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Proactive Pesticide Rotations, Not Just For Herbicides!

by Craig Reid, CCA

There has been a great deal of attention focused on the discovery and spread of glyphosate tolerant weed species here in Ontario, and the techniques and technologies required to combat the spread of these weeds. What has been lost in the discussion surrounding herbicides is that the same risks are present in any form of chemical pest control we use.

There have been reports, particularly in North-Eastern Ontario of flea beetle populations that aren't being effectively controlled by the insecticide Sevin. This has likely come about as a result of repeated applications of Sevin to control flea beetles in a single cropping season. This risk in this approach to insect control is no different than the risk of repeatedly using the same herbicide to control weeds.

The best way to tackle resistance is to prevent it from happening in the first place.

Once you have a resistant population, you will always have it, no matter what you change about your management system after the fact. With that in mind, the number one recommendation we can make is to avoid sequential applications of the same product, or products with the same mode of action. For instance, if Sevin is used to control flea beetles early in the season, and a second pass is required switching the second application to Matdor or Decis is the preferred method of attacking the second flush. Again, be wary of products from the same group. "Rotating" from Matador to Decis or vice-versa doesn't accomplish much from a resistance management standpoint as they are both from the same class of chemicals, the synthetic pyrethroids.

Another consideration when choosing to apply a pesticide is rate.

Use full label rates, as in some species repeated cut-rate applications can hasten the development of resistance. Unfortunately there are no products available that offer two modes of action for control of flea beetles, so the best we can do is rotate among the chemistries we have available to us.

An often overlooked portion of any Integrated Pest Management strategy is the cultural control methods available. They aren't the silver bullet that we view pesticides as, but they can have a positive impact on the performance of the pest control system. A longer crop rotation is a help, as long as we do a good job controlling volunteer canola and other cruciferous weeds in the break crops, and after harvest. In the years we are growing canola anything we are able to do that will enhance emergence and early season growth and vigour will also help in the battle against flea beetles. While I'm a big proponent of no-till and minimum-till systems, as well as early planting of the canola crop, these have to be weighed against the probability of slower emergence, and slower early growth. Good seed to soil contact, at the proper depth in soil that is fit and warm, coupled with good fertility are all simple things we can do to help get the crop established, and potentially reduce the number of broadcast insecticide applications made to the crop in any given year. Remember, the more often we use the same product on any pest more than once a year, the higher our chances of developing resistance. Finally, if you do suspect you have a resistance problem, contact your local CCA representative.



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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.