



A Case Study

Studies on quality jaggery (gur) production with organic clarificants

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Abstract : The jaggery quality is the most challenging aspect for the jaggery making process. Jaggery provides an alternative market to sugarcane growers. About 26 per cent of the sugarcane produced is diverted for jaggery production. Jaggery production with the use of chemical clarificants is very common and is widely adopted by almost all jaggery manufactures in view of cheapness and ready availability of chemicals in the market. The presence of sulphur as sulphur dioxide in the jaggery beyond 70 ppm is injurious to the health. The technology developed at Sugarcane Research Station, TNAU, Melalathur has established that the use of slaked lime solution along with the mucilaginous extract of wild bhendi / bhendi as clarificant (40 - 45 g / 100 l). The results of the experiments conducted at various research centres also revealed that among the herbal clarificants used for the jaggery making the bhendi mucilage significantly contributed in removing higher amount of scum and highest non reducing sugars (83.56%) and significant decrease in the reducing sugars (4.44%) due to beneficial in reducing the inversion process. Use of bhendi mucilage, soyabean seed meal improved the colour of jaggery.

Key Words : Jaggery, Quality, Herbal clarificants

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The sugar industry in India plays a vital role towards socioeconomic development in the rural areas by mobilizing rural resources and generating higher income and employment opportunities. About 7.5 per cent of the rural population covering about 45 million sugarcane farmers, their dependents and a large number of agricultural labourers are involved in sugarcane cultivation, harvesting and ancillary activities (Murthy, 2010).

Sugarcane is one of the important commercial crops used for the manufacture of sugar, jaggery and other products. Jaggery provides an alternative market to sugarcane growers. About 26 per cent of the sugarcane

produced is diverted for jaggery production. The quality of the jaggery is dependent on the cane juice which in turn is determined by the variety and the environment in which the cane is grown. The adverse conditions *viz.*, salinity, drought etc., affect cane yield and quality (Wandre *et al.*, 1985).

The jaggery manufactured from sugarcane juice and is very widely used not only in individual households but also in many eateries, restaurants, clubs and hostels and it has certain industrial applications as well. Manufacture of sugar involves many technical aspects and the capital investment is also on the higher side. Compared to this, production of jaggery is very simple and the capital cost is also very limited. Due to its wide applications, the market for jaggery is continuously growing. The jaggery contains approximately 60-85 per cent sucrose, 5-15 per cent glucose and fructose. Along with 0.4 per cent of protein, 0.1 g of fat and 0.6 to 1.0 g of minerals (8 mg of calcium, 4 mg of phosphorus, and 11.4 mg of iron). It is also found to contain traces of vitamins and amino acids. 100 g of jaggery gives 383 kcal of energy. In ayurveda, jaggery is considered as the

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