

INTRODUCTION

1. INTRODUCTION

Citrus fruit occupies the first rank among other fruit crops in Egypt. Oranges are the predominant Citrus species and cover about (70%) of the new plantation area especially in Ismailia Governorate with the recent drip irrigation system.

Washington navel orange occupies the largest orchard areas in the newly reclaimed sandy soil. Most of these orchards suffer from some adverse growth factors such as scarcity of water, salinity and poor soil fertility status. The control of fruit drop is very essential especially in the pre-harvest stage since most mature fruits which are potentially marketable, may be lost. The number of dropped fruits are highly positively correlated with air temperature during the period of physiological fruit drop

In recent years, considerable attention has been focused towards the fact that our national water supply became seriously a limiting factor in the field of agricultural expansion.

This emphasize the importance of increasing the efficiency of irrigation water. This goal could be achieved by the useful reduction in evapotranspiration through mulching the soil surface with vapor barriers such as plastic or plant materials.

The present work aimed mainly to assess the effect of yearly amounts of irrigation water levels, soil mulching and both of nitrogen and potassium fertilization rates on tree growth, leaves constituents, root growth as well as fruit set, fruit drop yield and fruit quality.