

ASSP – phosphate with rich benefits

INDORAMA

KOKAND FERTILIZERS AND CHEMICALS JSC



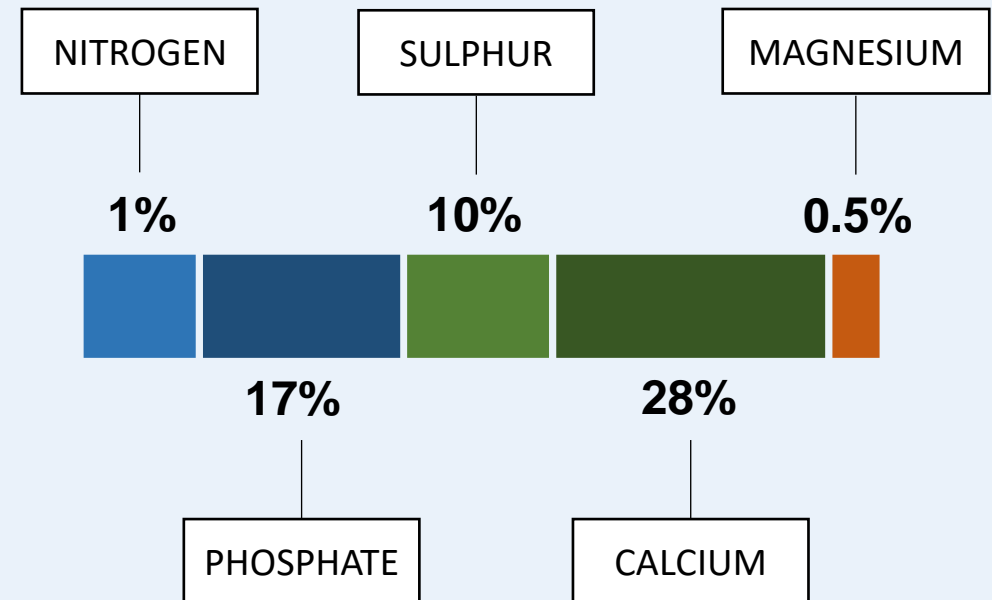
OLTIN ASSP Fertilizer

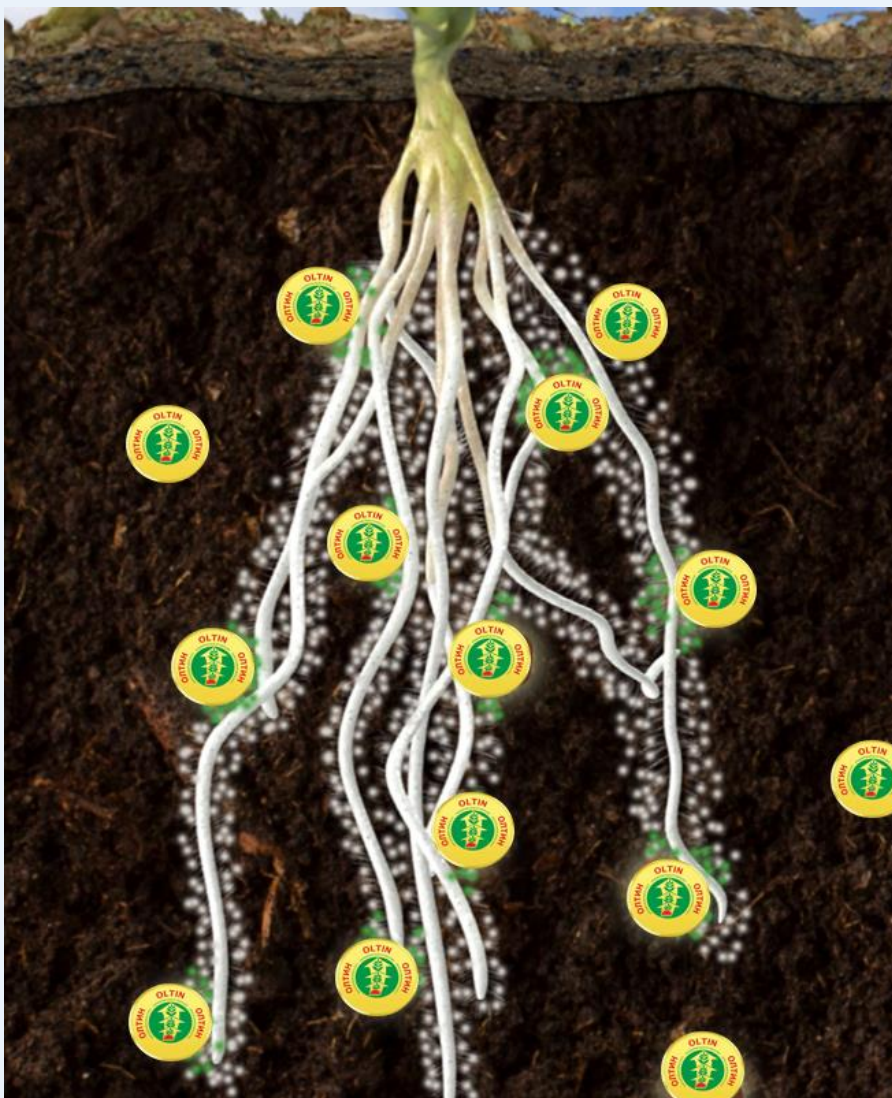
The most efficient granular phosphate fertilizer that puts your crops in control of nutrient uptake without the loss of P to soil tie-up and nutrient runoff and leaching.

