J. Agric. Sci. Mansoura Univ., 32 (10): 8069 - 8078, 2007

SUGAR BEET YIELD AND QUALITY AS AFFECTED BY SOWING PATTERNS AND NITROGEN LEVELS

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ABSTRACT

This investigation was carried out at the Experimentals farm of Sakha Agricultural Research Station, Kafr El-Sheikh Governorat during 2004/2005 and 2005/2006. This study was conducted to find out the effect of five plant population in terms of five planting patterns i.e. Three ridges 90 cm in width and hill spacing (15, 18 and 22.5 cm apart on the two sides of ridge) thus presents (56.000, 46.666 and 37. 333 plants/fad. respectively), row 50 cm in width and hill spacing of 20 cm apart. (42000 plant/fad.) and ridges 50 cm in width and hill spacing of 20 cm apart (42000 plant/fad.) as well as three nitrogen rates i.e. (80, 100 and 120 kg N/fad.) on yield and quality of sugar beet.

Growing sugar beet plants in ridges of 50 cm and hill space of 20 cmcaused a significant increase in root diameter, root/top ratio, sucrose percentage as well as root, top and sugar yields/fad. in both seasons. On the other hand, there was no significant effect on root length, total soluble solids and juice purity percentages; parameters.

Application of 120 kg N/fad. significantly increased root diameter, dry matter/plant, root/top ratio, sucrose percentage as well as root; top and sugar yields/fad. in the first season only. No significant effects were found on root length, total soluble solids (T.S.S.) and juice purity percentage in both seasons due to nitrogen fertilizer.

It could be concluded that planting sugar beet on ridges 50 cm in with and hill spacing of 20 cm apart and application of nitrogen fertilizer at the rate of 120 kg N/fad. could be recommended for optimum root and sugar yields per unit area under the condition of this study.