

Thatch reduction using ligninolytic enzymes

Blend of powerful lignin degrading enzymes

Lignase is a complex blend of enzymes and bio additives that stimulate enzyme activity and is designed to effectively manage thatch in turfgrass systems.

Soil microbes degrade organic matter to access nutrients, but 15%-30% of thatch is composed of lignin, an organic material held together with strong chemical bonds that are considerably resistant to microbial degradation. Some microbial products result in a reduction of thatch in turfgrass surfaces **but lignin remains** and requires removal through expensive and time-consuming mechanical operations and diluting with sand-based topdressing.

In the natural environment, lignin is broken down by species of fungi that produce an extra-cellular enzyme. This enzyme breaks down lignin and opens a pathway for other microbes to degrade the exposed cellulose and hemi-cellulose. **Lignase is made from a complex of these lignin degrading enzymes.**

Why choose Lignase?

Lignase has been proven to degrade the hardest component of turfgrass thatch, i.e. lignin, as illustrated in the following trials results:



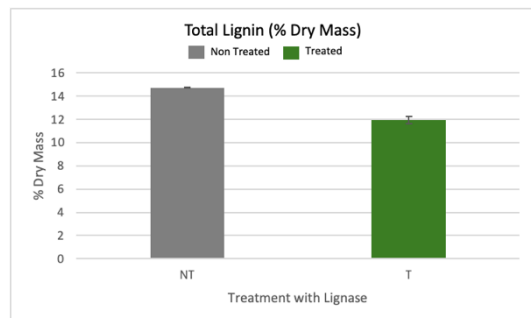
Dense thatch on a golf green

Total Lignin Reduction (Klason Lignin + Acid-Soluble Lignin)

Non-Treated:	14.72%
Treated:	11.93%
Difference:	Reduction of 2.79 percentage points which is a 19% decrease in total lignin content.

Interpretation:

A 19% total lignin reduction supports the conclusion that **Lignase** successfully degraded lignin components in the samples. Since lignin is a primary structural barrier in thatch, this degradation improved microbial access to cellulose and hemicellulose, accelerating decomposition (*Full results can be discussed with SouthWest Agronomy*).



The main benefits of Lignase are:

- Proven reduction of lignin content in thatch
- Reduces the necessity of costly physical thatch removal operations
- No interference on the playing surface for players
- No damage to turfgrass plants that can lead to disease

Application Guidelines

Dilute 1-2L of **Lignase** in 300-400 liters of water per hectare of turfgrass surface. Apply six times from April to end-September, equating to every 4-6 weeks from late spring to autumn. **Lignase** can be tank mixed with other biostimulants.

Call now for more information

Office: 01822 369005 - Mobile: 07900 692052

Email: enquiries@swagronomy.com