About OLTIN ASSP Fertilizer

OLTIN ASSP fertilizer naturally responds to crop demand to provide phosphate, along with nitrogen and magnesium (N-1% P-17% with S-10% C-28% M-0.5%), benefitting crops with efficient nutrient control and uptake for higher yield.

Key Nutrients





HOW OLTIN ASSP WORKS

Gets to the Root of Nutrient Uptake

OLTIN ASSP fertilizers release phosphate, plus nitrogen and S:Ca:Mg, only in response to organic acids naturally emitted by roots. As these organic acids solubilize OLTIN ASSP, nutrients become 100% plant available. With ongoing access to phosphate, driven by crop demand, OLTIN ASSP safely supplies crops with nutrients needed for maximum yield.



BENEFITS

100% Plant Available, Sparingly Water Soluble

OLTIN ASSP's unique organic acid solubility optimizes nutrient uptake and reduces loss due to soil tie-up, runoff and leaching for maximum efficiency. OLTIN ASSP provides farmers the most efficient crop nutrition that increases production with the potential for a reduced fertilizer application while positively impacting the environment at the same time.



BENEFITS

Maximize Yield

Crops benefit from the right amount of phosphate at the right time.

OLTIN ASSP fertilizers push crops to their yield potential by providing roots with critical nutrients at the right rate and the right time while also reducing soil tie-up and nutrient runoff for maximum fertilizer efficiency.



NITROGEN

PHOSPHATE

SULPHUR

CALCIUM

MAGNESIUM

01

Optimized Nutrient Formula

OLTIN ASSP delivers, phosphate, along with nitrogen and magnesium (N-1% P-17% with S-10% C-28% M-0.5%), more efficiently than conventional phosphate fertilizers to provide crops the nutrients they need all season.

02

Responds to Crop Demand

Find out what enhanced efficiency means for your crops. OLTIN ASSP is citrate soluble versus water soluble and only releases nutrients in response to organic acids exuded by roots, increasing fertilizer efficiency and minimizing nutrient loss.





03

Available Nutrition On-Demand

Safely provide roots with an ongoing supply of phosphate for optimal crop development. By providing nutrients when roots ask for them, nutrients released from OLTIN ASSP remain 100% available.

Phosphate is a Critical Nutrient – In the Right Amount and the Right Place

Phosphate is an essential nutrient and a building block of life. Conventional sources of phosphate fertilizer are highly inefficient and water-soluble. Every growing season, over 80% of applied phosphate is lost to soil tie-up, nutrient runoff and leaching. If mismanaged, it can cause nutrient overloads in waterways and be harmful to the environment.

OLTIN ASSP

A granular phosphate fertilizer that provides season-long phosphate, along with nitrogen, sulphur, calcium and magnesium, to supply critical nutrients when crops need them.



OLTIN ASSP fertilizers perform across a range of soil types and crops. From corn and soybeans to sugar beets and vegetables, farmers can count on the performance of OLTIN ASSP to drive yield and quality.

