

PRACTICE ABSTRACT n° 48

Production of baked snack from nutrient-enhanced flours containing biofortified crops

Most baked snacks are relatively low in nutrients and do not significantly contribute to nourishment of consumers. This practice abstract outlines a process, developed as part of FoodLAND research, for production of a baked snack from wheat and composite flour (made from biofortified beans, orange-fleshed sweet potatoes (OFSP) and grain amaranth).

Snack formulation

The formulation consists 60% wheat flour and 40% non-instant composite flour made of 37.8% OFSP, 30% grain amaranth and 32.2% biofortified beans. Other ingredients include sugar, eggs, water and fat. For every 100 kg of flour, 25 kg of sugar, 25 kg of margarine, 10 eggs, 80 ml of water and 500 g of baking powder are used. Flavoring ingredients may be added.

Process for production of baked nutrient-enhanced snack

- Mix ingredients, knead into a dough and cut the dough into cuboid shape (approximately 5.0 x 5.0 cm)
- Bake at 150°C for 55 minutes
- Remove the baked products from the oven and leave to cool for about 10 minutes
- Pack in containers with good moisture barrier properties

Properties of baked nutrient-enhanced snack made using novel ingredients

The snack produced with from the above-described process contained relatively high levels of protein and fibre compared to similar snack made without any wheat substitution. The snack is also high in fat, which makes it a high energy product, that's suitable for very active individuals such as school-age children.

The snack also exhibits acceptable sensory properties. This shows that the product has potential for market acceptability.



Figure 1: Baked snack made by partial substitution of wheat with OFSP, biofortified beans and grain amaranth