CASSAVA PEEL UTILIZATION AMONG RURAL HOUSEHOLDS OF SOUTHWEST, NIGERIA

by

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INTRODUCTION

- Cassava peels form the larger part of post-harvest losses during the processing of cassava root being a major activity in the processing of the root
- Cassava peel represent about 5 to 15% of the root when peeled mechanically (Aro et al., 2010) and about 20 – 35% of the weight of the tuber with hand peeling (Olanbiwoninu and Odunfa, 2012; Ekundayo, 1980)
- The solid fibrous dry waste consist of 56 – 60% starch, 15 – 18%hemicellulose, 2 – 3% lignin, 1.5 – 2% protein, 2% pentosan and 0.4 –5% reducing sugar making it a good source of bio ethanol (Pitcha, Pramoch and Sumeath, 2012)
- Utilization of cassava peels is necessitated by economic potentials embedded in the peel, the need to improve cassava value chain and households' livelihood which is underscored by post-harvest losses

INTRO CONT'D

- Literatures have significantly identified the potentials of cassava peels in the production of: ethanol, livestock and fish feed, Xylooligosaccharide, cultivation of mushroom, generation of biogas among other things
- However, domestication of research outcomes at rural households maybe hampered by knowledge/awareness, accessibility in terms of capital, management and location of such innovations
- Consequently, having little or no effect on the lives and livelihoods of the rural farm families
- Therefore, this study examined the utilization of cassava peels among men and women in the rural households of southwest Nigeria with a view to identify the level of utilization vis a vis options available for utilization

METHODOLOGY

- Southwest Nigeria was purposively selected for this study because it is classified as moderate (sub optimal and optimal) region for root and tuber crops production (Ezedinma *et. al.,* 2007)
- Multistage sampling technique was used to select 250 respondents.
- A semi-structured questionnaire was used to collect primary data for this study. Both descriptive and inferential statistics were employed in the data analysis.
- Total quantity of cassava peels sold, stored and used per week in Kilograms was summed up and the proportion of utilization index was estimated as: ***Total quantity of cassava peels used (Kg)/Total quatity of cassava peels produced (Kg)***
- Where: >0.5 implies high utilization, 0.5 implies moderate utilization

