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Screening of some Sugarcane Varieties suitable for Gur Production

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ABSTRACT

An experiment was conducted for screening of suitable sugarcane varieties for gur making in the non-mills zone of Chapi Nawabganj district. Ten varieties, viz. Isd 16, Isd 16M, Isd 18, Isd 20, Isd 21, Isd 22, Isd 24, L Jaba C, Co 1158 and Isd 2/54 were selected for the test. The variety Isd 16 and L Jaba C followed by Isd 2/54 showed the highest production of cane as well as gur than other varieties tested. The variety Isd 24 and Isd 16M were also found suitable for yield for cane and gur and can be recommended for cultivation in respect to profitable gur productions.

Key words : Sugarcane, yield of cane, gur production.

INTRODUCTION

Gur is manufactured in almost all parts of Bangladesh where sugarcane is grown in abundance. Gur making is one of the most important cottage industries in Bangladesh. In fact, more than 50 percent of the total sugarcane production in Bangladesh is utilized for gur manufacture (Anon., 1981). Varieties useful for white sugar manufacture are normally well suited for gur manufacture as well (Rao, 1983). The quality of gur differs from variety to variety. The chemical composition of gur and its quality are dependent on the composition of juice from which gur is made. It depends on a number of factors namely, variety, soil, climate, nature of cultivation, the stage of maturity at harvest and the method of gur preparation. The gur is a highly hygroscopic product and as a result, it becomes soft and sticky and even it often liquifies completely. Some micro-organisms are responsible for fermentation which brings about various changes resulting in heavy losses both in weight and quality (Farooque, 1960). The quality for gur is considered by its sucrose content, reducing sugars, colour etc. (Gopal *et al.*, 1959) though the quality may be further modified by method of boiling and clarificants used for the preparation of gur.

As gur making has a significant bearing on the rural economy of our country, it is a paramount importance to take a step to conduct varietal trials for the assessment of economic attributes like yield of cane, gur and their quality. The present investigation was aimed for evaluation of suitable varieties for higher cane and gur yield.

MATERIALS AND METHODS

The experiment was conducted in the non mills zone area of Chapai Nawabganj district. Ten BSRI bred sugarcane varieties, viz. Isd 16, Isd 16M, Isd 18, Isd 20, Isd 21, Isd 22, Isd 24, L Jaba C, Co 1158 and Isd 2/54 were selected. Three eyed setts of each variety were pre germinated and planted in 8m x 6m sized plots with three replications. The plantation was completed in the month of December '1995 in conventional method. The recommended balanced fertilizers were applied in three splits. Normal cane management practices were followed during the crop cycle. The cane harvesting and gur preparation were

started simultaneously from the month of February'1997. The number of millable cane, yield of cane and gur from each plot were recorded and converted in t/ha.

Statistical analysis was done by analysis of variance (F-test) and least significant difference (LSD) test applied to the data set for test of significance.

RESULTS AND DISCUSSION

It is revealed from Table 1 that the variety Isd 20 produced the highest millable cane numbering 145.2 thousand/ha which was significantly higher than those of the varieties Isd 18 and Co 1158 but was insignificant with Isd 16, Isd 16M, Isd 21, Isd 22, Isd 24, L Jaba C and Isd 2/54.

In respect of yield, the variety L Jaba C showed significantly higher yield of 102.40 t/ha than Co 1158 but was significant with other varieties Isd 16, Isd 16M, Isd 18, Isd 20, Isd 21, Isd 22, Isd 24 and Isd 2/54. In the production of gur, the variety Isd 16 had the highest production among the varieties but was not significantly different from Isd 16M, Isd 24, L Jaba C and Isd 2/54, but differed significantly from Isd 18, Isd 20, Isd 21, Isd 22 and Co 1158.

Table 1. Performance of the varieties in respect of number of millable cane, yield of cane and gur.

Variety	No. of millable cane (1000 ha^{-1})	Yield of cane (t ha^{-1})	Gur production (t ha^{-1})
Isd 16	134.4a	101.20a	10.02a
Isd 16M	127.1a	92.85bcd	9.06ab
Isd 18	89.79b	60.97abcd	6.04d
Isd 20	145.2a	92.22cd	7.71c
Isd 21	141.7a	86.60cd	7.57c
Isd 22	140.8a	89.58bcd	8.68bc
Isd 24	136.5a	95.49abc	9.31ab
L Jaba C	142.1a	102.40abc	9.72ab
Co 1158	104.2b	58.47d	9.10 ab
Isd 2/54	138.1a	99.93ab	9.10 ab
LSD (5%)	21.81	14.75	1.28

Overall it can be concluded that the varieties Isd 16 and L Jaba C followed by Isd 2/54 showed the highest production of cane as well as gur than other varieties tested. However, the highest varieties Isd 24 and Isd 16M were also found good for yield of cane and gur and can be cultivated for gur production.

REFERENCES

Anonymous, 1981. Statistical Year Book of Bangladesh. Bangladesh Bureau of Statistics, Statistical Division, Ministry of Finance and Planning, Govt. of the People's Republic of Bangladesh. pp. 548-550.

Farooque, M. 1960. Role of micro organism in deterioration of gur storage. *Indian Jour.* Sug. Res. and Dev., **1** : 69-71.

Gopal Aiyar, K. V. and Chiranjivi Rao, K. 1959. Studies on the relation of the chemical composition of cane juice and the quality of jaggery with special reference to the new Co. Canes. *Proc. ISSCT,* **10** : 825-828.

Rao, Thaljaram, J.; Natarayan, B.V. and Bhacyalakshmi, K.V. 1983. Sugarcane. p. 141.