MYSTERY DISEASE threatens CITRUS CROPS

RESEARCH machinery of the Department of Agricultural Technical Services has been put into top gear in an attempt to solve one of the greatest mysteries that ever threatened the citrus crops of South Africa.

The mystery disease, known as “greening” or “yellow branch” (geel tak) and “bloubek”, has already caused large-scale damage to orange crops in the White River, Rustenburg and Tzaneen areas, and is still spreading. So far, the disease is unknown overseas.

Although the disease has been known since 1938, it has caused only insignificant damage until recent years. During the period 1932 to 1936 large-scale damage was done in the White River area, but afterwards the disease practically disappeared. Since 1938 it started to spread, and has, in addition to the major infected areas, been spotted in Sebediela, the Sunday’s River Valley, Addo Research Institute, and Pietermaritzburg.

In 1963 the Department of Agricultural Technical Services sent a team of research workers to Nelspruit to study the problem.

During a conference at the Pretoria University recently, Prof. P. C. J. Oberholzer, Head of the Department of Horticulture, outlined the research which the Department has already undertaken in an attempt to solve the problem.

Extensive soil studies, nutritional studies, plant analyses, folicar sprays, micro-element injections, and sand-culture experiments have been undertaken in an effort to detect the cause of the disease. These studies have convinced the research workers that the disease is not caused by any deficiency in the plant.

In the light of these and other findings, it was suspected that the disease was caused by a virus, although it is not easily transmitted by budding or grafting. Extensive investigations were and are still being undertaken in that direction.

Plant samples were sent to California in the United States, where Dr. Henry Schneider, world authority on citrus viruses, investigated the problem. Although the anatomical symptoms of the disease closely resemble those caused by the virus, tristeza, which is known in the United States, Dr. Schneider’s studies in South Africa indicated that the disease was not caused by tristeza.

Research is now intensified at Pretoria and Nelspruit to determine whether the disease is in fact caused by a virus, and, if so, to trace the virus and its vector(s).

The symptoms of the disease were described in detail at the conference by Mr. D. F. A. von Staden, Senior Lecturer at the University of Pretoria. In trees the disease causes considerable stunting, leaf drop and die-back. It frequently affects only a part of the tree. Affected trees usually have poorly developed root systems, while the leaves develop an olive-green, dull lustre, with a diversity of pale patterns. Affected fruit are under-developed, top-sided and poorly coloured. In many cases the disease affects only one half of the fruit, which remains under-developed with a dull, almost olive-green colour and with only a touch of orange on the other half which does ripen.

Citrus farmers may rest assured that, as usual, the Department of Agricultural Technical Services will do its utmost to avert this new threat to our orchards.