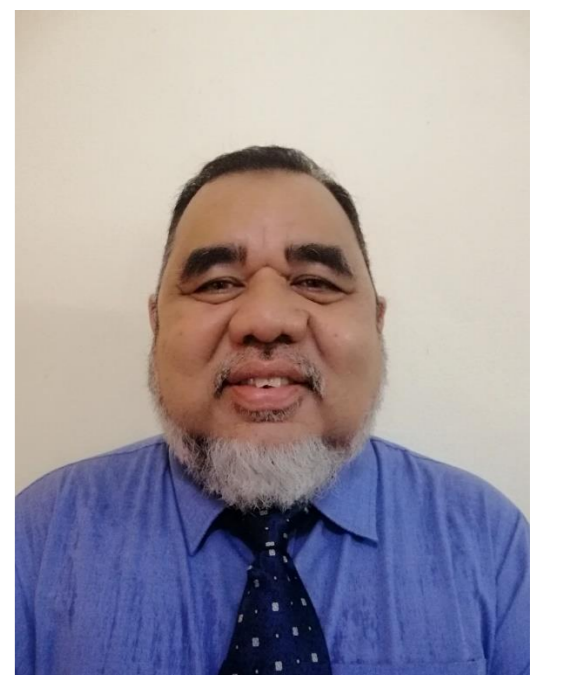


THE EVALUATION OF *IPOMEA AQUATIC FORSSK* JUICE (JUS KANGKUNG)



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INTRODUCTION

Ipomoea aquatic Forssk or locally known as 'Kangkung' could easily found in Malaysia. Normally it was cooked into a form of dish before eating. Cooking processes normally reduced the nutrient content especially vitamins and minerals. Their natural smells also limit the intake of the vegetable among consumers. This study aimed to evaluate the suitability of 'Kangkung Juice' as ready to drink of fresh vegetable which can be an alternative way of consuming vegetable instead of by thoroughly cooking.

RESEARCH METHODOLOGY

The vegetable juices were specially formulated into three different formulations, which constitute of different concentration of the vegetable puree (40%, 60%, and 80%). The minerals contents of the juices were analysed using Atomic Absorption Spectroscopy (AAS) Perkin Elmer AA700. Sensory evaluation were also conducted over 35 panellists to see the acceptance level of the juices. Five parameters of the sensory were evaluated which are aroma, texture, colour, taste and overall acceptance. All the data obtained were interpreted using Repeated Measures ANOVA, SPSS statistical programme version 21.0.

Table: Results of Nutrients Analysis of Kangkung Juice and Fresh Kangkung Leaves

Nutrients Content	Quantity in 100g	
	Kangkung Juice	Fresh Kangkung Leaves
Energy	10.7Kcal	12.2 Kcal
Fat	0.0 mg	0.1 mg
Protein	1.8 mg	2.4 mg
Carbohydrate	4.2 mg	2.8 mg
Iron (Fe)	4.1 mg	5.2 mg
Copper (Cu)	0.1 mg	0.1 mg
Magnesium (Mg)	3.1 mg	4.2 mg
Calcium (Ca)	27.6 mg	30 mg
Zink (Zn)	0.5 mg	0.8 mg

