



NEW!

Sierraform[®] GT

The powerful
engine for fine turf



Scotts[®]
Growing success

Sierraform® GT

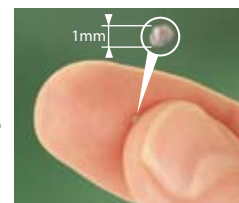
The powerful engine for fine turf



Sierraform GT has a unique double action, containing both slow-release N and K, ensuring optimum growth and a strong, healthy grass plant.



Get acquainted with a powerful engine for your fine turf: Sierraform GT. Sierraform GT is an improved version of the familiar Sierraform and now has a unique dual effect as it now contains both slow-release nitrogen and slow-release potassium. The well-balanced nutrient composition of Sierraform GT also means that your turf is now more resilient under stress conditions such as cold, heat, drought and intensive wear, all year round. It is the ideal starting point for you as a turf manager to maintain your turf at an optimum level.



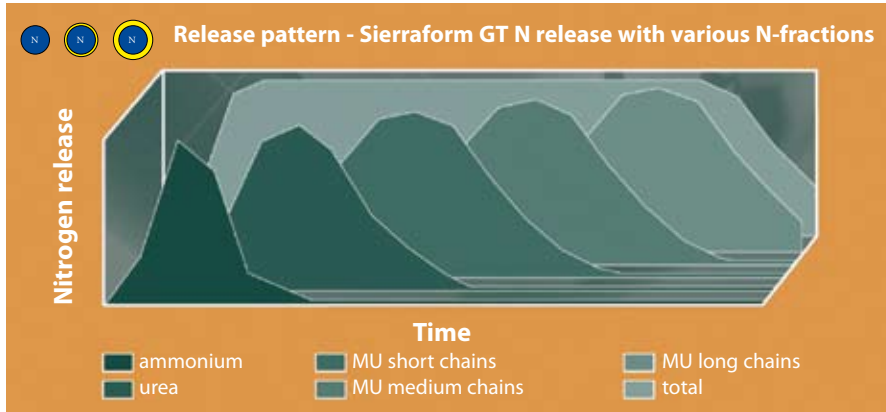
Even more powerful, with a dual effect

The strong performance of Sierraform GT is unsurpassed with the dual effect of slow-release nitrogen and slow release potassium. Potassium ensures that your turf is even more resilient to external stresses. Nitrogen is the key nutrient for driving growth in a plant. If nitrogen can be delivered slowly to the plant then there are no flushes of growth after application and the growth of the plant will be more even. This enables the plant to achieve a good balance of growth between leaf and roots. Potassium ensures that your turf is even more resilient to external stresses. A sufficient quantity of nitrogen and potassium is released immediately after application, so that the plant

Eight advantages of Sierraform GT

- ✓ Small, physically uniform granules for even spreading and quick dispersion.
- ✓ Fast dispersion into the turf; the green can therefore be brought back into use sooner
- ✓ Chemically uniform, with every granule containing the same amount of NPK + TE
- ✓ Dual effect thanks to slow-release nitrogen and slow-release potassium
- ✓ Optimum protection against stress: cold, heat, drought and wear
- ✓ Guaranteed even growth and even colour
- ✓ Safe to use (no scorching) and virtually no leaching
- ✓ Slow release fertilizer mechanism not affected by mechanical cultivation techniques (aeration etc)

can make use of it straight away. After that, extra potassium and nitrogen is released over a period of several weeks, whenever the grass plant needs it. This keeps your turf strong and healthy for several weeks after application. As a turf manager, you no longer have to worry – the Sierraform GT granules do the work for you.

