Yugoslavia

1. Introduction

The Federal Republic of Yugoslavia (YU), which was proclaimed in 1991, has been a part of the larger Federal Republic of Yugoslavia since 1945 and part of the Kingdom of Serbia-Croatia-Slovenia since 1918. This chapter covers the breeding work carried out on Yugoslav territory, as it existed between 1918 and 1991. Unless mentioned otherwise, in this chapter Yugoslavia covers Slovenia, Croatia, Bosnia-Herzegovina, Macedonia and the Federal Republic of Yugoslavia with Montenegro and Serbia, including its autonomic provinces Kosovo and the Vojvodina.

The country comprises a coastal belt bordered by the Adriatic Sea in the west and covers a considerable part of the Pannonic Plain in the northeast. Between these two areas, with Mediterranean and Danube characteristics respectively, the Dinaric Alps form a central mountain barrier. A transitional zone between the mountains and the plain is flooded by the rivers Morava and Vardar. Several important rivers, such as the Danube, the Sava and the Drava, run through the country, providing an excellent infrastructure for transport (Figure YU.1). In this complex pattern of natural regions, the most productive area for wheat growing is Vojvodina, in the northeast of the country, where it shares the Pannonic Plain with Hungary and a small part of Austria.

The territory of Yugoslavia was one of the earliest areas of wheat cultivation in Europe (Jost & Cox, 1989). Forms and populations of wheat that are highly adapted to this region have resulted from many centuries of agricultural practice.

Before 1939, Yugoslavia was a well known exporter of high quality wheat of the Banat type. Most of it was exported by way of the Danube to Austria and Hungary, later to Czechoslovakia and Germany. The majority of the Yugoslav population at that time consumed principally maize. After 1945, due to an increasing urban population and a rising standard of living, Yugoslavia became an importer of wheat, mainly of American quality wheats. The amount of imported wheat varied between 400 000 and 1 500 000 t between 1959 and 1967. To eliminate these imports, serious efforts were made to increase wheat production. Apart from measures to stimulate use of mineral fertilizers, improvement of soil tillage and other treatments, much attention was paid to improving wheat varieties. As a result, wheat yields increased from 1.25 to 2.9 t/ha between 1950 and 1970, and Yugoslavia has been self-sufficient for wheat since 1968. This increase in wheat production, however,
brought forward the urgent need to improve the baking quality of at least part of the national harvest (Martinic & Zanic, 1973). This chapter reviews the results of these breeding efforts.

More than half the total area under arable crops in Yugoslavia is covered by cereals; in 1938 this was 82%, and in 1969 about 75%. Wheat and maize are the two main cereal crops, maize being by far the largest crop with almost 2,000,000 ha in 1995 (Table YU.1). Practically all wheat grown in Yugoslavia is winter wheat.

2. Wheat breeding during the first half of the 20th century

The establishment of a plant breeding station within the Royal Farming School at Krizevci (near Zagreb) in 1885 is considered to be the beginning of organized selection and plant breeding research on the territory of Yugoslavia (Jost & Cox, 1989).

Up to 1914, most of the wheat grown on the Balkan Peninsula consisted of land varieties of *T. aestivum*, and wheat breeding was limited to mass selection in native populations. These populations were characterized