



EXTRACT Powered by Accomplish® Helps Overcome Phosphorus Deficiency in Fallow Fields

Wet conditions in the spring of 2019 created major planting challenges for many growers in the Corn Belt. Due to flooding and excess moisture in the fields, an estimated 19.4 million acres were left unplanted. Unfortunately, this promotes ripe conditions for fallow syndrome, a phosphorus deficiency in the soil that can negatively impact next season's crop.

Growers with fields left fallow in 2019 should consider making a fall or spring application of **EXTRACT Powered by Accomplish®** to overcome the potential impact of fallow syndrome. EXTRACT helps growers maximize yields by releasing bound nutrients in the soil to ensure that they are available to the next crop.

What causes fallow syndrome?

When the soil is left fallow (uncultivated) for an extended period of time, changes in soil biology occur. In particular, a decrease in the population of specific beneficial fungi, called "vesicular arbuscular mycorrhizae" or VAM, is observed. These mycorrhizal fungi help the roots of plants such as corn take up phosphorus and zinc, but they require actively growing roots to survive. The decline of these fungi in unplanted acres causes fallow syndrome, which primarily impacts grass crops like corn and small grains.

In addition to nutrient deficiencies, fallow conditions also impact soil quality due to reduced organic matter content (e.g., carbon and nitrogen) in the absence of crop residue. As a result, soil microbial functions within the soil are adversely affected, specifically reduced denitrification and soil respiration rates.

Corn will be the crop that is most affected in 2020, with corn plants exhibiting symptoms of phosphorus and zinc deficiency, including stunting, purple leaves, and uneven growth.

How can EXTRACT help?

EXTRACT, a proprietary blend of the biocatalyst Accomplish® LM and ammonium thiosulfate, is designed to improve soil health and effectively increase the release of nutrients from the soil. In fallow soil conditions, EXTRACT can assist by maximizing the availability of bound phosphorus for easier plant uptake.

In a recent study (Fig. 1) conducted in fallow soils in Minnesota, soil treated with EXTRACT showed a >30% increase in available phosphorus compared to untreated soil. Similar increases in potassium, zinc and several micronutrients were also observed in the study.

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Growers can turn to EXTRACT this fall to overcome phosphorus deficiency in fallow fields and prevent fallow syndrome.

Increase in Nutrient Availability with EXTRACT

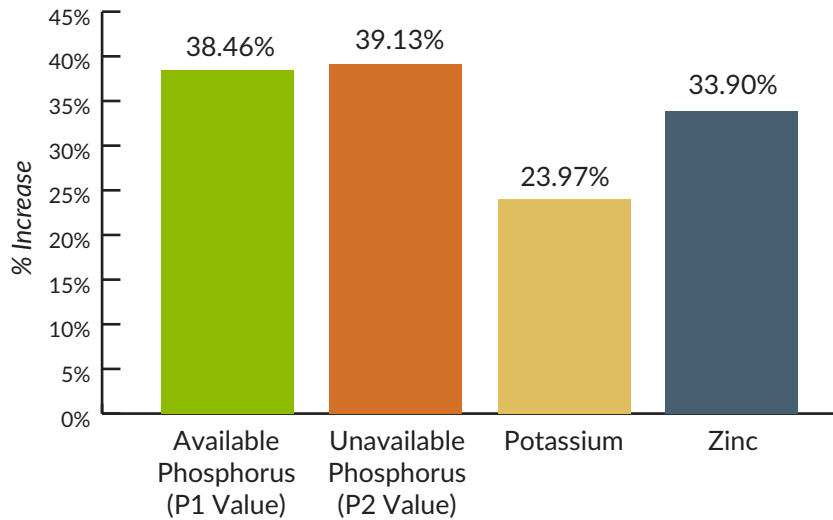


Figure 1. Percentage increase in fallow soil nutrient content after treatment with EXTRACT. Both P1 and P2 increased.

Nutrient release with EXTRACT has also been shown to help increase the yields of corn and other crops, as seen in a meta-analysis of 86 trial observations across corn, soybeans and wheat (Fig. 2).

Meta-Analysis of EXTRACT Data (2016-2018)

86 Observations on Corn, Soybean & Wheat

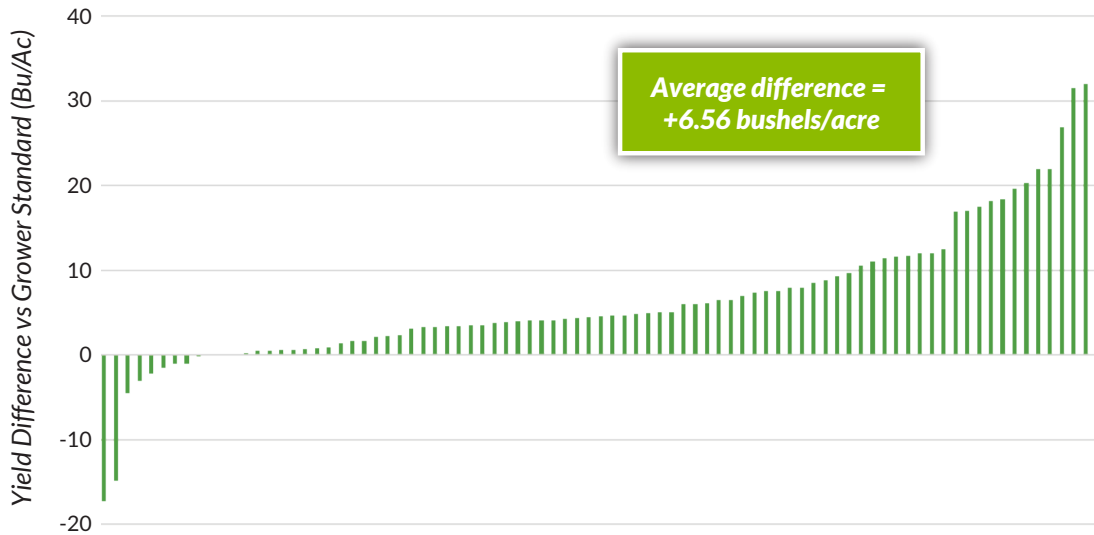


Figure 2. The average yield increase with a fall or spring application of EXTRACT was 6.56 bu/acre across 86 trials in corn, soybeans and wheat.

CONTACT NUTRIEN AG SOLUTIONS FOR MORE INFORMATION.

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