

iSeed®

Nutrient Coating for Sports Fields



Feed per seed

iSeed® is a nutrient seed coating that consists of 61% seeds and 39% coating materials.

The coating consists of a combination of fast acting and slow release fertilizers.

Per 164 kgs of iSeed® product (100 kgs of bare seeds), 20 kg N and 4 kg P are applied to a field. As the fertilizer is coated onto the seeds, the germinating and developing seedling will benefit from it. Distant weeds 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.

By applying iSeed®, the fertilizer is in the right place at the right time. In addition the coating ensures a better seed-soil contact.



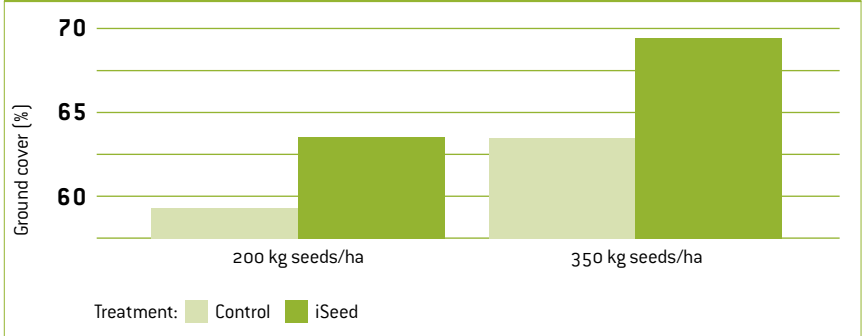
iSEED®: FEEDS THE SEEDS! NOT THE WEEDS!

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

Better wear tolerance and less weeds

Improved wear tolerance was observed in trials at the breeding station, and on real sports pitches in Hierden (NL). The results from the breeding station at Moerstraten (NL) demonstrate an increase in wear tolerance by 9% (see graph below). Interestingly, the effects of higher sowing rates and iSeed® add to each other! The better establishment at the start, meant that the iSeed® pitches started with higher, stronger plant levels, and lower Poa annua levels.

GROUND COVER AFTER WEAR



As the season progressed this improved start could be clearly seen as the number of plants in the iSeed® pitch remained at a higher level. The higher density and stronger plants improved the wear tolerance during the whole of the season. With the sward being denser and suffering less damage, the Poa annua level in the iSeed® pitch was still considerably lower at the end of the soccer season.

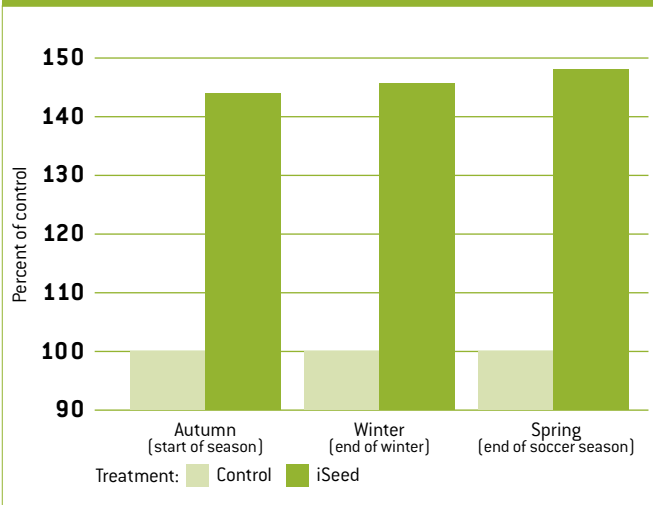
CONSIDERABLE LESS POA ANNUA

Season	Control	iSeed®
Autumn	6.5	2.1
Winter	12.5	4.3
Spring	28.2	16.3

[Source: Gibcus G, Fieldmanager 2009-01, p. 58-59]

iSeed®: better wear tolerance and less weeds.
iSeed®: saves money, labour and the environment.

CONTINUING HIGHER PLANT NUMBERS FOR ISEED DURING THE SOCCER SEASON



[Source: Gibcus G, Fieldmanager 2009-04, p. 58-59]



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 no longer needed. This saves time, money and energy. Because of the weed suppression characteristics of iSeed®, fewer or no herbicide applications are needed.

Experiences on football fields: Lyngby - Denmark

Jørn Sørensen, the experienced groundsman of Lyngby Stadium emphasizes the importance of a dark green colour on a football field often shown on TV. "When overseeding with iSeed® the grass becomes darker", says Jørn Sørensen. "With iSeed® I see faster establishment and more plants. Another benefit is that the sward contains less weed."



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