

# On-Farm Research Made Easy

**S**ince the beginning of the precision farming craze 20-some years ago, farmers have been trying to make all these expensive ‘gee-whiz’ technologies pay. Many people, certain farm wives in particular, were convinced that our purchase of more and more electronic toys was just one more way of avoiding that necessary kitchen-remodeling project.

As the years have passed though, global positioning systems have been perfected, yield monitors have become reliable, and new hydraulic driven equipment has made precision ‘prescription’ application of fertilizers and lime possible. Computer software allows us to digitize soil maps and aerial imagery and look at our fields in multiple layers in order to analyze what’s happening there.

And with their wives still waiting for that kitchen remodel, most farmers have yet to figure out how to make all that investment in electronics pay.

But not the farmers involved in the Iowa Soybean Association’s On-Farm Network™. By conducting replicated strip trials looking into the feasibility, profitability and environmental sensibility of various practices and products used in producing corn and soybeans, they’ve been able to learn how much or how little nitrogen they need for corn. They’ve used replicated strips to look at fungicides on soybeans and corn, insecticides on corn, inoculants on soybeans and to test old theories about the need for lime.

Want a specific example? Growers who have participated in On-Farm Network replicated nitrogen strip trial studies now know at least one way to make precision technology pay for itself. Many have cut nitrogen application rates by 50 lbs. per acre or more. With nitrogen prices at \$0.30 a pound, that’s \$15 an acre that never leaves the bank. Over 500 acres of corn, that’s \$7,500 to pay for the technology – and maybe the kitchen remodeling, too.

You won’t need a lot of high-end technology to do what On-Farm Network participants are doing. In fact, you may already have what you need. Strips can be marked with flags or

GPS. You’ll need a yield monitor with GPS on your combine to measure the results. Add to these the protocols ISA provides and you’ve got everything needed to set up replicated strip trials and produce sound, scientifically defensible research that fits your farm and the way you operate.

Once you begin doing this, you won’t need to rely on generalized ‘one size-fits-all’ recommendations to make decisions about fertilizers, fungicides, insecticides, inoculants, lime, and more. If you’re ever in doubt, all you need to do is set up a replicated strip trial or two to test your normal practice against one variable.



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## How to do it

1. Contact On-Farm Network for protocols. This assures that your study follows a format that produces reliable results upon which decisions can be based.
2. Set up your strips in easily planted, treated and/or harvested widths. All strips must be at least as wide as the combine header that will harvest them. They can be wider.
3. Mark the strips with flags and then with GPS (if you have it) as the treatments are applied. It’s a good idea to use more than one method to mark the strips, as flags or stakes can disappear and stored electronic data can be lost.
4. Calibrate your yield monitor before harvesting replicated strips.
5. When harvesting, ‘flag’ the each pass as a separate load using your yield monitor. If the strips are wider than the combine head, be sure you’re not harvesting both treated and untreated rows in the same pass. If this happens, the yield monitor data will not be usable.
6. As soon as possible after harvesting, submit your yield monitor records to ISA for analysis. As soon as data has been processed, you’ll receive a report of the results of your trial(s) as well as yield maps, trial maps overlaid with digital soil maps, and a breakdown of results by major soil areas within the field.