MAIZE ANSWER MODELLING AT NUTRITION WITH NITROGEN AND PHOSPHOROUS WITHIN THE ROMANIAN SPACE

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Abstract

Basic nutrients N and P react very different at maize crop, depending on soil type and climate conditions. Based on personal researches and especially using the publications within the field, the authors have created a data basis ordered to elaborate several nutrition models, i.e.: two models regarding the reaction of maize at nitrogen and phosphorous depending on soil, but applied alone; four models regarding the response of maize at N and P for each of the four big soil groups chosen, and a general synthesis model. The models are useful to evaluate the necessary of nutrients with N and P for any agricultural unit based on its pedoclimatic coordinates presented in the paper. Depending on the soil type, the nitrogen brings increases of 20 - 60 q/ha at maximum doses of 200 kg N/ha, and phosporous of 500 - 600 kg/ha a t doses of 40 - 80 kg/ha P2O. The combination N x P in the soils models 3, 4, 5, 6 brings + 37,5 q/ha at N150P80 (soil model 1), + 49,1 q/ha at N200P160 (soil model 2 by extrapolation) + 47,4 q/ha at N200P160 (soil model 3 by extrapolation) and 67,2 q/ha at N200P160 (soil model 4 - extrapolation). The maximum yields obtained are not also the most economic ones. These latest ones can be found in this paper.

Key words: maize, soils, nitrogen, phosphorous, answer