

1- INTRODUCTION

Spinach (Spinacia oleracea L.,) is considered one of the most important vegetable crops in A.R. Egypt . In 1979 acreage planted with spinach was 5948 feddans and production was approximately 40907 tons with an average of 6.88 tons/fed. * *

The population is increasing in a staggering rate, while the cultivated area is somewhat limited. Therefore, it is necessary to increase the production capacity per feddan. This can be achieved by following the proper guidance for crop production. Among the pathways followed are the application of major elements.

Although nitrogen fertilizers are highly effective on spinach growth characters, its higher rates exert bad effects on spinach quality, since it caused an increase of nitrate-N accumulation in plant tissues. It is well known that such excess may induce toxicity to humans.

Sex expression of spinach is of primary importance for seed yield production. Although it is genetically controlled, it may be affected by exogenous application of nitrogen fertilizer and growth regulators.

* * Department of Agriculture Economic and Statistics,
Ministry of Agriculture, A.R.E., 1980.

Therefore, the objectives of this study were to elucidate the effect of nitrogen individually or its interaction with gibberellic acid as a growth regulator on vegetative characters, quality, sex expression and seed yield of spinach.