



More resilience, more productivity, powered by biology

Goroke barley grower sees significant yield increase with mycorrhizae

Food and Fibre producers understand better than most the importance of healthy soil. For years, farmers have been using different methods to replenish soil nutrients. Recently, some growers have been looking a little deeper and seeing excellent results.

Darren Walter is based at Goroke in the Wimmera region of Victoria where he runs a 2000 ha mixed farming property running livestock and growing wheat, barley, canola and faba beans as his main crops.

Having always had an interest in soil health, Darren happily agreed when back in 2019, Peter Cole from Sumitomo asked about running a small plot trial of the product EndoFuse™ on his property. Darren's focus up until then had been ensuring his crops had adequate nutrition through only adding fertiliser but he had relatively little awareness of mycorrhizae.

EndoFuse is a new arbuscular mycorrhizal fungi (AMF) inoculant from Sumitomo.

Mycorrhizae are beneficial fungi that naturally exist in soils colonising the root systems of plants, vastly increasing the plants' ability to forage for soil nutrients and moisture. EndoFuse includes 4 high performing endo-mycorrhizae species that have been proven to increase crop resilience, productivity and overall plant and soil health.

The results from the 2019 small plot trial were encouraging. So much so, that Darren decided to run a larger trial in 2020. He treated 7 ha of his Latrobe barley crop with EndoFuse applied at 12.5 mL/ha. The seeds were treated as they went into the air seeder, a process that Darren describes as "pretty straightforward". The barley was previously treated with 150 mL/100 kg Systiva and 120 mL/100 kg of Gaucho. As well as 400 mL/100 kg of BSN Superstrike. "The ability to apply EndoFuse on seed or in-furrow with other insecticide, fungicide or nutritional products is highly convenient" said Darren.

Towards the end of winter, Darren began to notice a visible difference in the EndoFuse treated area compared to the untreated. "The treated area appeared to be a little taller and had tillered a little better" he said. To get a better picture he dug up a few plants and noticed how much fuller and more extensive the root system was on the EndoFuse treated plants.

This difference was again marked when it came to harvesting the crop. Darren uses a yield monitoring system and did full runs on the treated crop, weighed the grain and then replicated this on the untreated area. The EndoFuse treated area delivered an 8.5% increase over the untreated area on top of what was already an awesome 6 t/ha + yielding crop a result that Darren describes as "significant".

Moving forward, Darren says that while he is aware that 2 years may not give a full story, he definitely sees a place for EndoFuse in his cropping program. "We will likely use it following canola crops which can deplete mycorrhizae levels in the soil and can often result in lower productivity of the following crops and I also think it will be useful following ground delving and clay spreading which can really knock the structure of the soil around" he told us.

Darren's experience has been shared by many growers who have been rewarded with yield increases on crops as diverse as wheat, barley, faba beans, potatoes, oranges, almonds and cotton. EndoFuse has been shown to improve crop resilience under plant stress conditions, increase crop yield and water uptake during moisture stress and provide improved resilience against disease and pest attack, while also helping build soil health.

EndoFuse is available through selected rural retailers in a convenient 500 mL pack that treats from 35 to 50 ha.



EndoFuse treated barley on the right vs untreated on the left.



Darren Walter from Goroke, VIC is impressed with the new mycorrhizae inoculant, EndoFuse.