

# Organoleptic Evaluation and Consumer's Acceptability of Zea Mays Hair as Herbal tea

Ma. Carlene R. Saccuan

Aldwin M. Martin

Angelica R. Cadiz

Isabela State University- City Of Ilagan Campus

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## Abstract:

Herbals are one of the alternative medicine used for health and medical purposes. Corn silk is one of the waste material from corn cultivation and available in abundance. This study focused on the development and acceptability of corn hair extract as herbal tea. Specifically, it aims to evaluate the aroma, appearance and taste. It made use of descriptive method of research using the hedonic scale in determination of the evaluators rating. Result of the study shows that on the level of acceptability Zea Mays Hair as herbal tea the overall assessment of the three group respondents in terms of appearance, aroma and taste was moderately acceptable supported by the obtained grand mean of 3.92 without flavour, 4.17 with calamansi, 4.41 with honey.

**Keywords:** Zea mays, beneficial, human health

## I. INTRODUCTION

Corn silk is one of the waste material from corn cultivation and available in abundance. This waste material is scientifically referred to as *Zea May hair* which is made from stigma, the yellowish thread-like or tassels found inside the husks of a corn, and measure 4–8 inches or 10–20 cm long. Out of this waste material or corn silk, it can be utilized in the form of a tea. It is considered as one of the wonderful home remedy for treating conditions that are related to kidneys, urinary tract infection and inflammation, bladder infection. This beneficial tea helps in boosting digestion and treating digestive problems. It is a good source of Vitamin K which is important for controlling bleeding after giving birth of a mother. Also a good source of essential nutrients like beta-carotene, riboflavin, menthol, thymol, selenium, niacin, and limonene which make it beneficial for health.

Corn silk is highly effective in preventing heart diseases and high cholesterol because of its components stigmasterol and sitosterol. Another benefit of corn silk is that it helps in improving oral and skin conditions and regulating glucose levels in the body because of the presence of plant acids. Drinking corn silk tea can treat skin problems and helps in relieving itching and pain because it has antibacterial and antiseptic properties.

## II. Objective:

The main objective of this study is to determine the acceptability of corn hair extract as herbal tea and its Proximate Analysis. Specifically it aims to assess the quality characteristics of Stigma mays in terms of its appearance, taste and aroma.

## III. METHODOLOGY

*Research Design*

In this study, the researcher used descriptive method of research to determine the acceptability of Zea mays as herbal Tea. The 9point Hedonic scale was used in order to assess the taste, appearance and aroma as to the acceptability of the product.

#### *Respondents of the Study*

There were one hundred (100) respondents in the study; comprising of fifteen (15) food experts, twenty (20) Faculty and staff and sixty five (65) students. Respondents assessed and answered the prepared questionnaires using the 9 point hedonic scale, it includes the Profile of respondents and the sensory evaluation which is the 9 scale descriptions and the scale.

The researcher comes up with 100 respondents in the process of response rate formula. The researcher identify 370 respondents as comprising of 15 fifteen food expert, 275 two hundred seventy five students and 80 eighty faculty and staff. In this, researcher got 27.03% of respondent, 4.05% for food experts, 17.57% students and 5.41% faculty and staff.

## **RESULTS AND DISCUSSION**

### *Procedure in the preparation of Zea Mays Herbal Tea*

1. Harvest a fully grown white corn to get its corn hair.



2. Remove the exposed part of the corn hair.



3. Dry the corn hair 2 to 3 days with the temperature of 31-33°C or until moisture content is removed.



4. Cut it into pieces with measure of .25mm to .5mm.



5. Grind it using blender for better powdering result.





6. Boil water in a casserole then pour the grind corn hair for about 20 minutes. Quantity ratio is 10ml of water is to 1g of grind corn hair.

7. For better handling or use, the grind corn hair and flavouring will be packed in a tea bag.

The level of acceptability of the three groups of respondent on Zea Mays herbal tea.

**Table 3.1**

*Assessment of Food Experts as to Level of Acceptability of Zea Mays Herbal Tea (no flavor)*

CRITERIA	Mean	Level of Acceptability	RANK
Appearance	8	LVM	2
Aroma	8.2	LVM	1
Taste	7.8	LVM	3
<b>Overall Mean</b>	<b>8</b>	<b>LVM</b>	

The food expert respondents assessed appearance as they like it very much with an obtained weighted mean value of 8 and second in rank. As to its aroma as they like it very much with an obtained weighted mean of 8.2 in rank 1. The taste as assessed by the respondents like it very much with an obtained weighted mean of 7.8 third in rank.

