# **DEVELOPMENT OF "GREEN PASTA"** from Musa sapientum, Moringa oleifera and Ipomea aquatica

by:

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# RATIONALE

### **EVERYBODY LOVES PASTA.....especially KIDS**



# PASTA IS ONE OF THE WORLD'S FAVORITE FOOD ...

 17 COUNTRIES AROUND THE WORLD CONFIRMED THIS CLAIM. ITS IS NOT ONLY NO.1 IN ITS HOME COUNTRY ITALY, BUT ALSO TO OTHER PLACES LIKE MEXICO, SOUTH AFRICA AND OF COURSE OUR COUNTRY....THE PHILIPPINES..





# RATIONALE

There are more than <u>600</u> different types of PASTA based on shape, color and composition..... MOST COMMON PASTA IS MADE from DURUM WHEAT

**Ipomoea aquatica** is considered as a food with medicinal effect. used as laxative, considered as tonic, used to treat diabetes. It is also use to treat abscesses, mental illness in Tanzania and intestinal problems in Somalia. In Sudan the herb is used to treat stomach and intestinal problems.

ifera contains
12 nutrients and
antioxidant.
aid to cure about
ed diseases and
all the vitamins
its and vegetable
proportions.

## RE-INVENT PASTA?...WHY NOT?

reen Banana Resistant arch – the highest grade id level of resistant starch in e world – Resistant Starch is food source that resists gestion in the small testine and offers the insumer some very unique ealth benefits.

Development through Multidisciplinary RDE "

### OBJECTIVES OF THE RESEARCH WORK

### **GENERAL OBJECTIVE**

The main objective of the study is to develop a delicious and high nutrient pasta from locally available fruit and vegetables.

SPECIFICIFICALLY it sought answers to the following problems.

- 1. What are the organoleptic characteristics of the developed green pasta from various proportions of green banana, malunggay and kangkong?
- 2. What are the physico-chemical properties of the best formulation of green pasta, in terms of: Ash content, Crude Fat, Crude Fiber, Crude Protein, Nitrogen Free Extract and Moisture Content?

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### OBJECTIVES OF THE RESEARCH WORK

SPECIFICIFICALLY it sought answers to the following problems.

**3.** What are the Organoleptic properties of best formulation of Green pasta in terms of :

Appearance, Aroma, Texture and Taste?

4. What is the level of acceptability of the Organoleptic properties of Green pasta using the 9-point Hedonic scale in terms of : Appearance, Aroma, Texture, Taste and General Acceptability

5. Is there a significant difference on the level of acceptability of the developed Green Pasta and the commercially available pasta?

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#### **RESEARCH FRAMEWORK** INPUT PROCESS OUTPUT **Best Green** Development of Pasta the Best Formulation formulation of Green Pasta Organoleptic properties of Green Pasta Sensory Raw Materials for Evaluation Level of Green Pasta Acceptability of Green Pasta Physicochemical Physical and Analysis of Chemical Green Pasta **Properties of** Green Pasta

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# MATERIALS AND METHODS

### **RESEARCH DESIGN**



- experimental method
- descriptive-evaluative

### **METHODOLOGY**

Preparation and *identification of the* best formulation of the green pasta

Proximate-chemical analysis of the Identified Best **Formulation** 

Sensory **Evaluation** 

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# **RESULTS AND DISCUSSION**

**Composition** and Characteristics of the Different Formulations of Green Pasta

Formulation	Composition (%w)	Characteristics
А	64% Musa sapientum) flour	dark greenish-brown color,
	32% Ipomoea aquatica puree	too strong moringa flavor,
	4% Moringa oleifira powder	Bitter, dry
В	71% Musa sapientum) flour	dark greenish-brown color,
	26% Ipomoea aquatica Puree	strong moringa flavour,
	3% Moringa oleifira powder	mildly bitter , firm pasta
C*	78% Musa sapientum) flour	greenish light brown color,
	20% Ipomoea aquatica puree	balanced banana, moringa
	2% Moringa oleifira powder	and kangkong flavour, firm pasta

\*the Best Formulation based on organoleptic evaluation

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\*the Best Formulation based on organoleptic evaluation

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### **Proximate Chemical Analysis of Cooked Green Pasta**

Parameters	Mean
Protein	3.37%
Fat	0.18%
Fiber	0.58 %
Nitrogen Free Extract	26.57 %
Moisture	69.04%
Ash	0.29%

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### Sensory Evaluation of Cooked Green Pasta (Plain)

Sample	Sample Organoleptic Properties		Verbal Interpretation	
	Appearance 7.8		Like Very Much	
Diain Croon Docto	Aroma	7.60	Like Very Much	
Pidili Green Pasta	Taste	8.1 Like Very Mud		
	Texture	7.9	Like Very Much	
General Acceptability		7.8	Like Very Much	
Sensory Evaluation of Cooked Green Pasta (with sauce)				
Comolo	Organoleptic	Moightod Moon	Verbal Interpretation	
Sample	Properties	weighted wean		
	Appearance	8.0	Like Very Much	
Green Pasta w/	Aroma	8.2 Like Very Mu		
sauce	Taste	8.3 Like Very Much		
	Texture	7.9	Like Very Much	
	General	8.2	Like Very Much	

### Difference on the Level of Acceptability of Plain Green Pasta and the Plain Commercial Pasta

Organoleptic	p-values	Computed	Decision on	1/1
properties		t-values	Но	VI
Appearance	0.011	-2.615	Reject Ho	HS
Aroma	0.067	-1.870	Accept Ho	NS
Taste	0.073	1.830	Accept Ho	NS
Texture	0.399	-0.850	Accept Ho	NS
General Acceptability	0.419	0.813	Accept Ho	NS

\*VI-Verbal Interpretation; NS-Not Significant; p> 0.05, HS-Highly Significant; p< 0.05





### Difference on the Level of Acceptability of Green Pasta with sauce and the Commercial Pasta with sauce

Organoleptic	p-values	Computed	Decision on	۸/۱
properties		t-values	Но	VI
Appearance	0.302	-1.043	Accept Ho	NS
Aroma			Accept Ho	NS
Taste	0.083	-1.768	Accept Ho	NS
Texture			Accept Ho	NS
General Acceptability	0.5699	-0.573	Accept Ho	NS

\*VI-Verbal Interpretation; NS-Not Significant; p> 0.05

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# CONCLUSION

Based from the findings presented, the researchers proved that the developed green pasta has comparable organoleptic characteristics to the commonly consumed pasta but with higher nutrient content being comprised of nutritious fruit and vegetables such as green banana, kangkong and malunggay.

The green pasta was highly acceptable in terms of appearance, aroma, taste, texture and general acceptability.

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# RECOMMENDATIONS

For further study, the researchers strongly recommend to conduct further analysis of the other nutritional content of the formulated green pasta.

The appearance of the green pasta may also be further enhanced or improved. Also, a study on the shelf life of the green pasta must be studied for the reference of the consumers.

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