

Feature Story



Do You Know Your Sites of Action?

Most weeds have a vulnerable protein or two that can be compromised for effective management and crop protection. Understanding the science behind weed control can help growers achieve healthier plants and higher yields. These proteins are commonly referred to as sites of action, which is not to be confused or interchanged with modes of action.

The mode of action is the overall process in which a herbicide affects a plant at the tissue or cellular level. There are 10 different modes of action, which can inhibit processes like photosynthesis and amino acid synthesis.

Sites of action are more specific and refer to the precise protein the herbicide attacks to affect the plant's growth and development. The mode of action is how you punch and the site of action is where the punch lands. In total, there are 26 known sites of action. Each has been assigned a number, which are recognized and utilized globally.

“With weed resistance on the rise, it is important growers diversify their herbicide program by using tank mixes and premixes with multiple sites of action,” said Daniel Waldstein, Technical Marketing Manager, BASF. “By being knowledgeable about site of action numbers, growers will be more effective at creating a comprehensive and sustainable crop protection plan.”

Controlling herbicide-resistant weeds is an important goal across the agriculture industry. To ensure growers have the right tools and resources to learn about sites of action and use effective weed control methods, the United Soybean Board developed a resource, which is accessible at takeactiononweeds.com. The website provides a site of action lookup tool, a list of resources by each state, a weed identification guide and even a quiz that allows growers to test their current knowledge. The overall goal is to encourage growers to take action and postpone the evolution of weed resistance for years to come.

“Weed resistance can only be successfully managed by implementing a proactive plan,” said Waldstein. “By educating yourself on site of action science, you are making an investment in your land today that will pay dividends for years in the future.”

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