

0

2

3

Z

8

9

10

11

12

13

14

Acid

Base/

Alkaline

l soil pH for plant g



With another year of expected high input costs, Andrew Luzum, Nutrient Maximizer Strategic Account Manager, Corteva Agriscience, says that knowing your soil pH will be key to improving fertilizer efficiency this year.

"Soil pH allows nutrient availability and will be the biggest player as we head into another year of high-priced fertilizer. From there, you can fine-tune nitrogen, phosphorus and potassium rates," Luzum says.

The pH value is a measurement of acidity, and every plant has a pH range in which it thrives. For corn and soybeans, the ideal range is generally around 6.0 to 7.0. This is the range in which most essential nutrients are available and microbial activity is sufficient for crop production.

What happens when soil pH is too high?

As soil pH increases and becomes more alkaline, important nutrients for plant growth – such as phosphorus, calcium and magnesium – become less available. Soil degradation, herbicide carry-over and drought-like symptoms are more likely to occur in soils with high pH levels.

Reducing soil pH for corn and soybean production often does not create a positive economic return, so selecting the right hybrids and varieties tolerant to field conditions is the most important management decision for high pH soils.

What happens when soil pH is too low?

As soil pH decreases and soils become more acidic, macronutrient availability decreases and micronutrients can increase to toxic levels. Aluminum toxicity is a major concern in acidic soils, as nutrient and water uptake are restricted. Soybean nodulation is also reduced in acidic soils, which can result in nitrogen deficiency.

Soil test results will help determine if a soil amendment is needed to increase soil pH to optimum levels.

"Soil tests don't lie; they help guide us to what we need to fix. The ability to maximize fertilizer efficiency is always money well spent," Luzum says.

He recommends soil testing each field at least every three to four years, either in the spring or fall. Sampling at the same time each year provides more comparable test results. It's also important to sample when crops are not growing in the field (with standard soil sampling) and to avoid fields where fertilizer, manure, or liming materials were recently applied.

Because soil pH levels and fertilizer recommendations vary by location, it's important to consult local experts with questions regarding nutrient management and soil sampling best practices. Reach out to your local extension service, retailer and/or your Corteva Agriscience account manager to learn more about soil sampling and ways to manage pH in fields.

Did you know?

NEW! Power to Promote website is live!

