



Why apply fertiliser?

Regular removal of clippings by mowing removes plant tissue and stimulates more rapid growth. The grass plant needs to regenerate the lost tissue. Energy from photosynthesis contributes to this regeneration capability but the plant also has to take on board other nutrients. All soils have some natural nutrient reserve but this is not adequate to sustain the growth rates that are necessary to support the mowing frequency applied to the closer cut areas of the golf course such as greens, green surrounds and tees. This is why additional feeding of the turf is required.

Golf is played on grass and not colour

The reason for applying fertiliser must always be remembered. It is applied to encourage growth and aid recovery from the wear and tear of maintenance and play. Fertiliser should **never** be applied to provide colour, i.e. green surfaces. Golf is not played on colour, but is played on grass. This statement should never be forgotten. Whilst colour is desirable, it should never be achieved with the application of nitrogenous fertilisers.

There is far more danger from over-feeding than there is from under-supply. If you aim to supply the minimum requirement, you can always add a little extra when needed. Once fertiliser is applied, you cannot take it away. Some of the consequences of over-feeding are:–

- Production of unnecessary growth resulting in more mowing and more clipping disposal.
- Lush growth that will be more susceptible to disease.
- Promotion of annual meadow-grass.
- Shallow root development.
- Increased rate of thatch production.
- Softer and slower surfaces.

Nutrient requirements

Nitrogen (N), phosphate (P) and potassium (K) are the major nutrients that support most growth functions and the metabolism of the growing plant. These three nutrients have differing levels of mobility (i.e. the rate of leaching) within different types of soil.

Nitrogen is by far the most mobile nutrient of the group, phosphate is virtually immobile in most instances, with potassium somewhere in between. Soils with a high clay, silt or organic content hold onto nutrients more readily than sandy soils. High mobility equals more rapid loss through the soil system by leaching. This is why in any fertiliser programme nitrogen is the most commonly, and sometimes only, added nutrient.

In most cases, all other nutrients including phosphate and so-called micronutrients such as calcium, iron, magnesium and sulphur are obtained in adequate quantities via the atmosphere, weathering of mineral material or decay of organic matter. In USGA or other high sand content constructions in which natural nutrient reserves are low, there may be a need for occasional inputs of nutrients other than nitrogen that leach through the soil profile rapidly, e.g. potassium and magnesium.

Feeding is only one aspect of a turf management programme and a well-balanced maintenance regime can offset minor glitches in the fertiliser programme, e.g. complementary thatch management through scarification, top dressing and aeration.