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EFFECT OF PRECEDING CROP AND NITROGEN FERTILIZER LEVEL ON YIELD AND QUALITY OF SOME SUGARBEET VARIETIES GROWN IN FAYOUM REGION

By

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EFFECT OF PRECEDING CROP AND NITROGEN FERTILIZER LEVEL ON YIELD AND QUALITY OF SOME SUGAR-BEET VARIETIES GROWN IN FAYOUM REGION

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- clay soil, while cultivating sugar-beet after rice in a sandy loam soil significantly increased the values of the previous characters.
- 2- Increaising N-fertilizer levels up to 75 kg N/fed. increased the values of growth and yield characters. Juice quality attributes were slightly affected, except—sucrose percentage which decreased in both seasons by the application of high N-level. These results were mostly obtained in the two experimental sites.
- 3- Varieties showed almost comprable values with regard to the characters under study.
- 4- Transplanting sugar- beet seedling of 4- week age showed better values of the characters under study compared with older ages. However sugar-beet grown using seed planting method showed significantly higher values for the studied characerts as compared to transplanted sugar-beet.

INTRODUCTION

I - INTRODUCTION

Sugar-beet (*Beta vulgaris*, L.) is primarily a crop grown in areas where temperate climate prevails (Latitudes 30-60 north), However, during the last two decades, its commercial cultivation has extended to subtropical areas. The crop was introduced to Egypt during the mid seventies of the last century, as a supplementary sugar crop. Its cultivation started in North Delta in the region of predominantly low fertility. The efforts exerted succeeded in raising the yield from 12.6 to 19.9 ton/fad. in 1999 season (Thirty Annual Council of Consultants, Egyptian Society of Sugar, December, 1999). It is worthy to mention that the area devoted for sugar cane cultivation, in Egypt, is limited, owing to the excessive amount of irrigated water needed. This make it difficult for further expansion in cultivated area. Accordingly, efforts were directed to expand sugar-beet cultivation. The results obtained encourage the Government to construct new factories for extracting sugar from sugar-beet.

It is well known, that Fayoum Governorate has a wide range of soil types and hense soil fertility levels. It is felt necessary, however, to investigate the most important variables that affect productivity of this promising crop under Fayoum conditions. Nevertheless, the objectives of the present study are:

- Specification of proper crop rotation in which sugar-beet could be involved in the cultivated areas as well as in the newly reclaimed areas which are regarded as bare fallow.

- Evaluating some imported varieties under the previously mentioned conditions.
- Determining the nitrogen fertilizer requirements of sugar-beet cultivation to maximize yield and quality.
- Investigating the proper method of planting sugar-beet and time of applying for the recommended dose of N-fertilizer. These studies would be implemented to realize good productivity and high profitability for sugar-beet cultivation in Fayoum region.