Nutrient Management Planning for Economic and Environmental Returns

Nutrient management planning is a core element of building a complete cropping system, with few crop input activities having a greater impact on crop yields and farm profitability. Fertilizer can be expected to account for 20% of non-land expenses in nitrogen dependent crops like corn and wheat. With tight economic conditions on many farms today, this major crop input expense warrants close attention.

Nutrient planning starts with accounting for existing nutrient levels in the soil. The advent of precision technology in agriculture has led to highly specific, affordable soil sampling capabilities. Intensive grid and zone sampling schemes allow for detailed measurements of soil nutrient levels, and when matched with variable rate fertilizer applications, often leading to reduced overall fertilizer applications. Finding areas of fields with deficient levels of nutrients is key to boosting yields, but real savings can be found in the discovery of areas that don’t need high rates of fertilizer to produce high crop yields.

Utilizing precision technologies for nutrient management doesn’t have to be cost prohibitive. Agronomy retailers provide these services at affordable rates and can easily provide examples of how these technologies can increase overall profitability. In many areas of the state, particularly those with greater environmental risks, programs are available to assist with covering the costs of soil sampling and variable rate applications. Still, in excess of 10% of farmland in Michigan is not regularly soil sampled. Adding data layers to nutrient management plans such as yield maps, organic matter maps or elevation data add further management capabilities. Combining multiple data layers to form a complete management plan is where crop advisors can add real value to a farm operation.

Beyond just soil testing and variable rate application, growers should also be mindful of other 4R Nutrient Management principles heading into the 2019 growing season. Split applications, stabilized products, and precision placement all maximize fertilizer efficiencies. Planning nutrient applications with the weather in mind is also important to minimize the chance of fertilizers washing off fields.

The 2019 growing season is just around the corner, but crop advisors and agronomy retailers can still help producers finalize nutrient management plans and find additional efficiencies to reduce input costs. Adding those economic savings to better environmental protection is an important step in improving whole-farm sustainability.