PRODUCTION OF GINGER-BLENDED PINEAPPLE DRINK, "PINEGY"; IMPLICATION FOR YOUTH AND RURAL EMPLOYMENT

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ABSTRACT

This study looks into the possibility of developing ginger-blended pineapple drink. To this effect, peeled pineapple and ginger were blended in the proportion of 50g/50g, 75g/25g, 83.5g/16.5g, 87.5g /12.5g and 90g/10g (fresh weight basis) to produce ginger blended pineapple drink, 'Pinegy' samples, designated as samples A, B, C, D, and E respectively. First-v. a trained five (5)-man panel of judges was used to test for colour, pineapple flavour, pungency and overall acceptability. From the results, samples C, D, and E were selected for further evaluation using 'Pinenaco', sample DA as a control while samples DB, DC and DD were 'Pinegy' earlier samples C, D, and E, respectively. The second evaluation was carried out with a trained ten (10) – man panel drawn from the workers of National Root Crops Research Institute, Umudike. Also, the proximate analysis of ginger-blended pineapple drink 'Pinegy' was carried out in order to determine their food quality. The result showed that the ginger-blended pineapple drink 'Pinegy' was richer than 'Pinenaco' in nutrient content. Also, the result of the sensory tests showed that in overall acceptability, sample DD was most acceptable followed by the control (sampled DA), although the whole samples were acceptable in various degrees. This therefore, shows that production of ginger-blended pineapple drink 'Pinegy' is possible. Also with locally available raw materials and simple methods of preparation, 'Pinegy' production can serve as an employment for the youth and rural dwellers.

INTRODUCTION

In Nigeria, fruit drinks have become so important especially during ceremonies. At such occasions, these drinks are purchased and used in large quantities. However, most of the fruit drinks in the market are imported products. Consequently, Onyegbado et al. (2000) opined that a situation like this calls for a way of sourcing out cheaper locally produced brands in order to reduce the foreign exchange requirement for their importation. The report further stated that development of a technology, which will maximize the quantitative utilization of tropical fruits will help guard against post-harvest looses as well. This is because there are little or no facilities for preservation of fruits during harvest season to ensure its steady supply when out of season. This results in huge wastage of fruits. To this effect, the production of ginger-blended pineapple drink, 'Pinegy'

was carried out. The essence of using ginger is to exploit its medicinal values (Fagbogun, 1987), and to utilize its spicy nature to produce mildly spiced drinks suitable for all classes of people.

This study seeks to evaluate the acceptability of the *'Pinegy'* and to establish that its production can serve as a source of employment for the youth and rural dwellers.

MATERIALS AND METHODS

Source of Materials

The pineapple fruits were bought from Umuahia main market in Abia State, Nigeria. The ginger of the variety UG 1 (Njoku et al., 1995) was obtained from the Ginger Programme, National Root Crops Research Institute (NRCRI), Umudike, Abia State Nigeria.

Preparation of Pineapple Drink Samples

The ginger-blended pineapple drink, *'Pinegy'* was produced by UNIFEM

was used in making syrup from 15g sugar. Also, the pineapple and ginger pulp with the lemon rind was boiled for 8min for sterilization. Thereafter, the syrup and the remaining water were added to the boiled pulp. The whole mixture was then sieved using a fine muslin cloth of get the ginger-blended pineapple drink, *'Pinegy'*. The product was allowed to cool before packaging for proximate analysis and sensory evaluations.

Proximate Analysis

The proximate composition of *'Pinegy'* was determined according to the AOAC (19900 methods.

Sensory Evaluation

The sensory tests were carried out in stages to determine the acceptability of the ginger-blended drinks, 'Pinegy'. Firstly, Samples A, B, C, D, and E were evaluated for colour, pineapple flavour, pungency and overall acceptability using a trained five (5)– man panel to select samples that will be further evaluated with 'Pinenaco'

Table 1:The Proximate Composition of Ginger-blended Pineapple Drinks, *'Pinegy'*.

Food Nutrient Composition of samples (g/100 ml)	DB	DC	DD
Carbohydrate	11.531	11.530	11.530
Crude protein	0.155	0.158	0.168
Fat	0.835	0.870	0.879
Fibre	0.00	0.00	0.00
Ash	1.358	1.265	1.365
Water	86.50	87.30	87.00
Vitamin C	27.40mg	27.70mg	27.80mg

(1988) method. This was by weighing out 100g peeled pineapple and peeled ginger in the proportion of 50/50; 75/25; 83.5/16.5; 87.5/12.5 and 90/10 (in grams of fresh weight) of pineapple and ginger and designated samples A, B, C, D, and E respectively. The pineapple and ginger were ground to a fine pulp using the kitchen blender and 5g, lemon rind was added to the pulp. Using 500ml boiled water for the whole process. Firstly a little quantity of water from the 500ml of water

as a control. Consequently, a ten (10)–man panel, drawn from the Staff of National root Crops Research Institute, Umudike, was trained and used for the second test. Each sample was evaluated on a five (5) – point rating scale of '5' representing 'excellent' and '1' representing 'bad', while 2, 3 and 4 were poor, fair and good respectively. Statistical Analysis of Data

The data were statistically assessed by analysis of variance (ANOVA) procedure

and least significant difference (LSD) was used to separate means as described by Arkin and Colton (1971).

