

Study on the quality of apple production depending on the soil maintenance system

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SCOPE

The competition between trees and weeds, if it is out of control, especially when the infestation with "problem weeds" presents a value of more than 35%, although the negative effect is not immediately visible, it causes a low fruit production, and the trees are suffering, especially in critical periods (setting of fruits, intense growth of shoots, ripening of fruits). The problem of the use of herbicides in fruit growing must be seen not only from the perspective of the immediate or subsequent effect on the orchard, on the fruits, but also from the point of view of the quality of the environment in the entire fruit growing ecosystem. The experimental herbicide varieties provided effective control of mono- and dicotyledonous weeds in the apple orchard, resulting in both a significant increase in production and a better and more extensive storage capacity of the crop.

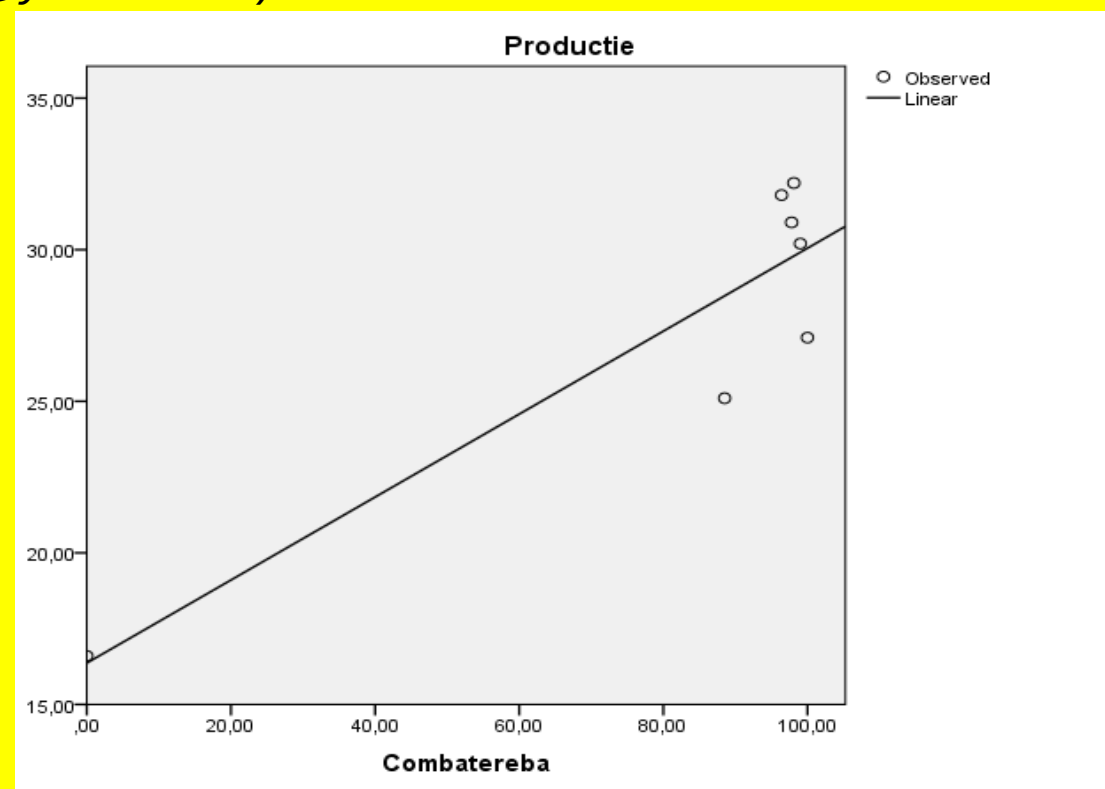
METHODOLOGY

The black field consists in keeping the soil loose and free of weeds through a permanent mobilization of it through works performed with mechanical or manual means. Analyzed over short periods of time, the black field increases the degree of loosening of the soil and improves the aeration regime on the worked area and the speed of water penetration.

In case of grass strips, the structure of the soil improves due to the channels that remain in the soil after the death of the grass roots, as well as due to the change in the size of the pores as a result of the pressure exerted by the roots on the soil particles. Also, the grass extracting water from the soil causes a contraction and respectively a cracking of the soil which contributes to increasing its degree of loosening.

RESULTS AND DISCUSSION

In order to elucidate how soil maintenance systems can influence the quality of fruit production, biochemical determinations were made regarding their influence on fruit carbohydrate content and acidity. Also, the degree of fruit firmness was studied in the apple varieties, depending on the soil maintenance technology in the plantation.



Regression of apple production (independent variable – annual weed control)

CONCLUSIONS

Analyzing the regression of fruit production and the effectiveness of annual and perennial weed control, it is highlighted that apple production was positively influenced by the absence of weeds in the experimental plots.

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