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## Market report - Turf fertilisers

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Many new products have hit the market along with new sources of raw materials, Sally Drury reports.



Fertilisers: turf managers' available store swollen by the latest product introductions- image: HW

Waiting for a new turf fertiliser product to come to market is a bit like waiting for a bus. There is nothing for ages, then a dozen or more come along together. This year, the fertiliser store accessible to turf managers has been swollen by a plethora of product introductions. Even more exciting is the fact that there are new sources of raw material. That could be good for the pocket — it is certainly good in terms of fertiliser security.

Most raw ingredients for fertilisers are imported and a lot of them come from volatile regions in the Middle East or north Africa. Fertilisers are also of interest to speculators. Because of that, as global demand for food increases, prices have gone up.

### **Expensive commodity**

"Raw materials are an expensive commodity," says Headland Amenity technical director Mark Hunt. "In 2007-08, we saw a 200 per cent increase, in some cases 300 per cent increase, in the price — and that has led to innovation."

One of these innovations is Crystal Green. A source of slow-release phosphorus, nitrogen and magnesium, the material is recovered from UK waste water. Although it has been harvested from water for some time in America, most of the phosphorus used in the UK is imported from Africa. But this month sees the first harvesting plant go live in Slough. Five more plants are planned.

"The opportunity to make a resource in the UK is appealing," says Hunt. "Not only is it recycled but the phosphorus in Crystal Green is released over eight-to-10 months, rather than all in one go."

At the moment, this new raw material is more expensive — as much as 30 per cent more than imported — but the expectation is that world market prices will continue to increase. Produced in the UK, Crystal Green reduces the reliance on imported materials.

Crystal Green is used in Headland Amenity's latest pre-seeding fertiliser. Suited to use on golf tees, fairways and surrounds, as well as winter sports pitches, cricket outfields and racecourse turf, Xtend 10-10-10 + 2MgO also contains additional slow-release nitrogen to provide release over up to three months, a composted organic base, seaweed meal and humic acid to aid germination and gently establish new grasses. Hunt adds: "Xtend 10-10-10 will provide natural, effective nutrition over a long period, while helping to cut workloads for greenkeeping and grounds teams with its slow-release action."

The other raw material bringing benefits to turf nutrition is polyhalite. It has been included in Everris's new high-performance, high-impact ProTurf tees and outfield fertiliser launched at the British & International Greenkeepers Association annual Turf Management Exhibition (BTME) in Harrogate in January.

It is a naturally occurring mineral sourced from the Cleveland Potash mine 1,300m under the North Sea. Deposited more than 200 million years ago, this complex crystal contains potassium, magnesium and calcium. "Polyhalite is certainly an exciting new addition to our fertiliser portfolio," says Everris UK and Ireland technical sales manager Henry Bechelet.

"Extensive trial work has confirmed that the principal nutrients of potash, magnesium and calcium in polyhalite are fully available to the plant, performing in trials with the same plant-efficiency as standard individual sources of potassium and magnesium sulphate."

Cleveland Potash has known about polyhalite for some time but was only recently able to access the seam. With it comes the opportunity to apply fertiliser to some of the larger areas of sports and amenity turf.

"The mined material just requires crushing to the right size and it's ready as a base. There is no waste and it has full organic status. Importantly, it avoids the costs of granulation," says Everris sales and development manager Ed Carter. "It brings a high-performance product to market, without many of the granulation costs traditionally associated with fertilisers, and hopefully will give managers a chance to fertilise large areas without compromise."

### **Outfield solution**

Aimed at outfield turf, ProTurf contains a combination of Poly-S controlled-release fertiliser technology, readily available urea nitrogen and a multi-nutrient compound fertiliser. The controlled-release technology gives consistent, regular growth over a two-to-three-month period without growth peaks. It is primed by moisture permeating through the outer polymer channels, through micro-channels in the sulphur layer and into the nutrient core, where the urea is solubilised. It then travels back through the same pathways where it is released and made available for plant uptake. The uncoated nitrogen is intended to provide an immediate turf response, even in cooler conditions. The multi-ingredient component contains four nutrients — K, MgO, CaO and S.

