

## FERTILIZING GOLF COURSES (Qld. and Northern NSW)

January 2004

### FAIRWAYS

Lime – If required, i.e. on acid (low pH) soils, apply lime at the rate of 1 250 to 2 500 kg/ha (1.25 - 2.5 t/ha).

Gypsum – If the soil has poor physical structure, i.e. it sets hard and is impervious, the application of gypsum at 5 000 kg/ha (5 t/ha) may improve soil tilth, water infiltration and drainage.

#### NPK Fertilizers –

Couch fairways respond well to fertilizer, particularly over the warmer months of the year. Responses will be slower to occur over winter, when the cooler temperatures slow grass growth. The vigour and colour of the greens can be used as a guide to when it is necessary to reapply fertilizer. Nitrogen deficient grass will have a pale green colour, and be slow to grow.

As a general guide, apply Incitec Pivot CK 88 or BASF Nitrophoska Blue Special on three occasions per year (September, December and March) at 300 kg/ha per application.

Fairways should be dry and not moist with dew when dry fertilizers are spread, in order to avoid burn to plant foliage (leaves).

It is desirable to irrigate on the same day following fertilizer application, or to apply the fertilizer when rain is imminent. 10 to 15 mm of rain (or irrigation) should be adequate to wash the fertilizer from the leaves into the soil.

### GREENS AND TEES

Lime – If the soil is acid, i.e. has a low pH, apply lime at up to 25 kg per 100 square metres split into 2 or 3 applications 6 months apart. Thereafter, lime is likely to continue to be required, but on a less frequent basis.

Gypsum - Because of traffic, and even where greens are well constructed, well drained and regularly cored or drilled; compaction, failure to hold and failure to accept water can occur as a result of soil compaction and breakdown in physical structure. In these situations an application of gypsum at 50 kg per 100 square metres split into 2 applications 6 months apart may assist in changing the physical characteristics of the soil. This will aid water penetration, drainage and availability of plant nutrients. The effects will generally last a few years.

Nitrogen, Phosphorus and Potassium - Regular, monthly application of fertilizers to greens and tees is recommended. This allows fertilizer requirements to be matched to grass growth, keeping greens and tees in good order and minimising loss of nutrients through leaching. Given the sandy nature of soils used in greens and tees and the shallow rooting depth of the grasses, nutrients can easily be lost through leaching. Evenness of fertilizer application on tees and greens is important and this can be best obtained by making up and applying fertilizer solutions. It is best to use Soluble Fine or Solution Grade fertilizers for this purpose. Fertilizer solutions can be made up in a 50 L drum, the contents of which can be injected into the irrigation line, or applied by a Venturi sprayer to provide even application over tees and greens.

A basic mixture, supplying nitrogen, phosphorus, potassium and sulfur, to be applied every month to each 100 square metres is:

Liquifert N	400 grams
Liquifert P	100 grams
Liquifert K-Spray	250 grams



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Apply the fertilizer solution in an adequate volume of water, or water the green immediately after application, to wash the fertilizer solution off the leaves. This avoids leaf burn and ensures that the fertilizer reaches the soil from which it is taken up by the grass roots.

During the wetter months of the year when the turfgrasses are growing most actively, it may be best to apply nitrogen on a more regular basis at lower rates, so that cumulatively a little more nitrogen is applied. Rather than apply 400 g of Liquifert N (urea) per month, as detailed in the above program, apply 250 g per 100 square metres every 2 weeks.

Micronutrients – Iron Sulfate or Iron Chelate can be applied at 25 to 50 grams per 100 square metres to provide a quick “greening” effect should iron deficiency occur (alternate stripes of green veins and yellow interveinal areas in grass leaves). Care should be exercised in applying iron fertilizer as excessive or uneven application can burn the green.

## **PETS AND WILDLIFE**

While animals do not normally have access to golf courses and the risk is slight, the ingestion of freshly applied fertilizer may affect the health of animals and wildlife, and in isolated incidents result in deaths. If practical, it is best to remove grazing animals from areas being fertilized, and not to readmit them until after rain is received or irrigation applied, and regrowth occurs. This minimises the risk of direct ingestion of fertilizer, and nitrate poisoning from young regrowth.

## **FOR MORE DETAILED INFORMATION:**

This Fact Sheet contains brief Use Directions only, which by necessity are of a general nature. Fertilizer programs may need to be varied depending on the grass species being grown, the soil's fertility, and cultural practices. More detailed advice on fertilizing golf courses is presented in the Agritopic on "Golf Course Care and Maintenance (Qld and Northern NSW)".

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