

BIBLIOGRAPHY

SIPOL, NYMPHA E. APRIL 2013. Influence of Five Selected Additives on Beverage Acceptability of Gipas (*Sarcandra glabra*) Tea. Benguet State University, La Trinidad, Benguet.

Adviser: Alfredo C. Tipayno, Ph.D.

ABSTRACT

The study was conducted at Horticulture Laboratory of the College of Agriculture Benguet State University, La Trinidad, Benguet from January 24-25, 2013, to identify the best additives to improve beverage quality of Gipas tea (*Sarcandra glabra*) and to find means of improving the acceptability and marketability of Gipas tea at the same time adding value to the product.

The beverage quality of Gipas tea was significantly affected by the five different additives. Result showed that difference in the color and taste evaluation of the beverage from adding passion fruit juice and honey were highly significant. Passion fruit and honey were more aromatic compared to the other additives and honey as an additive is more acceptable than the other additives.



RESULTS AND DISCUSSION

Color

Table 1 shows the color of mountain tea beverage with the different additives. Results showed that passion fruit juice, as an additive, significantly improved the color of the Gipas tea with a mean of 4.13 acceptability manifesting almost yellowish brown color.

Table 1. Color of Gipas tea added with the five different additives

ADDITIVES	MEAN (Rating)
Pure Gipas Tea	2.23 ^b
Lemon grass tea	2.47 ^b
Honey	2.43 ^b
Calamansi juice	2.23 ^b
Lemon juice	2.47 ^b
Passion fruit juice	4.13 ^a

Means followed by common letter(s) are not significantly different by DMRT at 5% level

<u>Rating Scale</u>	<u>Description</u>
1	Yellow
2	Brown
3	Green
4	Yellowish green
5	Yellowish brown

The results suggest that the yellowish gelatinous pulp around the passion fruit seeds contains acid (Purseglove, 1972) which can neutralize a base and changes color of certain dyes when treated with acid (Devlin, 1969).



Aroma

The aroma rating of the prepared Gipas tea added with different additives is presented in Table 2.

Table 2. Aroma of Gipas tea added with the five different additives

ADDITIVES	MEAN (Rating)
Pure Gipas Tea	2.37 ^a
Lemon grass tea	1.47 ^c
Honey	2.40 ^a
Calamansi juice	2.10 ^{ab}
Lemon juice	1.93 ^b
Passion fruit juice	2.40 ^a

Means followed by common letter(s) are not significantly different by DMRT at 5% level

<u>Rating Scale</u>	<u>Description</u>
1	Light aroma
2	Moderate aroma
3	Strong aroma

Statistical analysis showed highly significant effect of the 5 different additives on the aroma of Gipas tea. The honey and passion fruit juice, as additives, resulted to significantly more aromatic beverage than the Gipas tea added with the other additives. The aroma rating of the pure Gipas tea also was also considered aromatic as evaluated by the evaluators.



Whitehead (2010) stated that honey contains aromatic constituents such as scented oils, gums and essences from flowers are responsible for the aroma of the honey, whereas in passion fruit, seeds attached to peg-like funiculi on the ovary wall, surrounded by yellowish aromatic pulpy juicy aril caused the aromatic character of the juice. (Purseglove, 1972).

Taste Evaluation

Table 3 shows the result of the taste evaluation of Gipas tea added with 5 different additives. The lower the number the better the taste.

The taste of Gipas tea beverage added with honey had significantly better taste compared to the tea added with the other 4 additives.

It has been reported that honey contains more highly concentrated solution of sugars and water. Honey also contains formic and malic acids, waxes and fats, albumen and traces of nitrogenous pollen. Also contains inverted sugars which make it highly energizing food (Whitehead, 2010).

Table 3. Taste evaluation of Gipas tea added with the five different additives

ADDITIVES	MEAN (Rating)
Pure Gipas Tea	1.97 ^a
Lemon grass tea	1.93 ^a
Honey	1.53 ^b
Calamansi juice	2.00 ^a
Lemon juice	2.20 ^a
Passion fruit juice	1.93 ^a

Means followed by the same letter(s) are significantly different by DMRT at 5% level



<u>Rating Scale</u>	<u>Description</u>
1	Liked very much
2	Liked moderately
3	Disliked moderately

General Acceptability

Table 4 shows the general acceptability of the Gipas tea beverage as affected by the 5 different additives. Results showed that the general acceptability of the beverage added with 5 different additives is significant. The beverage added with honey was more acceptable to the evaluators compared to the beverage mixed with the 4 other additives.

