

Reference: Ljungbyheds Golf Club

Product: Terra Biosa

Country: Sweden

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Purpose of treatment: Ljungbyheds Golf Club is an 18 hole golf court placed in the beautiful surroundings at the foot of Söderåsen, Sweden. The court contains 9 greens and fairways, cultivated on the old moor. In 2002, 9 new holes were taken in use. These 9 holes have been constructed according to all the new methods concerning drainage and sowing. Thus, there are 9 so called cultivated greens and 9 with drainage and sow beds.

An extended root death rapidly occurred on the 9 new greens (patches where the grass died). During spring 2003 the patches grew further and at the end of June and beginning of July they were even more expanded.



Patches of root death

After treatments with Terra Biosa

During autumn 2003 the court ground committee enquired about Terra Biosa and its effect on root death and after consulting Biosa Danmark it was decided to test the product from the beginning of spring 2004 (15. April 2004). The purpose was to get rid of the root death, reduce the use of nitrogen fertiliser by 30% the first year, prevent mildew attacks and even gain a better root system for the grass with visible improved growth.

Dosage: Terra Biosa was manually sprayed over the 4-500 m² greens. A 1% dosage (1 litre Biossa/100 litres of water) was used for the first treatment. Later the dosage was reduced to 3 ‰ (3 dl/100 litres of water) every two weeks. The water was taken from a lake in the middle of the court (not municipal water).

Results (July 2004):

- Returned growth on all the root death patches.
- Significant increase of the grass growth (notable because the grass collector had to be emptied more often).
- The root structure was enhanced and currently has a level of 150-200 mm.
- The problem of setting new whole cups on the old greens disappeared. The court turned softer. Previously, the greens were always hard and contained a lot of stones. The stones are still there of course, but the soil is looser. Hence, the stones are easily pushed aside when setting the new whole cups.
- The use of fertiliser decreased from 200 kg/ha to 125 kg/ha, a reduction of 37%. Positive both for the environment and for the economy.
- On an old green for practicing, which contained mostly moss, the moss disappeared and the grass returned.
- A hydraulic oil leakage on the putting green resulted in two brown rims where the grass stopped growing. Concentrated Terra Biosa was sprayed on the rims and the grass grew back.

Treatment after hydraulic oil leakage:



No treatment



Intersection point



After treatment with Terra Biosa

As the greens are cut daily it was noticed that the Terra Biosa dosage had to be slightly increased, up to 1% every 2 weeks.

The summer 2004 was a very wet and cold summer. Two minor mildew attacks occurred, but only on 5 of the old greens. Both the old and the new greens were treated with concentrated Terra Biosa on the root death patches and today there are no fungus attacks. New grass grew back after 2-3 days and after 10 days the patches had disappeared. The grass roots are so strong that new growth starts immediately (the roots do not die).

On the new part of the court some areas had compression damages where rainwater easily accumulated causing problems by strong rainfalls. Terra Biosa was sprayed to loosen the soil and make the water run off. The results were very good as there were hardly any water puddles even with such a wet summer.

The fertiliser use was reduced by 37% and from the 01. August 2004 it was halved, according to the fertilising plan from 200 kg/ha to 90 kg/ha today. This helps both the environment and the economy. 25.000,- SEK were saved in 2004.

Visible effects:

- Terra Biosa loosens the soil and the grass roots can grow deeper – we have roots growing 200 mm deep now.
- Vigorous growths, thick and strong grass.
- Faster and smoother greens – we can cut our greens down to 3,5-3,8 mm the whole season without any problems.
- A strong root system, which can resist diseases and hopefully manage the winter better.

Konklusion

- Large reduction in the use of fertilisers (no use with time)
- Minimal use of pest controls (good for the environment)
- Root death patches are 90% healed
- Strong increase in grass growth
- A very strong root system 150-200 mm
- Faster and smoother greens
- Looser soil
- Terra Biosa prevents moss growth
- The whole cup is kept together and becomes elastic like a huge spring (some times it needs to be cut off to not stick up)
- The amount of earthworms has increased (good and bad)
- Minimal fungus attacks (rapid growth back after attacks)
- Terra Biosa is cost-effective