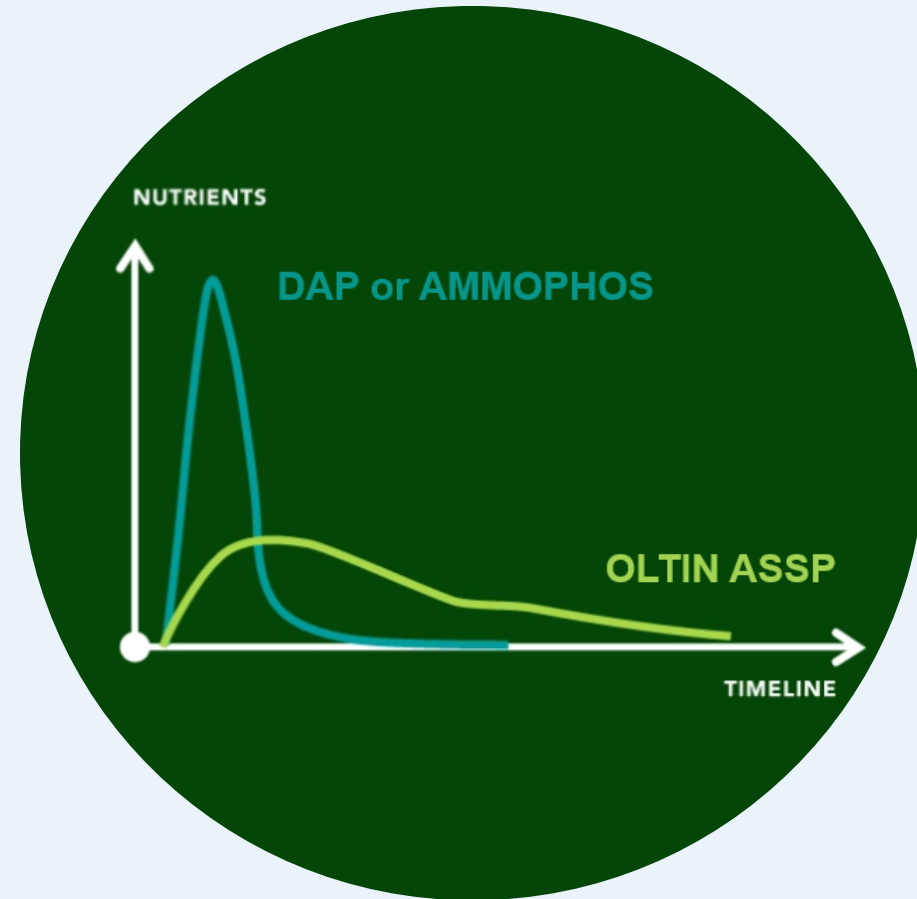
When blending OLTIN ASSP fertilizers with an ammonium phosphate fertilizer (MAP/DAP) or (AMMOPHOS), crops will have an immediately available phosphate while also ensuring season-long access to phosphate. Under most conditions, rates of P_2O_5 per acre can be reduced.

If applying OLTIN ASSP, there's no need to blend with an ammonium phosphate for a streamlined fertilizer application.

04

One Application All Season

Feed crops with a phosphate fertilizer that only requires one application to last the entire season, and then some. Unlike ammonium phosphate sources that will release the majority of their nutrients at the beginning of the season, OLTIN ASSP fertilizers remain available in the soil to continuously release phosphate, nitrogen, and magnesium as crops require them throughout the growing season to improve fertilizer efficiency and increase ROI.





Prevent Soil Tie-Up

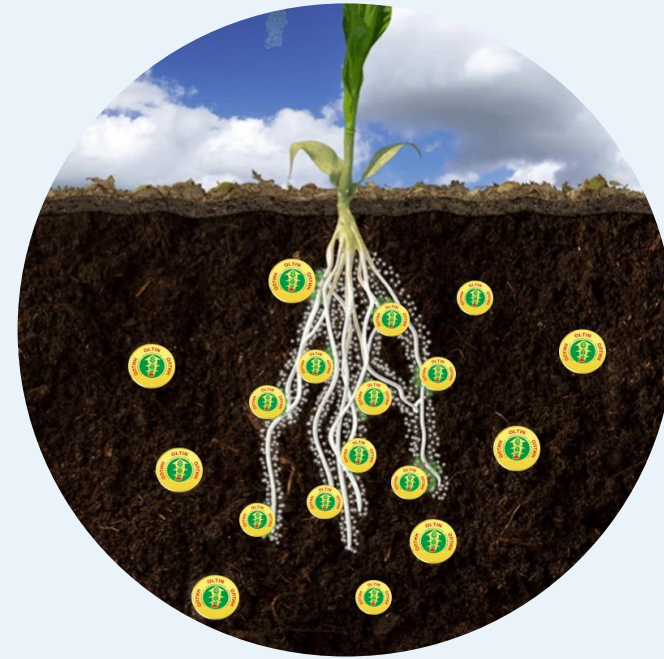
Boost nutrient availability for growing crops, all season.

