The effct of soil Management system on vegetative growth, yield and fruit quality of apple trees grown up new reclaimed soils

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This study was carried out during two successive seasons 1997 — 1998 and 1998 — 1999 to recognize the best soil management system for weed control in Anna farms grown up in new reclaimed soils and to study the effect of each treatment on vegetative growth, yield and fruit quality of Anna apple trees. A field experiment was established on Anna apple trees grafted on M. 106 rootstock and planted at apart 4 x 3m and growing onNoubaria region Behara governorate (Private farm).The treatments of weed control were amanged as follows: -1-without weed control (control).2-Hand hoeing three times during year.3-Herbicides applications such as: -3-1 Round up 2% in May and Aug.3-2 Diuron 2% in May and Aug.3-3 Gesaperm 2% in May and Aug.4-Mulching by black polyethylene in December after removing all weeds.-The results of this present investigation could be summarized in the following points: -I — weeds: -Mulching by black polyethylene was more effective in decreasing weed growth. Moreover, herbicides and Hand hoeing treatments were less effective than mulching treatments in descending order. Diuron 2% treatments wasmore effective than Gesaperem 2 % and Round up 2% in decreasing dry weight of broad weeds in 1998 and 1999 season. On the other hand, Round up 2% herbicides was more and effective than Diuron 2% and Gesaprem 2% herbicides in decreasing dry weight of Grassy weeds.II — vegetative growth: -II —1 No, of shoots per branch :-Mulching by black polyethylene gave the highest values (16.48, 16.42) following by Diuron 2 % (15.03 , 14.79) while control gave the lowest values (10.47, 10.42) in the two seasons of this study respectivelyII —2 Shoot length increase (cm) :-Mulching by black polyethylene gave the highest values (22.97) in the first season but Round up 2% gave the same results (21.40) in the second season. Morever control gave the lowest values (15. 89. 14.75) in the two seasons of this study respectively .II —3 Leaf area (cm)2 :Mulching by black polyethylene gave the highest values (32.4, 31.90) followed by Gesaprem 2% (31.50 , 31.90) while control gave the lowest values (26.00, 26.42) in the two seasons respectively.III — Leaf nutrient content of Anna apple trees: III-1- Macro — nutrient content (percentage) .III —1-1- Nitrogen leaf content:Round up 2% increased nitrogen leaf content in the firstseason (1.6%) while mulching by black polyethylene gave the same trend in)III —1-2 -P leaf content :-Diuron 2% application gave the highest values of P leafcontent followed by mulching by black polyethylene and Round up 2% application .III —1-3- K leaf content: -Gesaprem 2% application increased K . leaf content , wheregave the highest values in two seasons followed by Round Up 2% application . .III —1-4- Mg leaf content :Mulching by black polyethylene increased Mg leaf contentwhich gave the highest values followed by Gesaprem 2% and Round up 2% application in the two seasons of this study respectively .III —1-5- Ca leaf content :-Mulching by black polyethylene increased Ca leaf contentfollowed by Gesaprem 2% application.