

Czechoslovak Plant Pathology in the Past Thirty Years

The plant pathology, joined very often even by its official title with the plant protection, has attained its status of an autonomous research branch only with difficulty also in our country. The plant protection being tightly bound to practical aims implies many very specialized science branches that could be hardly mastered as a whole set and that could not be designated as the plant pathology. Therefore, an opinion sometimes prevailed and persisted for a relatively long time that the scientific basis of plant protection consisted of a number of independent scientific branches, e.g. microbiology, mycology, entomology and other sectors of zoology, physiology, chemistry, physics. Thus, even if some publications were issued representing the plant pathology in a narrow sense as a scientific branch, they were directed e.g. either to mycology, or to plant protection, usually according to their experimental model or to their aims. The initial purpose of plant pathology, i.e. the practical application to the plant protection influenced the choice or selection of objects: crop plants and their important pathogens and other disease agents and pests. The whole branch was wider than the plant protection alone. A successful interpenetration and integration of the two gave rise to a more modern research and education branch, the plant physics (phytophysics). However, plant pathology has been suggested as synonymous with plant protection by some people, who conceived e.g. the agricultural phytopathology as containing also agricultural entomology. Modern bases of plant pathology were arising before the period dealt with in this article, especially in universities stressing the theoretical character, in agricultural and forest colleges educating specialists for practice, and also in applied research institutes (belonging e.g. to the Ministry of Agriculture) feeling the need of a deeper and wider theoretical basis.

Thirty years ago entirely new research institutes and departments were founded, being responsible for the theoretical development of the given scientific branch on the highest level. They were established especially in the Czechoslovak and Slovak Academies of Sciences, like the present Department of Plant Pathology of the Institute of Experimental Botany in Prague, Institute of Experimental Phytopathology and Entomology in Ivanka pri Dunaji, Department for Plant Viruses of the Institute of Virology in Bratislava, or Department of Pathophysiology of the Institute of Experimental Biology and Ecology in Bratislava. Research centres of this type achieved connections with universities in a short time, which resulted in an integration of both not only in science but also in teaching and scientific education. Many dissertations of university students arose in the institutes of the Academy of Sciences; the body of workers for theoretical and applied centres was linked up and acquired a higher level. Simultaneously most of the institutes of applied research have been altered; the agricultural institutes specialized for individual crop plants (e.g. cereals, potato, sugar beet, hops) were reinforced by the establishment of departments or working teams entrusted with the research of pathology and/or protection of the crop plants. Expectations of profits derived from increasing development of new

methods and the whole modernization of research were mostly surmounted, the theoretical institutes having essentially contributed to them; this equivalent collaboration of basic and applied science may be evidenced not only by joint papers but also by many realized results. Identical principles were asserted in mutual relations between central agricultural institutes (e.g. Institute of Plant Protection in Prague-Ruzyně) and universities or Academy institutes. Such connections were also useful in compiling the state research programmes; individual institutes might enforce in this way the proposed and selected aims expected from our home research and from the international collaboration, especially with other socialist countries. Plant pathology representing a theoretical basis of plant protection was given support which enabled the building-up of new laboratories, purchase of modern and expensive instruments, and enthusing of young people. Many scientists succeeded in investigating serious plant diseases abroad, especially in developing countries, others could gain experience in foreign plant pathology laboratories. Simultaneously, plant pathologists from abroad were educated in our country or participated in conferences organized in Czechoslovakia.

Some results of the Czechoslovak plant pathology were internationally acknowledged, e.g. those dealing with virology, mycology and pathophysiology; the others were incorporated into official methods used in plant protection. Some Czechoslovak plant pathologists acted as chairmen at international conferences abroad, joined foreign phytopathological societies and editorial boards of journals issued abroad; they also contributed to foreign scientific monographs. There is no complete bibliography of Czechoslovak papers dealing with plant pathology; part of it was being published gradually by V. Skalický in *Prestia*; 2613 papers on plant viruses and mycoplasma-like agents (1921—1970) were compiled in the *Bibliography of Czechoslovak Plant Virologists* (V. Bojňanský edit.) issued by the Slovak Society for Agriculture, Forest and Food Industry of the Slovak Academy of Sciences. Academia, the publishing house of the Czechoslovak Academy of Sciences, issued four monographs on plant virology and several proceedings of plant virology conferences. Further books and proceedings of annual meetings were published by the publishing house of the Slovak Academy of Sciences in Bratislava and in the State agricultural publishing house in Prague.

During the past thirty years traditional plant pathology trends progressed, being focussed especially on resistance problems, pathophysiology and epiphytology. The plant virology has developed mainly in this period; it succeeded in solving several serious etiological problems (e.g. the discovery of the oat sterile dwarf virus and its vector), in ascertaining natural sources of viruses and in getting new data on biochemistry, morphology and serology of phytoviruses. Many findings dealing with mycoplasma-like agents, their vectors, natural foci etc. have the priority character; these results (e.g. on the stolbur disease of potatoes) were also applied to detailed practical conclusions. Other important results of toxicology, mycology, nematology, etc. cannot be omitted either. The present status of plant pathology in our country can be regarded as well promising.

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