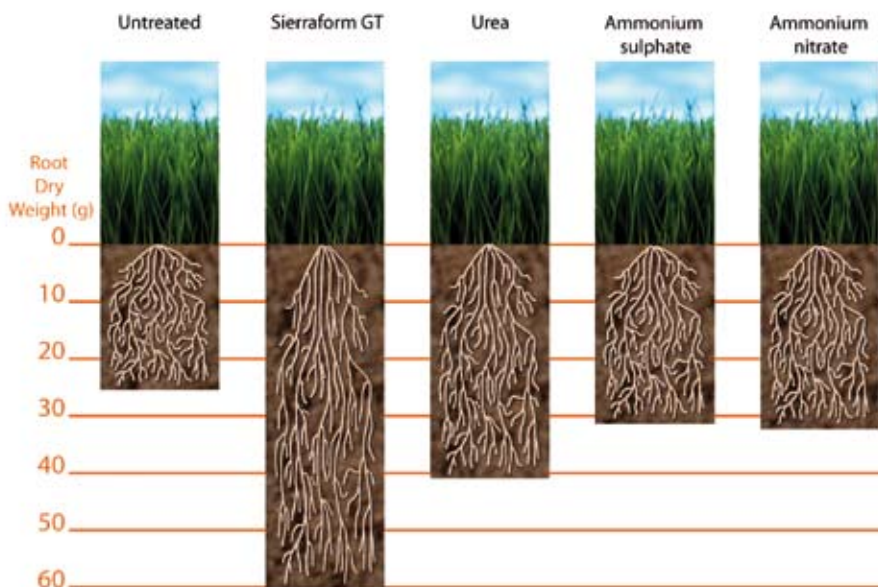


The strength of slow-release potassium

Slow-release potassium is released constantly throughout the effective period, whenever the grass plant needs it. Leaf analysis has shown a significant difference between Sierraform GT and fertilizers that do not contain slow-release potassium. The result: a stronger grass plant that is more resilient to a variety of forms of stress.

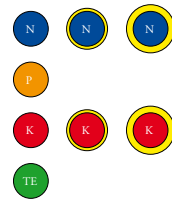
Better root growth, stronger plants

Sierraform GT stimulates root growth by means of the right mix of nutrients. The graph below shows the trial results of measured root growth without treatment and following treatment with Sierraform GT, urea, ammonium sulphate and ammonium nitrate when applied at equal nitrogen rates. It is clear that the best results are achieved with slow release nutrition.

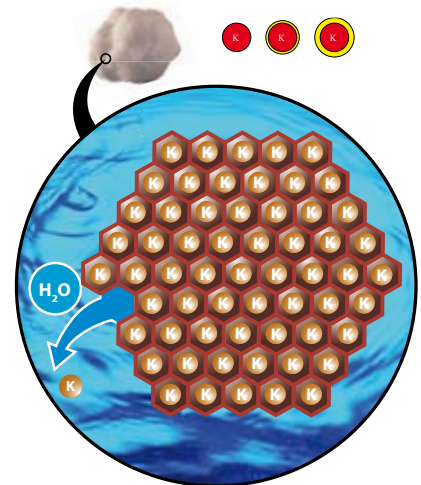


All treatments in the trial were applied at equal nitrogen levels.

Increasing Longevity →

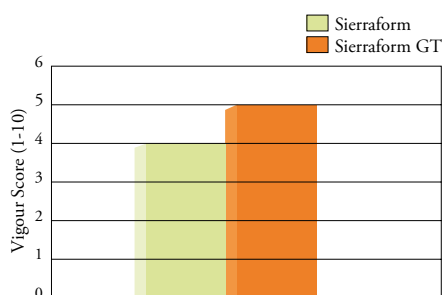


Sierraform GT contains the correct and most effective combination of nutrients for the grass plant. Every granule has an identical composition. The result: even growth and an even colour over the entire fine turf area.



The slow release potassium is complexed within a 3-dimensional matrix. The outer links of the matrix are weakened in the presence of moisture, which enables the K contained within the outer cells to be activated and released in to the soil. K is released from the outside of each matrix and moves inwards over time as each layer is activated. Potassium is released over a period of approximately 8 weeks.

Improved drought tolerance with Sierraform GT



Sierraform and Sierraform GT were applied at equal nutrient rates. At 62 days after application, water was withheld from the trial for a period of 7 days. The Sierraform GT showed improved vigour (indicating drought tolerance) during this period highlighting the benefits of the slow release potassium.



Only the Sierraform GT granules sink into the soil quickly and are therefore absorbed more quickly. The result is a faster response by the plants and less disruption for the players.

Improved drought tolerance

Potassium plays an important role in improving drought tolerance in turf plants, it enables chloroplast hydration during drought and salinity stresses and regulates transpiration.

As Sierraform GT delivers potassium in a slowly available form this extends the time span over which Potassium can be effective for increasing stress tolerance. The graph left clearly shows that when potassium is delivered in a slow release form the plants ability to withstand drought conditions are greatly increased.

