

Leaf Tip Necrosis in Sunmax[®] Wheat

Over the past few seasons, Sunmax[®] wheat has been grown very successfully throughout Southern Queensland and Northern NSW, being very well suited to planting in early to mid-April, along with offering robust rust resistance. However, in some instances these traits may contribute to the expression of the unsightly condition known as Leaf Tip Necrosis.

What do we see?

The flag leaf starts to die back from the tip and leaf margins, leaving dead areas or blotches on the leaf. This can be confused with foliar diseases such as yellow leaf spot, among others.



Above: Leaf Tip Necrosis symptoms in Sunmax[®] wheat

The severity of Leaf Tip Necrosis expression depends on both the variety (genetic make-up) and the growing conditions during flag leaf emergence and early grain fill. Therefore, some varieties tend to show symptoms of Leaf Tip Necrosis while others will not.

In 2021, Sunmax[®] crops produced lots of early growth due to early planting, followed by consistent rainfall in May and June. When conditions turned dry in July and August, it promoted the expression of Leaf Tip Necrosis.

What are the genetic links to Leaf Tip Necrosis?

Some adult plant rust resistance (APR) genes (including Lr34/Yr18/Sr57 and Lr46/Yr29/Sr58) are known to be associated with Leaf Tip Necrosis. These genes are extremely valuable at providing effective and durable resistance to all three rusts, as well as powdery mildew, and is the reason that they are bred into commercial varieties.

Sunmax[®] carries the Lr46/Yr29/Sr58 gene combination, and it is this genetic background, along with hot, dry weather at flag leaf emergence and early grain fill that promoted the expression of Leaf Tip Necrosis in 2021.

Other successful wheat varieties have been known to express Leaf Tip Necrosis. EGA Gregory[®] carries both the Lr46/Yr29/Sr58 and the Lr34/Yr18/Sr57 packages of genes, so on occasion has suffered similar symptoms that Sunmax[®] exhibits.

What can be done about it?

Importantly, there is no evidence in the scientific literature of Leaf Tip Necrosis causing significant yield reduction. The remaining canopy has a great ability to compensate for this type of physiological symptom.

While unsightly, growers should not be alarmed by Leaf Tip Necrosis. There is nothing that growers need to do to avoid or alleviate the symptoms and should be reassured that there is no significant yield impact. As it is not a foliar disease, applying a fungicide to the crop will not reduce symptoms.

Disclaimer: The information contained within this brochure is based on knowledge and understanding at the time of writing. Growers should be aware of the need to regularly consult with their advisors on local conditions and currency of information.