

## **Role of Consultants in Preserving Insecticidal Technology**

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Producers and their consultants continue to fight an ongoing battle with insect pests. New tools including genetically modified crops and insecticides are continuously being evaluated and brought to the market by the crop protection industry to manage traditional pests such as tarnished plant bugs and new pests like the kudzu bug. Resistance is a constant threat to these new products and the management of insect resistance is an important part of the consultant's role. The longer an effective product can be maintained in the market the more profit the consultant can contribute to the producer's bottom line.

Preserving insecticidal technology goes beyond the basics of good practices. The most important role consultants can play for the producer is as a filter of information. One of the biggest tasks for the consultant is to find the best source of information. Producers and consultants are constantly bombarded with different messages with some of the messages conflicting. It is estimated that Google searches 1 trillion distinct URLs and that Wikipedia has over 2 million articles. The consultant that can separate the useful information from the different messages will have the greatest value.

Next, consultants should understand the science and be able to convey the science to the producer in a way that makes sense. A critical component to the use of plant incorporated protectants (PIPs) or Bt crops is the concept of a high dose strategy in combination with a refuge. When a product meets both requirements, the life of the product is extended. Successful examples of the high dose/adequate refuge concept include the use of Cry1Ac protein against pink bollworm in cotton and Cry1Ab protein against European corn borer in corn. When the product does not meet one or the other criteria then problems arise. The most current example is the western corn rootworm resistance with Cry3Bb protein in the mid-west. Consultants and producers control one aspect of the high dose/refuge strategy with planting refuges. Producers put themselves at risk for losing a technology when refuge requirements are ignored. The refuge requirements for corn are complicated in the south but consultants play a critical role in helping the producer understand the need and importance of following refuges. Tools like the <http://ncga.com/irm-calculator> can help the consultant deliver the message.

Consultants can also help producers design an integrated pest management (IPM) plan that will optimize profits and still maintain insecticidal technology. A tremendous amount of work has been done on managing tarnished plant bugs in the mid-south beyond the use of insecticides. The publication, <http://msucare.com/pubs/bulletins/b1179.pdf>, provides the details but scouting, managing spring hosts, early varieties, planting date, use of hollow cone nozzles, minimizing cotton next to corn can all contribute to less insecticide applications being made and thus reducing selection pressure.

Consultants also contribute to the life of insecticide technology by making good choices with the foliar insecticides. Consultants should understand the concept of modes of action. The Insecticide Resistance Action Committee (IRAC) has an excellent web site, <http://www.irc-online.org/teams/mode-of-action/> which provides up to date information. Consultants should also understand how insecticides should be used either in rotation or mixtures to optimize control and lessen resistance risks. IRAC recently released a position statement on the use of mixtures at [http://www.irc-online.org/content/uploads/IRAC Mixture Statement v1.0\\_10Sept12.pdf](http://www.irc-online.org/content/uploads/IRAC_Mixture_Statement_v1.0_10Sept12.pdf)

Consultants play many roles in their business. Consultants must stay up to date to bring the highest value to their clients. Participating in different meetings and comparing notes at the end of the season can help. Consultants should also understand the broader issues. Producers can sometimes focus on the short term



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goals and not understand that the decisions made now can impact their business one month or one year later. Consultants need to guide and counsel their clients and provide the best information so good decisions are made. Finally, the most important role is as an educator. Consultants have many clients including producers, universities and industry. Take the time to share your insights and help all your clients understand the needs and concerns of the industry.