

PROFESSOR ISRAEL REICHERT

In Memoriam



In the field of phytopathology and mycology a few countries have come to be associated with the names of eminent individuals who towered above the rest, and whose scientific contributions were more than merely parochial. Such men were usually pioneers in these fields in their own countries; more than that, however, their interest and knowledge always extended beyond the confines of specialization in a narrow field of endeavour. They may justifiably be compared to those giants of the Renaissance in northern Italy (albeit in perhaps more mundane subjects) in that they too thought the world to be their oyster. Almost all of these scientific masters of all trades have been laid to rest, Professor Israel Reichert among them, and a new breed, the specialist, has, out of necessity, become dominant.

The history of the development in Israel of plant pathology and mycology is inevitably tied with the name of Reichert, who may be considered to be the "father" of both fields of science in this country. He was instrumental in seeing them through their initial stages, from his first sojourn here in 1908 to 1912, and worked in them continuously from the time he settled here permanently (1921) until a few years before his passing in 1975, as mycologist, botanist, lichenologist, virologist and ecologist.

Reichert's astounding versatility stemmed partly from natural ability and inclination, partly from his having studied for his doctoral degree under the renowned plant geographer, Adolf Engler, in Berlin (1916-20), and partly from necessity. To elaborate on the last-named factor, it must be remembered that this land comprises four distinct climatic zones, which allow diverse crops to be grown. Furthermore, since the Jews returning to their land from the far countries of the world lacked the knowledge and tradition of farming particular crops in the diaspora, they were thus free to choose, by trial and error and experimentation, almost any crop that came to mind. The result was that in such a small area, a plethora of crops was grown, and their concomitant diseases appeared. Reichert, who was appointed in 1921 to organize and head the Department of Plant Pathology of the Jewish Agency Agricultural Experimental Station (later The Volcani Institute of Agricultural Research), was forced at first to tackle the whole gamut of diseases single-

handedly; his previous work in Berlin, in which he wrote the first monograph on the mycoflora of the Near East ("Die Pilzflora Aegyptens," 1921), and his practical outlook on the needs of the moment, stood him and the farmers in good stead. He built up his department over the years to formidable dimensions, and when The Hebrew University of Jerusalem inaugurated the School of Agriculture at Rehovot in 1940, he became the first lecturer in plant pathology, and was appointed professor in 1949.

He published almost 120 scientific papers in English, French, Italian and German, in addition to many others in Hebrew, on such diverse subjects as: root diseases; taxonomy of rusts, higher fungi, and lichens; fungicide application; storage diseases of citrus and banana; fungal and bacterial diseases of field, vegetable and orchard crops; the role of dew in foliage diseases; physiological disorders of plants; and virus diseases of citrus. Perhaps his most important contribution was the concept of "pathogeography," a term which he coined. This subject deals with the application of ecogeographical principles to plant pathology. The analysis of a disease organism, built on (1) its present world distribution – "component," (2) its ecological qualities, such as its reaction to temperature, humidity, etc. – "type," (3) its geographical origin – "element," and (4) its path of spread – "migrant," can often be used to forecast the potential spread of a pathogen to new regions and also to adopt cultivation procedures to render it innocuous in regions where it has appeared.

In passing, it should be mentioned that almost all Hebrew terms in use today in phytopathology and mycology came out of the fertile mind of Professor Reichert, who, from early youth, had been instilled with a love for the Hebrew language.

Professor Reichert's lifelong contributions led to his being honoured on a number of occasions: He was named Israel State Prize Laureate in Science in 1955, and was the recipient of the Gold Medal of the Mediterranean Phytopathological Union in 1969. In 1967, the First Israel Phytopathological Congress was organized in his honour, and he delivered the keynote lecture, on pathogeography.

The people of Israel were indeed fortunate to have had such a dedicated and talented spirit among them for so many years. It is good to know that he must have realized what his dedication and talent had wrought.

R. Kenneth

Israel Reichert was born in Poland in 1891, into a well-to-do family. In 1908 he emigrated to Palestine, which was then still under Turkish rule. He worked first as a laborer; later, as a school teacher, he became interested in natural history and especially in the lower plants. He soon enrolled as a student of biology at the University of Berlin where, in 1921, he prepared, under Prof. A. Engler, his thesis on "Fungi in Egypt," of fundamental importance for the knowledge of Near East cryptogamic flora. In Berlin, he was also introduced to plant geography, a field in which he later produced much successful work. "Pathogeography," *i.e.*, the application of ecogeographical criteria to parasitic fungi, to a better understanding of disease control, and to plant pathology in general, was shaped and developed by him throughout his life and remains an active and fruitful line of research in Israel.

In 1921, Reichert spent several months in Italy, mainly at the "R. Stazione di Patologia Vegetale" in Rome, where he studied mycology and plant pathology. Later in the same year his enthusiasm, deep attachment and what he felt his duty brought him back to Palestine, where he organized the Department of Plant Pathology of the new Agricultural Experiment Station. There his work combined pioneering with scientific creativity. He had to begin unassisted and with little scientific equipment. Yet, his intelligence and tenacity prevailed over all difficulties and his department became gradually one of the main centers for plant pathology in the Mediterranean region. Little by little he raised a well organized group of young scientists, whose activities brilliantly covered all the aspects of our complex disciplines. His rare aptitude for transmitting knowledge and

infusing others with enthusiasm were perhaps even more freely expressed when, in the newly established School of Agriculture at Rehovot, he became lecturer and subsequently Professor of Mycology and Plant Pathology. When he retired, as Professor Emeritus, he was still very active and his impetus and advice were highly valued. In the last few years, with his health declining, he found solace in the unfailing help and support given by his devoted wife.

It is difficult to summarize the activities of Prof. Reichert. He was a lichenologist and a mycologist, an ecologist and a phytogeographer, and made a major contribution to our knowledge of virus disease in the Mediterranean region. As early as 1928, he identified the first virus disease of citrus, xyloporosis. He was interested first in diseases of cereals, then of vegetable crops, then of citrus and other fruit trees and grapevine.

Prof. Reichert was known all over the world and traveled extensively. To mention only one of his study tours outstanding in its importance to our region, he was asked by the EPPO in 1960 to survey the Mediterranean region for citrus virus diseases. His observations and conclusions, still valid in the main, were summarized in a very interesting meeting organized by the late Prof. G. Ruggieri, at Acireale (Sicily).

Israel Reichert was one of the first organizers of the Phytopathological Mediterranean Union (P.M.U.). He was one of its staunchest promoters and was granted the Union's Gold Medal at the 11th Congress of the P.M.U. held in 1969 at Avignon – Antibes.

As noted above, summarizing Prof. Reichert's achievements is a difficult task: he began from next to nothing and established well-organized, very progressive plant pathology research in Israel. For him, this must have been the best reward, devoted, as he was, to his science, to his country and to all the Mediterranean region.

Antonio Ciccarone