



ECTOL Phosta K - Natural Potassium (30% Potassium, 8% Sulphur, 8% Calcium)

Background

Incinerated wood ash has been used as fertiliser for hundreds of years. In fact, records from 500A.D. show that the ash from fires was used as a fertiliser.

The name Potash comes from *Potaschen* a Dutch word to describe the process of soaking wood ash in pots in 1477. The name for the element Potassium is derived from Potash and the early benefits are still recognised. Wood ash was used as a soil conditioner to help break up clay soils and increasing soil pH by the addition of Potassium and Calcium Carbonate.

Today the principle of adding incinerated plant waste as a source for plant nutrition still works but as expected, refinements have occurred. Tree waste was initially used but other plants have naturally higher levels of Potassium. Residues from tree processing are no longer used due to the high bark content (very low K) and the presence of the timber preservatives means that ash from tree processing cannot be used as a source of Potassium.

With ECTOL Phosta K, we only use 100% natural, plant-based material. Incineration is a complex process with temperatures controlled to optimise the best composition of the residue. The incinerated residues are ground and granulated. We use the naturally hard carbon skeleton to hold the water-soluble components in a form that allows for perfect spreading.

Of note, the carbon skeleton remains for up to 4-5 months. The water-soluble components have been leached out in a much shorter period. This is common and to be expected.

Incineration of the plant waste leaves all the non-volatile components of the plant. Not only do we get Potassium but also Phosphate, as well as Calcium, Magnesium and all the trace elements that were in the plant at the time of incineration. It is more than simply a Potash source. All the non-volatile minerals are still present.

The Phosphate, up to 2% content, is highly citrate soluble. Simple chemistry tells us where a cation (positively charged) moves, an anion (negatively charged) will also go. The Potassium and the Phosphate will move quickly across plant membranes to allow for quick uptake.

It is commonly known that incinerated plant waste, whether wood or otherwise, are alkaline by nature. Adding PK to your soils will increase soil pH to a small degree for a short time. This is likely to have a positive effect as the increase in pH will activate some soil microbial life.

Trial data from overseas show better results for ECTOL Phosta K when compared to MOP when applied at the same rates to sugar cane. It has been speculated that it is the presence of the other components in the mixture of ECTOL Phosta K that contributes to the better growth.

Such a mixture of elements gives more to a plant than a simple salt, like MOP or SOP. More trial work is planned to confirm these preliminary results.

Of note, it is common to smell small amounts of ammonia when opening the bags of ECTOL Phosta K. The ammonia has come from the degradation of organic material like plant proteins and other organic material. The N content of ECTOL Phosta K is naturally low due to the temperature of incineration.

ECTOL Phosta K

- Origin: Indonesia, derived from the Sugarcane Industry
- Specifications: Has Bio-Gro certification under Forthright (Bio-Gro 5294)
- Product: Prilled 3-5.5mm granules for application via a seeding machine or as a top dress, and a non-prilled powder.
- Packaging: Available in 1,250kg bulker bags, bulk will be available as demand grows.

ECTOL Phosta K Specifications

- 36% as K₂O = 29.88% as elemental K, 8.6% as S, 8% Ca, 1% P, + Traces, Fe, Na, N, Mn, Zn, Cu,

Test Results								
Sample Name	N Nitrogen %	P Phosphorus %	K Potassium %	S Acid Sol. Sulfur %	Ca Calcium %	Mg Magnesium %	Na [†] Sodium %	Fe Iron %
Phosta K	0.1	0.8	29.9	8.6	8.0	2.4	0.16	0.44

Test Results								
Sample Name	B [†] Boron ppm	Cu Copper ppm	Mn Manganese ppm	Zn Zinc ppm	Mo [†] Molybdenum ppm	Co [†] Cobalt ppm	Se [†] Selenium ppm	As [†] Arsenic ppm
Phosta K	25	41	416	132	<10	<10	<10	5.2

Test Results							
Sample Name	Cd [†] Cadmium ppm	Cr [†] Chromium ppm	Hg [†] Mercury ppm	Ni [†] Nickel ppm	Pb [†] Lead ppm	TC [†] Total Carbon %	H ₂ O [†] Moisture %
Phosta K	<1	10	<0.1	9	1.7	1.9	6.7

- The form of Potassium in ECTOL Phosta K is as follows:
 - Potassium Sulphate
 - Potassium Carbonate
 - Potassium Phosphate

These three compounds will greatly enhance plant efficiencies and may explain why we see the responses displayed to date, as these 'other cations will move across plant.'

For more information contact ECTOL Plant and Crop Nutrients.