

TRIGGERING BETTER POTATO YIELDS WITH SOIL HEALTH IMPROVEMENTS

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Humic substances comprise three distinct groups: humic acids, fulvic acids and humin. Humic acids can have beneficial effects on soil function such as improved biological activity, nutrient activity, cation exchange capacity, pH buffering, carbon sequestration, soil water relations (Schnitzer, 2000) and plant biomass (Nardi et al. 2002).

Humic substances are a heterogeneous mixture of organic materials, created by the decay of plant and animal residues. As organic materials, they are a good source of carbon and provide a food source for soil microorganisms, bacteria, algae, fungi, and earthworms.

Increasing the humic content in soils, has the potential to improve overall soil health resulting in healthier crops that are better able to withstand abiotic and biotic stress.

Humic acids are soluble at pH>2. Fulvic acids are the fraction of humic substances, which are water soluble at all pH. Humin is the fraction of humic substances, which is not water soluble.

TRIGGER® is a new humic granule developed by Incitec Pivot Fertilisers containing both humic and fulvic acid. It's a hard granule



with a high crush strength, 2.4-2.6mm in size, low dust and air dried, helping it maintain the integrity of functional groups and making it ideal for blending with most custom-made blends. It can pass through fertiliser equipment with relative ease and can be broadcast, air-seeded or banded at planting. Typical rates vary from 6 to 50kg/ha.

A three-year experiment on potatoes grown in Idaho on low organic matter (1%), calcareous soils (pH>8), demonstrated that incorporation of liquid humates at planting at a rate of 2.64 to 5.2 litres/ha results in increased petiole P uptake, increased tuber size and an increased gross return per hectare of \$USD61. Potato growers in Australia are now also taking advantage of the benefits of Trigger by blending with their base planting mixes and applying at rates of 40kg/ha.

In other crops such as capsicums and lettuce from Virginia region in SA, including humates has also been shown to help improve yield and quality, boosting the bottom line to the grower by helping to buffer against salts (Cl and Na) in the soil. Further work continues in this area.

For more information on TRIGGER please click [here](#).

Further Information

For more information on TRIGGER, feel free to contact:

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