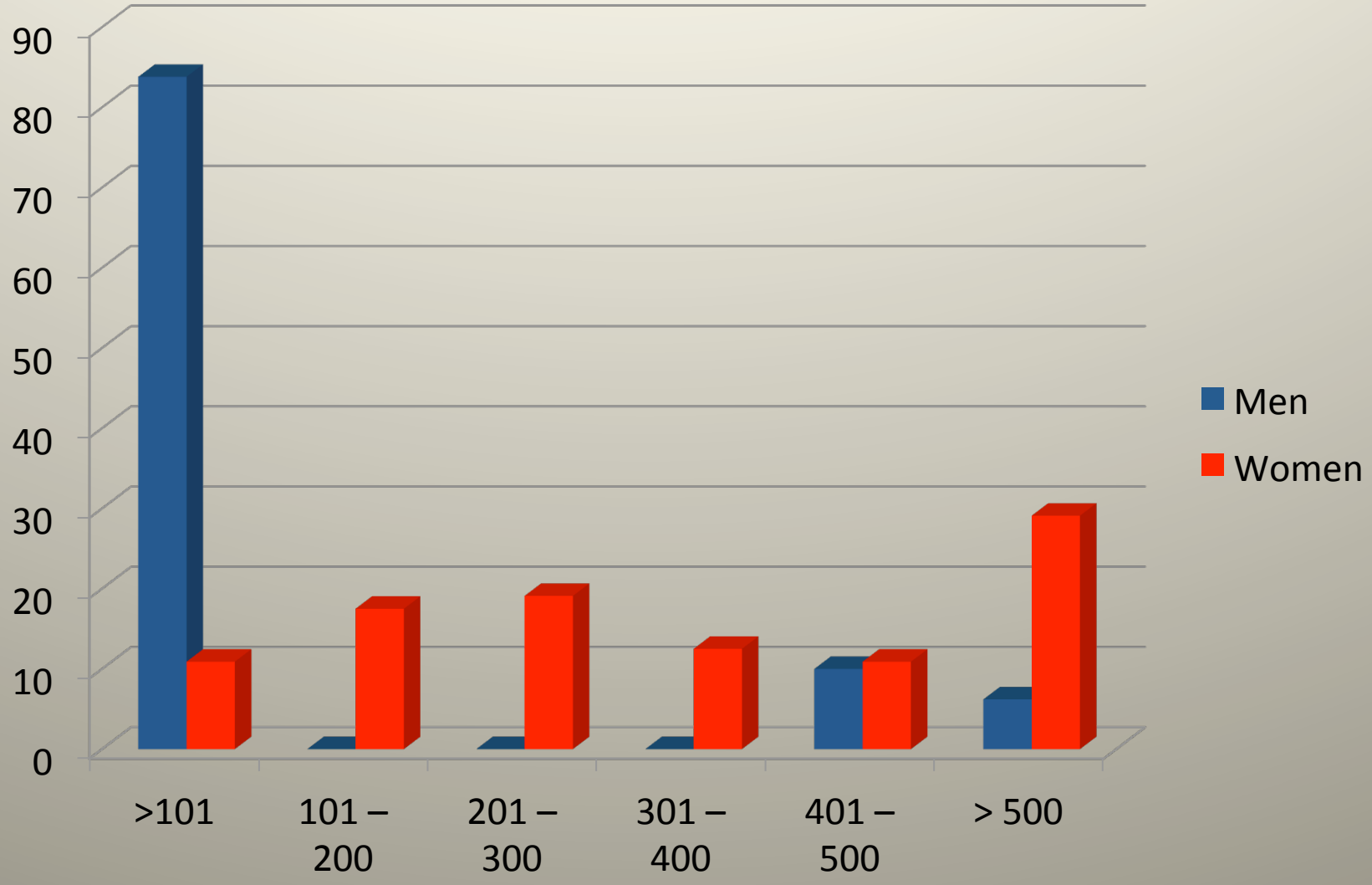

Figure 1:Gender Distribution of Cassava Peels Production

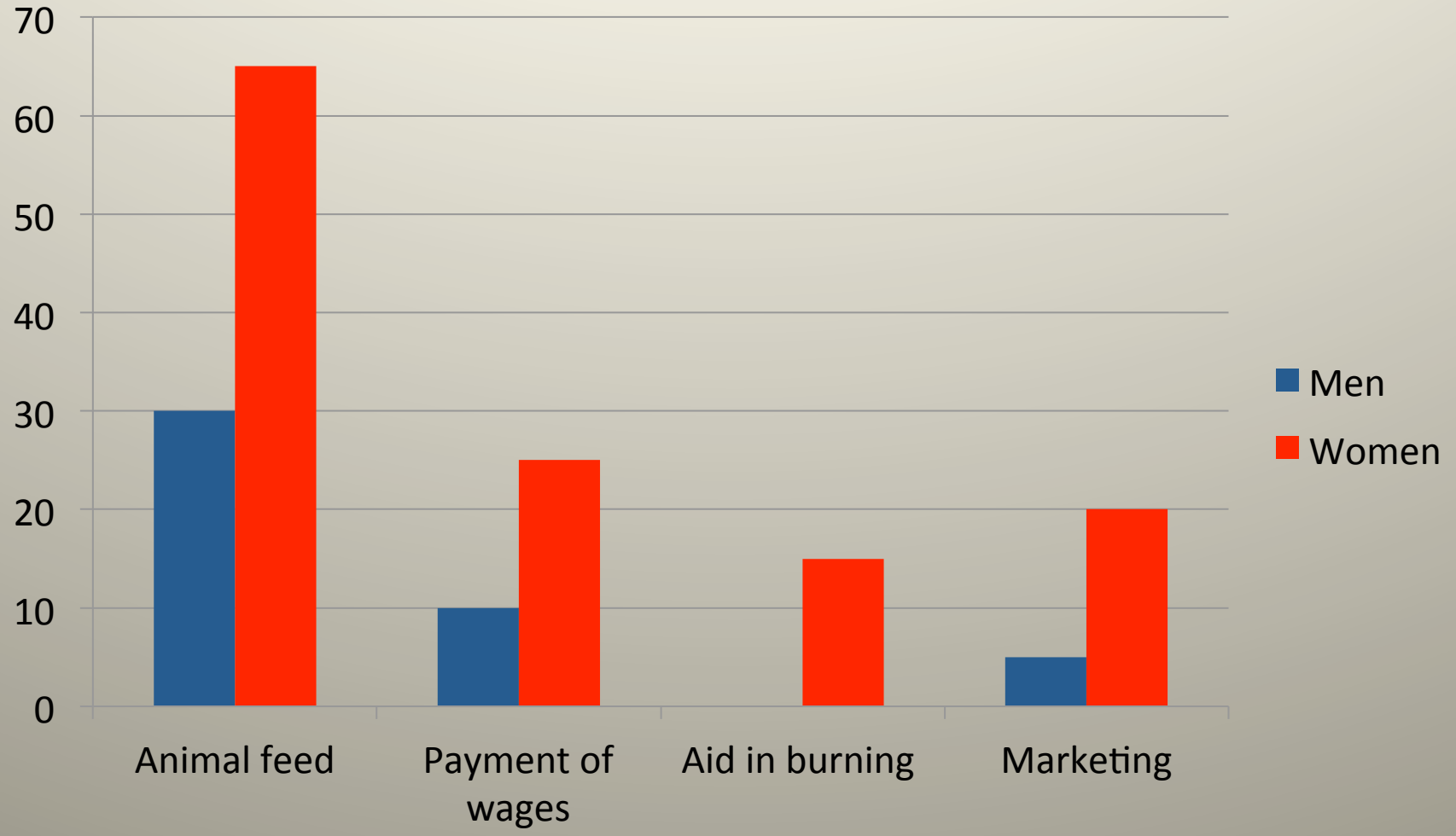

Figure 2: Options Available for Cassava Peels Utilization

Table 1: Quantity of Cassava Peels Produced and used

	Male n= 130		Female n= 120		Total N=250	
	Qty	Proportion	Qty	Proportion	Qty	Proportion
Produced	8305	-	37450	-	45755	-
Livestock feed	450.7	0.05	4243	0.11	4693	0.11
Burning Aid	0.0	0.00	2745	0.07	2745	0.06
Sold	0.0	0.00	1872.5	0.05	1872.5	0.04
Payment of wages	996.6	0.12	2856	0.08	3852	0.08
Disposed	6857.7	0.83	25733.5	0.69	32591.2	0.71

Table 2: Level of Utilization of Cassava Peels

	Male n= 130		Female n= 120		Total N=250	
	Qty	Proportion	Qty	Proportion	Qty	Proportion
Produced	8305	-	37450	-	45755	-
Utilized	1447.3	0.17	11716.5	0.31	13162.5	0.29
Discarded	6857.7	0.83	25733.5	0.69	32591.2	0.71

Level of Cassava Peel Utilization

- This is challenging, despite the success of research in providing more options for improving processing household's livelihood via cassava peels utilization
- Okike (2014) noted that cassava peels can be a possible replacement of maize in livestock feed production in the bid to improve food security in Africa where $4.63 billion is spent on importation of maize and Nigeria's feed industry alone accounted for 1.2 million tons worth about $350 million and Nigeria saving over $350 million yearly
- However, cassava peels are still traditionally used as animal feed and burning aid at rural household level and the larger proportion of 0.71 discarded

