



# KAP Minerals Bio-Reactive Fertility for Agriculture

Powered by North American Rock Phosphate

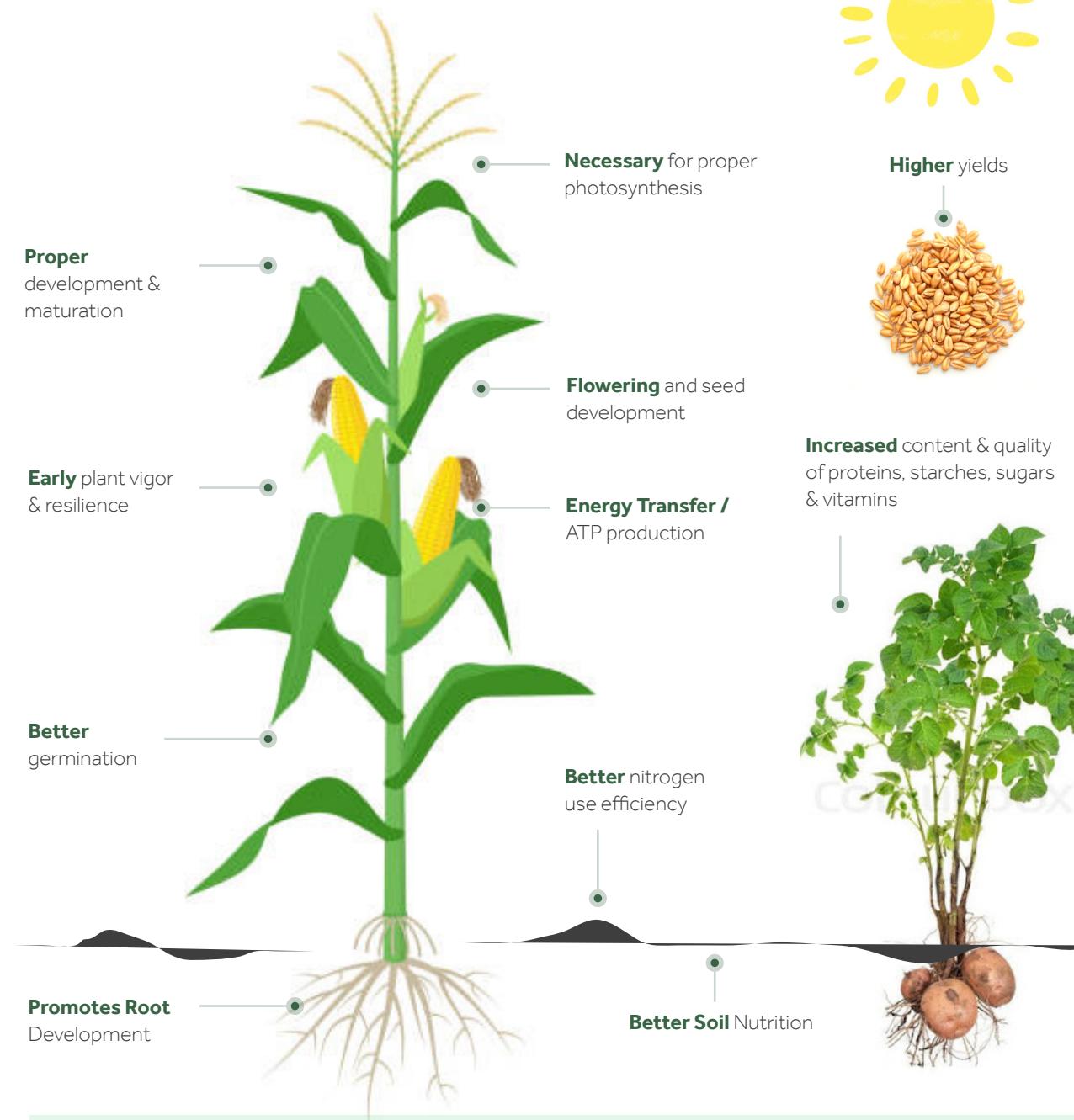


FEATURING



## THE ROLE OF PHOSPHORUS

A critical nutrient for plant health



**Phosphorus deficiency** leads to stunted growth, poor root systems, delayed maturity, and lower yield potential. It can be identified at the early vegetative stage as an abnormally dark green or reddish purple color along the edge of the lower plant leaves.



## PHOSPHORUS LEVELS IN NORTH AMERICAN SOILS

Soil phosphorus levels are deficient across key agricultural regions. Where sufficient phosphate levels are present, availability is low due to tie up with other elements.

More than 40% of cultivated soils are commonly deficient in P concentration. The Prairies in Canada have historically had low phosphorus levels, with over 80% of farm land being deficient, and likely to show a yield response to phosphorus fertilizer.

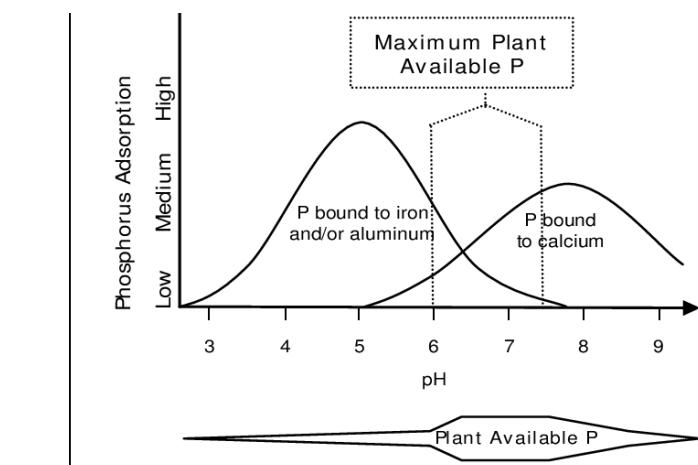
In The U.S. areas with high P deficiencies include sandy soils of the Atlantic and Gulf Coastal Plains.