**OLTIN ASSP Fertilizers Release Nutrients
According to Crop Demand to Prevent Soil Tie-Up**

Crops seldom take up more than 25% of conventional phosphate. The remaining phosphate becomes tied-up and unavailable to growing crops. OLTIN ASSP solves the issue of soil tie-up, by only releasing nutrients as crops demand them.

Nutrients on Demand

Provide crops with the nutrients they need, when they need them, all season. OLTIN ASSP releases nutrients only in response to organic acids exuded from growing roots, unlike conventional phosphate fertilizers which often end up unavailable due to soil fixation.



Minimize Loss to Maximize Uptake

OLTIN ASSP prevents phosphate from solubilizing into the soil where it can react with iron, aluminum or calcium and become tied-up and unavailable to crops. This can result in soils with high levels of phosphate while crops show signs of phosphate deficiency.

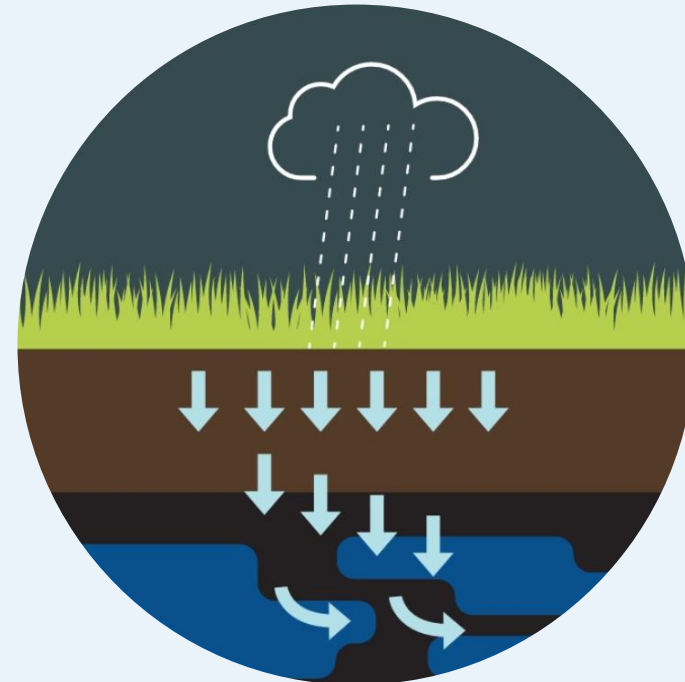


OLTIN ASSP Fertilizers Protect the Environment

OLTIN ASSP stays available for plant uptake due to its unique solubility, unlike conventional fertilizers that have the potential to runoff and leach nutrients out of the soil and into local waterways.

Nutrients Available to Plants, Not Waterways

Minimize the nutrient loss due to runoff and leaching to increase fertilizer efficiency with OLTIN ASSP fertilizer's solubility that only releases nutrients in response to organic acids exuded by roots.



Organic Acid Soluble

Prevent runoff and leaching with OLTIN ASSP's organic acid solubility. Conventional phosphate fertilizers are water soluble and solubilize quickly into the soil profile—but crops can't absorb all that phosphate at once, leaving excess phosphate that can runoff and leach into nearby waterways.



