

iSeed®

Nutrient Coating for Golf Courses



Feed per seed

iSeed® is a nutrient seed coating that consists of seeds and coating materials. The coating consists of a combination of fast acting and slow release fertilizers. Per 100 kgs of bare seeds, 20 kg N and 4 kg P are applied to a field. This means that in the case of *Agrostis* where we are sowing at low seeding rates and all the problems that entails, we now have a ready made solution for sowing at easier rates. As the fertilizer is coated onto the seeds, the germinating and developing seedling receives the benefit, not the surrounding plants. This is particularly important when overseeding into a competitive sward. will not. The nitrogen and phosphate in iSeed® are up to four times more efficient compared to broadcast applied ordinary fertilizers. Effectively the amounts applied in the above example would then become 80 kgs of N and 16 kgs of P per hectare.

iSeed®

by Yara



iSEED®: FEEDS THE SEEDS! NOT THE WEEDS!

- **Improved overseeding results, guaranteed!** (30% more plants, 30% longer roots)
- **Targeted nutrient application** (Feeding the seed, not the weeds)
- **Reduced *Poa annua* levels**
- **Environmentally friendly** (reduced losses of fertilizer to the environment)
- **Labour saving and cost effective**

Visibly improved sward quality

Field experiments carried out by STRI in Bingley (UK) showed the excellent effects of iSeed®. Early establishment was considerably improved (see figures on backside). The report indicates that “iSeed® had a long lasting positive effect on turf quality” and “the effect of iSeed® was an increase in growth, as reflected by the height measurements.”

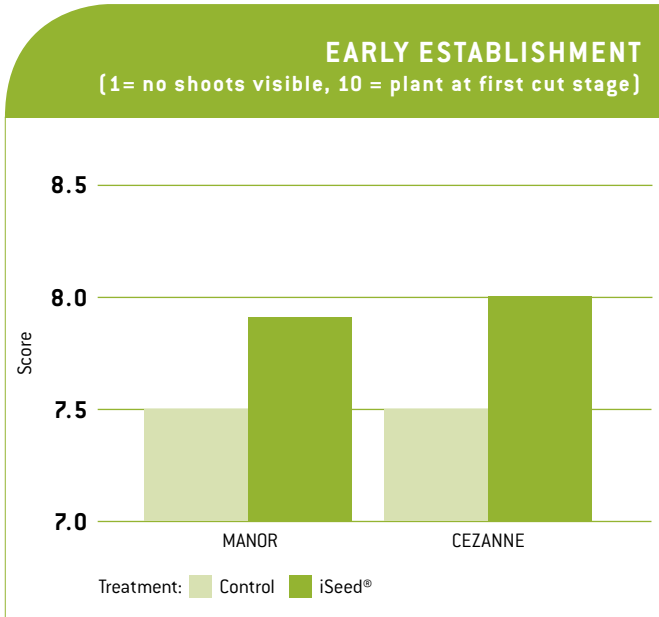
Environmentally friendly, saving labour, cost effective

Phosphorus is especially important as a pre seeding application for early establishment. When broadcasting fertilizer, the utilization rate of phosphorus generally is between 5 and 10%. Nutrient uptake is faster when the nutrients are available in the soil and not broadcast. This is a marked advantage when overseeding. Phosphorus is easily fixed in the soil into forms that are unavailable for plant uptake. With iSeed®, the key nutrients are attached to the germinating seed and developing roots, The roots and shoots grow rapidly and the seedlings become strong and vigorous. This improves the use of all the available soil nutrients and decreases nutrient losses into the environment by fixation or leaching.

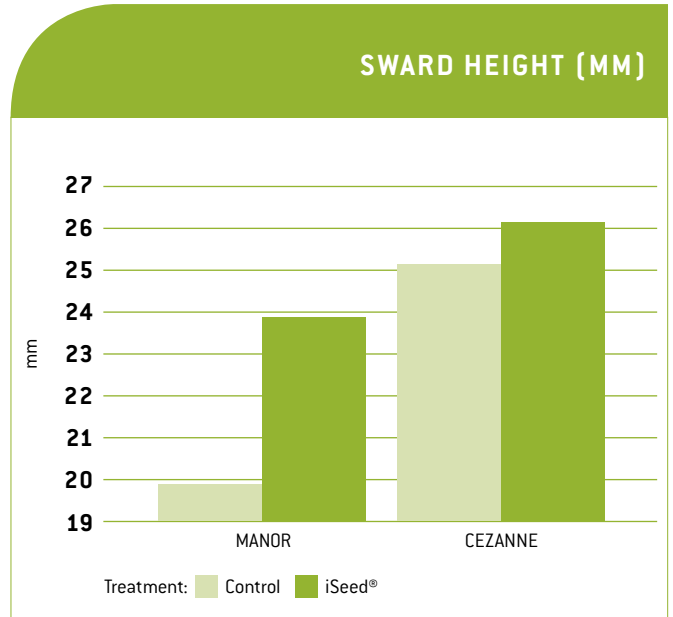
With iSeed®, a starter fertilization is not longer needed . This saves time, money and energy. Because of the weed suppression characteristics of iSeed®, fewer or no herbicide applications are needed.



- Faster and more uniform emergence
- Quick release phosphorus for enhancing root growth
- Quick release nitrogen, enhancing leaf growth
- Slow release nitrogen, prolonging these effects
- iSeed® coated grasses outcompeting the weeds
- Improved stress tolerance



Field sown on September 21, 2006. Assessment on October 13, 2006. (Source: STRI - Bingley)



Field sown on September 21, 2006. Assessment on October 23, 2006. (Source: STRI - Bingley)

The faster and more uniform emergence results in excellent weed control. Field experiments confirm this effect. In turf grower trials f.e., iSeed® was completely free of *Poa annua*, whereas the control fields contained 2.5 – 5.0% of *Poa annua* plants.

Hardy Mathiasen head greenkeeper at Breinholtgård Golfklub

As head greenkeeper at Breinholtgård Golfklub, Hardy Mathiasen has experienced the benefits of iSeed® on his own course:

“I must admit that I am impressed with iSeed®. In particular the fast establishment - actually under pretty difficult conditions - has resulted in a beautiful, green sward much faster than expected. iSeed® seems to strengthen the root system considerably, which is extremely important on a course with a high level of activity.”



Hardy Mathiasen has no doubts that he will use iSeed® again next year.



iSeed® technology is subject to patents and patent application by Yara International ASA. iSeed® is registered trademark by Yara International ASA.