PROCESSING OF KANGKUNG JUICE

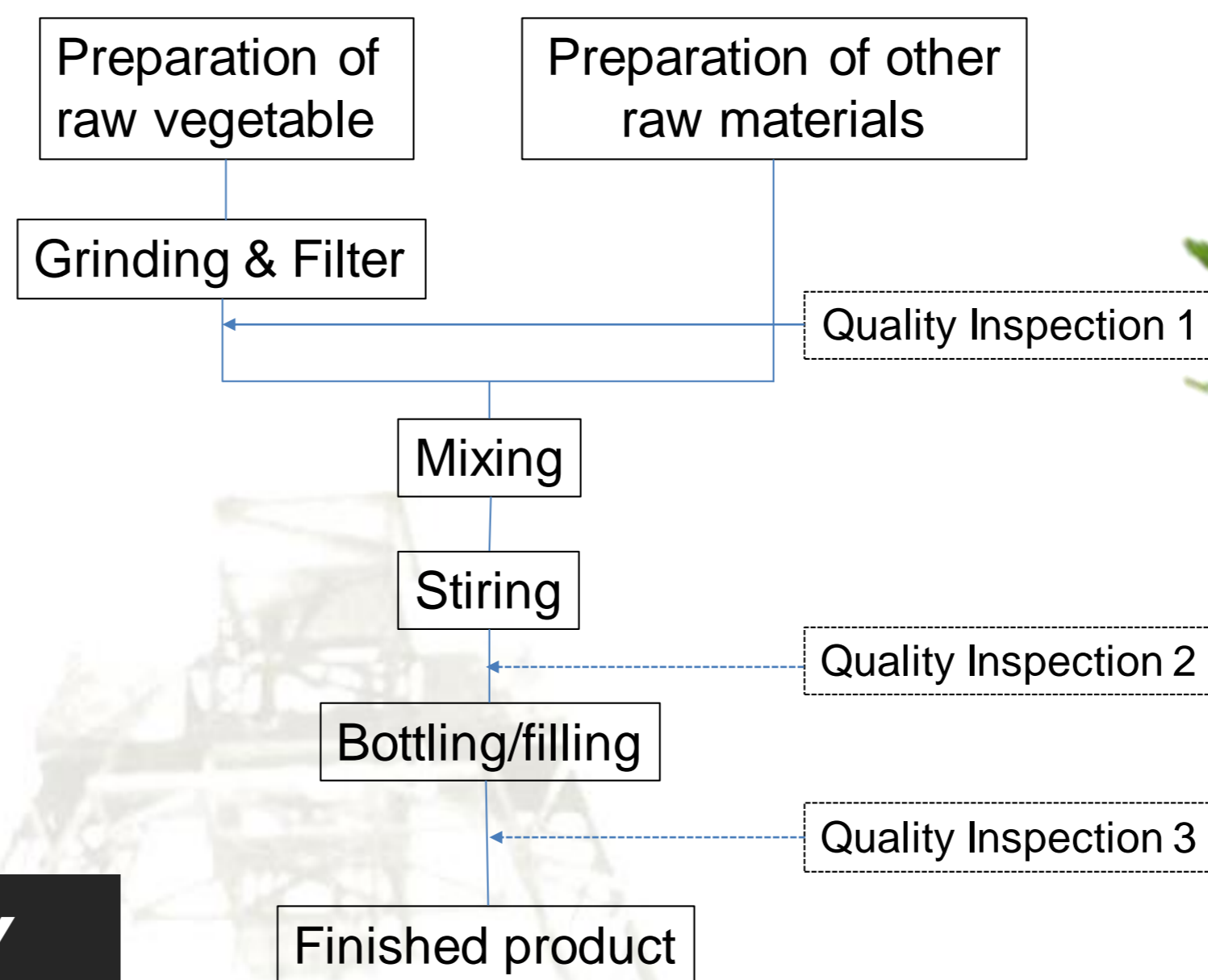


Figure: Processing & Quality Inspection

RESULT AND DISCUSSION

- Kangkung Juice is successfully formulated using fresh local tropical vegetables mixed with water, glucose syrup, conditioners and natural flavours.
- The vegetables are not exposed to any hot treatment thus the juices contain high vitamins, minerals and fibres.
- 'Kangkung' juice is tasted like sugarcane taste.
- The product is suitable for all categories of consumers especially for children.