When used in a programmed approach, Sierraform GT can also pre-stress condition your turf against a wide range of other stresses including; low temperature, high temperature, wear, salinity and diseases.

Maximum power in a tiny granule

Each small, uniform Sierraform GT granule (0.7-1.4 mm) will contain the same analysis as on the bag. These tiny granules are also easy to spread and this ensures that the best coverage per square metre of turf is achieved. Every grass plant on your green therefore receives exactly the same quantity of nutrients. This results in even growth with a beautiful, uniform colour. Since the smaller Sierraform GT granules are absorbed into the soil so quickly, you can mow the grass again very soon after application, and the players will not experience any disruption to play.

Safe and reliable

Since Sierraform GT has a regulated release pattern, its application is absolutely safe. There is virtually no risk of scorching, and there is practically no leaching. This is not only beneficial for the environment; it is also extremely economical. Every nutrient element in Sierraform GT reaches its intended destination: the plant.

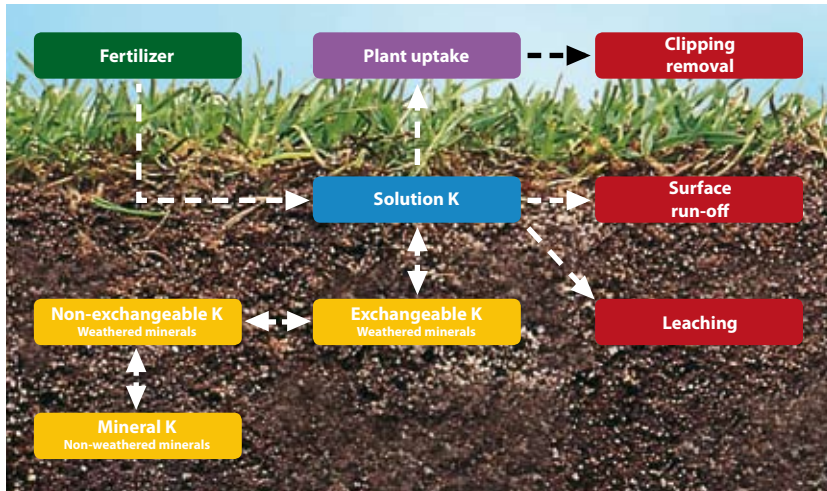
Taking the lead through innovation

Scotts is constantly occupied with the development and improvement of its products. Scotts products give you the confidence that you are using the latest technology and that you are profiting fully from the most up-to-date insights in the field of fertilization. Sierraform GT is a further-developed variant of Sierraform and is also based on the dosed release of nutrients. With Sierraform GT, you can choose various different analyses, all with a longevity of around eight weeks (dependent on environmental conditions), regarding the release of both potassium and nitrogen.



The proof: Sierraform GT test results

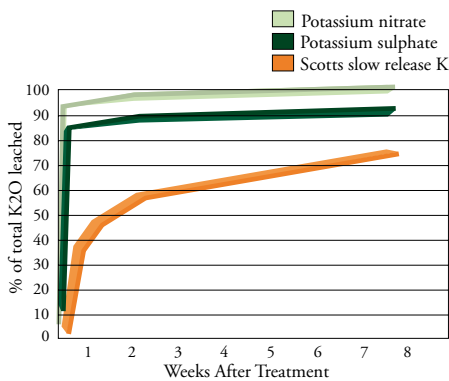
Potassium cycle



All Scotts products have been tested intensively in the Scotts laboratories and in real field situations as well. The test results of Sierraform GT can be found on this and the next page.

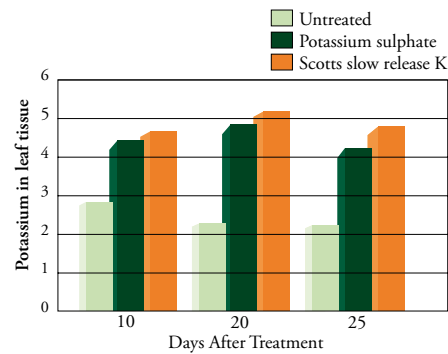
The Potassium cycle shows the various routes of Potassium movement after fertilization within the soil and uptake of the plant. The graphs below show that by using SierraformGT with slow release Potassium all of these movements have been enhanced resulting in more efficient application of nutrition and a healthier grassplant.

