Abstract

The objective of this investigation was to apply organic, chemical and organic + chemical manures to the soil and record and analyze yield and quality of forage oats (Avena sativa L.) var. Cuauhtémoc. The experiment was conducted at Chapingo's Autonomous University "Production Unit 18 Of Julio", Bermejillo, Durango, México. A 1/4 ha was sown and divided in 17 by 4.75 m plots, and manure types and rates were randomly assigned to each parcel. Yield and quality data were analyzed with a random block treatment design. No significant difference (P<0.05) for forage quality was found with respect to the control, possibly due to soil's excess nutrients since it had been fallow for several years. There was a significant difference (P<0.05) for yield. Low rates of organic, chemical and organic + chemical fertilizers (e.g. 3 ton/ha) will meet soil and plant requirements. Results show that for the first year of cultivation, soil provides most of the oats nutrients when adding fertilizers with respect to control, presenting a similar trend for yield and forage oats quality. Chemical and organic fertilizers can be used in low fertility soils to increase organic matter content and to restore the physical, chemical, biological and soils nutrients. Use of these fertilizers in oats refurbish and supply nutrients to the soil. Our results show that it is not necessary to apply 20 to 30 ton/ha of organic manure as local producers do; apply 6 ton/ha so as not to saturate soil with salts.

Keywords

Oats, Fertilizers, Yield, Quality.