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Storage studies of aerial yam (*Dioscorea bulbifera* L.) flour cookies

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Abstract
An experiment was carried out during the year 2016-2017 at Post Harvest Laboratory, Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The experiment was conducted in Randomized Block Design with six treatments and four replications. Cookies were prepared from aerial yam flour by substituting the wheat flour by 20, 40, 60, 80,100 per cent flour and 100 per cent wheat flour as control. Observations in respect of biochemical and sensory evaluation were recorded periodically upto 90th days of storage.
From the finding it was observed that, the increase in aerial yam flour increased the percentage of moisture, ash, fat, and crude fibre content of cookies while protein and carbohydrate content was decreased. There was gradual increase in moisture content of cookies prepared with different flour combination of aerial yam during storage period. However, ash, fat, protein, crude fibre and carbohydrate content of cookies decreased with advancement of storage period.
Sensory evaluation during storage revealed that the cookies prepared with 60 per cent aerial yam flour and 40 per cent wheat flour was found to be most acceptable with respect to organoleptic characteristics especially taste and flavor/aroma developed during baking. The level of aerial yam flour could be used for substitution of wheat flour in production of cookies upto 60 per cent and still accepted by consumer. The results obtained showed the feasibility of producing nutritious cookies from aerial yam flour.

Keywords: Aerial yam, cookies, sensory evaluation, storage study

Introduction
Dioscorea bulbifera L. is commonly called aerial yam, air potato or bitter yam. It is a member of the yam family (Dioscoreaceae). Aerial yam produces large numbers of aerial tubers, potato-like growths from the leaf axils. Its composition includes 63-67 per cent moisture, 1.1-1.5 per cent proteins, 0.04 per cent fat, 0.7-1.1 per cent fibre, 1.08-1.5 per cent ash and 22-33 per cent carbohydrates (Nwosu, 2014) [15]. It is a good source of calories and minerals such as iron, calcium and phosphorous (Tindall, 1983 and Abara *et al.*, 2000) [22, 3]. "Diosgenin" is pharmacologically active component of aerial yam obtained from root and rhizomes which is one of the most costly and important steroidal drug used worldwide for manufacturing of birth control pills and other steroidal formulations (Sharma, 2004) [20]. Aerial yam has been traditionally used to lower glycemic index, thus providing a more sustained form of energy and better protection against obesity and diabetes (Chandra *et al.*, 2012) [7]. Bulbs are used in India to treat piles, dysentery, and syphilis and are applied to ulcers, pain and inflammation (Gupta and Singh, 1989) [11].
Composite flour can be described as a mixture of several flours obtained from root, tuber, cereal and legume, with or without the addition of wheat flour, which is created to satisfy specific functional characteristics and nutrient composition. Cookies are ready- to-eat, convenient and inexpensive food snacks produced from unpalatable dough that is transformed into a light porous, readily digestible and appetizing product through the application of heat. The principal ingredients are wheat our, fat, sugar and water, while other optional ingredients include milk, salt, flavoring agent, aerating agent and other food additives. Cookies are a rich source of fat, protein and carbohydrate, hence they provide energy and are also a good source of minerals (Kure *et al.*, 1998) [13]. They can be served with soft drinks or tea, and taken between meals like any other snack.
Aerial yam is a source of energy food with high nutritional and medicinal value. But, this unpopular species of yam is labour intensive to process and is reported to contain inferior to that of most regular food and as such it is almost going into extinction (Hammer, 1998) [12]. It is used by the tribal population of central India as a food. Flour prepared from aerial yam bulbs has the potential for application in the bakery industry with minimal processing. Therefore, investigation into the nutritional and other quality characteristics of the aerial yam is essential, with the ultimate aim being the promotion of its usage, and suggesting possible product that it

could be incorporated into, since aerial yam has received very low attention by food processors and consumers. This study seeks to investigate the possibility of preparation of cookies from aerial yam flour with good acceptability.