## PHOS FACTORS

**Phosphorus only plays nice when the conditions are right!**

Most phosphorus deficiencies are observed in early spring in low pH soils ( $\text{pH} < 5$ ) during cool temperatures when it is needed the most. Deficiency can be induced under dry soil conditions for younger plants.

Soil pH significantly impacts phosphorus availability. Ideal levels are between 6 and 7.



**Fertilizer application and manure management play a crucial role in maintaining phosphorus levels in agricultural soils.**



### FOUNDATIONAL P SOURCE: KAP-PHOS

#### Coarse Rock Phosphate Fines

- 18–20% total  $P_2O_5$ , 5–7% available  $P_2O_5$
- Naturally contains Ca, Fe, Mg, and micronutrients
- Ultra-low cadmium igneous rock phosphate
- Ideal for blending, broadcasting, composting, incorporation
- Immediate availability for markets today



### PREMIUM GRANULE WITH FULL BIOLOGICAL SYSTEM: KAP-ACTIVE

#### Bio-Reactive PS Granular Fertilizer

- Micronized igneous phosphate + micronized sulfur
- Beneficial microbes + biochar seed core
- Polymeric activation layer improves P availability
- Season-long phosphorus and sulfur release
- Designed for broadacre, horticulture, turf, and specialty crops
- Ultra-low salt, safe for seedrow placement



### FOUNDATIONAL P SOURCE WITH ACIDIFYING BOOST: KAP-PHOS-S

#### Coarse Rock Phosphate Fines + Micronized Elemental Sulfur

- Provides microsite acidification to enhance P release
- Supports microbial solubilization
- Same ultra-low-cadmium phosphate source
- Ideal for all soils including alkaline soils and high-pH zones



### HIGH-SULFUR ENGINE FOR P SOLUBILIZATION IN TOUGH SOILS: ACTIVE S

#### High-Sulfur Bio-Reactive Phosphate Blend (0-5-0-50S)

- High sulfur concentration accelerates P solubilization
- Strong microsite acidification for high-pH or high-tie-up soils
- Biochar + microbial core for enhanced biological activation
- Ideal where P fixation is driven by Ca, Fe, or Al
- Season-long release with strong P–S synergy



**Bio reactive fertilizers** often referred to as biofertilizers or bio-based fertilizers, are products that harness biological processes—primarily involving beneficial microbes or organic compounds—to enhance plant nutrition, soil health, and overall crop productivity. Unlike conventional chemical fertilizers, these products are designed to work with natural soil biology, promoting sustainability and reducing environmental impact.



## PRODUCT USE

Situation / Soil Condition	Best Product	Why
High pH (7.5–8.2)	ACTIVE-S or KAP-PHOS+S & Kap-Active	Sulfur oxidation lowers microsite pH best results include S application
Neutral soils (6.2–7.2)	KAP-ACTIVE or KAP-PHOS	Balanced P release
Organic programs	KAP-PHOS / KAP-PHOS+S	Natural mineral, low Cd
Low biological activity, soil with years of synthetic fertilizer use	KAP-ACTIVE or ACTIVE S	Biochar + microbes
Composters / regenerative farms	KAP-PHOS	Season-long mineralization
Low Sulfur soils	ACTIVE S	High Value source of Sulfur

## HOW TO TRIAL KAP PRODUCTS ON YOUR FARM

Try a small acre block trial with two suggested rates based on soil test analysis. Apply based on phosphate requirement and at half the rate, and compare to a control plot without rock phosphate application, or a check plot with your conventional phosphate.

Be sure to add nitrogen to the KAP Product plots to match the check plot. Measure germination and emergence, root growth, shoot growth, crop vigour, phosphate tissue levels at early vegetative stages, and yield at harvest.



P <sub>2</sub> O <sub>5</sub> 18%	Ca 16%	Fe 5%	SiO <sub>2</sub> 10%
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### OVER 20% PHOSPHATE + ESSENTIAL MINERALS

Kap-Phos acts as a soil amendment and a fertilizer to provide essential phosphorus (P) and trace minerals to plants, while also enhancing soil fertility to better utilize important nutrients that are already present in the soil.

### CALCIUM RICH SOILS ARE FERTILE & PRODUCTIVE

Kap-Phos sets the soil by adding calcium to buffer the soil pH, neutralize heavy metals and acidic compounds and promote aeration, creating a microbial rich environment. This is essential for increasing phosphorus release from Kap-Phos while also rendering other soil nutrients more available and accessible to the crop.

### SLOW RELEASE IRON FOR GREEN UP & GROWTH

The presence of iron in Kap-Phos enhances chlorophyll production and overall plant health, contributing to a robust and productive growing environment. Especially consider the benefits of Iron for Turf.

## HERE'S HOW MICROBES INCREASE PHOS

**Mineralization:** Microbes decompose organic matter, converting organic P into inorganic P that plants love.

**Mycorrhizae:** Mycorrhizal fungi form symbiotic relationships with plant roots, extending their hyphae to access otherwise unavailable phosphorus.

**Solubilization:** Microbes produce organic acids that dissolve insoluble phosphorus compounds, making them soluble and available.

**PSMs:** These microorganisms actively solubilize phosphorus from insoluble compounds.

**Phosphatase Production:** Microbes produce enzymes that break down organic phosphorus compounds, releasing inorganic P ions.

