Development of novel products of pumpkin

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Pumpkin (Cucurbita maxima) is an important vegetable crop cultivated in Sri Lanka and its annual production is nearly 40,000 metric tons. Pumpkin has become an important source of climatic condition with minimum inputs. Pumpkin is mainly consumed as freshly boiled and income for farmers because it is a crop which can be cultivated under a wide range of steamed or as processed food items such as soups and curries. In other countries it is used to produce pumpkin powder which is widely used for preparation of human food and in our country preparation and utilization of pumpkin powder is very limited. Hence the objectives of this study were to produce pumpkin powder with commonly available "Malaysian" and "Butternut" pumpkin varieties and use them as an ingredient in soup mix, beverage and biscuits into six different pretreatments (immersed in 0.5% sodium chloride, 0.5% citric acid, 0.5% Sodium chloride + 0.5% citric acid, for 03 minutes, and solutions were maintained at 60 oC and 100 ^{o}C) and then air drying the shredded pumpkin at 65 ^{o}C . The acceptability of the rehydrated products was tested by using a consumer panel and a five point hedonic scale. Proximate composition, drying and rehydration characteristics of the powder produced by two varieties were also determined.

A suitable packaging material for storage of the products under ambient conditions was selected based on the moisture content, water activity, water absorption, total plate counts, and colour of the products.

The pretreatment of immersing pumpkin pieces (1 X 0.5 inch) in 0.5% sodium chloride + 0.5% citric acid for 03 minutes at 60 ^{o}C was selected as best for both varieties according to physico-chemical and organoleptic qualities production. Organoleptically acceptable pumpkin powder was prepared by subjecting the fresh pumpkin pieces.

Storage study revealed that products packed in bags made out of aluminum foil laminated with PET and LDPE could be stored for 6 month with minimum changes of the moisture content,

water activity, product colour, water absorption, and total plate counts, compared to polypropylene and nylon laminated with LLDPE bags.

The food products as soup mix with 10 % replacement, beverage with 25 % replacement and biscuit with 40 % replacement, were the best substitution levels of pumpkin powder according to the sensory quality characteristics.