

Value Added Products from Banana

M. Sai Srinivas, Nazma Hafeeza S.

College of Food Science and Technology, Pulivendula, Acharya N.G. Ranga Agricultural University, Andhra Pradesh

Corresponding Author: saisrinivas194@gmail.com

Introduction

India is the largest banana producer capturing a share of 26 per cent of global production. Banana is considered to be one of the most important energy sources. Banana is one of the cheapest fruits containing all essential nutrients including minerals and vitamins and possesses several medicinal properties. The major states having production of banana are Gujarat, Andhra Pradesh, Maharashtra, Kerala, Tamil nadu, Bihar, West Bengal, Assam, and Karnataka sharing more than 70 per cent of total banana production of the country (Priyanka *et al.*, 2018). The food processing sectors plays a vital role by enhancing the farmer's income through value addition of agricultural products and also provides rural employment. Value addition is commonly mentioned in terms of the future profitability. Adding value is the process of changing a product from its original form to a more valuable form (Karthikeyan, 2015). The main aim of value addition is to enhance the acceptance of the products and making product available on demand. It was estimated that 10-15 per cent of horticultural crops such as fruits and vegetables perish due to improper processing methods and storage conditions. Appropriate methods of processing, storage, packaging, transport and marketing are essential for export of high value crop like banana (Abdullah *et al.*, 2010).

Value added products

Bananas are a highly versatile fruit and can be processed into a variety of value-added products, which not only increase their shelf life but also open up opportunities for greater market diversification. Here are some common and innovative value-added products derived from bananas (mentioned in figure):

Banana chips

Sliced bananas, typically green bananas, are fried or dehydrated to create crispy chips. These are often salted or flavoured with various seasonings. Popular as a snack in many parts of the world, especially in tropical countries. A healthier alternative to regular potato chips, especially when fried in healthy oils.

Banana flour: Made from green, unripe bananas, banana flour is a gluten-free, high-fibre flour substitute.

The bananas are peeled, sliced, dried, and then ground into a fine powder. Used in baking and cooking, ideal for gluten-free products. Rich in resistant starch, beneficial for gut health and blood sugar control.

Banana powder

Banana powder is prepared from fully ripe banana fruits after peeling, pulping, homogenizing and spray drying. It can also be produced by drum drier. This product has the high market value. Popular in the health food industry, particularly for energy bars, protein powders, and nutritional supplements.

Banana jam and jelly

Ripe bananas can be processed into jam or jelly by cooking them with sugar, pectin, and lemon juice. The product has a smooth texture and can be flavoured with other fruits. Ideal for use as spreads on toast or in desserts. Retains the natural flavour and nutrients of bananas while providing a sweet treat.

Banana juice and smoothies

Banana juice is made by blending ripe bananas with water or milk. It is often mixed with other fruits to create refreshing smoothies. Popular in cafes, health bars, and as a ready-to-drink beverage. Rich in potassium, vitamin B6, and natural sugars, providing energy boost.

Banana puree

Ripe bananas are mashed into a smooth puree. This product is widely used as an ingredient in baby food, baking, and dessert making. Used in various food industries, especially in baby food manufacturing and as a natural sweetener in recipes.

Banana biscuits

Banana biscuits are made by mixing 60% banana flour and 30% maida. The dough is made using flour mixture and suitable proportions of the sugar, baking powder, milk powder and essence.

Banana-based ice cream

Made by blending bananas with other ingredients like milk, cream, or yogurt and then freezing the mixture. Banana-based ice cream can be made without added sugar, using the natural sweetness of bananas. Suitable for the dairy-free, gluten-free, and

vegan markets. Contains potassium, fiber, and vitamins, with lower sugar content than traditional ice cream.

Banana cake and banana bread

Overripe bananas are mashed and used as a natural sweetener in cakes, muffins, and banana bread. These products are popular in both home baking and commercial food production. Widely sold in bakeries, cafés, and supermarkets. Provides a natural, nutrient-packed alternative to processed sugars in baked goods.

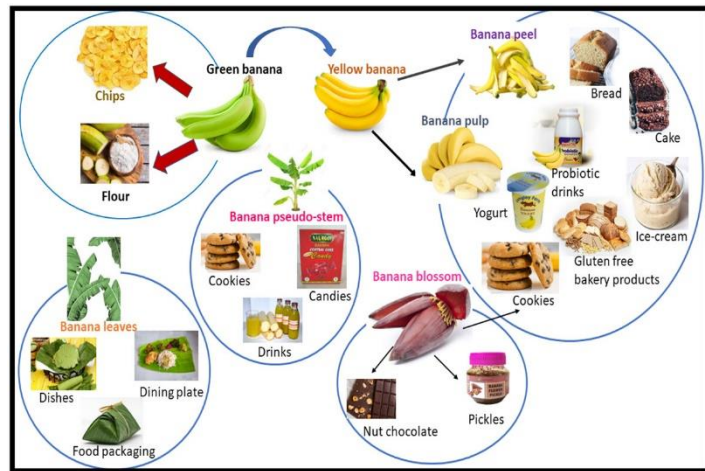


Fig. 1: Application of banana value added products and by-products in food industry (Kumari et al., 2023)

Banana wine

Produced by fermenting the juice of ripe bananas, banana wine is a tropical alcoholic beverage that can have a unique flavour depending on the fermentation process.

Banana-based energy bars

A blend of dried bananas, nuts, oats, seeds, and sometimes chocolate or other flavourings, these bars are energy-dense and healthy snacks. Ideal for the

fitness and health food market. A natural source of energy, rich in potassium, fibre, and antioxidants.

Conclusion

The potential for creating value-added banana products is vast, from food items like banana chips and flour to more innovative product like banana wine. These products not only help reduce waste and increase the shelf life of bananas but also open up new market opportunities for farmers and entrepreneurs. The health-conscious consumer market, in particular, offers a strong demand for banana-based products due to their natural and nutrient-rich profile.

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