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## **Fine Tuning Your Forage Nutrient Management System**

When we talk about precision ag, we often think about yield monitors, variable rate application, and other uses of technology to 'fine tune' our crop production systems. Forage management systems, on the other hand, typically get less attention to detail paid to them.

Precision forage management doesn't have to include fancy technology or bells and whistles, however. In fact, the basis of the system is likely little more complex than a soil sample.

Why start with a soil sample? Because without it, one of the core foundations of your forage management system – soil fertility – is just a guess! How many other management decisions would you leave to a 'guess'?!

Composite samples are a great start. If you take an appropriate number of samples to keep variability low, you can actually come up with excellent and accurate data. Monitoring soil test values over time adds yet another layer to composite sampling, allowing you to see how soil test levels are responding to your management over time. Just remember, there will likely be very high and very low levels in the field that get 'averaged' out by composite sampling.

If you want to make your approach a little more precision management minded, consider zone, or even grid sampling. Zone sampling is simply dividing fields in to what we call management zones, sampling them separately so we can determine where high and low fertility levels might be. With that data, you can start to determine whether differences are due to management efforts on your part, soil type differences, or some other reason. Whether you choose to apply nutrients according to those differences is yet another step in the process, but you at least have the information on which to start making decisions.

Grid sampling is most popular in very intensely managed cropping systems and may not be necessary (or economically viable) if yield from the field is fairly uniform. In cases where a composite sample shows low levels of nutrient availability, a grid or zone sampling protocol may further help define areas that are adequate in a given nutrient and which are very low and need to be addressed. Grid (and zone) sampling can help fine tune further what the composite sample is telling you.

What's the right forage nutrient management program for you? Start with what you are doing today and ask yourself if that approach is adequately addressing field variability – and helping you apply nutrients where they can do the most good. If you think you can do more – and economics allows for it! – it might be time to 'step up' your forage management program to the next level of precision!