Promote sustainable agriculture by sourcing natural resources that minimize your carbon footprint and benefit soil fertility for ongoing crop production.



### CROPS NEED PHOSPHORUS ALL SEASON LONG

**Kap-Phos** gradually releases phosphorus over time, providing a long lasting supply for crops as needed, minimizing losses to the environment, reducing the need for frequent applications, saving time and resources.

#### Soil Health & Seed Germination



#### Energy Transfer, Photosynthesis, & Cellular Respiration



#### Stress & Disease Resistance



### CALCIUM STRENGTHENS & PROTECTS

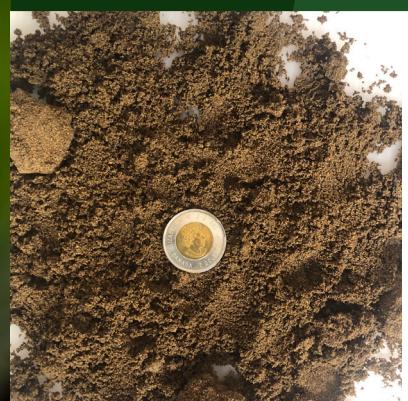
Forms Calcium Pectate to provide support and stability

Contributes to cell division and elongation for growth

Messenger in cellular signaling to respond to environmental stress

Helps with uptake and mobility of nutrients to ensure balanced nutrition

Strengthens cell walls and membranes to increase disease resistance



### APPLICATION GUIDELINES

**Timing:** After fall harvest, spring, at seeding

**Rate:** 150–400 lbs/acre. The recommended application rate varies depending on soil phosphorus levels, crop type, and specific growing conditions. Conduct a soil test for precise recommendations.

**Methods:** Broadcast, band, side dress, incorporate to optimize availability

### TECHNICAL SPECIFICATIONS

**Physical Form:** Powder or Granular

**Packaging:** Available in bulk, including bulk bags

**Shipping:** Pick it up, or we can ship it to you via the most economical route



# KAP-PHOS

## ROCK PHOSPHATE 0-6-0



### GUARANTEED ANALYSIS

Total Phosphate ( $P_2O_5$ )	18%
Available Phosphate ( $P_2O_5$ )	6%
Calcium (Ca)	16%
Iron (Fe)	5%

Derived from: **Rock Phosphate**

Use in accordance with recommendations of a qualified agronomist or according to an approved nutrient management plan. Apply at 150 – 600 lbs/acre.

**Keep out of reach of children and animals. Read label before use.**

NET WEIGHT KG/LBS

LOT NUMBER

BULK DENSITY  
90 lbs/ft<sup>3</sup>  
(1441.67 kg/m<sup>3</sup>)

If on skin: wash with plenty of water. Take off contaminated clothing and wash it before reuse. If in eyes: rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. Information on the content and level of metals may be found on the internet at <http://www.aapfco.org/metals.html>

**KAP**  
MINERALS

### SPREAD THE BENEFITS OF KAP-PHOS™

Boost crop vigor. Support soil health. Deliver long-term phosphate availability

#### KAP-PHOS™ & KAP-PHOS + S

Mixed with Micronized Sulfur for Optimum Phosphorous availability

- ✓ High-Quality Igneous Rock Phosphate
- ✓ Over 20% Total Phosphate
- ✓ Naturally Contains Calcium & Micronutrients & Trace Elements
- ✓ Clean, Consistent Powder for Broad-Acre Application
- ✓ Long-Lasting Residual Effect—Season After Season
- ✓ Safe for Seeds & Beneficial for Soil Microbes
- ✓ Sourced Locally - Direct from Kapuskasing, ON



High quality rock phosphate with ultra-low cadmium



#### SUPPORTING GROWERS & APPLICATORS

KAP Minerals partners with retailers and applicators to deliver locally sourced, low-carbon inputs that enhance soil fertility and crop performance

- ✓ Add value to your customers with a regenerative input
- ✓ Attract new growers looking for long-term phosphorus supply
- ✓ Align your services with sustainability goals
- ✓ Expand your custom application offerings



# KAP-PHOS

+ S 0-6-0



## GUARANTEED ANALYSIS

Total Phosphate (P <sub>2</sub> O <sub>5</sub> )	16%
Available Phosphate (P <sub>2</sub> O <sub>5</sub> )	6%
<b>Sulfur (S)</b>	<b>9%</b>
Calcium (Ca)	14%
Iron (Fe)	4%

Derived from: Rock Phosphate

Use in accordance with recommendations of a qualified agronomist or according to an approved nutrient management plan. Apply at 150 – 600 lbs/acre.

**Keep out of reach of children and animals. Read label before use.**

NET WEIGHT KG/LBS

LOT NUMBER

BULK DENSITY  
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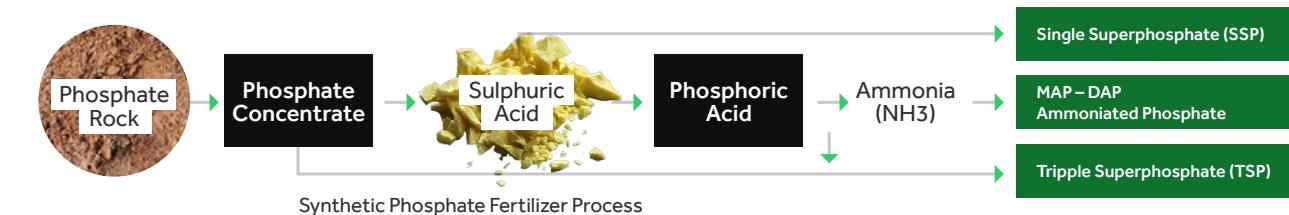
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# KAP-ACTIVE

