Hugh Tilley examines the field of fertilisers and looks at the developments which have taken place.

While there are various views on the need for fertiliser on golf courses, particularly on fairways, most greenkeepers accept a need for fertiliser on greens and tees which are regularly mown with clippings boxed off. Greenkeepers are also recognising that more rounds over an extended season require the grass to be kept growing for longer and for it to be strengthened.

There is also an increasing requirement for courses to look good throughout the year. As a result there are several pressures to apply fertilisers, perhaps in increasing amounts, and to increasing areas of the course. There are also differing thoughts over the use of organics, turf conditioners and growth stimulants, and perhaps there is now a realisation that applying the major nutrients without a balance of minor nutrient and trace elements is a recipe for disease etc, and, talking to Course Managers, greater use is being made of analysis. Most fertilisers are supplied through a local agent, who also often supplies other services such as soil and tissue analysis.

Few changes in product are envisaged. BASF now market their turf fertilisers through Kings Horticulture. The term "fertiliser" has a precise meaning in law - analysis of the product must be stated. But as one maker stated the exact method of analysis can vary between US, UK and Europe - thus "like" need not be "alike".

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The main plant nutrients are Nitrogen, Phosphate and Potassium, normally abbreviated to N, P and K after their chemical symbols. In addition many fine turf fertilisers have added iron – Fe – for its ability to induce deeper green into the grass and to help suppress moss, they may also have other elements such as sulphur (S) and Magnesium (Mg) plus trace elements.

Techniques such as resin coating have been proven and from a single exponent (Sierra) there are now several makers offering coated products. Didin (a nitrification inhibitor), IBDU and Methylen Urea (MU), the latter two urea nitrogens, have to be broken down before becoming available to the plant and this is another way in which nitrogen release can be extended and these are well proven for those who want to make their nitrogen uptake extend into the mid-summer period – but not all manufacturers are agreed how effective this is. Resin coating is claimed to be able to extend the release season by up to six months.

Many nutrients do not bond to sand – thus N and K in particular may be leached out, nor may there be any nitrification bacteria to breakdown urea into nitrate for uptake by the plant – thus the form of N become critical for sand based greens. Mark Hunt, of Scotsdair, admitted that their range of blended greens is only partly affected by nitrification. On non-irrigated greens differing thinking may be needed, although perhaps fertilisers have added iron – Fe – for its ability to induce deeper green into the grass and to help suppress moss, they may also have other elements such as sulphur (S) and Magnesium (Mg) plus trace elements.

As a general rule liquids are less concentrated but more readily available thus they have a definite place in agronomy.

Several suppliers of organic compounds augment their products with the major nutrients in order to provide a total feed – and to meet greenkeepers’ requirements, few greenkeepers subscribe to the manual and mystery theory that if it is organic and includes ‘everything’ it must be good for the grass.

Just what is the correct level and analysis of the major nutrients which should be applied is far too complex a matter to discuss here – it should be a matter of soil analysis and discussion between greenkeeper and supplier. There are a wide variety of differing suppliers have come onto the market offering an almost infinite range of differing ratios of N, P and K, perhaps with Fe, S and/or Mg, so the greenkeeper can take his pick. Many head greenkeepers and course managers have very decided opinions of what their course needs, and greater education has allowed them to base these views on science. Unfortunately for the greenkeeper, plant and soil science is extremely complex and subject to an infinite range of variables and conditions, ask any agronomist - so that what works well one year, in one soil, in one management may not produce the same results the next year or consistently. Nevertheless the main objective of most greenkeepers is to keep the grass looking healthy and growing so that it can be cut. Perhaps the greater truth is that grass growth really enables turf to be kept at its pristine best – and that this is the mud of the greenkeeping art.