**Beverage**

**Agave juice - A natural sweetener**

The sap of Agave plant has now been found to be a mainstream sweetener with organic credentials. In Germany it has been marketed at health food shops as ‘natural sweetener’.

The sap of wild Agave has been identified as 100% natural sweetening agent having less calories than sugar but greater sweetening power. In Central America people (pre-Columbian) obtain the juice by boiling leaves of Agave. Due to its low water content (23-25%) the Agave juice has a good life under cool and dry storage conditions.

The most valuable components of the wild Agave are their carbohydrates, among which are oligofructose and polyfructose (namely inulin or fructosan) which are reduced to a juice with a naturally high content of fructose, a monosaccharide naturally found in fruits and vegetables. Agave sprouts are tapped and a thick and golden juice is collected, and then processed. The resulting Agave juice contain about 70% fructose, calculated on the total sugar content, but has other components that impart useful effects.

It has a strong sweetening power that naturally rounds up and enhances the sweet flavour of foodstuffs and beverages. Not only does it sweeten in a natural way, but also has a neutral taste and, as such, does not alter the aromatic note of the sweetened foodstuffs or drinks.

Due to its slightly viscous consistency and good whipping behaviour, Agave juice is easily integrated in a multitude of recipes. No problem whatsoever to dissolve it in cold or warm substances. Its consistency preserves the moisture in cakes, cookies, fruit leaves, while its low water content (23-25%) is ideal for the use in yeast dough and sponge cakes. An interesting property for the use in jams and jellies is its ability to strengthen the good jellifying power of such products and, at the same time, its low crystallizing tendency.

This organic product is equally useful in the food industry and in private kitchens because it has less calories than sugar but a somewhat stronger sweetening power than sugar. In the baking or cooking practice, one needs 20 to 25% less than sugar. The awareness for health aspects and nutritional facts is very important among consumers now-a-days. Compared with sugar, organic Agave juice has a very little influence on the blood sugar level. It can be used in diabetic foodstuffs, as fructose is assimilated by the body independently from insulin.

For extraction of juice the sprouts are pressed and the juice is filtered and thickened by evaporation until the required consistency is obtained. The whole process takes place under highly controlled hygienic conditions. The waste is recycled as a fertilizer for vegetable gardens and cornfields, as an ingredient for animal feed and also in the local brick production [Wolff, *Food Ingred Anal Int*, 2001, 23(6), 34].

**Condiment**

**Onion-ginger-garlic paste**

The scientist at Department of Food Science and Technology, Guru Nanak Dev University, Amritsar have prepared a paste by mixing onion, ginger and garlic with addition of 10 per cent common salt and citric acid. The paste was thermally processed at 80°C for 15 minute. Polyethylene terephthalate (PET) containers were found to be better packaging material at 25±1°C for the mixed paste (Ahmed & Shivhare, *J Food Sci Technol*, 2002, 39(5), 566-568).
Condiment

Plum fruits leather

The northern hilly regions of India are full of attractive coloured plums during summer season. Plum fruit is rich in carbohydrate and minerals. Being soft in texture and having less storage life, huge losses occur during various post-harvest operations. To overcome the losses converting this fruit into processed products particularly in the form of leather just like mango leather is advisable.

For the preparation of plum leather scientists at Division of Post-harvest Technology, IARI, New Delhi procured ripe fruits of cv. ‘Santa Rosa’ plum. After washing the fruits pulp is extracted by hot method after adding small quantity of water (100 ml/kg of fruits) and heating the fruits for 5-7 minutes followed by passing through a pulper. The pulp can be preserved with 1000 ppm potassium metabisulphite and could be stored at low temperature (2-4°C) for preparation of plum leather. By adjusting the TSS of pulp from 10 to 30° Brix (after adding sugar) initially 10° Brix and 1.5% acidity, plum leather can be prepared. Pulp is spread in the form of thin layer on aluminium trays smeared with glycerin. The drying can be done in a cross flow cabinet dryer at a temperature of 60 ± 5°C with a tray load of 1.00 kg/m². The product could be stored in polyethylene pouches and cellophane bags. The leather remains in good condition up to 6 months [Sagar, Indian Hort, 2003, 47 (4), 18-19].

Sweet, chewable product from Ber

A chuhara-like product from Ber, Ziziphus mauritiana Linn. has been made by osmo-air drying process at G.B. Pant University of Agriculture and Technology, Pantnagar. For this purpose large fruits of golden yellow colour were selected from a commercial variety, ‘Umran’. The fruits contain high pulp-to-stone ratio (13:3) and high TSS (12.6°Brix). Dipping in boiling solution of NaOH (1%) for 1 minute followed by rinsing in water and citric acid (5%) and dipping in 4000 ppm KMS solution for 12hrs was found to be the best pre-treatment.

Pre-treated fruits when osmotically dried using 30-60° Brix sugar syrup reduced moisture content from 84.4 to 48.4 %. Further drying at 52±2°C for 29hrs in a cross flow cabinet air drier yielded yellow, sweet, chewable and appealing product with 12.7 per cent moisture. The product can be stored under relative humidity of 40.0-56.3 per cent [Kumar & Nath, J Food Sci Technol, 2002, 39 (5), 484-488].

Potato jam

In order to cater to the people of different ages and society, scientists at Central Potato Research Institute, Jalandhar and Punjab Agriculture University, Ludhiana, Punjab, have made 20 new products of potato including potato jam, candies, chicklets and potato lollipops. These products can be easily made at home, which besides being fresh, are pure and free from chemicals.

For making potato jam, potatoes (1kg) are peeled, washed and chopped into small pieces. The pieces are treated with 0.2% calcium carbonate solution for 1hour and then washed with water thoroughly. Blanching of these pieces is done in 0.2% sodium metabisulphite and washed with cold water. After mashing both the sucrose (500g) and dextrose (300g) are added to avoid crystallization in jam. Then it is boiled with continuous stirring until sufficiently soft. At this stage citric acid (1g) is added and the jam is cooked further up to 105°C. It is filled hot in sterilized bottles and stored at ambient temperature. Its 100g serving provides 245 K calories and the shelf-life is 15 days [Marwaha & Sandhu, Indian Hort, 2003, 48(2), 20-24].