



PRECISION FARMING A Whole New Reality for Yield Monitoring

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▶ If you're firmly against yield monitoring and think it'll never have a place in your potato fields, I understand.

Twenty years ago when yield monitors first made big waves in agriculture, they didn't offer much benefit to potato farmers. While the monitors churned out reams of data, most farmers were unsure how to translate that data into useful information. Analysis programs seemed to be designed more for statisticians and computer scientists than real-world farmers. Field mapping technology hadn't yet caught up to yield collecting technology: since farmers had no way to overlay a soil map or a topographical map on a yield map, they couldn't correlate cause and effect into practical agronomic decisions. And inaccurate yield measurements caused by debris often thwarted even the most enthusiastic farmers' yield monitoring efforts.

Luckily, the current reality is far different.

Today's yield monitors offer incredible insights into

what's really happening in different parts of your field.

Now, yield data is no longer stand-alone information. With soil testing and a variety of mapping functions now common on many farms, yield data can be combined with all kinds of other field and crop information to much better determine reasons for yield fluctuations.

Analysis software is much more user-friendly than it was in the past, and is able to pull far more information together into clear maps and reports. Today, using the reports to make agronomic decisions is certainly possible for most growers, especially with assistance from an agronomist.

And monitoring reliability has made big strides forward too. In the past, many potato growers voiced concerns about yield monitors' data integrity and reliability because precise yield data can be obscured by entrapped debris such as clods or rocks. However, farmers today are starting to realize they don't have to

throw the baby out with the bathwater.

In fact, farmers who know their fields well find it simple to filter out false data and/or make appropriate adjustments.

So, consider your yield map your farm's report card. It can tell a clear and obvious story about whether your management choices are helping to reduce variability, lower input costs, achieve optimum yields from areas with the highest yield potential and/or economize in areas of lower yield potential.

Many grain and cash crop farmers whose land nets in the range of \$50 per acre have been using yield monitors for more than a decade. Potato acres may net 30 times as much. With value like that in your fields, it just makes sense to base farming decisions on clear data and quality information rather than guesswork and chance. ◦



FERTILIZER Nutrient Stewards Know, Time Isn't Free

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▶ Being wholly dependent on the land, farmers are most successful when they work in tune with nature's rhythms and requirements. Achieving maximum plant nutrition and yield through a combination of best management practices is integral to any farming operation, as seen with the widely adopted 4R Nutrient Stewardship program. Created to help operations increase profitability and sustainably, the four cornerstones (4Rs) of nutrient stewardship – right nutrient source, right rate, right placement, and right timing – optimize efficiency by combining conservation practices with agronomic and economic benefits.

We all know the old cliché that nature is not kind. Neither is she patient. Maximizing yield and minimizing loss depends on getting timing exactly right at every stage from seeding through harvest.

Right timing is a critical but sometimes challenging cornerstone of nutrient stewardship and a successful fertilizer program. Right timing ensures nutrient release

and availability match crop demand at every stage of growth, reducing nutrient loss due to soil tie-up, leaching and runoff and increasing productivity and profitability. Leave a crop deficient, even for a short time, and crop health and yield will suffer significantly. However, oversupplying a nutrient is wasteful, expensive, damaging to sensitive eco-systems nearby, and can adversely affect plant physiology.

Optimizing nutrient timing is a delicate balance. Consider phosphorus, for example. A 300-500 cwt per acre yield of potatoes can remove 45-75 lbs of P205 per acre on average for just tubers alone. Total actual uptake (including stems and leaves) would add 15 pounds to the 300 cwt and 25 pounds to the 500 cwt. The majority of this nutrient is used during the bulking stage, from 40-days post-emergence through harvest. Yet, P – typically a water-soluble nutrient – is generally applied at seeding so it peaks and dissipates relatively early in the growing cycle. Despite

being relatively immobile in the soil, phosphorus is still subject to tie-up and wash-away. This can lead to potato growers applying higher than removal rates to compensate for soil build in low testing soils and poor phosphorus use efficiency. Mid-season applications can help, but reaching the roots later in the season can be a challenge.

That said, a growing arsenal of solutions and sustainable practices are available today. Variable rate fertilizing is taking off, allowing growers to adjust their nutrient application based on the varying needs of different areas within a single field. And slow-release, enhanced efficiency fertilizers, co-granulated products and other advanced nutrient technologies now better allow farmers to fine-tune their programs.

These are challenging times in agriculture: utilizing proven BMPs and new nutrient technologies can help farmers can stay on track for both profitability and sustainability. ◦