

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF HEALTHY 3-IN-1 DRINK
FROM OATS (*AVENA SATIVA*), MILK, RAISIN
(*VITIS VINIFERA*), ALMONDS (*PRUNUS
AMYGDALUS*), CARROT (*DAUCAS CAROTA*) AND
PAPAYA (*CARICA PAPAYA*)**

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Project submitted in fulfillment of the requirements

for the degree of

Bachelor (Hons.) of Nutrition and Dietetics

Faculty of Health Sciences

DECEMBER 2014

DECLARATION

We hereby declare that this dissertation was carried out in accordance with regulations of University Technology of MARA. The results are based on our work, unless otherwise indicated or acknowledged as referenced work. This topic has not been submitted to any other academic institution or non-academic institution for any degree or qualifications.

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Faculty: Faculty of Health Sciences

Thesis Title: Development of Healthy 3-In-1 Drink from Oats (*Avena Sativa*), Milk, Raisin (*Vitis Vinifera*), Almonds (*Prunus Amygdalus*), Carrot (*Daucas Carota*) And Papaya (*Carica Papaya*)

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Date: 10 December 2014

ACKNOWLEDGEMENT

We are very grateful to Allah S.A.W. We were able to complete this thesis after going through all the challenges. We express our deepest sincere to our supervisor, Dr. Norazmir Bin Md. Nor, who provide us guidance, advice, suggestion throughout this research. Our sincere gratitude goes to Mdm Naleena A/P Muniandy for the guidance in this research.

A big appreciation also goes to Mr. Muhammad Fathee Bin Md. Bohari, Nutrition Officer Assistant and Mrs. Shajaratul Faseha Binti Majid for the guidance and permission for us to use laboratory equipment in completing this research. A special thanks to all our friends especially classmates for helping us who willing to help us in this research. Thanks to our beloved family, who help, support, and understanding the time constraint in finishing this research and writing this thesis. Finally, to all those involved directly and indirectly in this research, thank you.

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amygdalus*), CARROT (*Daucas carota*) AND PAPAYA (*Carica papaya*)**

ABSTRACT

Background: The research was started by the production of healthy 3-in-1 drink that are made from oats (*avena sativa*), milk, dried raisin (*vitis vinifera*), almonds (*prunus amygdalus*), dried carrot (*daucas carota*) and dried papaya (*carica papaya*).

Objective: This study is done to obtain accurate formulation of ingredients in order to achieve desired composition. Besides that, to eliminate unpleasant taste of papaya in healthy 3-in-1 drinks and determine on suitable drying method of raw ingredients. Moreover, determine the correct volume and temperature of water for 3-in-1 drinks to be diluted perfectly.

Method: This experimental research study was conducted at UiTM Puncak Alam. As for the proximate analysis of macronutrients, it was done by Unipeq Sdn. Bhd. Sensory evaluation was done at Sensory Evaluation Laboratory involving 100 panelists. The data was analysed using descriptive analysis and Spider Web Plot.

Result: The research is continued with the proximate analysis. The result shows that every 100 g of the healthy 3-in-1 drink contain 385 kcal of energy, 17.1 g (17.1%) of protein, 7.8 g (7.8 %) of fat, 61.7 g (61.7%) of carbohydrate, 3.6 g (3.6 %) of ash, 9.8 g (9.8 %) of moisture and 0.98 g of fiber. The sensory evaluation shows that the healthy 3-in-1 drinks scores 4.39 compared to commercialized cereal 3-in-1 drinks product with 4.08 remarks in terms of aroma attributes. For the appearance aspect, the healthy 3-in-1

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