



भाकृअनुप-केन्द्रीय रोपण फसल अनुसंधान संस्थान
कासरगोड़ - 671124, केरल, भारत



ICAR-Central Plantation Crops Research Institute
Kasaragod - 671124, Kerala, India
(An ISO 9001:2015 Certified Institution)



E.F. No: 17(1)/RTI(5)/2023-Conf.

Date: 03.08.2023

To

Mr.Aadithya Cholan,
No.20 Lakshmi Kamatchi Apartment,
Kamarajar salai,
RA Puram Chennai-600028

Sub: Right to Information Act, 2005 - reg.
Ref: Your RTI Application dated 19.06.2023.

Sir,

With reference to the above, the reply to the information sought by you is enclosed herewith for your information.

This disposes off your request under the provisions of Right to Information Act-2005. In case you desire to file an appeal on this issue the same may be addressed to the Director, ICAR- CPCRI, P.O.Kudlu, Kasaragod - 671 124, Kerala.

Yours faithfully,


(P. Krishna Kumar)
Administrative Officer & CPIO

Promotion of Palmyrah Trees:

Borassus flabellifer L., or Palmyrah is a versatile palm called as Kalpa Vriksha or Tree of Life and less exploited crop which yield many edible and non edible products. Palmyrah has adapted to semi arid regions of Tamil Nadu, Andhra Pradesh, Odisha, West Bengal, Bihar, Karnataka and Maharashtra. Limited numbers of palms are also seen in Gujarat, Assam and Uttra Pradesh. Realizing the status of palmyrah and its potentiality in dry land agriculture, the Indian Council of Agriculture Research (ICAR) also recognized this poor man's crop as one of the mandate crops under AICRP programme. The All India coordinated Research projects on Palms started functionally from 1972 with the objective of conducting location specific research on mandate crops viz., Coconut, oil Palm, arecanut, palmyrah and cocoa. There is a urgent necessity to conserve and enrich gene pool of *Borassus* to prevent extinction. Collection of elite germplasm of palmyrah is being done since from 1995 at two AICRP on Palms centres viz., Agriculture College and Research Institute, Killikulam (TNAU) and Horticultural Research Station, Pandirimamidi (YSRHU). Dwarf, early bearing and high neera yielding genotypes were selected through survey conducted in Tamil Nadu, Andhra Pradesh, Bihar, West Bengal and Odisha. There is a rich genetic diversity of palms with respect to palm height (dwarf and tall), fruit size (small to large), fruit shape (oval and round), fruit colour (blackish, orange, dark brown and yellowish) and numbers of endosperm per fruit (one to four). So far, 265 (Killikulam) and 272 (Pandirimamidi) germplasm accessions maintained and evaluated for yield and quality.

- Under TSP programme awareness was created in promoting the “Importance of palmyrah and its value addition” to tapping communities.
- Conducted trainings in collaboration with KVK and NGO's in promotion of Palmyrah importance and value addition.
- Farmers or individuals (Tapping persons) is supported by giving the Climbing machines, Knives, Jaggery pans, Lime powder under Tribal Sub Plan programme

Research on Palmyrah trees:

- Survey & Collection of Palmyrah germplasm & evaluation under progress
- Standardization of rooting media and containers for Palmyrah (*Borassus flabellifer* L.) seedling production under progress
- Studies on the influence of different levels of defoliation on the neera yield in Palmyrah resulted the yield of inflorescence sap was highest in 30% defoliated palms [343.47 liters] followed by 50% defoliated [304.72 liters].
- Studied the growth and developmental in Palmyra [*Borassus flabellifer*]

- Root studies are initiated in palmyrah trees of varying age group.
- Feasibility study on transplanting of palmyrah trees of varying age groups.
- Phyllotoxy studies in palmyrah with emphasis on sex determination of palms based on leaf whorl arrangement
- Determination the age of the palmyrah palm based on the leaf scars present on the trunk
- Phyllotaxy studies in palmyrah
- Studies on use of growth inhibiting substances for induction of early flowering in Palmyrah (*Borassus flabellifer* L.)
- Composting technology of palmyrah pith

Food science and Technology

Health benefits of consuming Toddy from palmyrah palm

- a) Fresh toddy/ Neera is good source of minerals like calcium, phosphorus and iron. Vitamins like A, citric acid, Niacin, Thiamin and Riboflavin.

The sweet sap of the Palm, is fast becoming a popular drink on account of its highly nutritive value, delicious taste and agreeable flavor.

The chemical percentage composition of Neera varies, depending on various factors, namely, place, type of palm, mode and season of its collection.

So due to nutritional values, it is having health benefits, ancient literature also given same, Clinical trials to be conducted for specific benefit.

- b) Rich in potassium as well iron along with other vitamins
- c) Studied conducted for nutritional values at various levels which is useful for human health which is collected before fermentation.

100 ml sample	Fresh Palmyrah sap
pH	6.275
Brix	11.64
Acidity (% MAE)	0.26
Total sugar (g)	10.375
Reducing sugar (g)	2.225
Protein (mg)	208.5
Vitamin C (mg)	20.625
Phenolics (mg GAE)	15.125
AOA (mg TE)	61.955

Research on palmyrah trees

- a) Palmy./PHT-1 Standardization and Commercialization of Inflorescence Sap Extraction and Inflorescence Sap Based Products (Jaggery, Palm Sugar and Candy)
- b) Palmy./PHT-2: Standardization of Tuber Flour Based Food Products (Like Pizza, Bakery items, confectionery, health mix etc.)
- c) Palmy./PHT. 3: Utilization of palmyrah plant parts for the extraction of fibre and fuel
- d) Palmy./PHT-4 Standardization of Preservation Technique for Palmyrah Tender Fruit Endosperm
- e) Palmy./PHT. 5: Popularization of climbing device
- f) Palmy./PHT. 6: Evaluation of Palmyrah tender fruit processing machine developed by CIAE centre.
- g) Palmy./PHT 7. Studies on Pectin content and quality of pectin in Palmyrah fruit pulp and tender fruit endosperm (ice apple)
- h) As per nutritional values and literature having medicinal properties,
 - Curing cancer is not directly proven, not done at AICRP center but, Prof.Naik from Osmania published paper which shows having anti cancer properties.
 - Clinical properties has not done at our end
- i) On going research on post harvest technology of palmyrah
 - Tapping techniques and percent additives to be added for Neera collection was standardized.
 - Neera collection process was standardized with cool box technology for palmyrah palm for fresh neera collection.
 - Process for jaggery preparation from palmyrah was optimized for both fresh neera and lime added neera.