

TURFGRASS DISEASES IN THE USA

The picture shows
disease detection
kits now available
in the USA

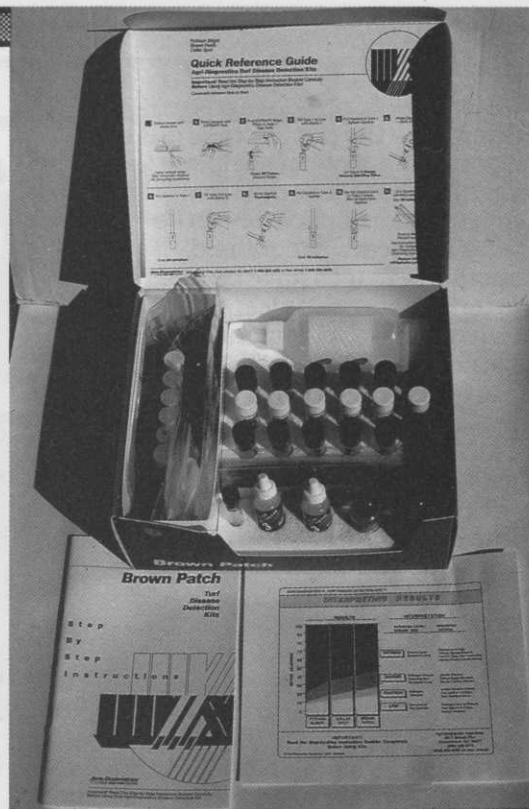
DURING February 1988 I attended the Golf Course Superintendents' Association of America's annual conference in Houston, Texas, to catch up on the latest developments on my subject - turfgrass diseases.

This article aims to interest the reader by contrasting UK and USA disease problems and describing new disease control techniques that may well be of use here.

In the USA, over 35 grass species are widely grown as turf which, when subjected to the great variations in climate that occur across America, are susceptible to many different diseases. In fact over 60 different turfgrass diseases have been recorded in the USA, far more than the several fungal diseases considered important on our fescue/bent/annual meadow-grass swards. For example, pythium blight causes significant problems in many USA states, but this disease has not been recorded in the UK, probably due to less favourable environmental conditions for disease development existing here.

One major advance in the USA has been in the development of technology that enables a positive identification of disease to be made. Diagnosis based on visual disease symptoms is reliable for familiar problems such as fusarium patch, but distinguishing between, say, dollar spot, red thread and pink patch diseases can often only be accomplished through microscopical examination by an experienced plant pathologist. However, quick and accurate diagnosis for certain diseases is now possible using "Disease Detection Kits", pictured above, that rely on unique biochemical characteristics of the disease causing fungi. These kits are currently under test at the STRI to evaluate their potential under UK conditions.

As most greenkeepers are aware, the prevailing weather conditions play an important role in determining the severity



of turfgrass disease attacks. In the USA compact weather stations are being installed on golf courses that monitor the principal environmental conditions, eg air and soil temperature, rainfall and humidity, which affect both the turf and its associated diseases. Recorded weather data is then analysed by a computer which calculates daily the likelihood of disease attack. This information, combined with the experience of the greenkeeper, is enabling fungicide sprays to be used to their maximum effect.

To combat turfgrass diseases the American greenkeeper may make 20-30 applications of fungicides each year and also may choose from over 20 different fungicides that are available for use on turf. In contrast, fungicides may be used two or three times a year in the UK from a choice of six or so fungicides available here. However the large dependence on fungicides in the USA has led to many highly active fungicides being developed for the turfgrass market and it is hoped that these chemicals may soon be developed for the UK market, giving greenkeepers here a much wider choice of very effective fungicides.

by Neil Baldwin
Plant Pathologist
at the STRI