



## SUPERIOR PHOSPHATE MOBILITY AND AVAILABILITY



Encourage Root Growth



Improve Phosphorus Availability



Increase Yield



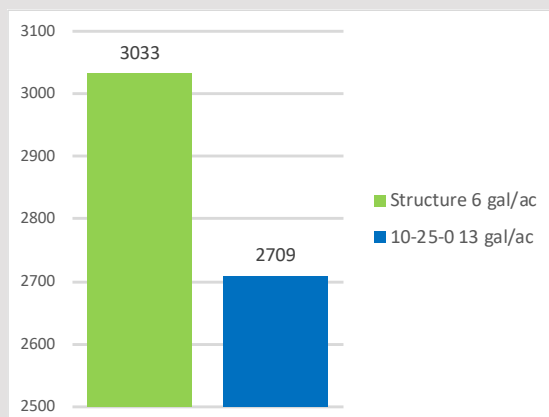
Safe on Seedling Crops

Structure® (7-21-0 with 0.2% Zinc) was specially engineered for more mobile, and significantly more available phosphate in the soil. Structure is also one of the few concentrated formulations that can effectively supply phosphorus to the root zone. This proprietary product is non-phytotoxic and will not cause root damage to tender seedlings or young plants, unlike many commodity fertilizers. Replicated trials over many years have consistently shown that Structure creates a positive growth response in plants, resulting in increasing yields with less phosphate being applied.

### PROVEN RESULTS

Field tests have consistently shown lower rates of phosphate in the form of Structure can mean equal or greater yields than higher rates in the conventional form.

**Average Weight in lbs/ac of Lima Beans**



Lima beans were tested in one of many field trials for Structure<sup>1</sup>. Structure increased yield over the grower standard by an average of 324 lbs/ac, yet was used at a rate 54% less than the standard.

### VISIBLE CROP IMPROVEMENTS



In both images, the grower standard crop is on the left and the crop treated with Structure is on the right. Crops treated with Structure show a visible difference in root growth, crop mass, and yield. Research has shown that up to 75% of the total phosphorus required by the plant is accumulated by the time plants have attained 25% of their total dry weight. The key to overall plant health is early phosphorus availability, which results in early vigor.

<sup>1</sup>80 acre field in Grimes, CA





## PROVEN SUPERIOR BY THIRD PARTY EVALUATION

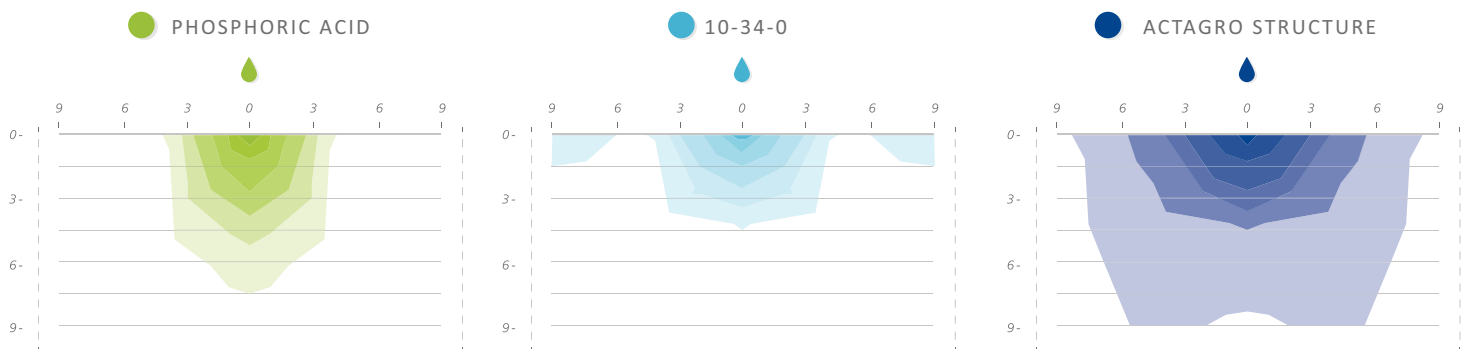
Dr. Husein Ajwa et. al, in cooperation with Actagro<sup>®</sup>, LLC, evaluated the availability and movement of available soil phosphate in four fertilizer treatments over three months in Mendota, California<sup>2</sup>. Soil type was clay loam with pH of 7.8. Each treatment was replicated four times.