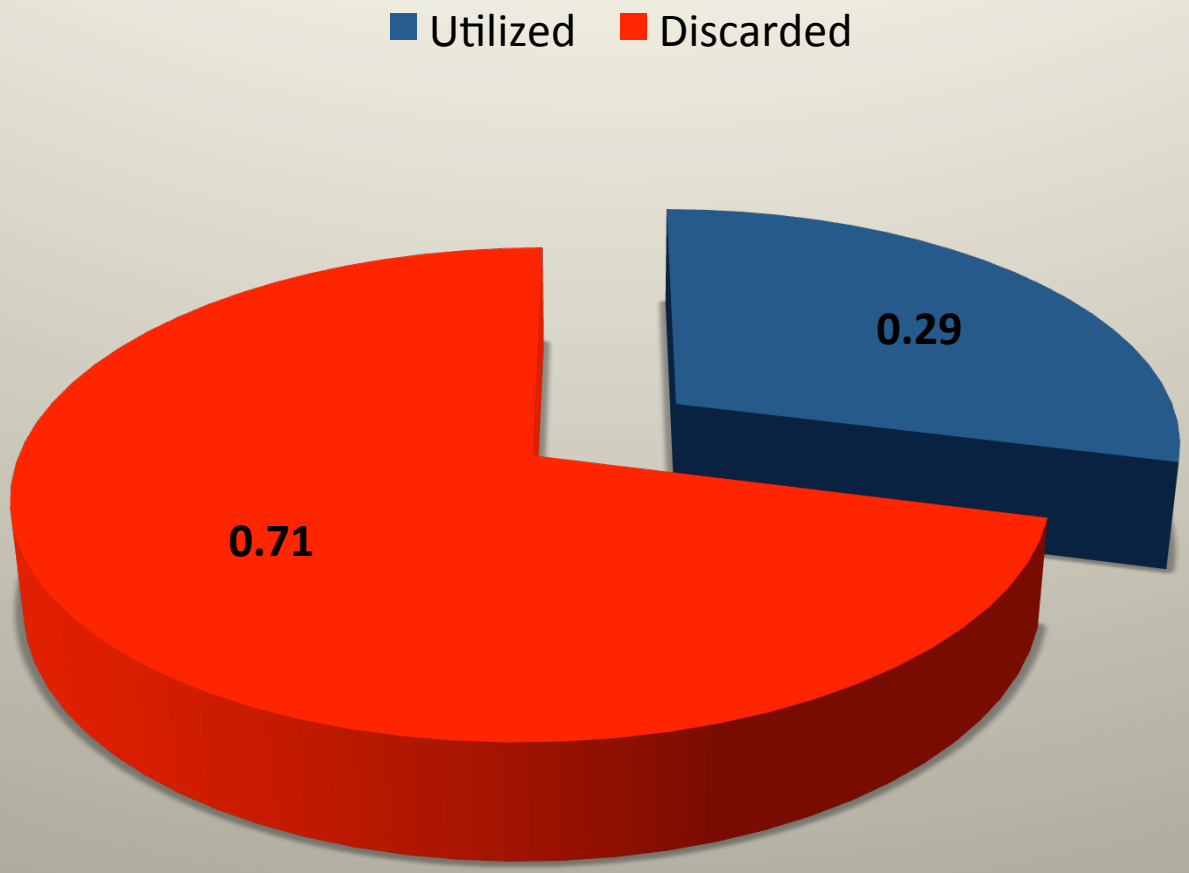

Figure 3: Proportion of Cassava peel Utilized and Disposed

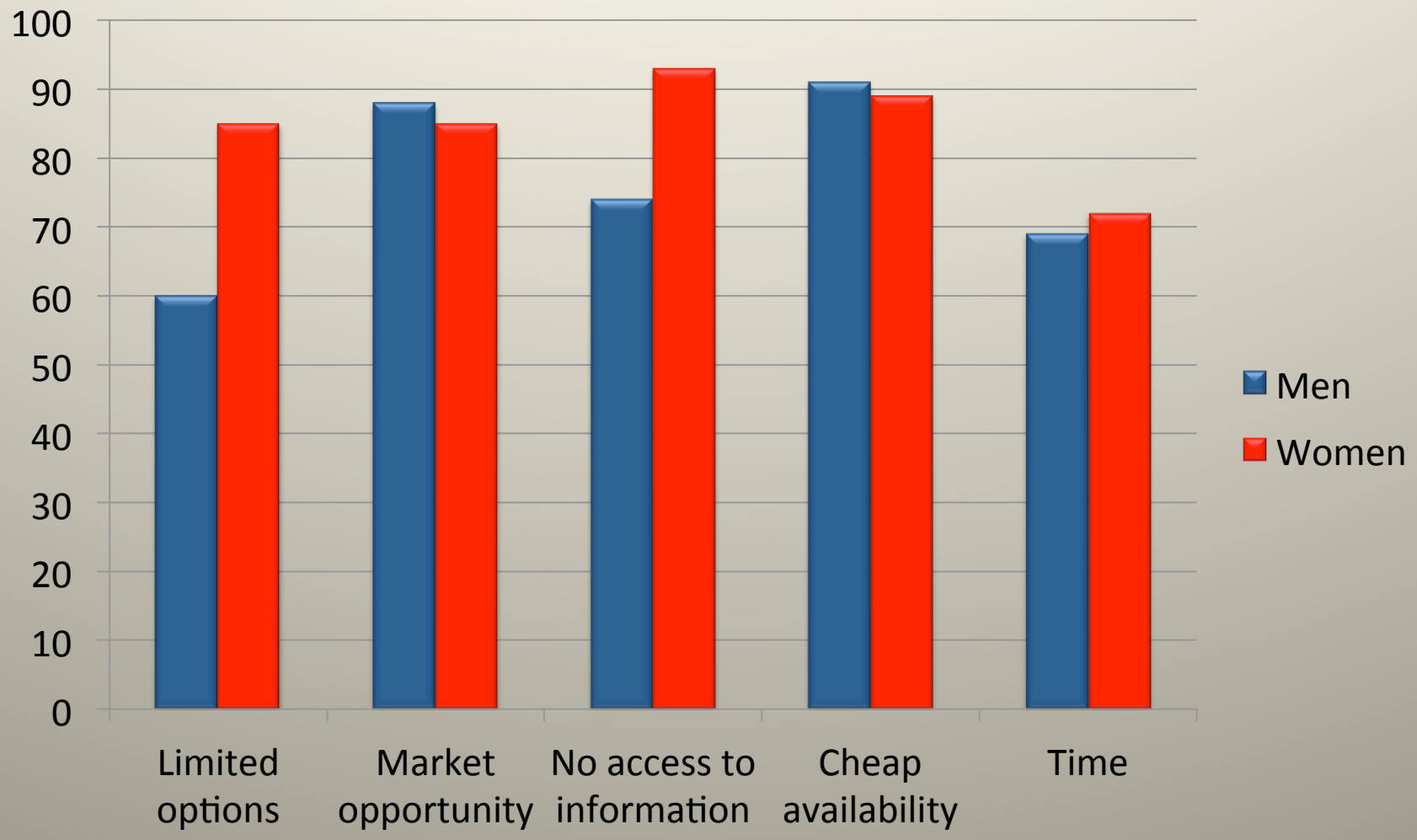

Figure 4:Constraints of Cassava Peels Utilization

Table 3: Relationships between Available options and level of cassava peels utilization

Variable	χ^2	df	P value	Decision
Options available	9.47	3	0.01	Significant

CONCLUSION

- The level of cassava peel utilization in the study is low and as such huge amount of peel is discarded on weekly basis
- There is also gender disparity in the utilization of cassava peels as women utilized cassava peel than men
- More also, there are limited options available for cassava peel utilization at rural household level

Recommendation

- Relevant government and nongovernmental agencies of agriculture should embark on enlightenment and training of cassava processing households on:
- The potentials inherent in cassava peel
- And how best to utilized cassava peel to improve household income by in order to improve households' livelihood and national food security
- This will increase their technical knowledge on cassava peel utilization especially women, household income and reduce post-harvest losses