## HOW ITS MADE

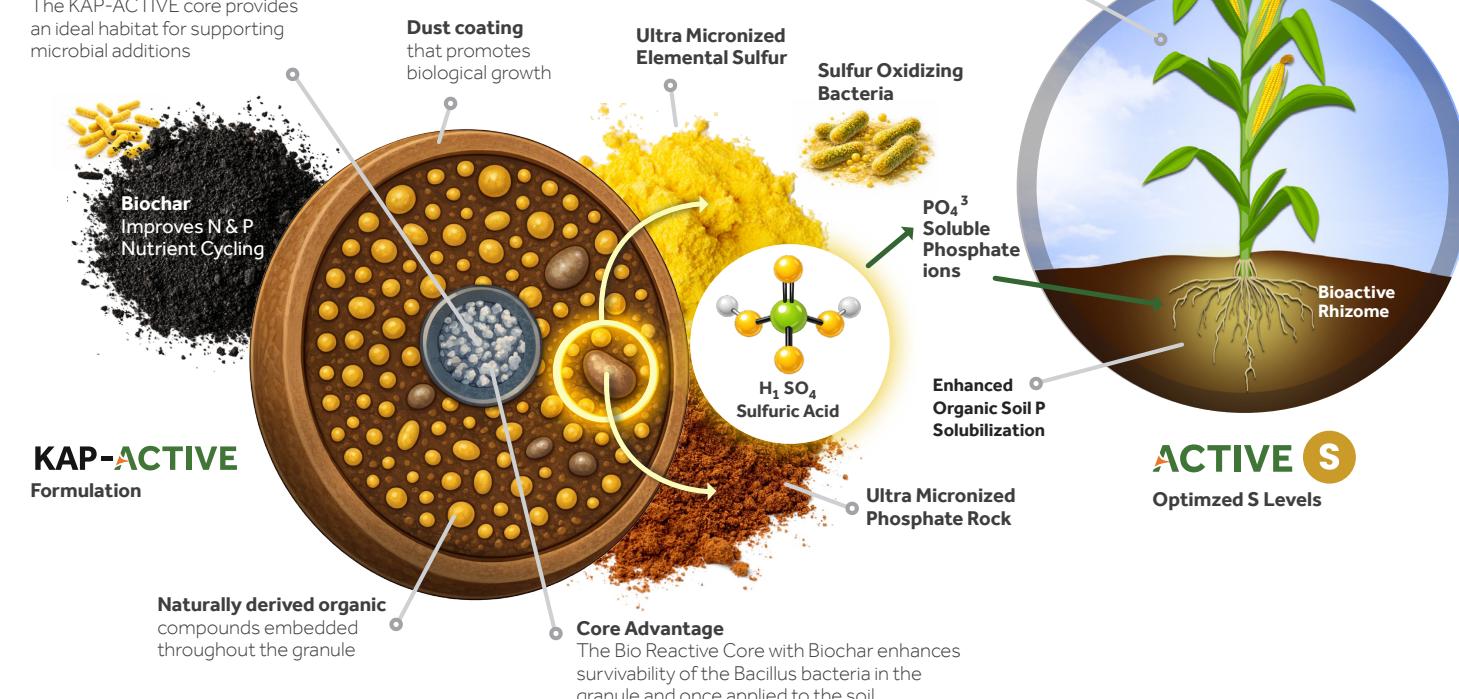
**The Synthetic Process** Phosphorous from rock phosphate, is ground into a fine powder and treated with sulfuric acid producing phosphoric acid. The phosphoric acid is reacted with ammonia to produce Monoammonium Phosphate (MAP)



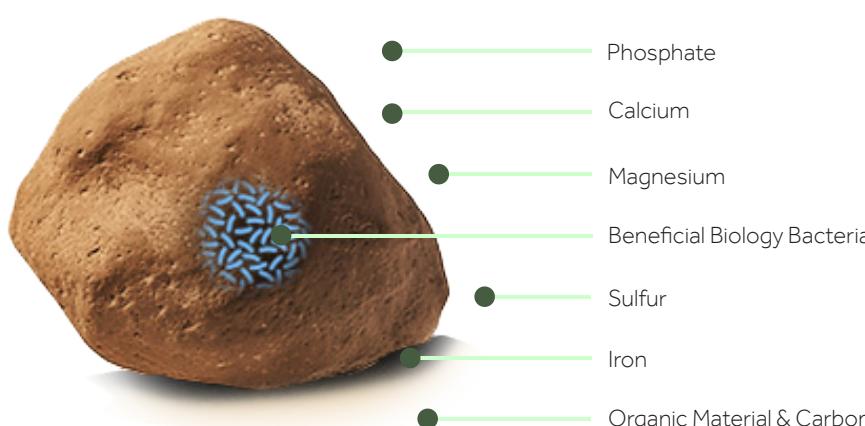
## BIO REACTIVE GRANULAR FERTILIZER

### Bio Reactive Core Technology With Beneficial Bacillus Bacteria

The KAP-ACTIVE core provides an ideal habitat for supporting microbial additions



## KAP-ACTIVE SPECIALIZED GRANULE



FEATURING  
**KAP-ACTIVE**



### KAP-Active Bio Reactive PS Fertilizer

**Technology** combines sustainable ingredients to allow the soil's microbiome to mimic the conventional phosphate production process (SSP), releasing soluble P2O5 throughout the growing season



- Unlike many imported fertilizers, our phosphate is sourced from ultra low-cadmium igneous rock, ensuring compliance with stringent Canadian and U.S. regulations
- Made from reclaimed waste materials



## KAP-ACTIVE GRANULATION FACILITIES

Building More Resilient Fertilizer Markets in Canada

**KAP Minerals** is developing the KAP-ACTIVE Regenerative Fertilizer Pilot Facility in Matheson, Ontario to produce next-generation bio-reactive sustainable fertilizers. The facility will support the production of the KAP-ACTIVE and ACTIVE-S Bio Reactive fertilizers with biological additions for Agriculture, Horticultural and Turf markets.

