



More resilience, more productivity, powered by biology



EndoFuse™ from Sumitomo Chemical is a plant and soil enhancement product that contains arbuscular mycorrhizae fungi (AMF). Mycorrhizae are beneficial fungi that naturally exist in soils colonising the root systems of plants. EndoFuse includes 4 high performing endo-mycorrhizae species that have been proven to increase crop resilience, productivity and overall plant and soil health.

Key areas EndoFuse has been shown to impact:

- **Crop resilience under plant stress conditions**
- **Crop yield**
- **Root and shoot biomass**
- **N, P, K and trace mineral uptake**
- **Water uptake during moisture stress**
- **Improved resilience against disease and pest attack**
- **Soil health**

Sugarcane response to AMF

Sugarcane like 80% of all plant species forms a mutually beneficial bond with AMF with responses to inoculation ranging from highly beneficial to minor depending on individual paddock circumstances. The circumstances where sugarcane will show the greatest responses are:

- Where paddock has been cultivated. Cultivation breaks up existing mycorrhizal hyphae networks and reduces the propagule bank available for new plantings.
- Where paddock has been in fallow, devoid of living plants. AMF levels have been shown to deplete quickly in the absence of a living host.
- In poor soils with low fertility. AMF improve overall soil health and improve access to soil nutrients.
- Soils with sodicity or salinity issues. AMF can survive and colonise crops in soils with high sodicity or salinity helping crops to grow productively in otherwise hostile soil environments.



EndoFuse can easily be applied to cane billets prior to planting or in-furrow at planting.

Easy to apply liquid formulation

EndoFuse is an extremely concentrated highly uniform liquid formulation designed to be easy to apply. For Sugarcane it can easily be pre-applied to cane billets or applied in-furrow with billets at planting.



EndoFuse comes in convenient 500 mL packs that treat between 35-50 ha of sugarcane.

Sugarcane can be highly responsive to AMF inoculation. Photo of sugarcane AMF trial at Farnsfield – Queensland, 2017.





ENDOFUSE – MORE RESILIENCE, MORE PRODUCTIVITY, POWERED BY BIOLOGY

Directions for use

Sugarcane	In-furrow	10-15 mL/ha	<p>Apply in-furrow with cane billets so that the solution contacts the cane billets to ensure root contact at germination.</p> <p>OR</p> <p>Apply as a cane billet treatment at a sufficient rate per tonne of billets to give 10-15mL of product per hectare when planting rate is accounted for. If applying as a cane billet treatment, mix with water at a sufficient dilution to adequately cover all the billets..</p> <p>10-15 mL of EndoFuse mixed with a minimum of 30 L and a maximum of 100 L of water per hectare of cane billet equivalent is recommended. Refer to the product label compatibility section when mixing with other products.</p> <p>Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension.</p>
	or Cane billet treatment	10-15 mL/ha of cane billets	

Refer to label for full directions for use. DO NOT mix with the cane sett treatment, Shirtan.

Crop relationship with mycorrhizae

Many crops grown in rotation with sugarcane are also highly dependent on AMF. Some crops are more dependent than others, the table below indicates the level of responsiveness of various crops.

Arbuscular mycorrhizal dependency of various crops species

Mycorrhizal dependency	Crops
Very high	Cotton, Maize, Pigeon peas, Lablab
High	Sugarcane, Peanuts, Sunflowers, Soybeans, Navy beans, Mungbeans, Sorghum, Chickpeas
Medium / Low	Wheat, Field peas, Oats
Independent	Canola, Lupins

Soybeans, mungbeans, and peanuts commonly grown in rotation with sugarcane are also highly dependent on AMF for good growth. Inoculating with EndoFuse and rhizobium in a single slurry is an ideal way to apply it.



Trial results

In a trial conducted on sandy loam soil at Farnsfield, Queensland in 2017 AMF inoculated sugarcane produced 5.01 and 5.47 T/ ha yield increases compared to the untreated crop where 2 different rates were tested.

	Yield (T/ha)	
Untreated	EndoMaxx 5 g/ ha (1/2 rate)	EndoMaxx 10 g/ha (full rate)
102.19	107.20	107.66



EndoMaxx is a Wettable Powder (WP) formulation with the same AMF concentration as EndoFuse. EndoFuse is a newer higher quality formulation.

For further information on **EndoFuse**, please contact:

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