



# Prevent Glyphosate Resistance

By Craig Chapple, CCA-ON

The acreage of glyphosate-tolerant (Roundup Ready) crops has grown rapidly in the past few years. This past spring has certainly lent itself toward further adaptation of this technology. Many fields have already seen two applications of glyphosate with a third and possibly fourth being planned before snow covers the ground. Never before has a product been applied to as many acres annually or sequentially. We know that repeated use of any one herbicide will eventually select for resistant weeds or cause previously unseen weed shifts. In the US, where glyphosate-tolerant crops are produced on a greater percentage of acres, nine states have already reported glyphosate resistant Canada fleabane. When agriculture has been faced with resistance in the past, there were new herbicides introduced to control the resistant weeds. However, today's picture is not as bright. At this time there are no herbicides with new modes of action being developed for the Ontario market. So how, with year over year growth, are we going to preserve such a valuable agricultural tool?

One of the first things we need to do is put a greater emphasis on planning. Ensuring that current weed control products are not overused is critical to preventing weed shifts. Examine all the herbicide options available for the weeds and timing involved. Invest the time to discuss your weed management strategies with a Certified Crop Adviser (CCA) or crop consultant. Together you can develop herbicide and crop rotations as well as tillage practices that address your particular weed issues. Depending on the crop intention and time of year, there are other options available for burn-down. There are many registered tank mixes with glyphosate; adding additional modes of action to the treatment. Where applicable, tillage can be a very effective tool to manage certain problem species. With all the

possibilities available to minimize the selection pressures that cause weed resistance, it is time well spent to plan ahead with the assistance of a consultant.

## Scout your fields

Weed control with glyphosate tolerant crops has been, and quite frankly is, simple. Unfortunately simplicity can lead to complacency. Atrazine was used extensively in the 1970's because it was simple and no other herbicide of the time matched its effectiveness. Atrazine at the rates used controlled whatever was in the field so crop scouting became a low priority. As weed shifts and resistance to atrazine developed, its effectiveness as a "control all" herbicide diminished. Ontario growers are on the door step of this same scenario with glyphosate. However we are armed with the knowledge of the atrazine saga.

Scouting fields maximizes the value of your post emergent weed control by identifying the weed spectrum within a field. A herbicide program can be tailored to control the given spectrum. Determining when weeds have emerged in the crop and initiating control when weeds are most susceptible will ensure that yield loss is minimized. Keeping good records combined with scouting will also identify subtle changes in weed populations before they become a larger problem.

## If you see unusual weed escapes report them. If you find:

- a weed species that should have been controlled but is healthy while other susceptible species have been controlled, **or**
- poor control of a susceptible weed when the herbicide was used according to the product label, **contact your CCA or crop consultant .**

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*There are over 500 Certified Crop Advisers (CCA) in Ontario. Each CCA has demonstrated their knowledge about Ontario crop production by passing the required exams. In addition, they have the crop advisory experience, the education, the commitment to continuing education and have signed a comprehensive code of ethics, which places the grower's interests first.*



*This industry driven program helps ensure that Ontario crop producers are well served by those providing their crop production advice. This article was written by one of those CCA's.*