Material and Methods

Aerial yam bulbs were procured from the local market of Gadchiroli, Maharashtra. The aerial yam bulbs were washed with clean water to remove adhering soil and other undesirable material. The yam bulbs were then sorted and hand-peeled using kitchen knife and sliced into sizes of 2 to 3mm in thickness. The slices were soaked in water while peeling to avoid enzymic browning and also to remove the bitter compound from the sliced samples. The slices were then blanched in hot water at 80 ºC for 8-10 minutes and subsequently sun dried for 3 days. The dried yam slices were milled using locally fabricated hammer mill and screened through 1mm sieve to obtain the powdery yam flour and then stored in an air tight container.

Cookies preparation

Aerial yam was processed into flour and used to substitute wheat flour at different proportions (20% aerial yam flour: 80% wheat flour, 40% aerial yam flour: 60% wheat flour, 60% aerial yam flour: 40% heat flour, 80% aerial yam flour: 20% wheat flour, 100% aerial yam flour) and 100% wheat flour as control. Cookies were prepared using AACC (2000) [1] methods. Various ingredients were weighed accurately. The hydrogenated fat and powdered sugar were creamed until light and fluffy. The composite flour was slowly added to the cream. The traditional creaming method was used for the preparation of cookies. The dough was thoroughly kneaded by adding required amount of water dissolved with sodium bicarbonate. After kneading the dough was rolled between polyethylene sheet having thickness of 1-1.2 cm and pieces was cut using cookie cutter. The pieces were placed in baking tray smeared with fat and baked at 180-200°C, for 15 minutes in baking oven. The cookies were allowed to cool, packed in HDPE bags and stored at ambient temperature.

Biochemical analysis of cookies

Aerial yam flour and its cookies were evaluated for its proximate composition *viz*. moisture, fat, protein, ash, crude fibre and carbohydrate content using standard method (AOAC, 1995) [2].

Sensory evaluation

The cookies were evaluated for the sensory parameters using standard procedure reported by Amerine *et al.* (1965) [6]. The cookies were evaluated for sensory attributes by a panel of 5 expert judges, using a 9point Hedonic scale ranging from like extremely to dislike extremely for different parameters. The mean values of score for appearance, taste, texture, flavor/aroma and overall acceptability were calculated at different storage intervals.

Storage studies

The cookies were packed in HDPE bags and stored at ambient temperature. The sensory evaluation of cookies was carried regularly at an interval of 30 days for a period of 90 days after preparation of cookies.

Statistical analysis

The data obtained for each parameter was subjected to statistical analysis of variance (ANOVA) within the treatments. The comparison of mean was carried out by randomized block design for significance of SE and CD at 5 per cent level as suggested by Panse and Sukhatme (1985) [16].

Result and Discussion

Biochemical properties of cookies

1. Moisture content (%)

The data indicated that, there were significant differences among the flour combination on moisture content of cookies at different storage interval. Initially, after the preparation of cookies the treatment T_5 (AYF 100%) showed maximum (5.83%) moisture which was found significantly superior over remaining treatments. Similarly at 30th, 60th and 90th days of storage, cookies prepared from treatment T_5 (AYF100%) recorded significantly maximum moisture content of 6.45, 7.14 and 7.84 per cent respectively. While cookies prepared from the treatment T_6 (WF100%) showed minimum moisture content of 4.07, 4.67 and 5.25 per cent respectively. The results are in confirmation with the findings of Nwosu (2014) [15], Chukwu and Lawal (2015) [9], Sengev *et al.* (2015) [18] and Rita and Essuman (2016) [17]. That moisture content in the cookies prepared from all flour combination increased with the advancement of storage upto 90 days. Abiodun *et al.* (2014) [5] also reported increase in moisture values with increase in length of storage of trifoliate yam flour.

2. Ash content (%)

Cookies prepared from different flour combination showed significant differences for ash content throughout the storage period. Immediately after the preparation of cookies the treatment T_5 (AYF 100%) showed maximum (1.76%) ash which was found to be significantly superior over remaining treatments, while minimum (1.10%) ash was recorded in T_6 (WF100%) treatment.