The experiment design was a randomized complete block with a final plot size of one, 60" wide, 200 ft. long bed (a total plot size of 0.5 acres). Fertilizers were applied through a single low flow drip irrigation tape (0.25 gpm/100 feet) with four inches emitter spacing, placed in the center of the bed surface. Fertilizers were applied over a span of six hours. Beds were pre-irrigated and additional irrigation water was applied to ensure high fertigation uniformity. Irrigation occurred twice weekly to replace water lost to evaporation. No crops or weeds were allowed to grow.

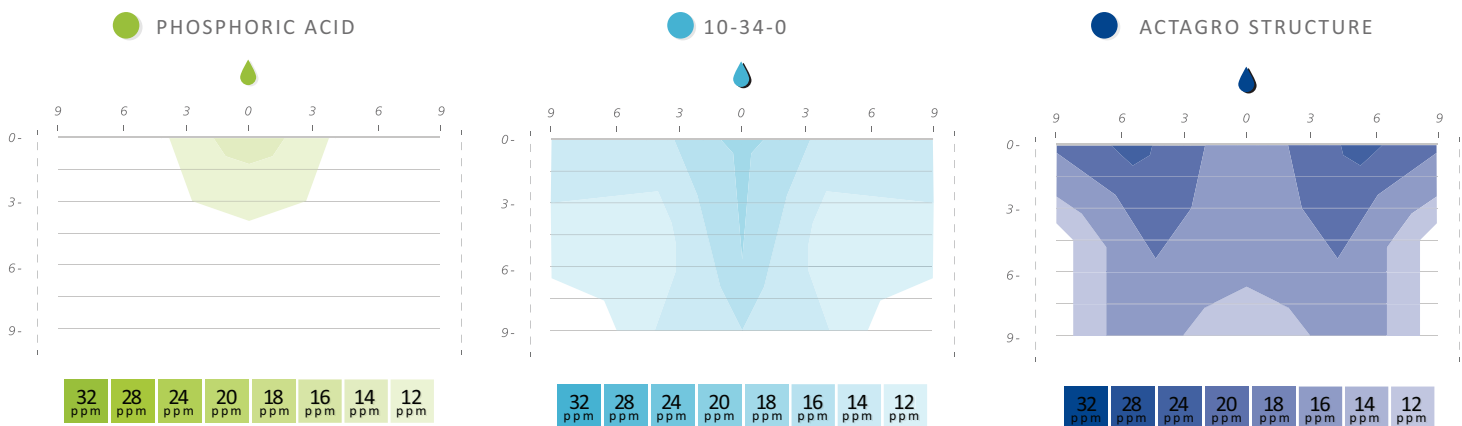
### TRIAL HIGHLIGHTS

- Phosphoric acid initially moved, but was mostly tied up before 42 days.
- 10-34-0 initially moved, but was largely tied up before 42 days.
- **Structure<sup>®</sup>** moved throughout the soil and remained available for uptake for all 42 days.

### DISTRIBUTION OF AVAILABLE PHOSPHORUS 2 DAYS AFTER APPLICATION OF 1/2 INCH OF UNTREATED WATER



### DISTRIBUTION OF AVAILABLE PHOSPHORUS 42 DAYS AFTER APPLICATION OF 1/2 INCH OF UNTREATED WATER



<sup>2</sup>Gerecke, T., Ajwa, H., Krauter, C., Pier, J. (2011). *Greater Phosphorus Efficiency Results from Improved Mobility and Prolonged Availability*. The Fluid Journal



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