

The influence of soil maintenance systems on weed incidence in currant plantations

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SCOPE

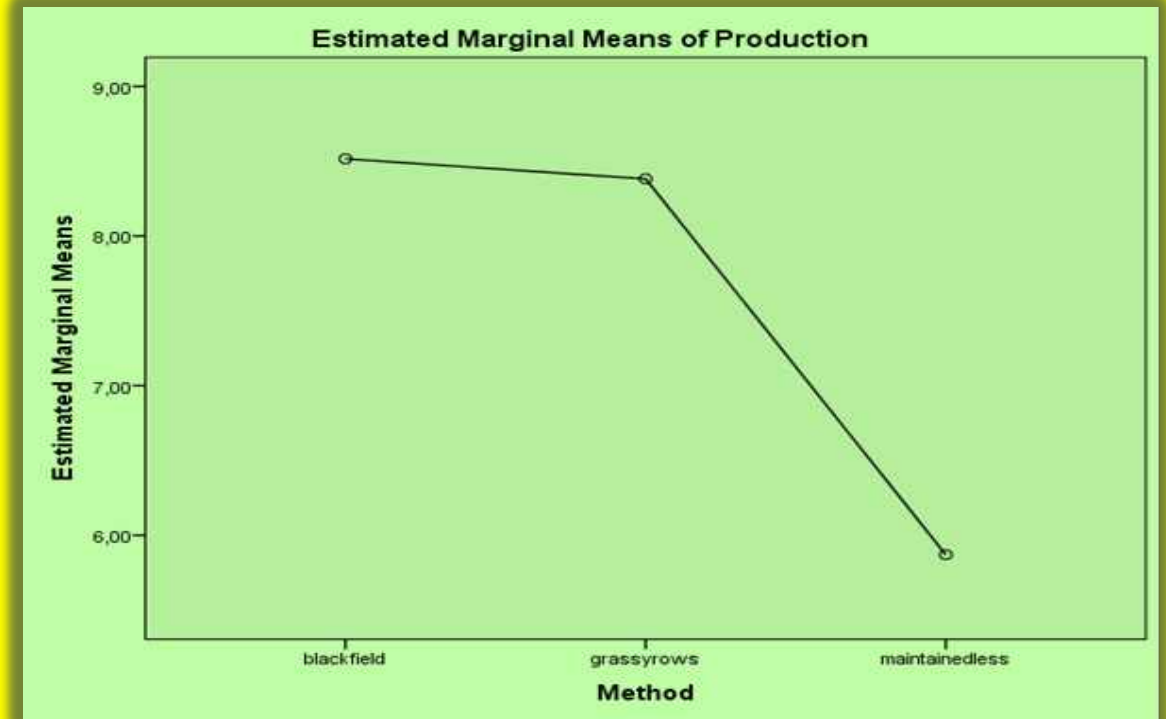
Proper weed management is an integral part of a sustainable orchard production system and can have positive effects on agricultural sustainability by increasing agroecosystem productivity and improving ecological services. An important issue for the production of perennial crops is weed management (Carvalho et al., 2016). Weeds negatively affect orchards and small fruit plantations and compete with cultivated plants for water, nutrients, space, and sunlight; weeds stunt tree growth in young orchards and reduce yield quality and quantity in mature trees. Weed pressure can reduce tree growth from 15% to 96%, while yield losses can reach 35% because of the adverse impact on fruit quality in which the fruit excluded ratio reaches 45%. Weed density in fruit orchards varies with location, climate, season, soil type, crop grown, irrigation, fertilization system, and the history of orchard agricultural practices (Futch et al., 2019).

METHODOLOGY

The experimental factors were the variety, the soil maintenance system and the plantation irrigation. The study was carried out at the Moara Domnească Experimental Base of the Research and Development Station for Fruit Growing, located N-E of Bucharest in Afumați, Ilfov County, part of Vlasiei Plain, a subunit of the Roman Plain (44°50' Northern latitude and 26°24' Eastern longitude and 70 m above the sea level), on five currant varieties: Jonkheer Van Tets (red currant), Rovada (red currant), Tisel (black currant), Abanos (black currant) and Detvan (red currant).

RESULTS AND DISCUSSION

In order to elucidate how soil maintenance systems can influence production level and incidence of weed species, both dicotyledonous and monocotyledonous. Analyzing the regression of production and the effectiveness of annual and perennial weed control, it is highlighted that currant production was positively influenced by the absence of weeds in the experimental plots.



CONCLUSIONS

Weed control management must focus on interdisciplinary approaches that aim to reduce chemical use, increase herbicide efficacy, integrate all weed control methods, increase farmer incomes, and identify benefits for the environment and human health.

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