Table 1: Effect of different flour combination of aerial yam on moisture and Ash content (%) of cookies during storage

Treatment	Moisture (%)				Ash (%)			
	Storage (days)				Storage (days)			
	0	30th	60th	90th	0	30th	60th	90th
T_1 (AYF 20% + WF 80%)	4.41	4.54	5.17	5.78	1.24	1.21	1.19	1.16
T_2 (AYF 40% + WF 60%)	4.39	5.00	5.65	6.30	1.37	1.34	1.31	1.29
T_3 (AYF 60% + WF 40%)	4.87	5.51	6.16	6.80	1.51	1.47	1.45	1.42
T_4 (AYF 80% + WF 20%)	5.36	5.98	6.64	7.33	1.63	1.61	1.58	1.55
T_5 (AYF 100%)	5.83	6.45	7.14	7.84	1.76	1.73	1.70	1.68
T_6 (WF100%)	3.42	4.07	4.67	5.25	1.10	1.08	1.06	1.03
'F' test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
SE (m)±	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005
CD at 5%	0.008	0.010	0.010	0.009	0.015	0.015	0.014	0.014

Similarly at 30th, 60th and 90th days of storage, cookies prepared from treatment T_5 (AYF 100%) recorded significantly maximum ash content of 1.73, 1.70 and 1.10 per cent respectively. While cookies prepared from the treatment T_6 (WF100%) showed minimum ash content of 1.08, 1.06 and 1.03 per cent respectively. It is revealed from the data (table 1) that the ash content of cookies increased with the increase in supplementation of yam flour. This is in confirmation to the findings of Nwosu (2014) [15]. As regards the ash content of cookies during storage, it is observed from the data that the ash percentage decreased with the advancement of storage upto 90th days. This might be due to uptake of moistness from air. An increase in moistness of cookies samples during storage and decrease a gradual ash content of cookies was reported by Sharif *et al.* (2009) [19].

3. Fat content (%)

It is revealed from the data presented in Table 2 existed significant differences in the fat content of cookies prepared from different flour combination of aerial yam at different period of storage. After the preparation of cookies the treatment T_5 (AYF 100%) showed maximum (25.64%) fat which was found significantly superior over rest of the treatments. Similar trend was observed for fat content of different storage intervals of 30th, 60th and 90th days. Cookies prepared from treatment T_5 (AYF 100%) recorded significantly maximum fat content of 25.54, 25.40 and 25.32 per cent respectively. It is well evident from the data presented in table 2 that fat content of the cookies made from wheat flour was minimum and gradually increased with the increase in aerial yam flour substitution in the composite flour. Similar results were observed by Chinma and Gernah (2007) [8], Nwosu (2014) [15], Laelago *et al.* (2015) [14] and Rita and Essuman (2016) [17]. The fat percentage of cookies decreased with advancement of storage upto 90 days.

4. Protein content (%)

The results of the effect of different flour combination of aerial yam on protein content of cookies during storage are presented in Table 2 and are found to be significant amongst the treatments. Initially, at 0 days the treatment T_6 (WF 100%) showed maximum (9.51%) protein which was found to be significantly superior over remaining treatments. Similarly at 30th, 60th and 90th days of storage, cookies prepared from treatment T_6 (WF 100%) recorded significantly maximum protein content of 9.50, 9.48 and 9.44 per cent respectively.

Table 2: Effect of different flour combination of aerial yam on fat and protein content (%) of cookies during storage

Treatment	Fat (%)				Protein (%)			
	Storage (days)				Storage (days)			
	0	30th	60th	90th	0	30th	60th	90th
T_1 (AYF 20% + WF 80%)	21.08	21.03	20.89	20.68	8.92	8.91	8.89	8.86
T_2 (AYF 40% + WF 60%)	22.23	22.16	22.00	21.85	8.32	8.31	8.28	8.25
T_3 (AYF 60% + WF 40%)	23.34	23.27	23.14	22.88	7.72	7.71	7.69	7.66
T_4 (AYF 80% + WF 20%)	24.48	24.40	24.32	24.17	7.13	7.12	7.10	7.07
T_5 (AYF 100%)	25.64	25.54	25.40	25.32	6.53	6.52	6.50	6.47
T_6 (WF100%)	19.98	19.90	19.74	19.61	9.51	9.50	9.48	9.44
'F' test	Sig	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
SE (m)±	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003
CD at 5%	0.005	0.005	0.005	0.005	0.008	0.009	0.009	0.009

It is well evident from the data that the cookies prepared from the treatment T_6 (WF 100%) showed maximum protein content. This is similar to the earlier findings of Sengev *et al.* (2015) [18] and Uchenna and Omolaya (2017) [23]. As regards the protein content of the cookies during storage, it was observed that the protein content decreased with the longitivity of storage upto 90th day. Elahi (1997) [10] observed that protein content decreased during storage in biscuit prepared from composite flour. Reduction in protein content of cookies throughout storage might be due to increasing level of moisture which enhances proteolytic activity.

