

Panutporn Yuthavisuthi 2012: Development of Instant Beverage from Predigest Jasmine Brown Rice for Diabetic Patient. Master of Science (Agro-Industrial Product Development), Major Field: Agro-Industrial Product Development, Department of Product Development.
Thesis Advisor: Associate Professor Penkwan Chompreeda, Ph.D. 137 pages.

The aim of this study was to develop instant beverage from broken Jasmine brown rice for diabetic patient to meet their requirement for nutrient and acceptability. Result of diabetic product survey at drug stores and supermarkets showed that there were 3 imported commercial products. All of them are in powder types. There were 7 brands of sweeteners commercially available in Thailand. Diabetic consumers needed healthy instant beverage to have natural color and flavor and sweet taste. Instant beverage 35 gram should pack in aluminum foil laminated and price should be 7-10 ฿/pack. In this study, jasmine brown rice powder was prepared by drum drying of predigested brown rice mixture α -amylase(BAN 480L) at 120 °C. Job's tear powder was prepared by streaming and drying at 90 °C for 4 hours. Linear programming was employed to formulate the product to obtain optimum nutrient and minimized cost. Result of diabetic consumers testing indicated that the optimum formulation of instant beverage for diabetic patient consisted of jasmine brown rice powder 35.00 %, job's tear powder 16.00%, full fat milk powder 29.55% , non-dairy creamer 13.10%, cocoa powder 1.3%, sucralose 0.05%, erythritol 3.50% and vitamin premixed 1.55 % The product is light brown powder, beverage is prepared by mixing powder with hot water (powder : water = 1 : 4). The beverage 1 serving (150 ml) contained protein 5.00 g , fat 4.00 g , carbohydrate 22.00 g and energy 150 kcal which suitable for diabetic patient . Cost of raw material of the instant beverage was 10.56 ฿/ 35 g. Consumer acceptability test using 100 diabetic patient indicated that they like this instant beverage very much (8.02 from 9 scores). Almost all respondents (99%) accepted the product. From blood glucose level testing indicated that product doesn't increase blood glucose level over safety limit, so it suitable for diabetic patient

Student's signature

Thesis Advisor's signature