

## Doing your own research? Then keep it simple

You can collect lots of data but much of it may be of no use — or worse, it might lead you down the wrong path

By Jeff Melchior

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*Two members of the Farming Smarter research team collect seed samples for a field-scale trial. Photo:Farming Smarter*

There's a big world of information out there today, more so than ever before.

When it comes to precision ag, universities, applied research institutions, governments, and companies all have their own research recommending everything from the best VRT settings to the right seed depth in specific soil profiles. And all those reams and reams of data can make it difficult to separate what's valuable from what's not.

As a result, producers have never been more motivated to use on-farm trials to find out what works best on their own farms. However, research is a process — one that can easily be upended if the right questions aren't asked in the first place.

As an on-farm research specialist with Farming Smarter, a non-profit applied research association in Lethbridge, Lewis Baarda knows a few things about on-farm trials. And he has a few pieces of advice for producers looking to conduct their own trials.

No. 1 is to keep it simple by setting your trial up to answer one specific question.

*Lewis Baarda*

*photo: Farming Smarter*



"Try not to do too much," he said. "On-farm research is not easy. It takes a big commitment of time and resources."

And because you're more likely to act on your own research, you want to get it right.

"You're probably going to trust it more than you're going to trust information from any other source because you've had a part in it from start to finish. So you probably don't want to take on too much or try to answer too many questions at once. Answer one question and make it as simple as you can."

Plan, plan, plan

On-farm trials soak up time at the busiest periods of the year and so you want to do some big-time planning beforehand

“On-farm trials tend to happen just when resources on the farm are spread really thin,” said Baarda. “The more planning producers can do to make that seeding and harvest easier the better.”

It’s “super important” to have everyone on the farm involved with planning so everyone is on the same page, he added.

“If you want to collect good data with which you can make good decisions, you’re going to want to know what your plan is and execute it.”

He also recommends flagging research plots as a backup to GPS plotting.

“GPS technology is excellent and works well, but something can always happen so flags can act as good backups.”

Baarda encourages producers using prescription operations to have them loaded into the tractor at least a week ahead of time.

“One of the big challenges with GPS and precision agriculture is that you’ve got all these data files and all these programs, but everything doesn’t always communicate with each other quite the way you might think. So to have everything primed a week or a month or however long ahead of time can save a lot of headaches during the critical times.”

He also recommends conducting trials on random plots.

“If you have different treatments and different things you’re testing, randomly locate those in the field and replicate,” he said. “Don’t just do one test strip but do three test strips just so you can verify what happens. That’s one of the basic tenets of on-farm research.”

Small plots first?

Not all trials are necessarily conducive to large-scale research — at least not in the first go-round.

“Certain questions lend themselves more to a small plot or plot research environment where variability can really be controlled,” said Baarda. “If you’re looking to find, say, an ideal seeding rate or an ideal fertilizer rate for a crop, that might be something where you first want to see research done in a controlled environment before taking it to your farm.

“That way, you might know from prior research that there’s sort of a ‘sweet spot’ range where you might want to test a couple of rates rather than try to answer the whole question on the farm.”

GPS has made on-farm trials considerably easier, almost to the point where it’s become unthinkable to attempt one without it. Baarda said he’s as excited about precision technology as anyone, but he still recommends getting as much help as possible. That could be from your equipment dealer, internet searches, or someone on your farm qualified to get you through the hiccups that often come with unfamiliar technology.

“Sometimes putting that all together can be a real challenge,” said Baarda. “It’s not as easy to work with as you might think. It does take some expertise, and again a lot of the work for an on-farm trial comes at those critical times so you definitely want somebody on board with some training and expertise with that equipment and technology to make sure things go smoothly.”

There’s also a risk in collecting too much information — which is another reason why Baarda recommends a simple, concise question for the trial to answer.

“You want something that’s clearcut and asking a very defined question. Because it is so easy to collect data, I think it’s so easy to trick ourselves into thinking that data has value when it doesn’t always have that value.

“Just because it’s there doesn’t mean it’s answering questions.”