5. Crude fibre (%)

Initially, after the preparation of cookies the treatment T_5 (AYF 100%) showed maximum (1.75%) crude fibre which was found significantly superior over rest of the treatments. Similar trend was observed for crude fibre content of different storage intervals of 30th, 60th and 90th days. Cookies prepared from treatment T_5 (AYF 100%) recorded significantly maximum crude fibre content of 1.75, 1.73 and 1.71 per cent respectively. The crude fibre content increased with the increased of yam flour in composite flour. This is agreement with the findings of Nwosu (2014) [15] and Laelago *et al.* (2015) [14]. Crude fibre content of cookies of all the treatments was decreased at different storage intervals. This is in agreement with the findings of Waheed *et al.* (2010) [24].

Table 3: Effect of different flour combination of aerial yam on crude fibre and carbohydrate content (%) of cookies during storage

Treatment	Crude Fibre (%)				Carbohydrate (%)			
	Storage (days)				Storage (days)			
	0	30th	60th	90th	0	30th	60th	90th
T_1 (AYF 20% + WF 80%)	0.78	0.77	0.76	0.74	63.57	63.55	63.01	62.78
T_2 (AYF 40% + WF 60%)	1.02	1.01	1.00	0.98	62.67	62.38	61.76	61.33
T_3 (AYF 60% + WF 40%)	1.27	1.26	1.25	1.23	61.29	60.78	60.31	60.01
T_4 (AYF 80% + WF 20%)	1.51	1.50	1.49	1.47	59.86	59.39	58.87	58.41
T_5 (AYF 100%)	1.75	1.74	1.73	1.71	58.49	58.02	57.53	56.98
T_6 (WF100%)	0.54	0.53	0.52	0.50	65.45	64.92	64.53	64.17
'F' test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
SE (m)±	0.006	0.005	0.006	0.006	0.018	0.024	0.015	0.022
CD at 5%	0.02	0.02	0.02	0.02	0.056	0.074	0.047	0.066

6. Carbohydrate (%)

After the preparation of cookies at 0 days of storage the treatment T_6 (WF 100%) showed maximum (65.45%) carbohydrate which was found to be significantly superior over remaining treatments. Similar trend was observed for carbohydrate content at different storage intervals of 30th, 60th and 90th days of storage. Cookies prepared from treatment T_6 (WF 100%) recorded significantly maximum carbohydrate content of 64.92, 64.53 and 64.17 per cent respectively. This is in confirmity with the findings of Rita and Essuman (2016) [17] who observed that increasing the proportion of aerial yam flour resulted in reduction of total carbohydrate which was further reduced by blanching. Storage of cookies prepared from all the treatments of flour combination upto 90th days showed decreased in carbohydrate content. This is in confirmation with the findings of Sharif *et al.* (2009) [19].

Sensory evaluation of cookies

1. Appearance of cookies

It is revealed from Table 4 that the appearance score of cookies was affected significantly due to mixing of different levels of aerial yam flour. The highest appearance score of 8.5 was obtained by the cookies (T_5) i.e. 100% aerial yam flour as compared to other treatments which was at par with T_4 and T_3. Uchenna and Omolaya (2017) [23] and Laelago *et al.* (2015) [14] reported highest appearance score to the cookies prepared from 100% wheat flour. As the level of substitution of flour was increased, the appearance of cookies was decreased. As regards the appearance score of cookies upto 90th days of storage, no change was observed. Whereas Shazia *et al.* (2012) [21] reported decreased in colour score of cookies due to darkening in colour during storage.