Release curve of Scotts slow release K



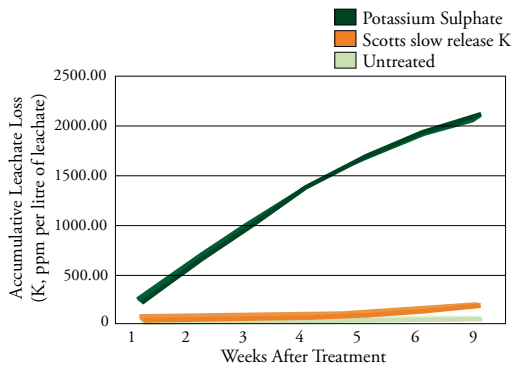
Conventional sources of potassium such as Potassium Sulphate and Potassium Nitrate release all of their potassium immediately. Scotts slow release K provides a constant release of potassium with time ensuring luxury consumption is minimized, leaching restricted and plant uptake is maximized.

Improved Potassium uptake with Scotts slow release K versus potassium sulphate



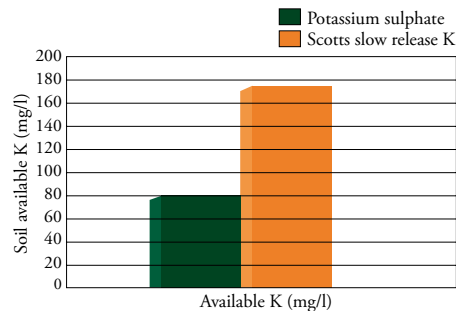
Significantly higher Potassium was found in the leaf tissue of turf treated with Scotts slow release K compared to potassium sulphate.

Potassium leachate loss



Reduced K leachate losses with Scott Sierraform GT slow release K versus conventional K. Scotts new slow release K source and potassium sulphate were applied at equal nutrient levels. Scotts slow release K source halved the amount of potassium which was lost compared to using a conventional K source.

Increased soil available Potassium with Scotts slow release K

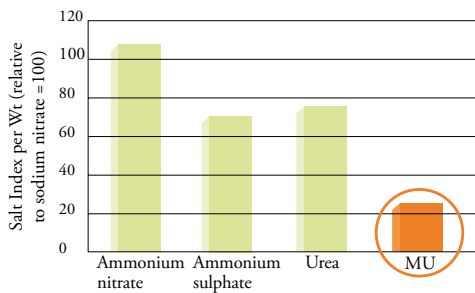


The slow release potassium source in Sierraform GT provides a gradual release of potassium over time. This means that potassium losses are limited in terms of leaching and luxury uptake by the plant, which means that there is more available in the soil for the plant at a later date. As the potassium is continuously released with time it has the effect of spoon feeding the turf the correct level of K without the risk of luxury consumption or lock up within the soil.

Salt Index

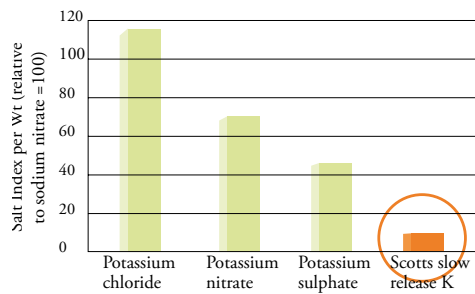
- Salt Index is important as injury to turfgrass plants can occur when fertilizer concentrations in the soil solution or in solutions on above ground parts are high enough to cause dehydration of plant cells due to osmosis.
- The Salt Index of fertilizers is a measure of the osmotic pressure created in the soil solution by the addition of fertilizers.
- Salt Index is expressed as the ratio of increase in osmotic pressure produced by a given material to that produced by the same weight of sodium nitrate (which is given a Salt Index of 100).

Salt Index of Nitrogen sources



The slow release nitrogen (methylene urea; MU) used in Sierraform GT has a significantly lower Salt Index compared to all other commercially available sources of Nitrogen. This equates to improved safety to the turf.