The overall assessment of food experts on the level of acceptability of Zea Mays hair in natural flavour in terms of appearance, aroma and taste as like it very much as shown with an obtained overall mean value of 8.

**Table 3.2**

*Assessment of Food Experts as to the Level of Acceptability of Zea Mays tea with calamansi*

CRITERIA	Mean	VI	RANK
Appearance	8.2	LVM	2
Aroma	8.2	LVM	2
Taste	8.5	LE	1
<b>Overall Mean</b>	<b>8.3</b>	<b>LVM</b>	

Data shows that the food expert respondents assessed appearance and aroma as moderately acceptable with an obtained the same

weighted mean value of 8.2 with same rank. Taste was assessed as like extremely with an obtained weighted mean of 8.5 as rank number one.

The overall assessment of the food experts on the level of acceptability of Zea Mays herbal tea with calamansi flavour in terms of appearance,

aroma and taste as like extremely with an obtained overall mean of 8.3.

**Table 3.3**

*Assessment of Food Experts as to the Level of Acceptability of Zea Mays Herbal Tea with honey*

CRITERIA	Mean	VI	RANK
Appearance	8.8	LE	1
Aroma	8.5	LE	3
Taste	8.6	LE	2
<b>Overall Mean</b>	<b>8.63</b>	LE	

Table shows that food experts assessed appearance with an obtained weighted mean values of 8.8 as rank number one. The respondents evaluates aroma with an obtained weighted mean values of 8.5 and rank it as number three. As to the taste it obtained weighted mean values of 8.6 and rank it as number two.

The overall assessment of the food experts on the level of acceptability of Zea Mays herbal Tea with calamansi flavour in terms of appearance, aroma and taste as highly acceptable with an obtained overall mean of 8.63.

**Table 4.1**

*Assessment of Employees as to the Level of Acceptability of Zea Mays Herbal Tea*

CRITERIA	WM	VI	RANK
Appearance	8	LVM	3
Aroma	8.3	LVM	1
Taste	8.25	LVM	2
<b>Overall Mean</b>	<b>8.18</b>	<b>LVM</b>	

The employee's respondents assessed appearance as moderately acceptable with an obtained weighted mean value of 8 and rank it as number three. The aroma as moderately acceptable with an obtained weighted mean of 8.3 and rank it as number one. The taste assessed by the respondents as moderately acceptable with an

obtained weighted mean of 8.25 and rank two, respectively.

The overall assessment of employees on the level of acceptability of Zea Mays herbal tea in natural flavour in terms of appearance, aroma and taste as moderately acceptable as shown by the obtained overall mean value of 8.18.

**Table 4.2**

*Assessment of Employees to the Level of Acceptability of Zea Mays tea with calamansi*

CRITERIA	WM	VI	RANK
Appearance	8.3	LVM	2
Aroma	8.4	LVM	1
Taste	8.1	LVM	3
<b>Overall Mean</b>	<b>8.27</b>	<b>LVM</b>	

Data shows in table 4.2 the employees respondents assessed appearance with an obtained weighted mean value of 8.3 and rank two in the overall ranking. The aroma was assessed by the respondents as rank one which obtained weighted mean value of 8.4. The taste with obtained weighted mean value of 8.1 in rank 3 respectively.

The overall assessment of the employees on the level of acceptability of Zea Mays Herbal Tea with calamansi flavour in terms of appearance, aroma and taste as moderately acceptable as shown the obtained overall mean of 8.27.

**Table 4.3**

*Assessment of Employees as to the Level of Acceptability of Zea Mays Herbal Tea with honey*

CRITERIA	Mean	VI	RANK
Appearance	8.55	LE	2
Aroma	8.5	LE	3
Taste	8.7	LE	1
<b>Overall Mean</b>	<b>8.58</b>	<b>LE</b>	

Data shows that employees assessed appearance with an obtained weighted mean values of 8.55 in rank 2; aroma with an obtained weighted mean values of 8.5 in rank 3; and taste with an obtained weighted mean values of 8.7 in rank 1 respectively.