RESULTS AND DISCUSSION

The result of the proximate composition of ginger-blended pineapple drink 'Pinegy' is sown in Table 1. Also, the nutrient information of 'Pinenaco' the imported pineapple drink, with no ginger content is shown in Table 2. 'Pinegy' drinks contain an average of about 0.160g/100ml crude protein and 27. 60mg/100ml of vitamin C. Generally, data in Table 2 show that **'Pinenaco'** is nutritionally inferior to **'Pinegy'**. The result of the first sensory evaluation in Table 3, revealed no significant (P≥0.05) difference in colour, among the samples C, D and E. There was a significant (P≥0.05) difference among samples A and B, A and C. In pineapple flavour, samples E and D were not significantly (P≥ 0.05) different from each other, although the panelists preferred sample E. There was a significant (P≥0.05) difference among the samples in pungency, which followed almost the same trend as in pineapple flavour. The overall acceptability revealed that there was a significant (P≥0.05) difference among the samples, with E being preferred to D and C. however; the three samples were acceptable in various degrees.

Table 2: Nutrient Information of 'Penenaco'*

Nutrient	Composition (g/100ml)
Total Fat	0.00
Saturated fat	0.00
Cholesterol	0.00
Carbohydrate	9.2
Dietary Fat	200
Sugar	9.00
Protein	0.00

'Pinenaco' is a product of Natadeco utama food Industry, Jakarta, Indonesia

The samples C, D and E were further evaluated using 'Pinenaco', an important pineapple drink with no ginger content as a control. They were designated

'Pinenaco sample DA while C, D and E were DB, Dc and DD respectively.

The result of the second sensory evaluation as shown in Table 4 revealed that there was no significant (P≥ 0.05) difference in colour among samples DA, DB and DC. However, there was a significant (P≥0.05) difference between DC and DD. In pineapple flavour, sample DD was preferred most, followed by sample DA and there was a significant (P≥0.05) difference among the samples. The result in pungency shows that samples DA and DD were both acceptable, although there was a significant (P>0.05) difference among them with DA being preferred to DD. In overall acceptability, the samples were al acceptable, but DD was preferred most. The whole trend shows that, as the pineapple content of 'Pinegy' increases and ginger decreases, the overall acceptability improves.

Implications for Youth and Rural Employment

The experiment above shows that spicing up pineapple drink with ginger content reduces the overall acceptability.

The demand implication is that many people who probably have not been using ordinary pineapple drink will be attracted to use it due to its spicy and improved taste.

Also, for the enlightened people who will like to know the food value of what they take, the higher nutritive value of the ginger-blended pineapple drink, 'Pinegy' will appeal to them. The production of ginger-blended pineapple drink is simple and involves the use of simple equipment. Therefore, it can serve as a source of employment for low-income earners, particularly the youth and rural dwellers.

This is because the raw materials are locally available and its equipment requirement is not capital intensive. Prospective investors can embark on the production of their own raw materials. The

commercial production of ginger-blended pineapple drink, 'Pinegy' will encourage the government to ban the importation of its related counterparts in order to save foreign exchange.

'Pinegy' with pineapple and ginger proportions of 90g and 10g respectively. The 'Pinegy' with pineapple and ginger proportions of 83.5g and 16.5g was least accepted.

Table 3: Sensory Qualities of Ginger –blended Pineapple Drink 'Pinegy'

S/N	Sample	Pineapple/Ginger Ratio (g)	Colour	Pineapple flavouir	Pungency	Overall acceptability
1	A	50/50	2.0	1.2	1.2	1.2
2	B	75/25	2.4	2.0	2.6	2.6
3	C	83.5/16.5	2.6	2.4	3.0	3.2
4	D	87.5/12.5	2.8	3.8	4.2	4.0
5	E	90/10	2.8	4.2	4.4	4.4
Least Significant Difference (LSD)			0.25	0.67	0.28	0.31

CONCLUSION

The result of this experiment revealed that all the drinks were acceptable in terms of their overall acceptability. The best being the ginger-blended pineapple drink

Therefore, production of 'Pinegy' can compete favourably with 'Pinenaco' and other related imported fruit drinks in the market

Table 4: Sensory Qualities of Ginger –blended Pineapple Drink 'Pinegy'

S/N	Sample	Pineapple/Ginger Ratio (g)	Colour	Pineapple flavour	Pungency	Overall acceptability
1	DA	Control (No ginger)	2.9	3.4	4.6	3.6
2	DB	83.5/16.5	3.4	2.7	2.6	3.0
3	DC	87.5/12.5	3.7	2.9	3.2	3.3
4	DD	90.5/10	3.8	4.0	4.4	4.3
Least Significant Difference (LSD)			0.20	0.24	0.13	0.32

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