

Luksika Khamsri 2011: Development of Mango cv. Nam Dok Mai Pie Filling Product. Master of Science (Agro-Industrial Product Development), Major Field: Agro-Industrial Product Development, Department of Product Development. Thesis Advisor: Assistant Professor Withida Chantrapornchai, Ph.D. 144 pages.

The purpose of this research was to develop mango pie filling product. Consumer surveys, three consumer groups, housewives groups and bakery shops relating to product development of fruit pie filling. Found consumers want product that mango pie filling with sour and sweet, mango size is $0.5 \times 0.5 \times 0.5 \text{ cm}^3$ packed in glass bottles, Quantities 101-300 grams and Price is about 51-100 baht . This research about product development mango pie filling from mango cv. Nam Dok Mai 100-110 days after flowering found that the proper ripening mango is 4 days at $25 \pm 2 \text{ }^\circ\text{C}$. Development of mango pie filling formula that appropriate is 74.99% mango, 16.01% sugar, 3.81% modified starch, 3.77% water, 1.14 % lime juice and 0.28% salt. The physical properties of mango pie filling including L^* was 45.14, C^* was 48.78, h° was 83.29 degree and Flowing rate was $2.03 \times 10^{-2} \text{ m/30sec}$. The chemical properties including pH value was 4.00, total soluble solids content was 40.2 and water activity was 0.96. The microbiological properties, Total plate count and Yeast and mold were lower than 10 cfu/g and *Escherichia coli* was not found. For percentage in acceptance of the mango pie filling products that consumers, Housewives and were 92%, 90% and 80% respectively, and their interest in buying, if available representing 90 %, 85% and 60% respectively, with overall liking score were 7.2 , 6.8 and 6.3 respectively. Evaluation of the shelf life of products, mango pie filling packing bottle glass during storage at three temperatures are 35, 45 and 55 $^\circ\text{C}$ to predict the shelf life by Q10 showed that the product can be stored 77 days or 11 weeks at 30 $^\circ\text{C}$. Cost of raw materials and package of mango pie filling filled in glass bottles containing 210 g was 18.95 baht.

Student's signature

Thesis Advisor's signature