In parallel, KAP Minerals is also advancing a large-capacity KAP-ACTIVE facility at the KAP Critical Minerals Processing Center in Kapuskasing, Ontario. The granulation plant will utilize the KAP-Phos beneficiated phosphate to create Bio Reactive PS Fertilizers optimizing production efficiencies to produce a high-P<sub>2</sub>O<sub>5</sub>, all-in-one granule that supports soil health and crop yield.

### PROJECT OVERVIEW

- Matheson Pilot Plant Processing and R & D in 2026 Q3
- Up to 35,000 metric tonnes per year
- Planned high capacity production plant in Kapuskasing

### WHY USE KAP MINERALS FERTILIZERS

KAP-Active Bio Reactive Phosphate Fertilizer allows companies to offer their customers a superior, cost-effective, and Canadian-made alternative to imported fertilizers. This initiative represents a proactive solution to global supply chain challenges while delivering proven agronomic benefits.

**ACTIVE S**  **KAP-ACTIVE**





#### Micronized Sulfur

Elemental Sulfur acidifies microsites and mobilizes minerals. Together with micronized rock phosphate, the release of phosphorus is accelerated.

#### Microbial Activation

Phosphate-solubilizing microorganisms impregnated into the granule to solubilize P in the soil and promote root growth. Bacillus bacteria will enhance nutrient cycling and uptake.

#### Activated Organic Matter

Boosts microbial population and diversity in the soil. Add it to rock phosphate to naturally support phosphate solubilization.

**KAP Minerals** offers bio-reactive, carbon-containing, microbially supported phosphate-sulfur fertilizers designed to work with the soil, not against it. Synthetic fertilizers deliver fast solubility but are high-salt, short-lived, and degrade soil structure over time. KAP's formulations provide season-long nutrient availability, ultra-low salt, microbial activation, and long-term soil building, all backed by low-cadmium Canadian rock phosphate.

Feature / Attribute	KAP-ACTIVE (0-14-0-10S)	ACTIVE S (0-5-0-50S)	Typical Synthetic Phosphates (MAP / DAP / MES-type, SSP/TSP)
<b>P<sub>2</sub>O<sub>5</sub> Source</b>	Micronized igneous rock phosphate	Balanced P with very high S	Manufactured ammoniated phosphate (acid treated)
<b>Sulfur Source</b>	Micronized elemental sulfur (10%)	High sulfur (50%) micronized elemental S	Synthetic sulfate or ammoniated sulfate
<b>Solubility Pattern</b>	Gradual, biologically activated phosphate, seasonal availability	Gradual and strong sulfur oxidation	Immediate, short-duration, prone to phosphorus fixation or leaching
<b>Salt Index</b>	Extremely low	Extremely low	High salt index; risk to seedlings and soil microbes, imbalanced soil properties
<b>Biological Component</b>	Biochar seed core holding microbes	Biochar seed core + microbes with strong sulfur driven microbial activity	None (sterile, often inhibitory to biology/microbes)
<b>Season-long release</b>	Yes, microbial & S-oxidation driven release	Yes, with a strong P and S synergy	No, front-loaded, high spike & crash
<b>Soil Building</b>	Adds carbon, microbes, builds soil structure, and enhances OM	Adds carbon, microbes, builds soil structure, and enhances OM	Depletes soil Carbon & microbial life over time
<b>pH Reactivity</b>	Sulfur oxidation reduces pH locally, improving phosphorus availability	Localized pH drop enhances phosphorus availability from fertilizer and soil stores	Raise pH locally, or strong acidification depending on fertilizer source
<b>Environmental Profile</b>	Low carbon emissions, low cadmium, carbon-carrying granule	Low carbon emissions, low cadmium, carbon-carrying granule	High carbon emissions; higher heavy metals depending on source
<b>Seed Safety</b>	Excellent (biochar + low salt)	Excellent (biochar + low salt)	Moderate to high salt injury risk
<b>Nutrient Spectrum</b>	P, S, Ca, Fe, Mg, Zn, Mn + carbon + microbes	S-dominant + reactive P + Trace Micros + carbon + microbes	P-dominant only; little to no Ca, Fe, OM, or biological enhancers
<b>Economic Value</b>	Lower use rates long-term due to improved efficiency	Cost-effective S replacement + P synergy	High annual input cost due to inefficiency & nutrient fixation

#### WHY CHOOSE KAP-MINERLAS PRODUCTS

##### Builds Soil Biology

KAP-ACTIVE products work with soil biology rather than against it. Biochar and beneficial microbes enhance phosphorus solubilization, support microbial colonization, and reduce nutrient tie-up. Instead of the sterile, high-salt nature of synthetic fertilizers, KAP products promote long-term soil health and biological resilience.

##### Season-Long Nutrient Release

Unlike synthetic phosphates that dissolve quickly and become fixed to calcium, iron, or aluminum, KAP products use micronized rock phosphate, micronized elemental sulfur, and microbial activation to create a biologically controlled release curve. This provides steady nutrient availability for months, not days, ensuring crops receive phosphorus and sulfur throughout the season.

