Using And Valuing Check Strips

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The 2008 crop season was not just an unusual season, it also served as a reminder that almost anything is possible. Delayed planting usually results in lower yields. However, in 2008 favorable temperatures and adequate rainfall after planting yielded a bountiful harvest for many southern Illinois producers.

There is a tendency to award positive credit to a new practice change. The field with the record corn crop may or may not be due to the foliar fungicide and/or insecticide application. Probably the easiest and most practical approach to measuring differences is the use of check strips.

Farmers, crop advisers and Extension staff share a common interest in comparing different soil, pest and crop management practices. Well-designed plots should be able to produce useful information. The key is good design without bias.

Start by deciding what you want to determine or compare. Be specific and keep it as simple as possible. Try to avoid variations in soil type, drainage, slope, tillage, erosion, fertility and manure history.

Keep careful and detailed records. Weather data can be especially important. Crop performance or yield differences should be due only to treatments being studied. Remember that all other crop production inputs such as fertilizer placement, crop variety, planting date and rate must be the same for a valid comparison.

One check strip may not be representative, so consider additional strips for greater accuracy. Yields can be measured with a yield monitor, weigh wagon or scale. In some instances, check strips can also be perpendicular to the direction of harvest. This can allow the yield map to show differences without complicating harvest.

Most farmers and researchers usually have expectations of results. Please revisit the opening paragraph; about anything can happen even in a well-designed plot. On-farm data for your location is valuable information that you can obtain. Multiple locations and multiple seasons make the results even more dependable.

Now, just a note on inherent field variability. It is fine to hope for and expect small levels of variability between 2 and 4 percent. In practice, 6 to 8 percent may be more likely. My field experience indicates that 10 to 15 percent variation is not at all uncommon. All of these levels assume that absolutely everything was attempted to be done in an identical and uniform manner. Environmental and random variability is unavoidable. Be cautious about attributing small yield increases as significant increases.

Research is an on-going process. Producers can begin to accumulate data that will help answer the question, "Does product X or treatment Y pay a return on the investment?" Δ

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