

Chart 1.1 Nutrient availability chart

Scientific studies have shown that 75% to 95% of the phosphorous provided by conventional phosphate fertilizers is retrograded or fixated in the soil.

Microstar (with TPP technology) increases the availability of Phosphorous to the plant. Enviromental conditions vary in our grains plantings season. Soil moisture, soil temperature Cultivation practices has an impact on germination and stand of seed, availability and solubility of fertilizers and nutrients applied are determined by these factors. Our Challenge is to increase efficacy of production costs by increasing yields and optimizing return on investments. Microstar is a new concept of P fertilization, The TPP technology increases the availability of phosphorous to the plant. The norms for phosphorous Bray1 is 25 mg/kg.

Chart 1.1 shows the availability of nutrients at different pH levels as seen the optimum pH for Phosphorous is between pH 6.0 and pH 8.0.

Chart 1.2 shows the influence of soil pH on the soil phosphorous availability. The charts indicates the fixation of P with Iron (Fe), Aluminium (Ai) and calcium (Ca) at different pH levels.

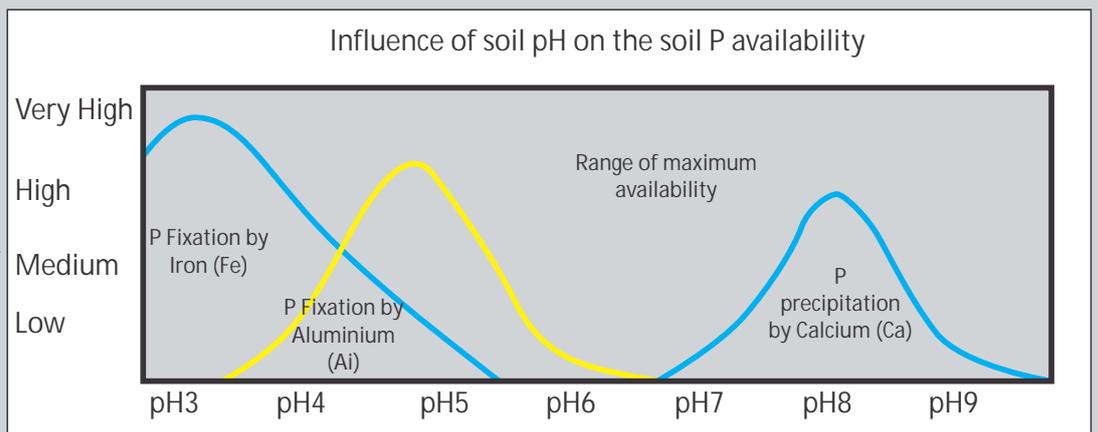
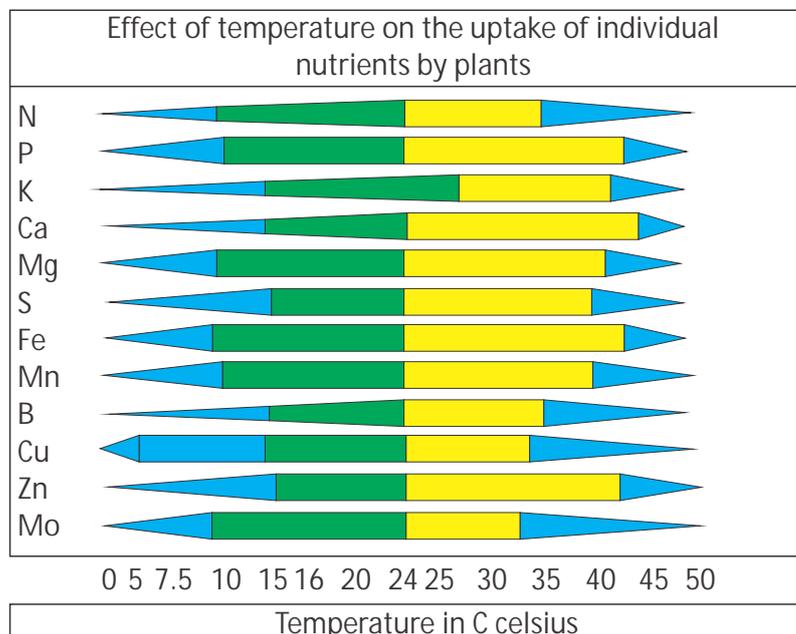
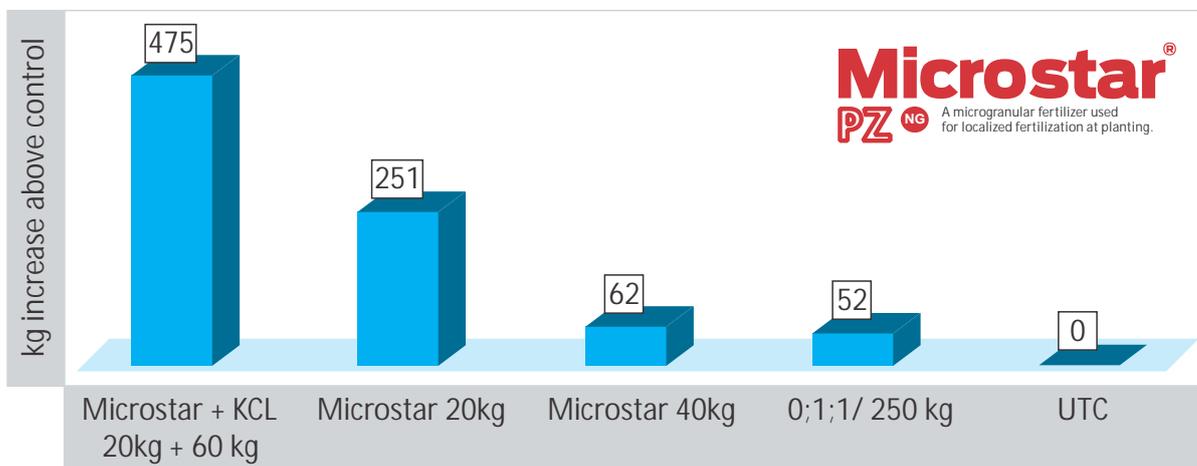


Chart 1.2 Influence of soil pH on the soil P availability



The Conclusion that can be made from this data is that nutrient uptake and availability is determined by multiple factors. Microstar with TPP technology ensures that the P applied this season is available to the plant due the fact that it counter acts the Soil pH and temperature factors.