Suited to spring and summer applications, ProTurf has been developed to react quickly in cooler conditions, encouraging healthy balanced growth at the start of the season. The potassium acts as a pre-stress conditioner, high calcium content strengthens cells and provides a harder-wearing turf, and the high magnesium

enhances photosynthesis and improves colour response.

BTME also saw Rigby Taylor introduce a range of six Microlite fertilisers and add 12 new analyses across five fertiliser ranges. Featuring super-micro granulation, the addition of zeolite to reduce leaching and the incorporation of Activate bio-stimulant XL and ERD technology, the Microlite Activ8 range and Microlite provide analyses for all seasons. With a very high uniformity size index of 1-1.5mm providing consistency, the fertilisers are robust in transport, give rapid breakdown on application, have little or no dust or fines content and are consistent and precise in application to give regular growth.

For spring/summer, three Microlite analyses contain Activate XL to increase microbial activity and provide supplementary carbohydrates and plant growth hormones to improve shoot and root mass and length. Cellulytic enzyme systems aid the breakdown of thatch.

For autumn/winter and early spring, two Microlite analyses contain Activate and ERD, making available humic acid for improved root mass length and an increase in root hairs. The humic acid also enhances germination and helps improve tolerance to stress. A Microlite analysis is also available with Activate.

In their biggest product launch ever, Rigby Taylor's 2013 catalogue also sees additions to the Microfine, Premier HG, Apex, Delta and Fineturf range of fertilisers.

### **Selecting the right spring fertilisers**

Now there is so much choice, which fertiliser should you apply? "The problem is that the numbers on the bag do not tell you everything you need to know to understand how it might affect your turf," explains Headland Amenity sales director Andy Russell.

"The numbers indicate the amount of nutrient in the bag but sadly don't suggest how quickly grass will respond, how long any response may last or whether it will be effective at all in the cooler soil temperatures of springtime."

In lower temperatures, products containing urea or organic nitrogen sources require the interaction of soil microbes and microbial activity is severely limited in colder soils. However, those containing ammonium and nitrate nitrogen will be effective because they are immediately available to the plant when in the soil solution. Too much nitrogen though, from products applied early in the season, can cause problems.

Good levels of phosphorus in the soil will encourage rooting and potassium can be helpful to strengthen grass plants, so a low-nitrogen with phosphate and potash fertiliser can be an ideal choice.

"For fine turf, a homogenous mini-granule such as our Greentec 6-5-18 + 4FE + Mg provides this, plus iron and magnesium for strength and colour," says Russell. "The split of ammonium and nitrate nitrogen ensures response even under cooler temperatures."

The same principles apply to winter sports areas that are tired and need rapid regeneration. Controlled-release fertilisers, such as Multigreen, are very versatile. Being a once-per-growing-season application, it can be cost-effective. As nutrient release is regulated by soil temperature alone, it is unaffected by increased rainfall, avoiding excessive growth during wetter periods.

In addition to granular fertilisers, certain types of liquid fertiliser can be ideal to initiate gentle growth. When soil temperatures are low but air temperatures higher, liquids can bypass the roots and provide nutrients directly to

the plant via the leaf. Soluble materials like Solufeed 15-0-25 + Mg provide available nitrogen and potash and can be tank mixed with liquid irons and applied as a cost-effective liquid spray.

According to Russell, however, there is nothing better than the effects of a healthy fertiliser programme implemented the previous autumn. "If grass swards go into the winter in good condition, they will respond more rapidly in terms of growth and colour during the early spring. On winter sports pitches and other coarse turf areas, the use of a controlled-release fertiliser prill, such as Multigreen 20-0-32, can provide a spring carry-over of nutrients.

"After application, an initial fast-start portion encourages a strong, healthy sward going into winter. When soil temperatures fall to 6°C, release from the remaining coated prill will cease and it will remain intact in the soil, ready for the temperatures to increase again."

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