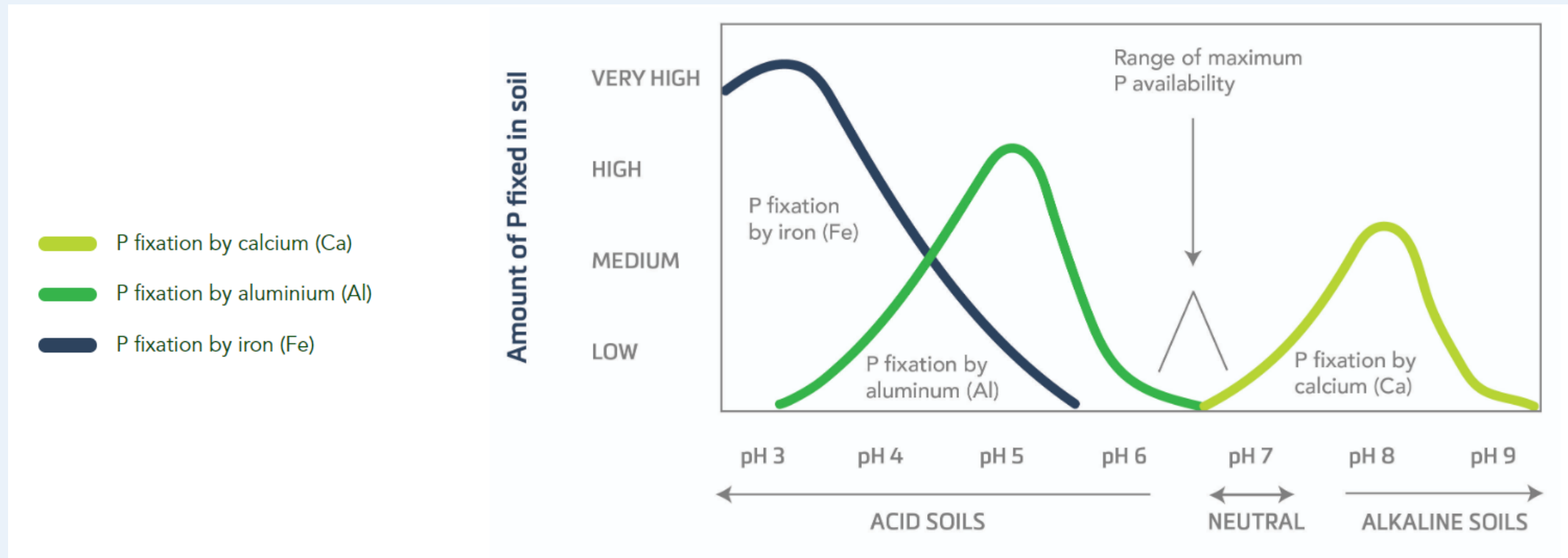
Environmentally Responsible Fertilizer

Increase ROI potential and production while creating a positive environmental impact. OLTIN ASSP is a one-of-a-kind environmentally responsible fertilizer, designed to prevent excess nutrients and reduce the risk of runoff and leaching that can create harmful algae blooms.



