Addressing the pressing problem of herbicide resistance

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This presentation will be a discussion of how to address the problem of herbicide resistance, not from a technical perspective, but from a human perspective. Herbicide-resistant weeds are a game-changer for agriculture just as drug-resistant microbes have been a game-changer for the health care industry. Weed control today is chemically-based. There is a reason nearly 100% of row crops are treated with herbicides and that is because nothing else comes close to the effectiveness and efficiency of herbicides in killing weeds over a wide area. Good weed management, on the other hand, involves the integration of many practices within the strategic approaches of prevention, avoidance, monitoring, and suppression.

From the management perspective, one must assume that all fields have resistance present. That resistance may not have manifested itself yet in an actual plant, and may not have been selected for yet, but because genes have many ways of moving around, proper management dictates that assumption. Weed resistance is an area-wide issue because of the propensity of weed resistance genes to move with ease from field to field. In the past, the next new chemical in the pipeline has been used to solve resistance problems – no more. New mechanisms of action are not forthcoming in the near future, and a better job of integration must occur in order to preserve those valuable control tactics presently available. Successful systems in the future will be more management-intensive and involve more diversity of tactics. A mindset change may be necessary in order to fully incorporate these new, successful systems.