PRODUCTION OF COFFEE FROM OKRA (Abeline schus esculentus) SEEDS

Research Study

FLORISA ANNE P. NUEVA GRACE ANN M. PIEDAD NIKKI LOU R. RODIL

Science High School

CAVITE STATE UNIVERSITY

Indang Cavite

Cavite State University (Main Library)

RS731

RS 633.7 N88 2015

April 2015

PRODUCTION OF COFFEE FROM OKRA (Abelmoschus esculentus) SEEDS

A Research Study
Submitted to the Faculty of the
Science High School, College of Education,
Cavite State University
Indang, Cavite

In partial fulfillment of the requirements for graduation



Production of coffee from okra (Abelmoschus esculentus) seeds 633.7 N88 2015 88.731

FLORISA ANNE P. NUEVA GRACE ANN M. PIEDAD NIKKI LOU R. RODIL April 2015

ABSTRACT

NUEVA, FLORISA ANNE P., PIEDAD, GRACE ANN M., RODIL, NIKKI LOU R. Production of Coffee from Okra (Abelmoschus esculentus) Seeds. Research Study. (General Science Curriculum) Science High School, College of Education, Cavite State University, Indang, April 2015. Adviser: Prof. Dulce L. Ramos

This study was conducted from August 2014 to December 2014 at Poblacion II, Indang, Cavite to produce coffee from okra seeds. Specifically, this study aimed to determine: 1. the sensory properties of coffee from okra seeds in terms of; color, aroma, taste and after taste; 2. the acceptability level of coffee from okra seeds; 3. the most acceptable treatment in producing coffee from okra seeds; 4. the difference between commercialized coffee and coffee from okra seeds in terms of color, aroma, taste and after taste; and 5. the cost of production of coffee from okra seeds.

Matured okra fruits were gathered from the researchers' backyard and different varieties of ground coffee were bought from Amadeo, Cavite. The fruits were dried under the sun for three weeks. Dry seeds were extracted and roasted for three hours in low heat. Roasted seeds were ground and used in preparing five treatments of coffee from okra seeds: T1 - 100% okra seeds coffee; T2 - 50% okra seeds coffee and 50% Arabica coffee; T3 - 50% okra seeds coffee and 50% Robusta Coffee; T4 - 50% okra seeds coffee and 50% Excelsa Coffee; and, T5 - 25% okra seeds coffee, 25% Arabica Coffee, 25% Robusta Coffee, and 25% Excelsa Coffee. The coffee preparations were evaluated by 30 participants—that were chosen randomly from Poblacion II, Indang, Cavite. The acceptability of the different treatments were tested in terms of color, aroma, taste, and after taste. Results revealed that Treatment 4 (50% Okra Seeds Coffee + 50% Excelsa Coffee) was the best coffee preparation in terms of color, aroma, taste and after taste.

Treatment 4 yielded the highest mean (3.23) with "Very Dark" rating in terms of color, and the highest mean (3.43) with "Very Perceptible Coffee Aroma" rating in terms of aroma. In terms of taste and after taste, Treatment 4 also yielded the highest mean (3.07) with "Bitter" rating. Treatments 2, 3 and 5 yielded the highest mean (3.17) with "Acceptable" rating. On the other hand, the blend with the lowest mean (3.03) was Treatment 1 (100% okra seeds coffee).

When the best treatment (T4) was compared to commercial coffee (Aguinaldo Blend coffee), there was a significant difference in terms of aroma, taste, and after taste, and no significant difference in terms of color.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	iii
ACKNOWLEDGMENT	iv
ABSTRACT	v
LIST OF TABLES	x
LIST OF APPENDICES	xi
LIST OF APPENDIX TABLES	xii
LIST OF APPENDIX FGURES	xiii
INTRODUCTION	1
Statement of the Problem	2
Objectives of the Study	3
Significance of the Study	3
Scope and Limitations of the Study	4
Time and Place of the Study	4
Definition of Terms.	4
REVIEW OF RELATED LITERATURE	6
METHODOLOGY	14
Materials	14
Methods	14
Collection and preparation of materials and tools	14
Preparation of treatments	15

Production of okra seeds coffee	15
Preparation of the different coffee blends	17
Data gathering	17
Cost of production	18
Statistical Analysis of Data	18
RESULTS AND DISCUSSION	19
Sensory Properties of Coffee from Okra Seeds	19
Level of Acceptability of Coffee from Okra Seeds	23
Comparison between the Best Treatment and Aguinaldo Blend Coffee	24
Cost of Production	25
SUMMARY, CONCLUSIONS, AND RECOMENDATIONS	
Summary	28
Conclusions	29
Recommendations	30
REFERENCES	31
APPENDICES	33

LIST OF TABLES

Table		Page
1	Sensory evaluation on the different treatments of coffee in terms of color	20
2	Sensory evaluation on the different treatments of coffee in terms of aroma.	21
3	Sensory evaluation on the different treatments of coffee in terms of taste	22
4	Sensory evaluation on the different treatments of coffee in terms of after taste	23
5	Sensory evaluation on the different treatments of coffee in terms of general acceptability	24
6	Comparison between the best treatment and Aguinaldo Blend Coffee	25
7	Price of the ingredients for the coffee treatments	26
8	Cost of each coffee treatment per 50 grams	27

LIST OF APPENDICES

Appendix		Page
1	Score sheet for the sensory evaluation of coffee from okra seeds	34
2	Score sheet for the sensory evaluation of Aguinaldo blend coffee	37

LIST OF APPENDIX TABLES

Appendix Table]	Page
1	Evaluation on the different treatments of coffee in terms of color	39
2	Evaluation on the different treatments of coffee in terms of aroma	39
3	Evaluation on the different treatments of coffee in terms of taste	40
4	Evaluation on the different treatments of coffee in terms of after taste	40

LIST OF APPENDIX FIGURES

Appendix Figure		Page
1	Dried okra fruits	42
2	Dried okra seeds	42
3	Roasting of okra seeds	43
4	Different coffee varieties	43
5	Aguinaldo Blend Coffee	44
6	Preparation of coffee treatments	44
7	Participants evaluating the products	45

PRODUCTION OF COFFEE FROM OKRA (Abelmoschus esculentus) SEEDS

Florisa Anne P. Nueva Grace Ann M. Piedad Nikki Lou R. Rodil

A research study manuscript submitted to the faculty of the Science High School, College of Education, Indang, Cavite in partial fulfillment of the requirements for graduation with Contribution No. 345-2015-002 Prepared under the supervision of Prof. Dulce L. Ramos.

INTRODUCTION

Coffee is considered the most popular beverage after water. It is a drink that is usually taken by most of the people every morning and it is said that it can lessen the sleepiness of an individual. Coffee drink can also be enjoyed whether hot or cold. However, coffee drink contains caffeine that can be harmful to one's health and nowadays, majority of the people and even teenagers drink coffee. Caffeine found in coffee drinks can increase emotional fatigue, pre-menstrual syndrome in women, panic attacks, addiction, and dehydration. People are looking for a coffee drink that does not have caffeine that may harm their health if taken in excessive amount.

Ordinary people usually crave for instant coffee that is tasty and quite affordable. These kinds of coffee are not advisable to be taken daily since there are a lot of chemicals. Coffee drinkers, on the other hand, are usually aware of the difference between instant and natural coffee. They usually crave for good tasting coffees. Natural roasted coffees are packed in bulk and is said to possess rich when tasted.