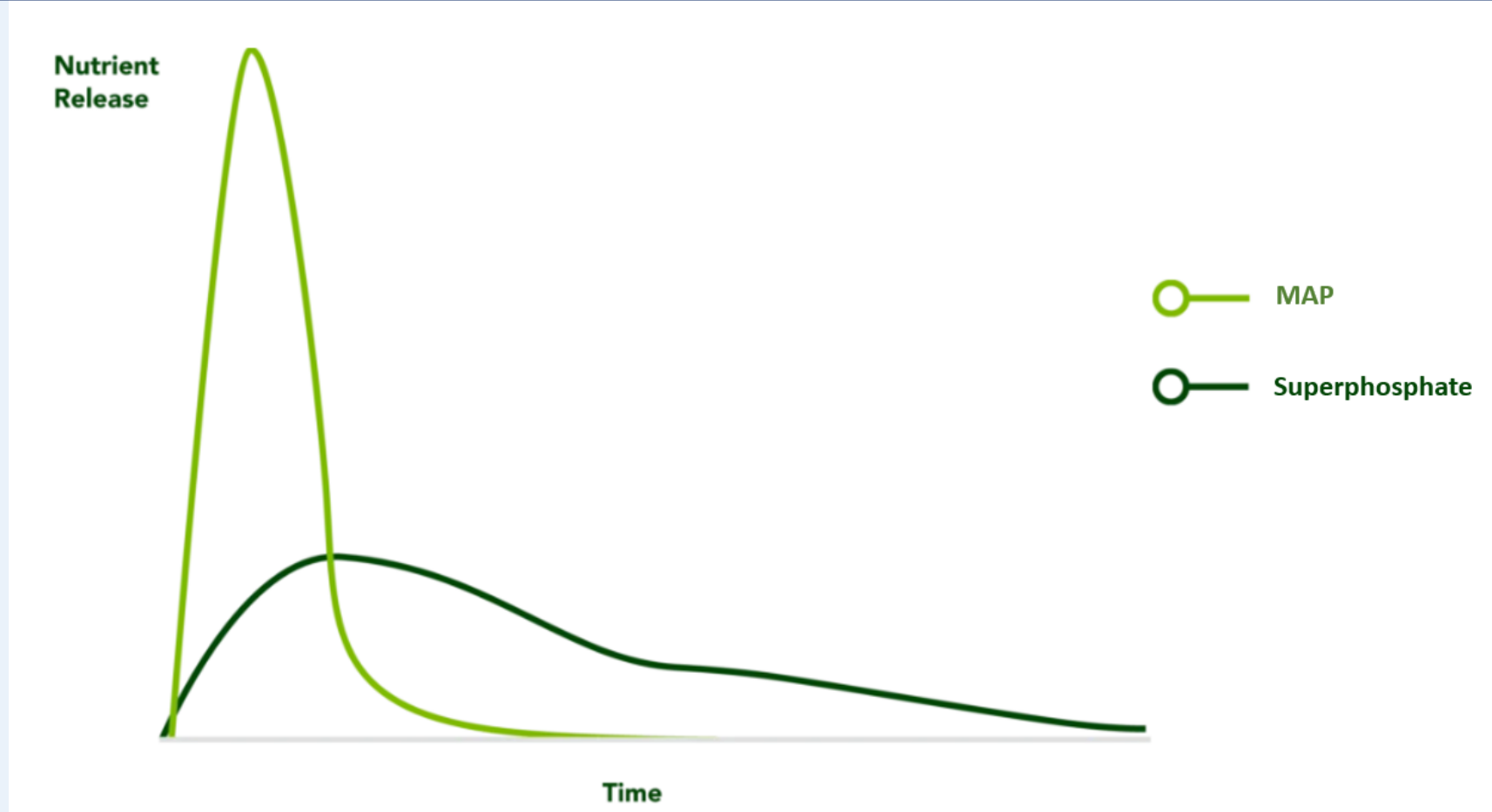
Putting the pH in Phosphate Uptake

In soils with challenging pH levels, OLTIN ASSP fertilizers avoid fixation and remains plant available.