Salt Index of Potassium sources

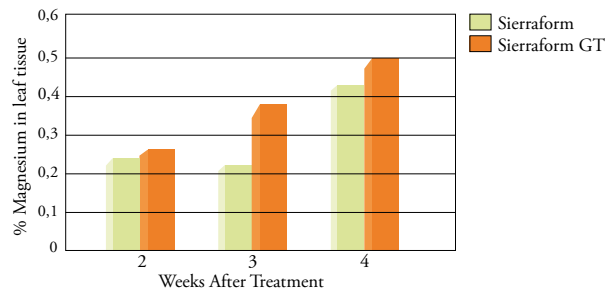


The slow release potassium source used in Sierraform GT has a significantly lower Salt Index compared to all other commercially available sources of Potassium. This equates to improved safety to the turf.

Improved uptake of Nitrogen and Magnesium

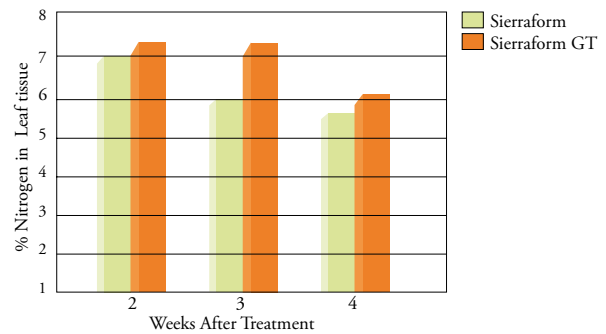
Over application of cations such as Potassium can create an imbalance in the base saturation of CEC sites. This is particularly relevant immediately after fertilizer application. By supplying Potassium in a slowly available manner the soil chemistry is maintained in a sustainable equilibrium. Plant uptake of nutrients such as Calcium, Magnesium and Nitrogen can all be inhibited by too much potassium. This is especially relevant in high sand content rootzones.

Improved Magnesium uptake with Sierraform GT versus Sierraform



Significantly higher Magnesium was found in the leaf tissue of turf treated with Sierraform GT compared to Sierraform. This highlights the benefits of maintaining the soil chemistry in equilibrium and minimizing any inhibition of plant uptake caused by a rapid release of potassium.

Improved Nitrogen uptake with Sierraform GT versus Sierraform










Significantly higher Nitrogen was found in the leaf tissue of turf treated with Sierraform GT compared to Sierraform. This highlights the benefits of maintaining the soil chemistry in equilibrium and minimizing any inhibition of plant uptake caused by a rapid release of potassium.

Service and support

When you choose Scotts products, you also benefit from the professional support offered by the Scotts turf experts and the expertise of our affiliated dealers and distributors. They would be happy to help you with any questions you may have, and advise you on your fertilization programme. We recommend that you arrange for a soil analysis to be carried out every year, on the basis of which you can adjust your fertilization programme. Scotts works closely with the American research agency Harris and the UK soil analysis laboratory NRM with regard to carrying out reliable soil analyses. You can find more information about Scotts and our products on www.scottspromotional.com.



The complete Sierraform GT Programme

Name of product		NPK	MgO	Cu	Fe	Mn	Mo	Zn
Spring Start	 Active at lower temperatures	16+00+16			1.0	0.3		
Momentum	 Matches nutrient input during periods of strong growth	22+05+11	2	0.02	0.5	0.1	0.001	0.02
High N	 Ensures release of nutrients during growth period	27+05+08	3					
All Season	 Ensures well-balanced NK nutrients with less P	18+06+18	2	0.02	0.5	0.1	0.001	0.02
NK	 NK fertilizer without P	19+00+19	2	0.02	0.5	0.1	0.001	0.02
Anti Stress	 Helps turf survive during stressful times	15+00+26			1.0			
K-step	 Encourages condensed growth	06+00+27	2	0.025	0.7	0.15	0.001	0.025
Pre Seeder	 Ideal during the sowing period or when laying turf	18+22+05						

Perfect for a programmed approach

Sierraform GT fits in perfectly with your total fertilization plan as it can be combined well with other products. For example, it can be used in a programmed approach with the Greenmaster Liquids containing the T-Max uptake activator and the wetting agent H₂Pro. Using an integrated approach utilizes the strengths of different product technologies to create a healthier and more stress tolerant turf surface.

Please visit www.sierraformgt.com for more info



Greenmaster Liquid[®]



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