THE INFLUENCE OF MINERAL FERTILIZATION AND HERBICIDES ON TOMATO YIELD

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SUMMARY

In this paper we analyze the influence of mineral fertilization and preemergence herbicides on tomato yield.

The experience was done in a cambic cernosium soil, with low acidity reaction and the high natural fertility potential favorable vegetables cultivation. The study was performed on control soil samples (without fertilizers) and soil samples after differentiated NPK fertilization in variable doses: \(N_{30}P_{30}K_{30}\), \(N_{45}P_{45}K_{45}\), \(N_{60}P_{60}K_{60}\), \(N_{120}P_{60}K_{60}\). Herbicides treatments were a control (not treated), Dual Gold 1.5L/ha and Treflan 48EC 2.0L/ha; herbicides containing S-metolachlor and trifluralin active substances. All herbicides applied preemergent. A field experiment was using tomatoes samples in different precocity steady: early (Export II) and middle tardy (Ace Royal).

Romania produces about 600000 and 700000t tomatoes/year, current average productivity is 13.3-16.0t/ha (Statistical Romanian Annuar, 2003). Doses and herbicides were established depending on the weeding degree and on the recommendation use products homologated to be used in Romania. (Lazureanu A., 2006).

![Figure 1](image-url)  
Figure 1  
Tomato yield within the sorts, fertilization doses and herbicides treatments

The experiment shown that application of moderate doses NPK is essential for increased production but the fertilization with highly doses NPK reduce the production, less and less. The herbicide with the highest efficacy to be S-metolachlor. The highest yield (21.36t/ha) was in the variants treated with \(N_{45}P_{45}K_{45}\) doses for Export II and with \(N_{30}P_{30}K_{30}\) doses (17.93t/ha) for Ace Royal (Fig 1). The tomatoes sorts did not influence the production. The fertilizer combined with an herbicide is convenient for to obtain high tomatoes yields.

REFERENCES