Table: Mean values of sensory evaluation

Parameters	Formula			P-Value
	Formula 1 (Mean ± SD)	Formula 2 (Mean ± SD)	Formula 3 (Mean ± SD)	
Colour	3.5±0.8	3.4±1.1	3.2±1.1	0.23
Aroma	3.2±1.1	3.1±1.0	3.1±1.1	0.98
Texture/ Stability	3.5±1.0	3.4±1.1	3.1±0.9	0.02
Flavour	3.8±1.1	3.8±1.3	3.8±1.2	0.76
Overall Acceptance	3.3±1.0	3.3±1.2	3.0±0.9	0.21

PRODUCT DESCRIPTION

- Ready to drink.
- Easy to keep for longer time.
- Easy to carry.
- The nutritional values are maintained.
- No unfavorable smell.
- Suitable for all categories of people including children and elderly.

CONCLUSION

Results showed Kangkung juices has nearly similar nutrients content as raw vegetables and were well accepted by participants.

COMMERCIAL POTENTIALS

- Malaysia has enough supply of variety tropical vegetables.
- The products need simple technologies to be produced.
- The products suitable to be distributed locally and exported to other countries.



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VIRTUAL SEMINAR



INNOVATIVE FOOD FOR SPECIFIC HEALTH GROUPS

9-10 MARCH 2021



OBJECTIVES

- 1 Highlight current trends and new developments in functional food for specific health groups
- 2 Share experiences and knowledge from various sectors to improve functional food development capabilities
- 3 Act as platform to enhance and strengthen linkages between government agencies, institutions of higher learning, non-governmental organisations and the food industry players

CALL FOR POSTER PAPERS

- Development of functional products/ ingredients
- Analysis/new techniques for scientific validation
- Guideline/registration of functional food products
- Commercialisation and business opportunities in functional food market

Deadline for abstract submission: **8 February 2021**

ENQUIRIES AND CORRESPONDENCE

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REGISTRATION FEE

Local Participant	RM200.00
NSM/MIFT Member	RM150.00
Student **	RM150.00

** Must be accompanied by proof of studentship / signed from Head of Department.



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By

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Abstract

Ipomea aquatic Forssk or locally known as ‘Kangkung’ could easily found in Malaysia. Normally it was cooked into a form of dish before eating. Cooking processes normally reduced the nutrient content especially vitamins and minerals. Their natural smells also limit the intake of the vegetable among consumers. This study aimed to increase the intake of vegetables among Malaysian by introducing an alternative way of consuming vegetable instead of by thoroughly cooking. The vegetable juices were specially formulated into three different formulations, which constitute of different concentration of the vegetable puree (40%, 60%, and 80%). The minerals contents of the juices were analysed using Atomic Absorption Spectroscopy (AAS) Perkin Elmer AA700. Sensory evaluation were also conducted over 35 panellists to see the acceptance level of the juices. Five parameters of the sensory were evaluated which are aroma, texture, colour, taste and overall acceptance. All the data obtained were interpreted using Repeated Measures ANOVA, SPSS statistical programme version 21.0. The three different formulations of the vegetable were successfully produced where the minerals highest ($P < 0.05$) in 80% formulation. Sensory evaluation results showed that the panellists have different preferences of the three different formulations based on the five parameters evaluated.