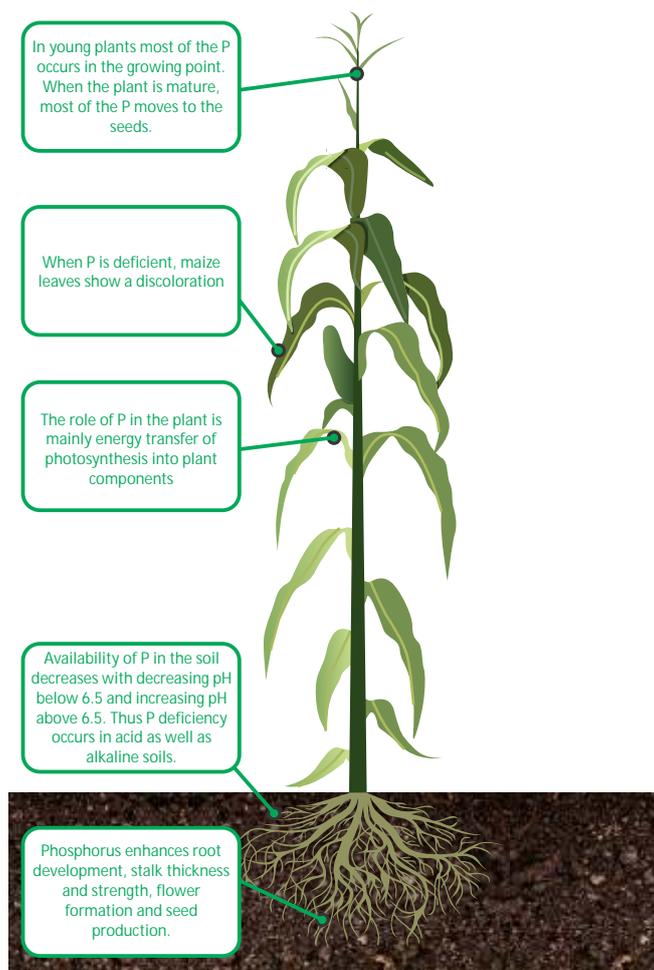




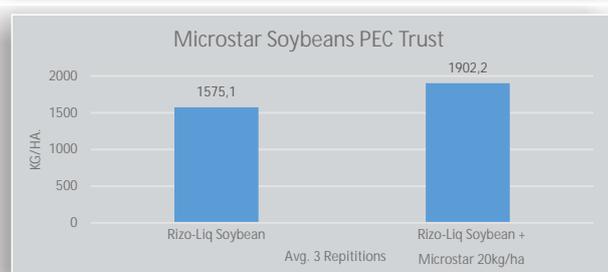
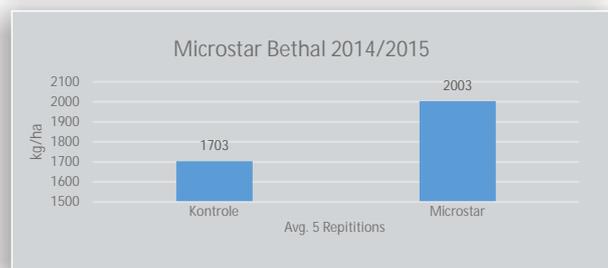
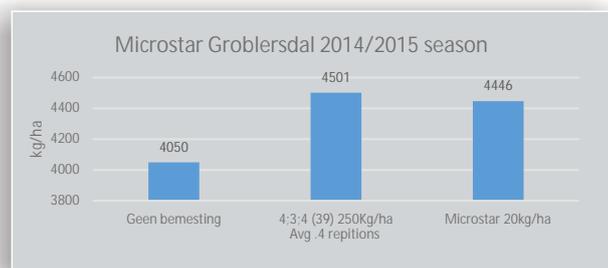
Soil data:
 pH: 4.5
 Soil Type: Tukulu
 Soil Depth: 80 cm,
 P (Bray 1) mg/kg: 22
 K mg/kg: 70
 Mg mg/kg: 400
 Ca mg/kg: 800
 Na mg/kg: 21
 B mg/kg: 0.1
 Cu mg/kg: 1
 Fe mg/kg: 100
 Mn mg/kg: 30
 S mg/kg: 45
 Zn mg/kg: 2

AEC Statistical data Bethal

Microstar 20kg/ha + KCL 60kg/ha gave a significant increase of 475 kg over untreated control. Microstar 20kg/ha gave an increase of 251kg over untreated control. Microstar 40kg/ha gave an increase of 62 kg over untreated control which was not significant and 0:1:1 250kg/ha gave an increase of 52 kg over untreated control. The TPP technology and application method of Microstar increases the availability of the P. We can see that reaction in Microstar 20kg/ha + KCL 60kg/ha. As the P and K levels are the same in both the Microstar 20kg/ha + KCL 60kg/ha and 0; 1; 1 250kg/ha. The Microstar 20kg/ha + KCL 60kg/ha insured that the plant could better utilize the K, and it is well known that Soybeans react well to K applications.



Trial Data



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