##### Low Salt & High Seed Safety

KAP granules contain no ammonium and avoid salt-forming chemical reactions, resulting in extremely low salt index and excellent seed-row safety. Biochar adds buffering capacity and protects emerging seedlings. In contrast, high-salt synthetic fertilizers can cause osmotic stress, root burn, and localized microbial suppression.

##### More Nutrients, Lower Footprint, Better Economics

Each KAP granule delivers phosphorus, sulfur, calcium, iron, trace minerals, carbon, and biological stimulants, far more than conventional phosphate fertilizers. With low cadmium levels, a carbon-carrying granule, and a lower carbon intensity, KAP products reduce environmental impact while also lowering long-term input costs by minimizing fixation, improving efficiency, and decreasing the need for repeated applications.

## 3 KEY FEATURES

### Soil-Interactive

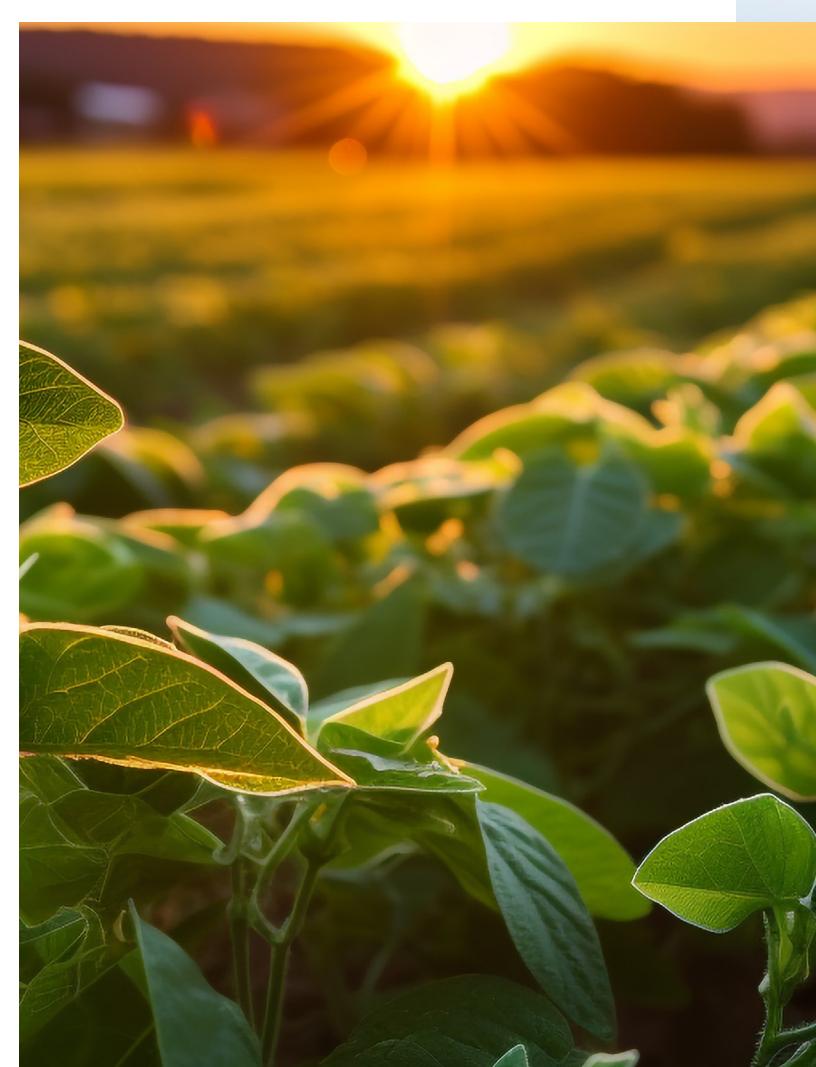
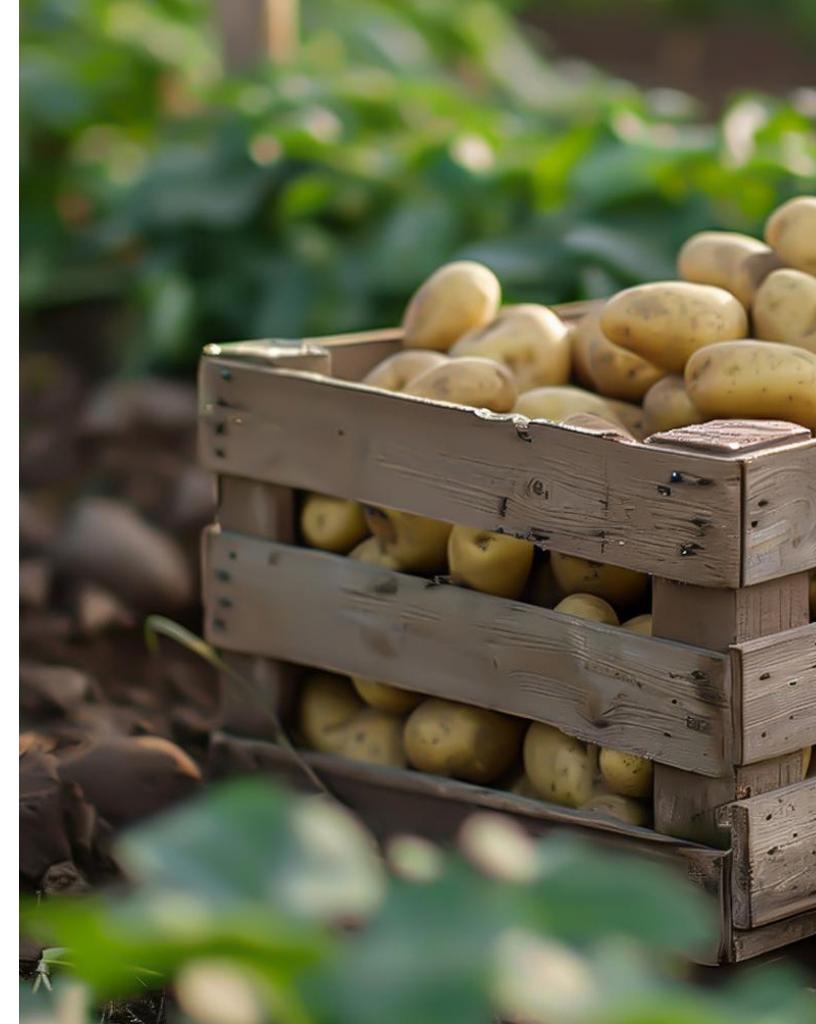
Phosphate-solubilizing Microorganisms (PSM) produce organic acids that dissolve insoluble phosphate from rock phosphate into bioavailable forms like orthophosphate. By layering this blend with compost and micronized sulfur, we see substantial conversion of rock phosphate into usable forms.