**Tentative Programme – VIRTUAL NATIONAL FOOD TECHNOLOGY SEMINAR (NFTS) 2020
9-10 MARCH 2021**

Time	Event
9th MARCH 2021(TUESDAY)	
8:30 – 9:00	Registration
KEYNOTE SESSION <i>CHAIRPERSON: Mr. Tapsir Serin (DDG of MARDI - Development and Operations)</i>	
9:00 - 10:00	Keynote Paper 1 Overview of the Functional Food Market and Industry: A Growing Trend in Malaysia Tan Sri Datuk Dr. Kamal Salih, MIER
10:00 - 10:30	Break
SESSION 1 : DEVELOPMENT OF FUNCTIONAL FOOD INGREDIENT / PRODUCTS <i>CHAIRPERSON: Ms. Hasimah Hafiz Ahmad (DDG of MARDI Research)</i>	
10:30 - 11:00	Paper 1 Application of proteomics towards development of functional food(s) from medicinal plants Dr Nurhanan Murni Yunos, FRIM
11:00 - 11:30	Paper 2 Nutrigenomics: Its role in developing health-based products Dr. Sanimah Simoh, MARDI
11:30 - 12:30	Opening Ceremony Recitation of doa Negaraku Welcoming Remarks by Director General of MARDI Official Opening Address Product Launching
12:30 - 14:00	Break
14:00 - 14:30	Paper 3 Food that can enhance children immune system Dr. Adiratna Mat Ripen, IMR
14:30 - 15:00	Paper 4 The right food for the right sport Assoc. Prof. Dr. Mahenderan Appukutty, UiTM
15:00 - 15:30	Paper 5 Cocos emulsion: New product for young generation Dr. Koh Soo Peng, MARDI
15:30 - 15:45	Break
SESSION 2: COMMERCIALISATION AND BUSINESS OPPORTUNITIES IN THE FUNCTIONAL FOOD MARKET <i>CHAIRPERSON : Ms.Nora Mohamed</i> <i>(Malaysian Bioeconomy Development Corporation Sdn Bhd)</i>	
15:45 - 16:15	Paper 6 The business of functional food and herbal products Nik Fahmi Mokhtar, Biotropics Malaysia Berhad
16:15 - 16:45	Paper 7 From lab to commercialisation En. Mohd Nor Azizi bin Awalludin, CELLCODE Malaysia
16:45 - 17:15	Paper 8 Success story of DASTO Dr. Aishah Tul Radziah Lebai Hussin, Dr. Aishah Solution Sdn. Bhd

10th MARCH 2021 (WEDNESDAY)	
8:30 – 9:00	Registration
KEYNOTE SESSION	
CHAIRPERSON: Dr. Koh Yew Ming (MIFT)	
9:00 – 10:00	Keynote Paper 2 Frontier technology to transform waste to wealth Pn. Rosidah Radzian, MPOB
10:00 - 10:15	Break
SESSION 3 : ANALYSIS / NEW TECHNIQUE FOR SCIENTIFIC VALIDATION	
CHAIRPERSON: Dr. Koh Yew Ming (MIFT)	
10:15 - 10:45	Paper 9 Medicinal benefits of honey and bee products for male reproductive system Assoc. Prof Dr. Mahaneem Mohamad, USM
10:45 - 11:15	Paper 10 Nutritional profiles of 50 meal replacement recipes for body weight reduction interventional program among civil servants (MyBFF@Work) Prof. Dr. Wan Rosli Wan Ishak, USM
11:15 - 11:45	Paper 11 Hits-to-lead Design and Synthesis of Conjugated Anthraquinones-5-Fluorouracil inspired from <i>Morinda Citrifolia</i> for the Treatment of Colon Cancer Dr. Iskandar Abdullah, UM
11:45 - 12:15	Paper 12 Futuristics Probiotics Prof. Dr. Foo Hooi Ling, UPM
12:15 - 14:00	Break
SESSION 4 : GUIDELINES / REGISTRATION OF FUNCTIONAL PRODUCTS	
CHAIRPERSON : Assoc. Prof. Dr. Mahenderan Appukutty (NSM)	
14:00 – 14:30	Paper 13 Nutritional guidelines for specific groups in Malaysia Profesor Emeritus Dr. Mohd Ismail Noor, Chairman TWG for Nutrition Guideline
14:30 – 15:00	Paper 14 An overview of Food/Drug classification policy in Malaysia Pn. Krishnaveni Apparavoo, NPRA
15:00 – 15:30	Paper 15 Healthier Choice Logo: Initiative towards healthier food development and innovation Pn. Fatimah Sulong, MOH
15:30 – 16:00	Paper 16 Human clinical trial guidelines for functional products Prof. Dr. Suzana Shahar, UKM
16:00 - 16:30	Closing Arrival of Director General of MARDI Prize giving of Best Posters Closing Remarks

Updated_6 March 2021

*The programme is subject to change. The organiser reserves the right to make changes to the event programme without prior notice.



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