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EFFECTIVE FACTORS ON TECHNOLOGY QUALITY OF SUGAR BEET IN RELATION TO SUGAR YIELD EFFICIENCY (ORUMIEH SUGAR FACTORY – IRAN)

ABSTRACT

One of the effective factors in sugar production and yield in sugar factories is the technological quality of sugar beet. The most important impurities existent in sugar beet which affect the technology quality are harmful sodium-potassium-nitrogen, which proportions depend on whether and different regional conditions. West Azerbaijan province in the Northwest of Iran is considered one of the most advantageous areas for sugar beet cultivation in Iran which is also considered the second pole of sugar beet production in Iran due to the weather and regional conditions. Due to high yield efficiency of sugar in the sugar factories located in this province, In comparison with other sugar factories of Iran, this research was done with the goal of studying and identifying quality features of sugar beet produced in this province, considering the quantitative range of mentioned impurities, and for the precise control of real amount of sugar waste in molasses, Orumieh sugar factory was chosen because this factory doesn't have a sector for getting sugar out of molasses.

In this research which has been undertaken in 2007 in Orumieh sugar factory, 1130 random samples were taken from the 28000 consignments sent to the factory from different spots of the province by truck, during the campaign period, and the samples were analyzed by betalyzer machine.

Also, regarding the existent impurities, the sugar amount of the molasses has been estimated using Reinefeld and Braunschwik models and compared to the real amount of sugar in the total production of molasses.

The results of this research, indicate that the amount of sugar in the samples had a variation from 8/4% to maximum 20/5%, and the most frequency belongs to the range of 15/5-16/76%, and also that 69% of the samples belong to the range of 14/27-18/0%; the Potassium quantity had been variable from 2/35 to maximum 9/13 meq and the Sodium quantity had a variation from 0.79 to 7/45 meq; the average quantity of harmful Nitrogen has also been defined as 4/37 meq. Estimation foe the sugar in molasses, for all the tested samples has been calculated around 3% according to the Reinefeld model, and 2/34% according to the Braunschwik. In comparison with the real amount of sugar in molasses reported at the end of factory's campaign which is 2/1%, it seems that for the study of produced sugar beet quality with the amount of impurities in the above mentioned ranges, and in comparison with other areas of Iran which is which is less, Braunschwik model is more appropriate.

FACTEURS INFLUENÇANT LA QUALITÉ TECHNIQUE DE BETTERAVES PAR RAPPORT À L'EFFICACITÉ DU RENDEMENT EN SUCRE (SUCRERIE BETTERAVIÈRE ORUMIEH – IRAN)

RÉSUMÉ

La version française n'est pas disponible.

EINFLUSSFAKTOREN DER TECHNISCHEN QUALITÄT VON ZUCKERRÜBEN IM VERGLEICH ZUR EFFIZIENZ DES ZUCKERERTRAGS (ZUCKERFABRIK ORUMIEH – IRAN)

KURZFASSUNG

Deutsche Version nicht verfügbar.