RENEWABLE NUTRIENTS

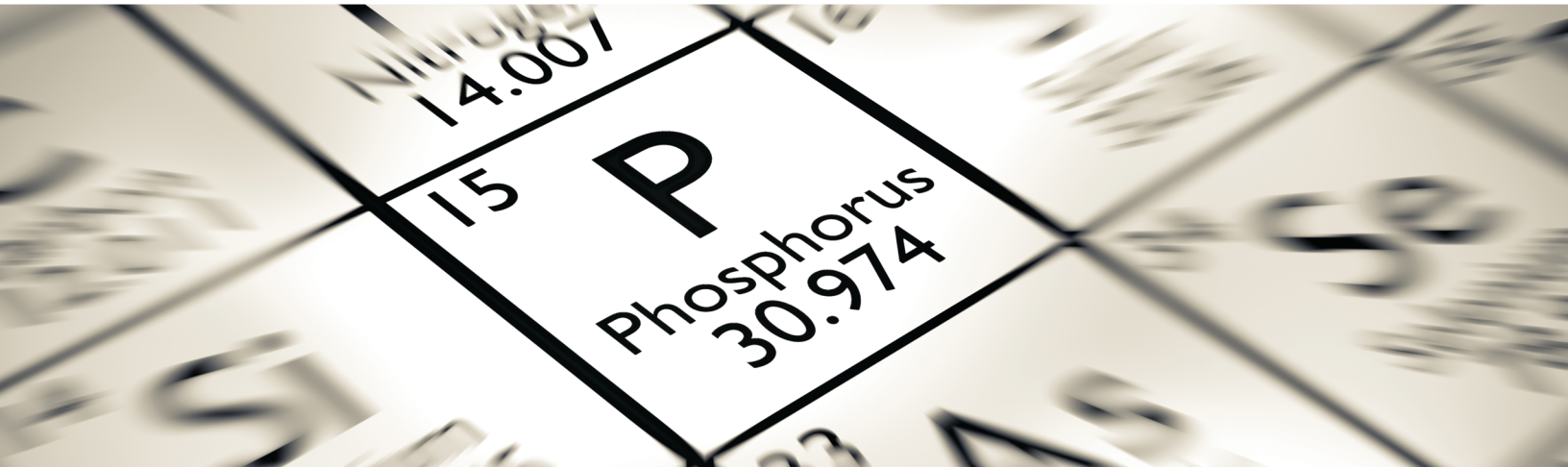
QUICK WASH™

Phosphorus Extraction and Recovery

Calcium phosphate

Quick Wash™ recovers phosphorus in the form of calcium phosphate.

Quick Wash is one of the most flexible phosphorus extraction and recovery solutions available in the municipal, industrial and agricultural markets, effective at extracting and recovering 95% or more of the phosphorus present in biosolids.



Facts about calcium phosphate

- Quick Wash™ recovers phosphorus from municipal, industrial, and agricultural waste streams in the form of calcium phosphate.
- Calcium phosphate is comparable in fertilizer performance to triple super phosphate (TSP) and single super phosphate (SSP).
- Over 99% of the phosphoric acid (P2O5) in recovered calcium phosphate is plant available.
- The recovered calcium phosphate is in the form of an amorphous calcium phosphate (ACP), which is more soluble than crystalline calcium phosphates (e.g., hydroxylapatite – typically found in fish bones, other vertebrates, and corals).
- Studies by USDA demonstrate plan biomass production just as efficient with calcium phosphate as TSP and SSP.

Recovered calcium phosphate vs. typical phosphorus fertilizers

Fertilizer	Fertilizer content (% of P_2O_5)
Single Super Phosphate (SSP)	16–22%
Triple Super Phosphate (TSP)	42–53%
Quick Wash™ Calcium Phosphate	26%

Plant availability of phosphorus

Fertilizer	Plant availability of P
Single Super Phosphate (SSP)	97–100%
Triple Super Phosphate (TSP)	97–100%
Quick Wash™ Calcium Phosphate	99.8%

Sources:

1. Bauer, P., Szogi, A., Vanotti, B. "Agronomic Effectiveness of Calcium Phosphate Recovered from Liquid Swine Manure," *Agronomy Journal*, Volume 99, No. 5, 2007.
2. Szogi, A., Bauer, P., Vanotti, B. "Fertilizer Effectiveness of Phosphorus Recovered from Broiler Litter," *Agronomy Journal*, Volume 102, No. 2, 2010.

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