Study Results: Superphosphate Maintains Phosphate Availability All Season

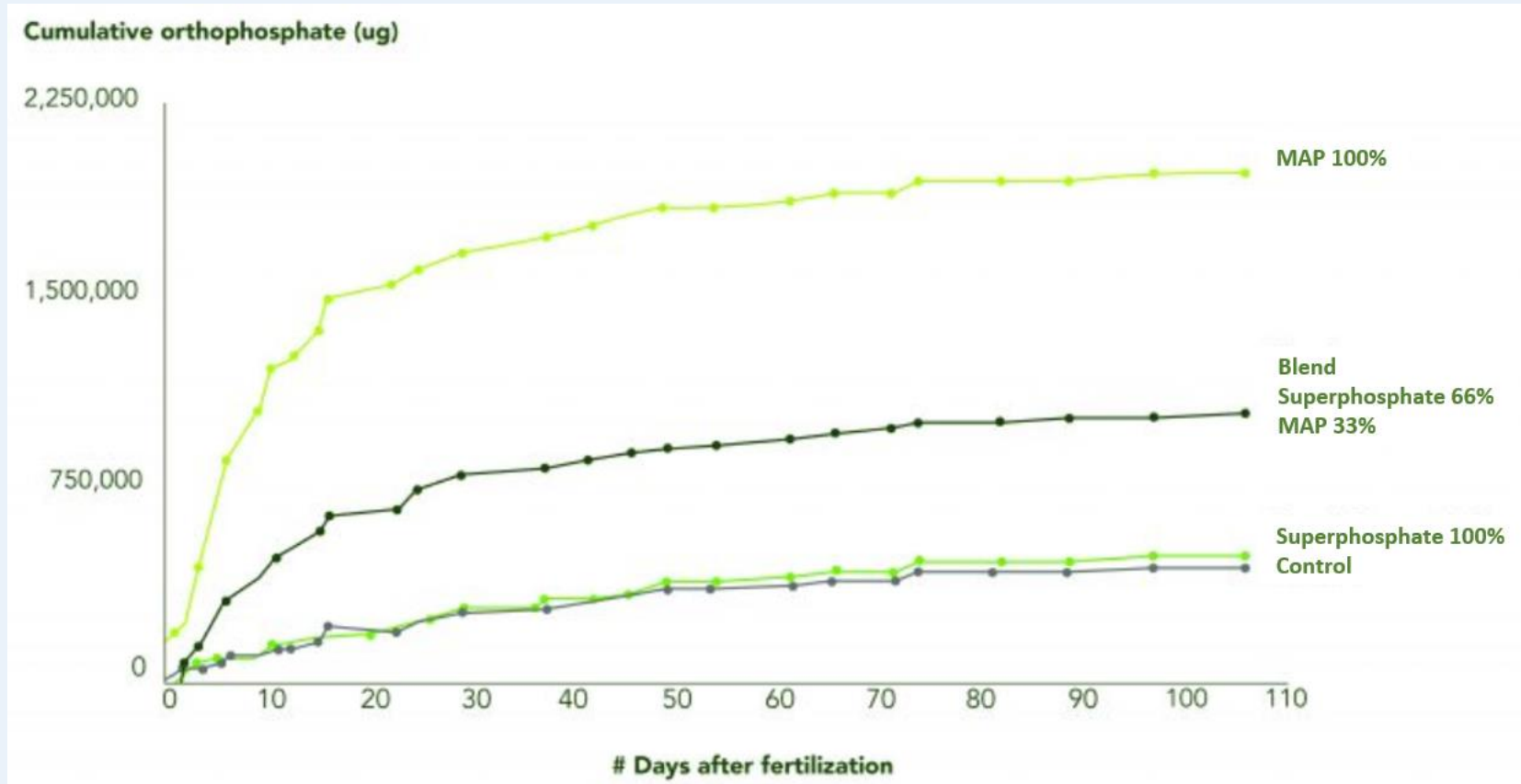
Superphosphate fertilizers are sparingly water soluble and only release phosphate in response to organic acids exuded by roots, ensuring phosphate remains available throughout critical crop development stages.



Typical availability pattern difference with MAP. Accelerated nutrient release study comparing Superphosphate to MAP. Data from Ostara funded study Applied Chemical Technology (SCT) in Alabama.

