

Surprising Science behind Painted Coconut Palms



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Whitewashing of coconut palms has long been a familiar feature of coconut plantations in Tamil Nadu, particularly in the districts of Coimbatore, Tiruppur, Erode, Pollachi, Thanjavur, Thiruvarur, Nagapattinam, Cuddalore and Kanyakumari. Although many farmers consider it a traditional practice that improves the appearance of plantations, it also offers several practical advantages for coconut cultivation under the hot tropical climate of the state. Whitewashing of coconut palms is often perceived as a practice that enhances the appearance of plantations. While it certainly lends a neat and attractive look to coconut gardens, its importance extends well beyond aesthetics. The practice has a sound scientific basis and offers several benefits in maintaining palm health and facilitating orchard management.

What is white washing ?

Whitewashing involves applying a suspension of lime to the trunk of the coconut palm. The coating forms a thin white layer that reflects sunlight, protects the stem from environmental stress, and helps maintain trunk hygiene.

Benefits of White washing of coconut palms

► Protection from Heat

In tropical regions, coconut palms are exposed to intense solar radiation. Summer temperatures in many parts of Tamil Nadu often exceed 40°C. Dark surfaces absorb more heat, whereas the white lime coating reflects sunlight and helps keep the trunk cooler. This is particularly useful for young palms

and newly established plantations where the trunk is directly exposed to intense solar radiation. The white lime coating reflects a significant portion of the sunlight, thereby reducing the temperature of the trunk. This minimizes heat stress and helps prevent cracking or sunscald, especially in young palms with exposed stems.

► Improved Trunk Health

The alkaline nature of lime (CaCO_3 , Ca(OH)_2) discourages the growth of algae, mosses, lichens, and certain fungi that commonly develop on moist trunk surfaces. Although these organisms may not always cause direct damage, excessive growth can retain moisture and create favourable conditions for pests and pathogens.

► Easier Detection of Pests and Diseases

A whitewashed trunk provides a contrasting background that makes pest infestation and disease symptoms easier to identify. Bore holes of stem borers, oozing sap, stem bleeding, cracks, bracket formation, mechanical injuries, and other abnormalities become more visible during routine field inspections, enabling timely intervention.

► Deterrence of Crawling Insects

Fresh lime coatings may discourage some crawling insects from moving up the trunk. While whitewashing is not a substitute for integrated pest management, it complements other crop protection measures by creating a less favourable surface for certain pests.

► Nutritional benefit

Whitewash prepared with slaked lime (calcium hydroxide) contains calcium, but very little of this calcium is absorbed through the bark. Therefore, it should not be considered a nutrient source. If rain washes some lime into the soil over time, it may slightly increase soil pH near the trunk and contribute a very small amount of calcium, but this effect is usually negligible compared with proper liming or fertilizer application.

Better Orchard Management

Whitewashing gives coconut gardens a clean and well-maintained appearance. More importantly, it reflects regular orchard care and encourages periodic inspection of palms, which is essential for the early detection of production constraints.

Preparation of Whitewash

A commonly recommended whitewash mixture consists of:

- 1–2 kg hydrated lime
- 10 litres of clean water

The ingredients should be mixed thoroughly to obtain a smooth suspension. The mixture should be freshly prepared before application.

Method of Application

- Remove loose bark, algae, or lichens from the trunk before application.
- Apply the whitewash uniformly using a brush.
- Cover the basal 1–1.5 metres of the trunk. In young palms, the exposed stem may be coated completely.
- Carry out whitewashing during dry weather to ensure good adhesion.
- Reapply whenever the coating is washed away by heavy rainfall or during routine orchard maintenance.

Limitations

Whitewashing is a preventive cultural practice and should not be considered a method for controlling major coconut pests or diseases. It does not replace recommended management practices for rhinoceros beetle, red palm weevil, black-headed caterpillar, stem bleeding, or root diseases. Likewise, it is not a substitute for balanced nutrition, irrigation, or proper field sanitation.

Tar washing of coconut

Smearing tar on coconut palms is a traditional practice that has been followed in some coconut-growing areas, particularly in Kerala, but it is not recommended as a routine practice for the entire trunk.



Mosses on Trunk of the Palms



Bharatiya Vyapar Mahotsav 2026

Coconut Development Board, MDIC, New Delhi, participated in the Bharatiya Vyapar Mahotsav (BVM) 2026, organised jointly by the India Trade Promotion Organisation (ITPO) and the Confederation of All India Traders at Bharat Mandapam, New Delhi, from 12 to 15 August 2026. Entrepreneurs, manufacturers showcased various coconut value added products at the event.



Visibility of Termite mounds

Traditional uses of tar in coconut

Coal tar or bituminous tar was traditionally applied for the prevention of

- Stem bleeding disease: After removing the diseased bark and treating the wound with a recommended fungicide, tar is applied over the wound to protect it from rainwater and secondary infection.
- Mechanical injuries: To seal cuts or wounds caused during harvesting or other field operations.
- Pruning wounds: Occasionally applied to wounds left after removing severely damaged tissues.

Tar acts as a waterproof protective coating that prevents moisture from entering the wound, reduces contamination by fungi and bacteria and protects the exposed tissues until healing occurs.

Major concerns in tar washing

Routine smearing of tar over the entire coconut trunk is not recommended because:

- It may absorb more heat from sunlight.
- It interferes with normal gas exchange through the bark.
- It offers no proven benefit against major coconut

pests such as rhinoceros beetle, red palm weevil or black-headed caterpillar.

- Tar creates 100 % airtight water proof seal leading to moisture trapping and internal rot.
- Tar should be used only as a wound dressing, where specifically recommended, and not as a general coating for healthy coconut palms.

Conclusion

Whitewashing of coconut palms is much more than a practice for improving the visual appeal of plantations. It reflects sunlight, protects the trunk from excessive heat, suppresses unwanted surface growth, facilitates early detection of pests and diseases, and promotes better orchard management. With minimal investment and labour, farmers can adopt this traditional practice as part of an integrated coconut production system. Thus, whitewashing truly represents the perfect combination of beauty and science in coconut cultivation. In some plantations, tar washing (application of coal tar or tree wound dressing) is used on the lower portion of the trunk or over wounds after cleaning. Tar forms a protective barrier that helps prevent the entry of pathogens and reduces damage caused by stem-boring insects. However, it should be applied only where necessary and should not be considered a substitute for good orchard sanitation and integrated pest management. Although whitewashing has been widely adopted in Tamil Nadu as a traditional practice, systematic scientific studies quantifying its effects on trunk temperature, incidence of pests and diseases, and palm performance under different climatic conditions are limited. Future research may help generate evidence-based recommendations and refine the practice for different production systems. Sometimes, the simplest and least expensive practices make a meaningful contribution to sustainable coconut cultivation. Whitewashing of coconut palms is one such practice—where beauty meets science. ■