GERSHON MINZ (1900 – 1979)

An obituary

Professor Gershon Minz, one of the first phytopathologists in Israel and the undisputed “father” of Plant Nematology in Israel, died in Rehovot on February 7, 1979, in his 79th year.

Minz was born in Warsaw, Poland, on August 5, 1900. After completing his studies at the Hebrew Gymnasium in that city, he emigrated to Palestine in 1920, imbued with the ideal of participating in the creation of a new society for his people in their renewed homeland. For four years he took part in the physical tasks of road building, swamp draining and land settlement in different parts of the country. In 1924 he returned to Europe to complete his education, and enrolled in the College of Agricultural Engineering of the Czech Polytechnic in Prague, from which he graduated in 1928. Upon returning to Palestine, he worked briefly in a citrus nursery, before joining the staff of what was then the Agricultural Research Station (ARO of today) in 1930. Here he became a member of the phytopathology unit, headed by the late Dr. I. Reichert, and began a long and impressive scientific career.

Initially, Minz was charged with the responsibility of investigating diseases of cereals in the country. He identified the rust and smut diseases of wheat and barley and developed control measures by sulfuring and seed dressings. In 1945 he published the first book in Hebrew on cereal diseases in Palestine. Subsequently he investigated ergot diseases of wheat and grasses and *Helminthosporium* diseases of barley and in later years expanded his research to diseases of corn and safflower. Concomitantly with cereal disease studies, Minz also pioneered work on diseases of other field and garden crops, experimenting with copper compounds for controlling leaf diseases of cucumber and tomato and, with the introduction of new field crops in Israel in the 1950s, initiated research on *Cercospora* in sugar beet and on damping-off in cotton.

In the early nineteen forties, Minz was among a team of scientists who were asked by the government to find means of reducing citrus wastage. In this capacity, he carried out with his co-workers a thorough study of the causes of stem-end rot of Shamouti oranges, and of the occurrence, mode of infection and pathogenicity of *Diplodia natalensis* on orange trees, flowers and fruits. He also investigated the pathogenicity of *Diplodia* from various hosts to citrus fruits, and subsequently studied *Diplodia* species in date palm.

Minz's early work reveals considerable versatility, a deep interest in the pressing agricultural needs of the country, and a remarkable awareness of new scientific techniques and findings. Among the approximately 120 publications which he authored or co-authored, we can find such varied subjects as: nitrification and denitrification (1926); twinning in cows (1930); use of manures and their effect on soil structure (1931); Mendel and agriculture (1934); early diagnosis of orange blemishes by ultra-violet rays (1940); detection of adulterations in butter and ethereal oils by ultra-violet rays (1941); bees gather rust spores (1942); parasitic fungi on imported straw (1943); and diaphanoscope for examining cultures in petri dishes (1944).

From his earliest days as a plant pathologist, Minz was attracted to that group of plant pathogens about which least was known – nematodes – and it is in plant nematology that Minz's pioneering work has left its most marked imprint. In 1935, when he published a paper on the

distribution of the root-knot nematode in the country, Minz was one of a handful of scientists throughout the world, who sensed the economic importance of this little-known and neglected group of soil organisms. His contributing role in developing nematology in Israel was one of creating public consciousness as much as that of creating scientific know-how. As early as 1940, at a time when none of the soil fumigants had yet been discovered, and the idea of combatting plant parasitic nematodes was still far from people's thoughts, he published a detailed paper on nematode control. When the first indications of the nematocidal properties of the earliest halogenated hydrocarbons – DD and EDB – emerged in the late 1940s, Minz was one of the first researchers to experiment with them and to elaborate the conditions and techniques for their usage. So too, he was among the first to employ the postplant fumigant DBCP immediately upon its discovery in 1955. In so doing, he solved, together with his co-workers, one of the most severe and difficult agricultural problems at that time – the decline of banana plantations in the Jordan Valley. In this work, published in 1960, Minz and his collaborators identified the spiral nematode *Helicotylenchus multicinctus* as causal agent of the decline, and demonstrated that this condition can be rectified by controlling the nematodes through DBCP treatments. It remains to this day one of the most convincing and impressive – and consequently, one of the widely cited – achievements of agricultural research, recognized not only in Israel, but also world wide.

Minz's contributions to nematology in Israel were basic. He identified and listed virtually all the plant parasitic nematode genera known to us today; he demonstrated the pathogenicity and determined the host range of the most important among them, notably the root-knot nematodes – *Meloidogyne* spp., and the cyst-forming nematodes – *Heterodera* spp.; he formulated the recommendations for nematode control and contributed to the development of a thriving bromine-based nematicide industry in the country; he published the first book in Hebrew on plant parasitic nematodes and their control in 1953 (revised in 1963); and he trained a new generation of researchers, technicians and extension officers in nematology. After returning home from a six-month study program in the United States in 1955 – spent mainly with G. Steiner in the USDA laboratories, Beltsville, Maryland, and with J.R. Christie, University of Florida – he set up a nematology unit within the Division of Plant Pathology, which received divisional status in 1963. A year later, he was awarded the title of Professor of Nematology by The Hebrew University of Jerusalem.

A master of half a dozen languages, Minz was always *au courant* with the professional literature, and set up in his division one of the most complete nematology libraries in the world. He maintained an up-to-date literature filing system, and was even engaged in preparing a Hebrew dictionary of technical terms (which unfortunately was not completed). Although he officially retired from active work in 1967, he remained totally dedicated to nematological research until three years ago, when he suffered the loss of his wife, a shock from which he never really recovered.

Minz was a pioneer in his field whose work was rewarded by a flourishing continuation of his initiatives in both plant pathology and nematology. This, too, unquestionably bears witness to his personality and spirit. His death is a severe loss to plant protection research in Israel, and at large.

Eli Cohn