The overall assessment of the food experts on the level of acceptability of Zea Mays herbal Tea with honeyflavour in terms of appearance, aroma and taste as highly acceptable as shown the obtained overall mean of 8.58.

**Table 5.1**

*Assessment of Students as to the Level of Acceptability of Zea Mays Herbal Tea*

CRITERIA	WM	VI	RANK
Appearance	7.76	LM	1
Aroma	7.75	LM	2
Taste	7.26	LS	3
<b>Overall Mean</b>	<b>7.59</b>	<b>LVM</b>	



The Students respondents assessed appearance as like moderately with an obtained weighted mean value of 7.76 and rank number. As to its aroma the respondents assessed it as like moderately with an obtained weighted mean of 7.75 and rank it as number two. The taste was assessed as like

slightly with an obtained weighted mean of 7.25 number three in rank.

The overall assessment of the employees on the level of acceptability of Zea Mays herbal tea in natural flavour in terms of appearance, aroma and taste as like very much as shown by the obtained overall mean value of 7.59.

**Table 5.2**

*Assessment of Students as to the Level of Acceptability of Zea Mays tea with calamansi*

CRITERIA	WM	VI	RANK
Appearance	7.92	LVM	2
Aroma	7.8	LVM	3
Taste	8.10	LVM	1
<b>Overall Mean</b>	<b>7.94</b>	<b>LVM</b>	

As reflected in table 5.2 the students respondents assessed appearance as like very much with an obtained weighted mean value of 7.92 and rank it as number two. The aroma with an obtained weighted mean value of 7.8 assessed it as like it very much in rank three. The

taste level of acceptability of like it very much with a mean value of 8.10 in rank one.

The overall assessment of the students on the level of acceptability of Zea Mays Herbal Tea with calamansi flavour in terms of appearance, aroma and taste as like very much obtained an overall mean of 7.94.

**Table 5.3**

*Assessment of Students as to the Level of Acceptability of Zea Mays Herbal Tea with honey*

CRITERIA	WM	Level of Acceptability	RANK
Appearance	8.26	LVM	1
Aroma	7.69	LVM	3
Taste	8.15	LVM	2
<b>Overall Mean</b>	<b>8.03</b>	<b>LVM</b>	

Table shows that students assessed appearance with an obtained weighted mean values of 8.26 with level of acceptability of like it very much in rank 1. The aroma with an obtained like very much values of 7.69 in rank 3 and taste with an obtained weighted mean values of 8.15 in rank 2 respectively.

The overall assessment of the students on the level of acceptability of Zea Mays herbal Tea with calamansi flavor in terms of appearance, aroma and taste as moderately acceptable as shown the obtained overall mean of 8.03.

**Table 6.1**

*Summary on the Assessment of Respondents as to the Level of Acceptability of Zea Mays Herbal Tea (without flavor)*

CRITERIA	FOOD EXPERT		EMPLOYEES		STUDENTS		OVERALL MEAN		RANK
<i>No Flavor</i>	WM	VI	WM	VI	WM	VI	WM	VI	
1. Appearance	8	LVM	8	LVM	7.76	LVM	<b>7.92</b>	LVM	<b>2</b>
2. Aroma	8.2	LVM	8.3	LVM	7.75	LVM	<b>8.08</b>	LVM	<b>1</b>
3. Taste	7.8	LVM	8.25	LVM	7.26	LM	<b>7.77</b>	LVM	<b>3</b>
<b>OVERALL MEAN</b>	<b>8</b>	<b>LVM</b>	<b>8.18</b>	<b>LVM</b>	<b>7.59</b>	<b>LVM</b>	<b>7.92</b>	<b>LVM</b>	

Table shows that the food expert, employees and students respondents generally assessed aroma as like very much with an obtained overall mean value of 8.08 in rank 1; appearance with an obtained overall mean value of 7.92 in rank 2; taste with an obtained overall weighted mean value of 7.77 in rank 3, respectively.

Generally, the food experts, employees and students' respondents assessed appearance, aroma and taste under the Level of Acceptability of Zea Mays Hair Herbal Tea without flavour as like very much by the obtained grand mean of 7.92.