REFERENCES

- Ezedinma, C., I.A. Ojiako, R.U. Okechukwu, J.R.Lemchi, A.M. Umar, L.O. Sanni, M.O., (2007).The cassava food commodity market and trade network in Nigeria. IITA, Ibadan, ISBN 978-131-200-5. 296 pp
- Iheanacho Okike, (2014). Nigeria, Others to Save $4.63bn Annually by Adopting Cassava Feed. www.thisdaylive.com
- Ekundayo JA (1980). In; Fungal Biotechnology. Eds.: Smith JE, Berry D R, Kristiasen B. London: Academic Press. pp. 244-270.
- Aro, S. O., Aletor, V. A., Tewe, O. O., Agbede, J. O., 2010. Nutritional potentials of cassava tuber wastes: A case study of a cassava starch processing factory in south-western Nigeria. *Livest. Res. Rural Dev*., 22 (11)
- Olanbiwoninu A. A. & Odunfa S. A. (2012). Enhancing the Production of Reducing Sugars from Cassava Peels by Pretreatment Methods. *International Journal of Science and Technology*. 2(9) 650 – 652.
- Pitcha W., Pramoch R. & Sumeath C. (2012). Production of Glucose from the Hydrolysis of Cassava Residue using Bacteria Isolates from ThaiHigher Termites. *World Academy of Science, Engineering and Technology.*Pp 353 – 354

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