

ABSTRACT

THE EFFECTS OF DIFFERENT DOSES OF FERTILIZERS IN ORGANIC OLIVE GROWING ON SOIL PARAMATERS, CONTENTS OF PLANT NUTRIENTS AND OIL QUALITY

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Trial has been conducted in certified Gemlik cultivars organically grown in olive orchards which are located in Kızılgüney village of Çine town of Aydın province since 2011. The soils in the olive orchard have loam position and have not any problem of salinity. The aim of this trial is to determine the effects of different organic fertilizers and doses on soil characters, mineral nutrient contents of leaves and fruit and olive quality. Fertilizers were obtained from commercial firms. The fertilizers and doses applied consisted of cattle (0, 6, 12, 18 kg/da), sheep manure (0, 5, 10, 15 kg/da), olive mills wastewater (0, 5, 10, 15 kg/da), earthworm manure (0, 0.5, 1.0, 1.5 kg/da) and chicken manure (0, 0.5, 1.0, 1.5 kg/da).

While soil reactions in pre-trial were slightly alkaline value, after the trial soil reactions were light and medium. There was excessive amount of lime, but the amount of organic matter content was minimal. Phosphorus, potassium, iron, zinc, and boron were low content. The amount of calcium, magnesium, copper was found as sufficient.

As the result of the leaf analysis, it was found that the amount of Na was very low; N, Mg and Zn were low; P, K and Ca were insufficient; Cu, Fe, and Mn were enough ranges.

Sheep manure for fruit width, cattle manure for fruit length, chicken manure for fruit length/width, pulp weight and seed weight, and olive mill wastewater for pulp/seed ratio and 100 fruit weight has shown the maximum effect.

The measurements indicated that olive oils had medium-quality. Virgin % fat determination and composition of fatty acids except peroxide number were among the boundary values indicated by Cooking Turkish Food Codex and Olive Pomace Oil.

The effects of different organic fertilizers from the highest to lowest level were lined up as chicken manure, cattle manure, earthworm manure, olive mill wastewater and sheep manure.

Key words: Olive, olive oil, organic fertilizer, organic agriculture