Table 4: Effect of different flour combination of aerial yam on appearance and taste of cookies during storage

Treatment	Appearance				Taste			
	Storage (days)				Storage (days)			
	0	30th	60th	90th	0	30th	60th	90th
T_1 (AYF 20% + WF 80%)	6.9	6.9	6.9	6.9	7.3	7.3	7.3	7.3
T_2 (AYF 40% + WF 60%)	7.0	7.0	7.0	7.0	7.5	7.5	7.5	7.5
T_3 (AYF 60% + WF 40%)	8.3	8.3	8.3	8.3	8.0	8.0	8.0	8.0
T_4 (AYF 80% + WF 20%)	8.3	8.3	8.3	8.3	6.5	6.5	6.5	6.5
T_5 (AYF 100%)	8.5	8.5	8.5	8.5	5.7	5.7	5.7	5.6
T_6 (WF100%)	6.4	6.4	6.4	6.4	7.3	7.3	7.3	7.2
'F' test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
SE (m)±	0.08	0.08	0.08	0.08	0.05	0.05	0.05	0.07
CD at 5%	0.24	0.24	0.24	0.24	0.16	0.16	0.16	0.21

2. Taste of cookies

Significant higher taste score was obtained in the cookies prepared from T_3 (AYF 60% + WF 40%) while the lowest score in T_5 (AYF 100%) as it resulted in slight bitter taste which comes from the natural taste of the yam flour used for preparation of cookies. The preferences for taste of the samples showed an increase with increasing substitution with yam flour upto 60%. Similar results were reported by Abayomi *et al*. (2013). During storage of cookies, no change regarding the taste score was observed in all treatments except in T_5 (AYF 100%) and T_6 (WF 100%) which was decreased. This is in confirmation with Shazia *et al.* (2012) [21] who reported decrease in taste during storage which may occur due to the rancidity of fat.

3. Texture of cookies

Significantly highest score (8.3) was received to be cookies prepared with 100% aerial yam flour i.e. under T_5 treatment while lowest score (6.0) was received by cookies prepared from 100% wheat flour i.e. T_6. Increase in yam flour increased the texture score of the cookies. Whereas, cookies made from 100% wheat flour scored least due to its hard texture which may be due to less moisture content and fat content of cookies making it dry and hard. During storage upto 90th days, no change was observed in texture score of cookies except in treatment T_6 (WF 100%) and T_1 (AYF 20% + WF 80%) with decrease in score as in storage at 90th days, moisture content of 100% wheat cookies (T_6) and T_1 (20% AYF + WF 80%) was lowered down making it hard in texture.

Table 5: Effect of different flour combination of aerial yam on texture and flavour/aroma of cookies during storage

Treatment	Texture				Flavour/aroma			
	Storage (days)				Storage (days)			
	0	30th	60th	90th	0	30th	60th	90th
T_1 (AYF 20% + WF 80%)	6.5	6.5	6.5	6.2	5.5	5.5	5.5	5.5
T_2 (AYF 40% + WF 60%)	7.7	7.7	7.7	7.7	6.3	6.3	6.3	6.3
T_3 (AYF 60% + WF 40%)	8.0	8.0	8.0	8.0	7.5	7.5	7.5	7.5
T_4 (AYF 80% + WF 20%)	8.0	8.0	8.0	8.0	6.7	6.7	6.7	6.7
T_5 (AYF 100%)	8.3	8.3	8.3	8.3	4.8	4.8	4.8	4.5
T_6 (WF100%)	6.0	6.0	6.0	5.5	5.0	5.0	5.0	4.7
'F' test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
SE (m)±	0.04	0.04	0.04	0.05	0.03	0.03	0.03	0.04
CD at 5%	0.12	0.12	0.12	0.16	0.10	0.10	0.10	0.13

4. Flavour/aroma

Supplementation of wheat flour to aerial yam flour upto 60%, increased the texture score and these lowered down as the acridic flavor and aroma was not preferred by the panelist. Thus giving maximum score for flavor/ aroma to AYF 60% + WF 40% cookies. Inferior flavor of cookies made from 100% AYF (T_6) was not liked. Similar findings are reported by Sharif *et al*. (2009) [19], Nwosu (2014) [15] and Laelago *et al.* (2015) [14]. As regards the flavor/aroma score of cookies during storage upto 60th days, no change was observed. However at 90th days after preparation of cookies, flavor/aroma score was lowered in the T_5 (AYF 100%) and T_6

(WF 100%) treatments while might be attributed to absorption of moisture that resulted in fat oxidation of cookies. Similar findings are reported by Sharif *et al.* (2009) [19] and Shazia *et al.* (2012) [21].

