The New York Times writer Mark Bittman writes glowingly about a recent study (David et al. 2012) that reported on an Iowa experiment in which crop yields were maintained while herbicides to control weed populations were reduced (Bittman, 2012). Bittman concludes that, “there was only upside – and no downside at all” in this study. Rhetorically, Bittman asks, “Why wouldn’t a farmer go this route?” That question was studied by rural sociologists from the University of Missouri and their findings (Rikoon et al. 1993) show that it is not so simple to reduce herbicide use – there are serious downsides. The study that Bittman cites reduced herbicide use by switching from spraying the entire field (broadcast spraying) to spraying just down the row of plants (banded spraying) and using cultivation to kill weeds between the rows. This technique of “banding” the herbicide spray in combination with tillage was widely-used several decades ago, but farmers changed to spraying the entire field without the need to cultivate. The sociologists asked farmers why they abandoned the practice and if they would consider using it again. The answer was…

“Operators are not rejecting the practice due to a perceived lack of knowledge of how the practice works or dissatisfaction with reductions of pesticide use or of water quality risks. … The reasons for discontinuing banding related to difficulties of implementing and maintaining the practice and consequently, potential negative impacts on yields and profits. Banding requires two major tasks – the initial banding and the subsequent two (or sometimes three) cultivations between the rows. In effect, it substitutes time, labor, and equipment for out-of-pocket pesticide costs and thus has important ripple effects in terms of time, labor, management, flexibility, and individual control.”

“Banding tasks need to be done on a timely basis; a shortage of labor during windows of cultivation opportunity can mean the growth of weeds to the point where they inhibit crop progress and effective cultivation, and thus decrease yields. Some operators report inabilities to find labor. We have ample evidence of the decline of availability of hired labor in most rural communities… Those people willing to custom cultivate are usually farmers themselves. And home farm demands, overextended commitments, and bad weather and machinery breakdowns can easily combine to delay or postpone custom cultivation beyond optimal periods.”

“Cultivation of large banding acreages requires continuous weeks of effort. Although such commitments were common practice before the broadcast use of herbicides, farmers who rejected banding criticize cultivation as too time-consuming, intrusive into other needed work, ineffective, and certainly one of those jobs they were not eager to resume.”

“Some farmers have purchased banding-related machinery or attempted to experiment with the practice only to find it too difficult to incorporate into tight farming schedules. … Effective cultivation also creates dependency on other external factors. In years with a particularly wet spring and early summer, for example, cultivation has to be postponed.”

“In summary, operators who abandon banding do so not because of water quality issues or lack of knowledge or even additional costs; they drop it because of time and labor requirements, custom labor constraints, loss of control over operations, and potential risks to yield and profitability. … In essence, while banding may work for water quality, it is not working for most farmers.”


Published with the agreement of The Pesticide Guy – http://pesticideguy.org/author/pesticideguy/