EVOLUTION SCENARIO FOR THE AVERAGE WHEAT YIELD IN THE WEST OF ROMANIA

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Abstract

Unbalanced fertilization and insufficient use of N, P and K fertilizers are direct factors that bring variability in the quality and quantity of the wheat yield at a national level. However, taking into consideration the (upward) trend in the use of these fertilizing elements in the past few years, the aim of the present study was to estimate the evolution of the average wheat yield for the west of the country, if the same growth rate of the fertilization level is maintained. The theoretical values of the average yields were obtained with a production function that indicates the correspondence between the yield and the quantities of N and of PK used. The expression of the production function is known $(Q=f(N, PK))$, due to previous studies on the behavior of Alex wheat in experimental conditions at BUASVMT; these conditions are considered to be representative for the West Plain, which is the reference area. In concordance with the particular data, which are specific from a physiological point of view, as well as in what the soil conditions, climate and technology are concerned, the results of the study bring useful information on the area under research, which can be used locally and regionally as well. In addition, the model can be expanded to cover the economic efficiency of the wheat crop through fertilization and to indicate some degradation processes in the fertility of soils.

Key words: average yield, fertilization, model, prediction, wheat