Table 4. General acceptability of Gipas tea added with the five different additives

<u>ADDITIVES</u>	<u>MEAN (Rating)</u>
Pure Gipas Tea	2.00 ^a
Lemon grass tea	2.03 ^{ac}
Honey	1.40 ^b
Calamansi juice	2.00 ^{ac}
Lemon juice	2.00 ^{ac}
Passion fruit juice	2.03 ^a

Means followed by the same letter(s) are not significantly different by DMRT at 5% level

<u>Rating Scale</u>	<u>Description</u>
1	Very much acceptable
2	Moderately acceptable
3	Unacceptable
4	Very unacceptable



As Whitehead (2010) stated that, honey contains inverted sugars which make it a highly energizing food, excellent for both the healthy and the sick, for the young and old. Nevertheless, honey is valuable health- giving and medicinal food, partly because of its assimilation, partly because of its excellent contents of mineral salts and partly because of its enzymes. It also contains other important constituents such as valuable minerals salts and calcium, phosphorous, iron, potassium, sodium, manganese and sulphur, valuable dietetically because they are perfectly assimilated.





Figure 1. Fresh shoots and leaves of Gipasa plant used in the study

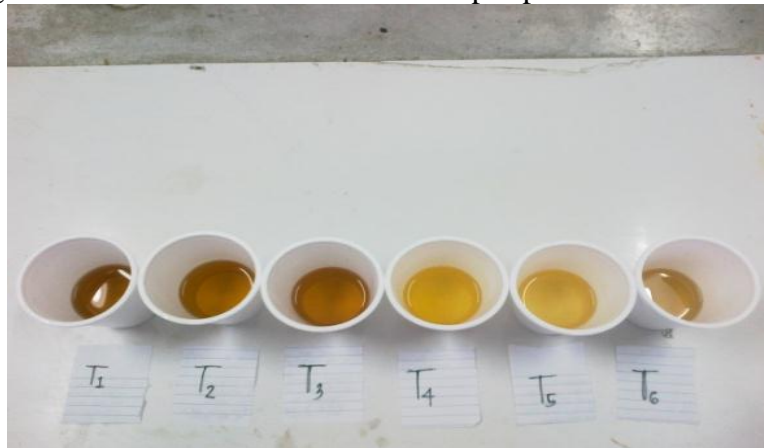


Figure 4. Color of Gipasa tea added with five different additives: T₁- Pure Gipasa tea; T₂- Gipasa tea added with lemon grass tea; T₃- Gipasa tea added with honey; T₄- Gipasa tea added with calamansi juice; T₅- Gipasa tea added with lemon juice; T₆- Gipasa tea added with passion fruit juice



Figure 5. Evaluators during the sensory evaluation session

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study was conducted at the Horticulture Laboratory of the College of Agriculture, Benguet State University, La Trinidad, Benguet from January 24-25, 2013; to identify the best additives to improve beverage quality of Gipas tea (*Sarcandra glabra*) and to find means of improving the acceptability and marketability of Gipas base- tea and at the same time adding value to the product.

The color of the beverage added with 5 different additives showed highly significant differences as perceived by the panel of evaluators. Gipas tea added with passion fruit juice significantly manifested better tea color as perceived by the evaluators as compared to the other additives.

The aroma of the prepared tea beverage added with 5 different additives significantly affected the aroma of the Gipas tea. Gipas tea added with honey as well as the tea added with passion fruit juice were more aromatic as compared to the other additives.

The taste of the Gipas tea added with 5 different additives showed highly significant result. The beverage added with honey tastes better than the Gipas tea added with the 4 other additives.

Differences on the general acceptability of Gipas tea as affected by different additives were highly significant. The beverage added with honey was more acceptable than those added with the other additives.



Conclusions

Based from the findings, Gipas tea added with honey as well as the tea added with passion fruit juice produce more aromatic tea while Gipas tea added with honey was more acceptable to the drinkers.

Recommendations

Based on the findings, Gipas tea mixed with either honey or passion fruit juice are highly recommended. Also, honey as an additive for Gipas tea beverage is recommended for improved taste and acceptability of the beverage.



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