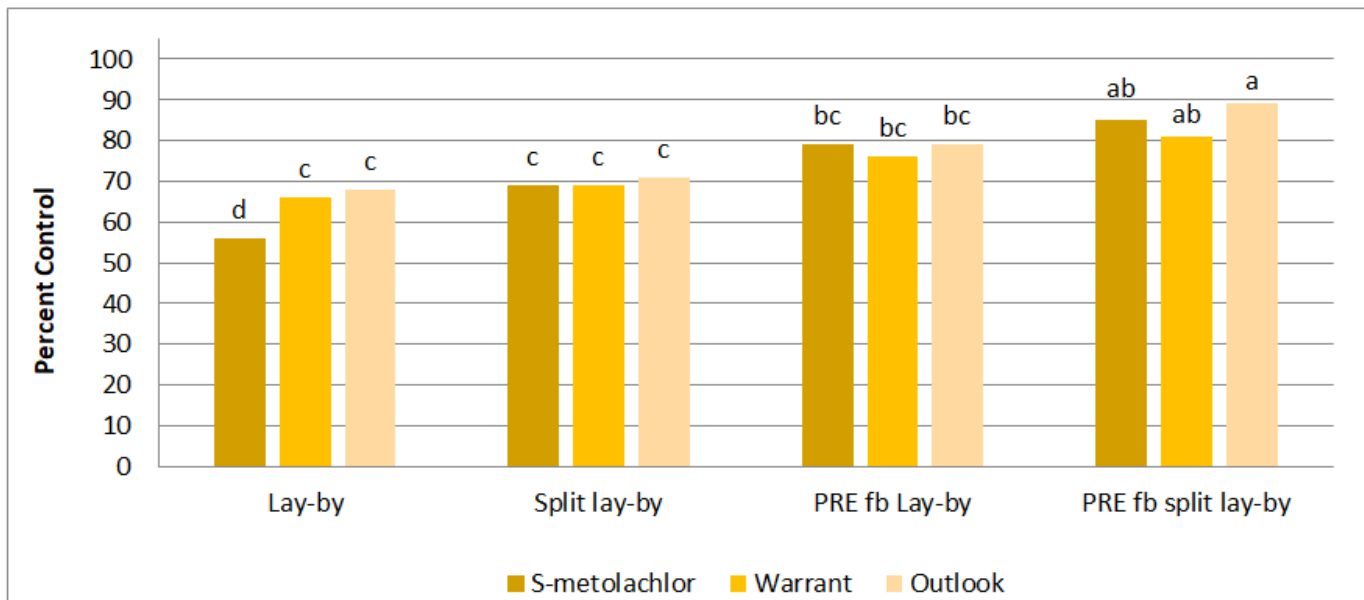


Figure 3. Waterhemp control from single lay-by or split lay-by herbicide applications and S-metolachlor preemergence (PRE) followed by lay-by or split lay-by herbicide applications, Lake Lillian, MN, 2017, July 6 evaluation.

Applying Dual Magnum preemergence provides better control of waterhemp compared to using chloroacetamides and glyphosate postemergence alone (Fig. 3). More information and the full paper, “Continued Refinement of the Waterhemp Control Strategy in Sugarbeet”, can be found on the SMBSC website in the 2017 Research Report: <http://www.smbsc.com/Agronomy/ResearchReports.aspx>. Ethofumesate applied at 2 pints/acre preemergence had similar weed control to the Dual Magnum at the Lake Lillian location in 2017. The use of preemergence herbicides is dependent on field history of weed pressure and the operations risk tolerance for poor weed control.

Things to Remember about Dual Magnum and other S-metolachlor Products:

- **Before using a generic product be certain that it is labeled for use in sugar beet.**
- In general, generic products perform the same as similar brand name products.
- The difference in performance between metolachlor products lies in the percentage of resolved S-isomers, which are more active than unresolved R-isomers.
- Dual Magnum and other resolved formulations (S-metolachlor) contain approximately 88% of the more active S-isomers compared to 50% of S-isomers found in the unresolved formulations (metolachlor). A metolachlor product will not provide the same control as a similar rate of an S-metolachlor product.
- **Dual Magnum is the only S-metolachlor product with a preemergence label.** Be sure complete the indemnification label. The following link has detailed steps on how to complete the form before using this product: https://rvpadmin.cce.cornell.edu/uploads/doc_450.pdf.

Product	Postemergence Label	Preemergence Label	Same as	Company	Formulation
Dual Magnum	Yes	Yes		Syngenta	S-metolachlor
Dual II Magnum	Yes	No		Syngenta	S-metolachlor
Brawl	Yes	No	Dual Magnum	Tenkoz	S-metolachlor
Brawl II	Yes	No	Dual II Magnum	Tenkoz	S-metolachlor
Medal EC	Yes	No	Dual Magnum	Syngenta	S-metolachlor
Medal II EC	Yes	No	Dual II Magnum	Syngenta	S-metolachlor
Charger Basic	Yes	No	Dual Magnum	Winfield	S-metolachlor
Charger Max	No	No	Dual II Magnum	Winfield	S-metolachlor
Cinch	Yes	No	Dual II Magnum	Dupont	S-metolachlor
Moccasin	Yes	No	Dual Magnum	UPI	S-metolachlor
EverpreX	Yes	No		Corteva	S-metolachlor
Stalwart	No	No		Sipcam	metolachlor
Meto'S	No	No		Sharda	metolachlor
Me-Too-Lachlor	No	No		Drexel	metolachlor
Parallel	No	No		Adama	metolachlor
Sequence	Yes	No		Syngenta	Glyphosate + S-metolachlor

*Read the product label and consult your agriculturist concerning application rates and timing for particular fields. All labeled S-metolachlor products have a pre-harvest interval of 60 days and a restricted entry interval of 24 hours.

Information Credit:

Dr. Tom Peters-Extension Sugarbeet Agronomist
 Mark Bloomquist-Director of Research
 Cody Groen-Production Agronomist