5. Crispiness of cookies

Significantly highest crispiness score (7.5) was obtained in cookies prepared with 100% wheat flour i.e. under T_6 treatments which was superior over all the treatments while lowest crispiness score (4.8) was obtained in treatment T_5 (AYF 100%). It was observed that the crispiness of the cookies increased as the proportion of aerial yam flour was decreased in the formulation. The present findings are similar to the findings of Nwosu (2014) [15] and Rita and Essuman (2016) [17]. They also reported that crispiness was increased with decrease in yam flour. During storage, the crispiness score of cookies was decreased in treatment T_6 (WF100%) from 7.5 to 7.3 at 60th days and 7.3 to 7.2 at 90th days. Crispiness affected due to the moisture content of cookies, while in other treatments there was no change observed in score during storage.

6. Overall acceptability of cookies

It is observed from the Table 6 that the overall acceptability of cookies was affected significantly due to addition of aerial yam flour at different levels. Overall acceptability score for the 100% yam flour and 100% wheat flour was less. Whereas the score tend to increase with the supplementation of yam flour to wheat flour upto 60% after which it again decreased. The results are in confirmation with the findings of Chinma and Gernah (2007) [8] who reported that cookies made from composite flours were more acceptable than 100% wheat flour. The decline in acceptability at higher level of supplementation i.e. aerial yam flour 80% and 100% may be due to acridic and slight bitter taste and flavor originating from yam flour. However the supplementation of aerial yam flour to wheat flour was accepted upto 60%.

Table 6: Effect of different flour combination of aerial yam on crispiness and overall acceptability of cookies during storage

Treatment	Crispiness				Overall acceptability			
	Storage (days)				Storage (days)			
	0	30th	60th	90th	0	30th	60th	90th
T_1 (AYF 20% + WF 80%)	7.3	7.3	7.3	7.3	6.7	6.7	6.7	6.7
T_2 (AYF 40% + WF 60%)	7.0	7.0	7.0	7.0	7.3	7.3	7.3	7.3
T_3 (AYF 60% + WF 40%)	7.0	7.0	7.0	7.0	8.3	8.3	8.3	8.3
T_4 (AYF 80% + WF 20%)	6.5	6.5	6.5	6.5	6.3	6.3	6.3	6.2
T_5 (AYF 100%)	5.0	5.0	5.0	5.0	6.1	6.1	6.0	5.9
T_6 (WF100%)	7.5	7.5	7.3	7.2	6.5	6.5	6.4	6.3
'F' test	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
SE (m)±	0.04	0.04	0.04	0.04	0.07	0.07	0.05	0.05
CD at 5%	0.13	0.13	0.12	0.11	0.20	0.20	0.15	0.14

As regards the overall acceptability of cookies during storage upto 90th days, no change in cookies of all combination of yam and wheat flour was observed. Upto 30th day slight decrease in score was observed in the treatment T_5 (AYF 100%) and at 60th and 90th days, however, cookies of the treatments T_4, T_5 and T_6 recorded decreased trend which may be due to change in flavor, texture, crispiness and moisture content of cookies. But cookies remained acceptable at the end of storage period for all flour combinations. Similar results were reported by Sharif *et al.* (2009) [19] and Shazia *et al.* (2012) [21].

Conclusions

The cookies prepared from different flour combination of aerial yam flour and wheat flour was found to be superior in terms of moisture, ash, fat, protein, crude fibre and carbohydrate content upto 90th days of storage. Aerial yam flour can be used for substitution of wheat flour upto 60 per cent with maximum acceptability by the consumers. The results obtained showed the feasibility of producing nutritious cookies from aerial yam flour. This study has indicated that acceptability and nutritious cookies would be prepared from the composite flour of aerial yam and wheat. These results can be further applied for the development of nutritious and high fibre cookies.

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