**Table 6.2**

*Summary on the Assessment of Respondents as to the Level of Acceptability of Zea Mays Herbal Tea with calamansi*

CRITERIA	FOOD EXPERT		EMPLOYEES		STUDENTS		OVERALL MEAN		RANK
<i>Calamansi Flavor</i>	WM	VI	WM	VI	WM	VI	WM	VI	
1. Appearance	8.2	LVM	8.3	LVM	7.92	LVM	<b>8.14</b>	LVM	<b>2</b>
2. Aroma	8.2	LVM	8.4	LVM	7.8	LVM	<b>8.13</b>	LVM	<b>3</b>
3. Taste	8.5	LE	8.1	LVM	8.10	LVM	<b>8.23</b>	LVM	<b>1</b>
<b>OVERALL MEAN</b>	<b>8.3</b>	<b>LVM</b>	<b>8.27</b>	<b>LVM</b>	<b>7.94</b>	<b>LVM</b>	<b>8.17</b>	<b>LVM</b>	

Table shows that the food expert, employees and students respondents generally assessed taste as like very much with an obtained overall mean value of 8.23 in rank it as number one. The appearance with an obtained overall mean value of 8.14 and rank is number two; aroma with an obtained overall weighted mean value of 8.13 in rank 3, respectively.

Generally, the food experts, employees and students' respondents assessed appearance, aroma and taste under the Level of Acceptability of Zea Mays Hair herbal tea with calamansi flavor as like it very much with an obtained grand mean of 8.17.

**Table 6.3**

*Summary on the Assessment of Respondents as to the Level of Acceptability of Zea Mays Herbal Tea with honey*

CRITERIA	FOOD EXPERT		EMPLOYEES		STUDENTS		OVERALL MEAN		RANK
<i>Honey Flavor</i>	WM	VI	WM	VI	WM	VI	WM	VI	
1. Appearance	8.8	LE	4.55	LE	8.26	LVM	<b>8.54</b>	<b>LE</b>	<b>1</b>
2. Aroma	8.5	LE	8.5	LE	7.69	LVM	<b>8.23</b>	<b>LVM</b>	<b>3</b>
3. Taste	8.6	LE	8.7	LE	7.15	LVM	<b>8.48</b>	<b>LVM</b>	<b>2</b>
<b>OVERALL MEAN</b>	<b>8.63</b>	<b>LE</b>	<b>8.58</b>	<b>LE</b>	<b>8.03</b>	<b>LVM</b>	<b>8.41</b>	<b>LVM</b>	

Table shows that the food expert, employees and students respondents generally assessed appearance as like extremely with an obtained overall mean value of 8.54 in rank 1; taste with an obtained overall mean value of 8.48 in rank 2; aroma with an obtained overall weighted mean value of 8.23 in rank 3, respectively.

Generally, the food experts, employees and students' respondents assessed appearance, aroma and taste under the Level of Acceptability of Zea Mays Hair Herbal Tea with honey flavour as like very much by the obtained grand mean of 8.41.

**Table 7.0**

*Summary of Proximate Analysis of Zea Mays Herbal Tea*

Lab. No.	Sample Description	Crude Protein,%	Crude Fiber,%	Crude Fat,%	Moisture,%	Ash,%
FT-2019-0239	Corn Hair	11.67	19.77	0.73	8.70	4.92

The following are the summary findings:

1. On the level of acceptability of Zea Mays Hair as Herbal Tea  
The overall assessment of the three group respondents in terms of appearance, aroma and taste under the level of acceptability of ZEA Mays Hair as Herbal Tea was moderately acceptable supported by the obtained grand mean of 3.92 (without flavor); 4.17 (with calamansi); 4.41 (with honey)
2. On the significant difference on the assessment of the three respondents in the

level of acceptability of Zea Mays Hair as Herbal Tea.

#### **IV. CONCLUSION**

From the findings of the study, the following conclusion is drawn:

1. Corn hair can be used as herbal tea.
2. Zea Mays Hair Herbal Tea is moderately acceptable as to the assessment of the food experts, employees and students.
3. There is no significant difference on the assessment of the three group of respondents; food expert, employees, and students of Zea Mays Hair as Herbal Tea.



## V. RECOMMENDATIONS

In view of the conclusion drawn from the findings of the study, the following recommendations are forwarded:

1. Use appropriate packaging materials of the product to prolong its shelf life.
2. Request for the administration to finance the production of Zea Mays Hair Herbal Tea as Income Generating Project of the campus.
3. The result of the study should be taken as reference for future related study.

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