Int. j. adv. multidisc. res. stud. 2025; 5(4):1432-1434

Received: 24-06-2025
Accepted: 04-08-2025

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Palm: Chemical Analysis of palm wine and Medicinal uses

[1] Swati Joshi, [2] Dr. Siya Upadhyay
[1] Scholar, Sage University Indore, Madhya Pradesh, India
[2] Professor, Sage University Indore, Madhya Pradesh, India

Corresponding Author: **Swati Joshi**

Abstract
Palm wine is an alcoholic drink obtained from the sap of various species of palm tree. It is commonly consumed as a relaxation drink in many region of Asia; Africa and South America. Arecaceae is the family all around the world have been used in traditional medicine and have shown biological activity. Most common palm tree like Toddy palm (Borassus Flabellifer).
The sap obtained various species of palm Tree. The sap is collected from Tapping the palm The palm sap is white very sweet and nonalcoholic but it begins fermenting immediately after its collected because of natural yeast in the air. palm wine taste as milky and powerfully sweet growing sourses and yeastier with time.
Now a days palm wine is a good source of Employment because of medicinal important. By using natural plant we can protect Biodiversity.

Keywords: Palm Wine, Tapping, Fermenting, Biodiversity, Medicinal

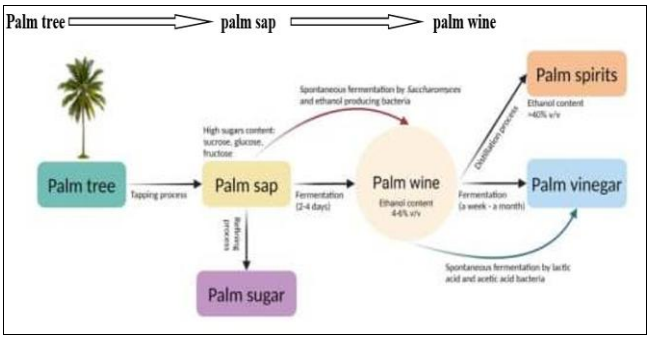
Introduction

Palm wine is the fermented sap of various palm tree especially Palmyra; silver date palm and coconut palm. palm wine can be obtained from the young inflorescence either male or female plant. palm wine is alcoholic beverages that are made by fermenting the sugary sapfrom various palm plants.
Palm wine is collected by Tapping the top of the trunk by felling the palm tree and boring a hole into the trunk. In India mainly three types of palm wine are available:

1. Palmyra palm wine
2. Silver date palm
3. Coconut palm wine

Palm sap: The sap is extracted and collected by a tapper. The sap is collected from the cut flower of palm tree it is a white liquid that initially collects tends to be very sweet and non alcoholic before it is fermented.
Palm wine: Wine is the fermented sap of palm sap Firstly when we collect fresh palm juice and when the fresh sap connect with sun light its fermentation process start that means sugary sap convert into Alcohol. saccharomyces cerevisiae and zymomonas mobilis are the main contribution to the production of Alcohol in palm.
Flavor and Appearance: Fresh palm wine is sweet and clear but when the fermentation process start its taste change sour or vinegary due to production of acitic acid and the colour cloudy and whitish.
TODDY is release in month between April to July
Freshly Tapped palm sap we take a sterile glass jar at the Room Temperature for 3 -4 hours undisturbed. In this process large particles, dead yeast settle at the bottom and now we keep sample refrigerated at 4* C inhibit further fermentation before analysis.
Environment variables also have a important role on palm sap production. Geographical factor such as weather, climate, water, soil, palm species and tapping process may not work independently to alter the microbial composition. Microbial count are slightly higher which is less affected by the warmer Temperture.

Schematic to describe the processing of palm sap with its derivative product



Literature Review

The characteristics of palm wine is so unique that it has generated research interest to investigate the practical application and industrial utilization. The sugar content of palm wine is documented by ok for 1975. Saccharomyces cerevisiae attracts major attention as it is mainly responsible for sugar to alcohol The freshness of palm wine can be determined by measuring it's PH and report shows that PH value 5 indicates that the palm wine is within 24 hours of collection. The total dissolved solid in all the sample of palm wine increased over time and it is adopted by Alpha standard method.

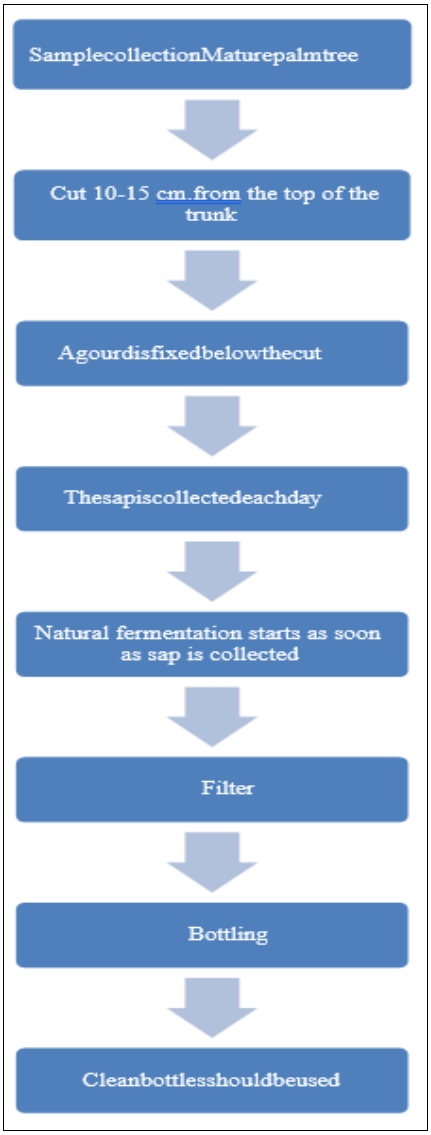
Generally the composition of palm wine depends on its state of fermentation when consumed. The main feature of palm wine are its whitish, colour, effervescent, sweet and acidic taste. Palm wine is produced by natural lactic Alcoholic acetic fermentation of the sugary sap of palm tree (ouoba *et al*, 2012) [6] its fermentation is in three stages an initial lactic acid, a middle alcoholic and a final acetic acid (Amoa-Awua *et al*, 2007) [3] At each stage, the microbial activity helps the microbial activity in the next stage (Atputharajah *et al* 1986).