### Root-Synergistic

Beneficial microbes, and carbon substances in KAP-PHOS assist plant roots in releasing organic acids and growth promoting substances to improve the rhizosphere. We see better nutrient assimilation when the soil environment is optimized for uptake.

### Plant-Ready

Less phosphorous loss through nutrient binding to organic matrices for gradual release and better uptake by the plant, enhancing fertilizer use efficiency. When used as part of a fertilizer program, KAP-PHOS activated enhances quality and yield.



### CURRENT TIE-UP FACTORS IN KAPUSKASING ROCK PHOSPHATE

#### Phosphorus Tie-Up Mechanisms:

- Tie-up can occur with strong cations
- Primarily with calcium and iron
- Moderate aluminum influence

KAP's activation technology overcomes these barriers by using sulfur oxidation and microbial solubilization

### WHY CHOOSE KAP-ACTIVE BIO REACTIVE PHOSPHATE FERTILIZER?

- Sustainable and regenerative production process
- Ultra-low heavy metals, ensuring food safety
- Supports soil health and microbiome development
- Reduces nutrient runoff and losses
- Circular economy: Uses reclaimed phosphate, sulfur, & organic matter
- Future-ready: Meets the needs of regenerative agriculture & low-carbon farming



## APPLICATIONS FOR TURF

### Turfgrass, Parks & Home Lawns

KAP-Active Turf Grade is an ideal solution for turf managers, landscapers, and home and garden retailers seeking enhanced phosphorus availability with added soil health benefits. The small granule product size improves particle distribution and contains phosphate, micronized sulfur, iron, and beneficial microbes, supports vigorous root growth, dense canopy formation, and sustained green color throughout the growing season.

**Available in bulk bags**  
for commercial use and  
25–50 kg bags for retail, with  
smaller 2.2 kg bags under  
development for online and  
garden center distribution



### Why Turf Professionals Choose KAP-Active

- Promotes strong root development and early turf establishment
- Enhances fertilizer use efficiency with bio-activated phosphorus and season long supply to reduce repeat applications
- Improves turf resilience to drought and foot traffic
- Includes the "Green Team" - Sulfur and Iron that work together for vibrant lasting green without excessive top growth.
- Works with nature. Naturally sourced and organic.

## HORTICULTURE

### KAP-Active in Horticulture, Greenhouses and Market Gardens

KAP-Active supports fruit, vegetable, flower, and ornamental crop development by delivering season-long phosphorus with microbial & sulfur activation. Especially effective in high-value horticulture, its fine granulated or micronized form allows for easy integration into greenhouse, nursery, or field operations.

#### Key Benefits

- Encourages early root & shoot development in transplants
- Supports flowering, fruit set, & improved quality of harvested produce through higher Brix content
- Compatible with compost & organic blends to enrich potting & field media
- Safe & effective in organic & conventional horticultural programs

- The micronized format is suitable for liquid fertigation through drip tube systems

Whether applied through broadcast, drip irrigation, or incorporation into growing media, KAP Phosphorous products provide reliable, soil-interactive nutrition for a wide range of specialty crops.



## Q & A FOR ALL FOUR KAP MINERALS PRODUCTS

### PRODUCT ORIGIN, LOCATION, & SUPPLY

#### Where do the KAP products come from?

All four KAP products originate from the Kapuskasing, Ontario carbonatite-phosphate complex, the only Canadian igneous phosphate source with ultra-low cadmium levels. The granulated products, KAP-ACTIVE and ACTIVE-S, will be manufactured in Matheson, Ontario beginning Summer 2026, while KAP-PHOS and KAP-PHOS+S are available now.

#### How are the products transported?

KAP-PHOS and KAP-PHOS+S ship today by rail or truck in bulk or totes. KAP-ACTIVE and ACTIVE-S will be shipped as finished granules compatible with retail handling, blending, tendering, and application systems. Ontario beginning Summer 2026, while KAP-PHOS and KAP-PHOS+S are available now.

### PRODUCT TYPES, FORMS, & AGRONOMIC FIT

#### What are the differences between the four products?

KAP-PHOS is a coarse igneous rock phosphate supplying long-term mineral phosphorus, calcium, iron, and micronutrients.

KAP-PHOS+S combines the same phosphate with micronized sulfur to enhance microsite acidification and increase phosphorus release.

