

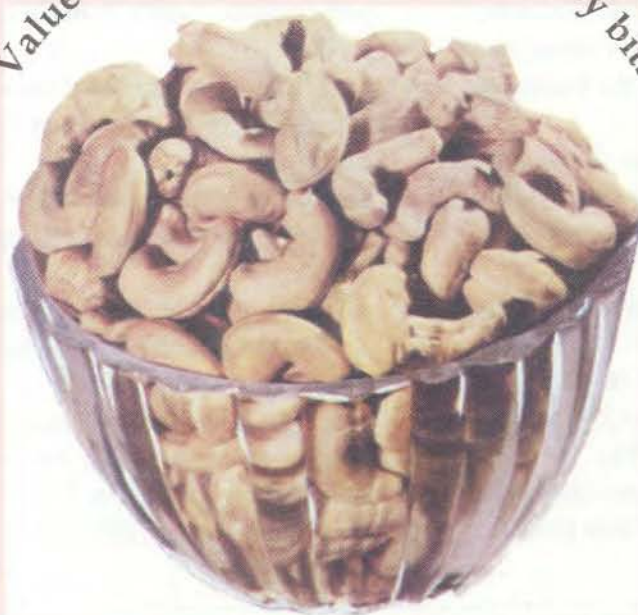
## Effect of popping on Amaranth grain

Various food preparations from popped pseudocereals or millets are consumed since long time in India and other countries. The popping of Amaranth grain (*Amaranthus caudatus* Linn.) by traditional methods on hot plate has disadvantage of burning the grains. Now-a-days a hot air corn popper is used to pop these grains as in the case of maize and sorghum. Lara and Ruales in Ecuador studied the effects of temperature, load, air flow and grain moisture on the yield, expansion volume and density of the popped grain. The functional and physicochemical properties, crude protein and total lysine content, nutritional quality and textural properties of the popped grain were also investigated.

The studies revealed the possibility of using a household corn popper for the popping of Amaranth grain. The process conditions with the lowest popping capacity are 200°C, 14 g load, 0.015 m<sup>3</sup>s<sup>-1</sup> airflow and 16% grain moisture. The process conditions with the highest popping capacity are 240°C, 22 g load, 0.013 m<sup>3</sup>s<sup>-1</sup> airflow and 12% grain moisture. The crude protein and lysine contents vary between 14.9 and 16% and between 45.2 and 48.0 mg/g, respectively. The protein *in vitro* availability is above 80% for all popping treatments (Lara & Ruales, *J Sci Food Agric*, 2002, **82**, 797-805).



## Value addition to cashew kernel baby bits



Cashew kernels are marketed in various grades such as whole kernels, two piece kernels, small bits, etc. Salted cashew kernels are the favourite snacks during high tea. Sweets (*burfi*) of cashew kernel are also high priced and most liked servings and gifts.

Mahesh and Nagaraja at National Research Centre for Cashew, Puttur, Karnataka developed value added products without frying them in oil and coating cashew kernel bits with cane sugar, honey, salt and cashew apple juice. The bits were defatted to enhance the per cent coating. The ratio of bits to the coating solution was 1:2 (5 g/10 ml). Cashew apple juice was obtained from freshly harvested and washed cashew apples by squeezing them and boiling the recovered juice (15 minutes) in the presence of 0.05% gelatin. The experiment revealed that optimum coating of cashew baby bits occurs at 100°C for 5 minutes at 70% concentration for cane sugar and honey and 5% for salt. The cashew baby bits coated with 50% cane sugar, 30% honey and 0.5% salt were preferred when assessed for acceptability. Addition of vanilla flavour was appreciated [Mahesh & Nagaraja, *J Food Sci Technol*, 2002, **39** (2), 124-128].



## Malted weaning food for infants

Infants are weaned at the age of 3-6 months to meet their nutritional requirement and complement mother's milk. Malnutrition is caused if weaning with nutritionally rich diet is not done. In India first weaning diet is usually the pulses water or commercial baby formula. In Nigeria a watery gruel prepared from fermented cereals (maize, sorghum or millet) is used for weaning purpose. Onyeka & Dibia at Department of Food Technology, Federal

University of Technology, Nigeria carried out studies to explore the possibility of using local raw materials to develop a nutritious, low-dietary-bulk and cheap infant food. The materials used included maize, soybean, groundnut and cooking banana.

For germination soybeans and maize grains were cleaned, weighed and malted separately. The grains were initially soaked in ethanol/water (70:30 v/v) for 2 minutes and the liquid was decanted. The samples were then soaked in water and kept in a dark place for 12-18 hours. Afterwards they were washed, spread on a muslin cloth and allowed to germinate for 48 hours at room temperature (28°C). Groundnut was roasted on a sand bath at 120°C for 10 minutes to reduce the microbial load, decrease the moisture contents and improve the taste, flavour and aroma of the nuts. Cooking banana fruits were peeled green and dried at 210°C for 1 minute using a drum drier.

The germinated grains were dried or kilned before milling and formulation. A combination of malted maize and soybean, roasted groundnut and cooking banana in the ratio of 50:15:15:20 gave a very good weaning food for infants between the age of 6 months and 2 years. During sensory evaluation light brown colour of the malt was not preferred probably because they are used to the milky colour of conventional weaning foods (Onyeka & Dibia, *J Sci Food Agric*, 2002, **82**, 513-516).



## New innovative maize snacks



In recent past potato snacks have captured the market and are enjoyed by all groups of people in India and other countries, chiefly Europe. However,

European snack markets have been turning to new products from maize. Some of the new snacks from maize include:

- Pop-corn with latest seasoning innovations (savoury or sweet, like chocolate) replacing the traditional butter taste.
- Corn chips in various shapes (3D, Spiral, Web, Hoops, etc.)

Main advantages of maize snacks as compared to potato are:

- (i) The oil absorption is lower than in potato snacks.
- (ii) Corn flour contains starch (70%), protein (9%), lipids (3%), mineral (1.2%) and fibres (9%).
- (iii) Maize is rich in vitamin A and E, folic acid, calcium, magnesium, fibres and proteins.

- (iv) Maize is a traditional cereal grain included in food habits.
- (v) Maize contains low fat hence preferred by health conscious people.
- (vi) Natural sweet corn varieties of maize have more possibility to enter in snacks market.
- (vii) Corn has natural salty taste therefore, it is good for people who avoid taking additional salt.
- (viii) In addition to health benefits maize is a low cost raw material ensuring good revenue return.

Thus these findings and innovations are enough to enhance the maize market and taste for future generation [*Food Inged & Analysis Intern*, 2002, **24**(2), 28-29].