The growth and activity of the associated yeast result in higher total acidity and a lower PH due to organic acid production, which enhance the growth and invertase activity of yeast (Naknean *et al* 2010). Consequently ethanol produced by the yeast will serue as a substrate for the production of acetic acid (Amoa-Awua *et al*, 2007) [3].The PH OF Palm sap is almost neutral (7-7.4) which is an indication that it is fresh (santiago-urbina *et al* 2013).

Sugar content of palm wine is documented by ok such as sucrose; glucose; fructose; Maltose; Xylose and Arabinose.

The biochemical and microbiological quality of palm wine samples produced at different period during tapping and changes which occurred during their storage.

Methodology



Medicinal Aspects

Neera is a sap extracted from the palmyrah trees inflorescence. The drink has high nutritive value, flavor and rich of medicina properties. Neera can also be consumed in fairly large quantities without causing any side effect. It can also provide relief for Asthmatic, Anomic and Laprosy patient as a supplement.

Iron and vitamin B complex which are present in palm Toddy is essential for maintaining Healthy skin; Hair and nails. several studies show that palm Toddy in moderation will be useful for Lowering the risk of Heart dieses. Neera a palm Toddy lower the risk of Heart failure and other cardiovascular disorders.

It also helps nursing women's ability to produce more Breast milk. As a cancer prevention medicine palm Toddy is also consumed by people because palm Toddy is a rich source of Antioxident.

The natural fermentation process involve in making palm wine produces probiotics and enzyme that is improve digestion process. palm wine antioxidant content and potential antimicrobial properties Boosts our immunity palm wine contain minerals like calcium and magnesium which are essential for maintaining strong and healthy Bones.

Conclution

Palm wine of study in Rivers State showed increase in TDS; PH; Electrical conductivity but decrease in chloride and salinity concentration over the time of study.This shows that palm wines from the seareas may not be quite good to health after 24 - 36 hours. Furthermore; leaving the palm wines for more day after tapping before consumption even increase.

Palm wine is many like cultural Nutritional and Economic significances. Palm wine is an important source of income and sustenance for many communities. Further research into its microbial composition and fermentation process could lead to improved production method and enhanced market value for this traditional beverage. The unfermented sap is used for palm jiggery production. Palmyrah palm jaggery is the jaggery that is produced by boiling palm sap or neera. It has an intense earthy taste and is slightly salty. palm jaggery is free of all chemical and bleaches and give cooling effect on the body. The palmyra palm is a strong, productive tree and it has great culture and functional significance. palm candy is also a good product of palm sap. it is the mixture of sugar, water, palm jaggery with cane sugar.

References

1. Nwachukwu l, lbekwe V, Nwabueze R, Anyanwu B. Characterization of palm wine yeast isolates for industrial utilisation. African Journal of Biotechnology, 2008.
2. Okafor N. Preliminary Microbiological studies on the preservation of palm wine. Journal of Applied Bacteriology Banner, 1975.
3. Amoa-Awua WK, Sampson E, Tano-Debrah K. Growthof yeast, Lactic and Acetic acid Bacteria in palm wine during tapping and fermentation from felled Oil palm in Ghana. Journal of Applied Microbiology, 2007.
4. Karamoko D, Djenint N, Guessan KF, Bouateninkmj, Dje KM. The Biochemical and Microbiological qualityof palmwine samples produced at different period during tapping and changes which occur during their storage. Journal of Food Control, 2012.
5. Ukwuru Mu, Awah JI. Properties of palm wine yeast and it's performance in wine making. African Journal of Bio Technology, 2013.
6. Ouoba L, Kando C, Parkouda C, Sawadogo Lingani H, Diawara B, Sutherland JP. Identification and Genotypic Diversity of Yeasts, lactic acid and acetic acid bacteria, Journal of Applied Microbiology, 2012.
7. Joshi VK, Spanesar P. In Science and Technology of Fruit wine Production, 2017.
8. Adakaren B, Ekhator JO, Ogblechi SR. The place of palm wine in the alcohol and wine industry. Merit. Res. J. Agric. Sci. Soil Sci, 2017.
9. Obahiagbon, Oviasogie. Ben Thabet et Ai, 2009, Ouoba et Ai, 2012, 2007.