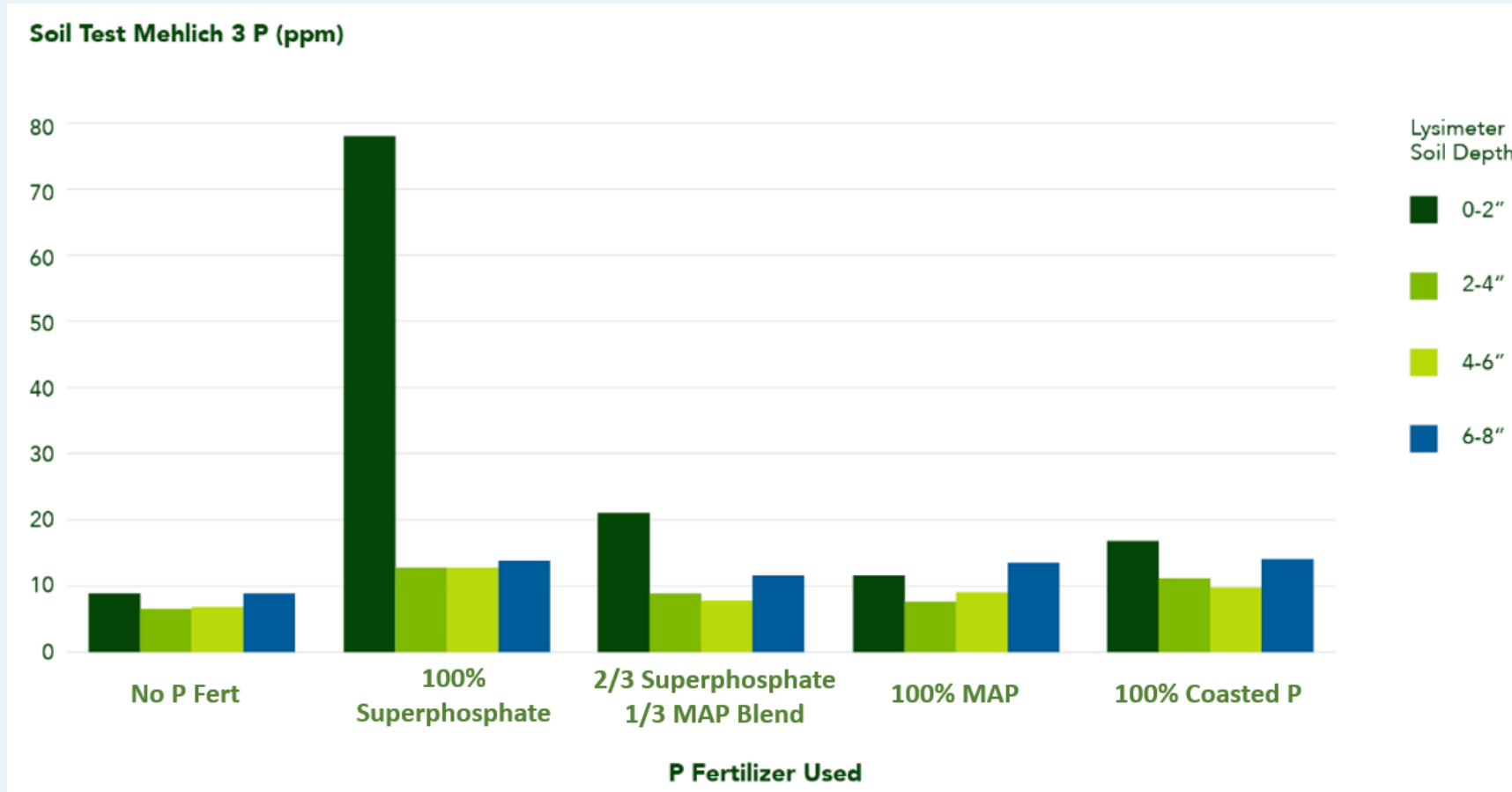
Study Results: Superphosphate Prevents Phosphate from Leaching into Soil

A study of cumulative orthophosphate in leachate as affected by phosphate sources show Superphosphate is considerably less prone to leaching when compared to water-soluble phosphate sources.



Study Results: Superphosphate Remains in Root Zone Weeks After Application

Extractable soil test – as affected by sampling depth and phosphate source – following eleven weeks of Bermuda grass establishment, shows Superphosphate remains in the soil profile for many weeks following application, providing a long-lasting supply of key nutrients.



THE CYCLE GROWTH OF COTTON CROP

- ASSP
- MA 5:23
- NPK 7:22:14
- NPK 5:17:10

- AN
- UREA

- SUPRA YELLOW 13:40:13
- SUPRA GREEN 18:18:18

- AMMONIUM NITRATE (FERGANA-AZOT)
- NPK 20:10:10

- SUPRA RED 10:10:40
- CARBOPHOS TEZ 42:5
- UREA (FERGANA-AZOT)



60-70 days from seedlings to first flower.

Flowers go from white, yellow, pink to deep red. Bolls appear 50-70 days after flower.

During the 15-20 days ripening stage they go from green to brown. About 45 days after boll appear they will be ripe for harvesting.

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Total growth cycle = 5-6 months.

THE CYCLE GROWTH OF WHEAT CROP

- ASSP
- MA 5:23
- NPK 7:22:14
- NPK 5:17:10

- SUPRA YELLOW 13:40:13
- SUPRA GREEN 18:18:18

- AMMONIUM NITRATE (FERGANA-AZOT)
- SUPRA RED 10:10:40
- CARBOPHOS TEZ 42:5
- UREA (FERGANA-AZOT)



Prepare
land



Sow
seeds



Manage
soil



Manage
water



Manage
pests



Manage
weeds



Harvest
cotton





PLEASE, SCAN FOR MORE DETAILS
ABOUT INDORAMA KOKAND
FERTILIZERS AND CHEMICALS JSC



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