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Technical Data Sheet

Thatch Degrader

Driving the breakdown of thatch in fine turf

Thatch and organic matter is a major issue limiting the quality of fine turf in the sports and amenity sector. Thatch looks unsightly and leads to undesirable soil profile if not corrected.

Plater Bio's **Thatch Degrader** uses our in-house carboxylic acid technology to stimulate the growth and activity of the saprotrophic fungi already present in the soil. The growth of these microbes is massively increased after treatment with **Thatch Degrader** and this leads to the degradation of organic matter. This occurs because **Thatch Degrader**;

- Provides a readily accessible form of nitrogen, which is required for the fungi to synthesise the proteins required to degrade organic matter.
- Supplies organic acids that allow the fungi to solubilise the mineral nutrients from the soil which are essential for their growth.
- Supplies enough organic acid to drive the Kreb's Cycle, a metabolic pathway that the fungi use to release stored energy from the carbohydrates, fats and protein locked up in the organic matter.

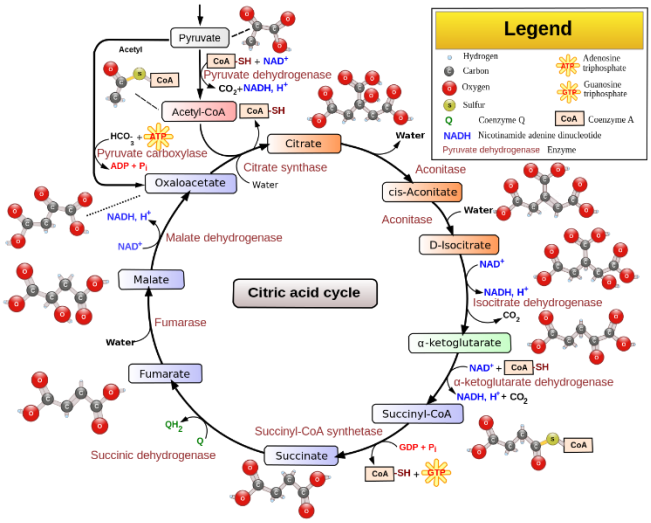

Figure 1; organic acids form the key steps in the Kreb's Cycle which organism use to release energy from organic matter.

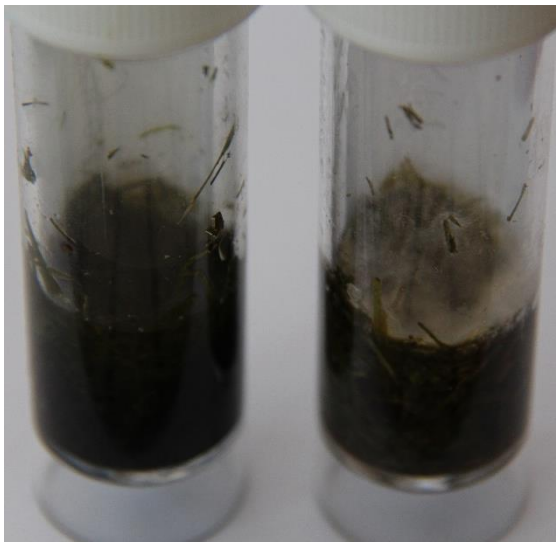

Figure 2; The stimulation of saprotrophic fungi growing on turf grass clippings. Left = control, Right = **Thatch Degrader**-treated. This experiment is easy to recreate and demonstrate to end-users.

One particularly important advantage of using Plater Bio's **Thatch Degrader** to degrade thatch over microbial digesters is its *consistency*. I.e. it doesn't require there to be the perfect conditions (temperature, nutrition etc.) for the product to work effectively. Other advantages include a more competitive price per treatment, and it being far easier to apply and its ability to penetrate further into the soil. Therefore, **Thatch Degrader** will breakdown and release nutrients from organic matter in both the O and A soil horizons. In contrast, microbial inoculants need to be spread as a suspension and the fungal strands will not flow into and across the soil.

Thatch is caused by the build-up of dead grass blades on top of the soil. The problem is exacerbated by the use of nitrogen fertilizers that increase the rate of blade production, and the use of iron sulphate fertilizers that kill the saprotrophic fungi that would normally decompose the dead blades.

Figure 3; The stimulation of the saprotrophic fungus common fieldcap (*Agrocybe pediades*) growing on garden turf. Left = control, Right = **Thatch Degrader**-treated. This experiment is easy to recreate and demonstrate to end-users on their own turf.