KAP-ACTIVE is a premium bio-reactive granule containing micronized phosphate and sulfur, biochar, beneficial microbes, and an activation layer for season-long nutrient release.

ACTIVE-S is a high-sulfur bio-reactive granule designed for stronger microsite acidification and improved phosphorus solubilization in high-pH or high-tie-up soils.

#### Which product is best for my soil?

KAP-PHOS fits regenerative programs, composting, acidic to neutral soils, and long-term soil building.

KAP-PHOS+S fits alkaline soils and areas with strong calcium or iron fixation.

KAP-ACTIVE fits broadacre production where season-long release, seed safety, and microbial activation are priorities.

ACTIVE-S fits high-pH soils, tight phosphorus soils, and systems requiring strong sulfur-driven nutrient release.



## Q & A FOR ALL FOUR KAP MINERALS PRODUCTS

### APPLICATION & TIMING

#### When should I apply for best results?

Fall is ideal for all four products because it allows time for sulfur oxidation, microbial activation, and mineral integration before spring demand. Spring application is also effective, especially with KAP-ACTIVE and ACTIVE-S, which are seed-safe and activate biologically even in cooler soil conditions.

#### Can these products be applied before seeding?

Yes. KAP-ACTIVE and ACTIVE-S can be placed in the seedrow or sideband due to their low salt index and biochar buffering. KAP-PHOS and KAP-PHOS+S are typically broadcast or incorporated pre-seeding.

#### Do these products need moisture to activate?

Yes. Moisture drives sulfur oxidation and microbial activity. Unlike MAP and DAP, which depend on chemical reactions, KAP products respond through biological processes.

### PERFORMANCE & RELEASE CHARACTERISTICS

#### How fast do the products work?

KAP-ACTIVE and ACTIVE-S begin working once soil moisture is present, with micronized sulfur and microbes increasing phosphorus availability within weeks and continuing throughout the season. KAP-PHOS and KAP-PHOS+S release steadily, supporting multi-year soil fertility building.

#### Are the products seed-safe?

Yes. KAP-ACTIVE and ACTIVE-S have extremely low salt index values, making them safe for seedrow use. KAP-PHOS and KAP-PHOS+S are broadcast or incorporated rather than placed with seed.



## Q & A FOR ALL FOUR KAP MINERALS PRODUCTS

### COMPARISON TO MAP & DAP

#### How do these products compare to MAP or DAP?

MAP and DAP provide a fast, soluble phosphorus dose that often becomes fixed by calcium, iron, or aluminum within days. They are high-salt, can damage seedlings, and do not support soil biology. In contrast, KAP products release nutrients gradually through biological processes, reducing fixation losses. They contain sulfur, calcium, iron, trace minerals, carbon, and beneficial microbes. They are low-salt, seed-safe, and improve soil structure and biological function over time.

#### Why should I switch from my MAP or DAP program?

KAP products improve nutrient-use efficiency by releasing phosphorus steadily rather than all at once. They build soil health, reduce fixation, provide broader nutrient value, and support microbial cycling. Over time, this leads to reduced phosphorus requirements, improved plant resilience, and a better return on nutrient investment.



### ECONOMICS & PRICING

#### These products cost more than MAP or DAP due to high application rate requirements. Why pay more?

MAP and DAP pricing is based on total phosphorus, not usable phosphorus. A large portion becomes fixed and unavailable. KAP products deliver more usable phosphorus per applied pound through season-long biological release. They also provide sulfur, calcium, iron, trace minerals, and a biological component in a single product. Long-term soil improvements reduce future fertilizer needs and improve overall efficiency.

#### What is the economic return?

Higher nutrient-use efficiency, improved rooting, better sulfur availability, and long-term phosphorus mineralization generate cumulative multi-year benefits. Although the analysis number is lower, the effective phosphorus delivered to the crop is higher due to reduced fixation and extended availability.

## Q & A FOR ALL FOUR KAP MINERALS PRODUCTS

### SOIL BIOLOGY & MICROBIAL QUESTIONS

#### Why should I add microbes to my soil?

Microbes convert mineral phosphorus into plant-available forms throughout the entire season using both the phosphorous from the product and the phosphorous currently present in the soil. They support early rooting, enhance nutrient uptake, and create a more resilient soil ecosystem. Microbes also accelerate sulfur oxidation and optimize microsite pH.

#### Will microbes survive in my soil conditions?

Yes. The strains used in KAP-ACTIVE and ACTIVE-S are selected for cold-tolerant activity, compatibility with mineral phosphorus and sulfur, and survive within the biochar seed core.

### BLENDING & EQUIPMENT

#### Can these products be blended with other fertilizers?

Yes. KAP-ACTIVE and ACTIVE-S granules blend well with common dry fertilizers, including MAP, potash, urea, ammonium sulfate, and micronutrient mixes. KAP-PHOS and KAP-PHOS+S can be included in regenerative blends, compost mixes, and soil amendment programs.

#### Can I apply these products with my existing equipment?

Yes. Granules fit airflow spreaders, drills, air seeders, planters, strip-till systems, and broadcast rigs. Coarse products fit lime spreaders, airflow spreaders, compost spreaders, and broadcast equipment.

### DATA, DEMONSTRATIONS, & PROOF

#### Where is the data?

Laboratory analysis and microbial viability data are available. Growth room programs are planned for this winter. Field trials with third-party partners will expand through 2025. Grower demonstration programs will be available for KAP-ACTIVE and ACTIVE-S.

#### Can I get samples?

Yes. Samples for all 4 products are available.





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