

## *Glyphosate Weed Resistant Concerns for Michigan Sugarbeets*

*Prevention is the best strategy for managing Glyphosate resistant weeds for Michigan sugarbeet growers.*

In agriculture it has been demonstrated that any long term use of a single mode of action of a plant protection product will result in resistance eventually developing. This is true whether we are talking fungicides, herbicides or insecticides. It should be no surprise to anyone that glyphosate weed resistance is developing in the sugarbeet growing areas of Michigan. Currently there are 14 different weed species in the USA that are resistant to glyphosate. Three of these weeds that are in the vicinity of the sugarbeet producing area are Palmer amaranth, horseweed and waterhemp. These weeds have been identified in the Gratiot and Isabella counties. Remember sugarbeets have only a few herbicides approved for use, so prevention of establishment of these weeds is critical.

Strategies for preventing establishment of these weeds and others becoming glyphosate resistant involve a multi-prong approach. We are fortunate in Michigan that we have a diversity of crops including: corn, soybeans, wheat and dry edible beans. These crops are often rotated with sugarbeets and offer the opportunity to use traditional herbicides with different modes of action. Different crop species and tillage will also help break specific weed cycles. It is recommended for growers to use some traditional herbicides alone or tank mixed with glyphosate tolerant corn and soybeans. Weed resistance can also develop if timing of herbicide applications are late or reduced rates are used.

Scouting of fields is very important to identify any weeds that are not being controlled by glyphosate applications. Notify your agronomist if you suspect resistance. These weeds should be removed from the field before any seed formation. One Palmer amaranth plant can produce over 300,000 seeds and can rapidly develop into a weed nightmare. Pay particular attention to fields that have had manure applications. Often dairy operations will import feed supplements such as cottonseed to balance rations. This feedstock is from the southern states and can include weed seed from that area. When buying used equipment be sure it is thoroughly cleaned, especially combines and tillage equipment.

More detailed articles and resources on weed resistance management in sugarbeets can be found at the Michigan State University website and in recent articles published in the NEWSBEET magazine in the summer and winter of 2013/14 [www.michigansugar.com/growing-production/newsbeet-magazine/](http://www.michigansugar.com/growing-production/newsbeet-magazine/). These articles were written by Greg Clark Agronomist for Michigan Sugar Company and Christy Sprague Michigan State University Extension weed control specialist. More information is also available at the Michigan State University website is [www.msuweeds.com](http://www.msuweeds.com).