

Starch extraction from banana pseudostem

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SUMMARY : The banana (*Musa paradisiaca* L.) belongs to the family Musaceae. Banana is one of the important tropical fruit crops. India ranks second in banana production in the world, occupying about 3, 25858 ha. area under cultivation (Anonymous, 1992). The starch occurs in nature as stored food in the tissues of higher plant and forms the bulk of the solids of grain and tubers. Raw material commonly used for the manufacture of starch in different parts of worlds is: food grain (maize, wheat, jowar) tubers and roots (potato, sweet potato, tapioca) and sago. In countries suffering from shortage of food, the availability of these materials for starch manufacture is limited. The starch is present in the form of granules and can be demonstrated by pouring iodine solution over the cut stem. Banana stem is used to some extent in the preparation of fibre ropes and cheap quality paper, and the inner soft core is consumed as a cooked vegetable, but no important industrial use of the stem has so far been reported. The production of starch in this country has greatly decreased. Thus, the new starch, viz.: *Banana stem starch* can be used with advantages for implementing the production of starch in this country for which there is potential demand.

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Banana is the cheapest, most plentiful almost nourishing of all fruits. It contains all the essential nutrients including minerals and vitamin and has several medical properties. Banana is a rich source of energy, about 24 bananas each weighing 100g, would provide the energy requirements (2400 cal/day) of a man (*Kotecha and Desai, 1995*). Ripe banana contains moisture 70 per cent, crude fibre 0.5 per cent, proteins 1.2 per cent, carbohydrates 27 per cent, lipids 0.3 per cent, minerals 0.9 per cent, phosphorus 29 mg/100 g, calcium 8 mg/100g, iron 0.6 mg/100 g, b- carotene 0.5 mg/100 g, niacin 0.7 mg/100 g, ascorbic acid 12 mg/100 g, riboflavin 0.05 mg/100 g and energy 104 cal/100 g (*Anonymous 1977*). Banana has been grown in Jalgaon region varieties are

Shrimanti, Dwarf Cavendish, Basrai, Robustra, Lal velchi, safed velchi Rajeli nendran and Red banana. The Shrimanti variety is most popular variety in Jalgaon Region.

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After harvesting the fruit, the felled plant is generally allowed to rot in the field. The stem is used to some extent in the preparation of fibre ropes and cheap quality paper, and the inner soft core is consumed as a cooked vegetable, but no important industrial use of the stem has so far been reported. The estimated output capacity of all the starch factories located in the country is about 73,000 tons per annum, but it is reported that these factories could hardly produce 1350 tons in 1947 and 3599 tons in 1998. This was because of the irregular supplies of maize, which occurred due to food shortage in the country and also its

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