Pine Trees

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Common names: Benguet Pine, Khasi Pine, Tree Needle Pine

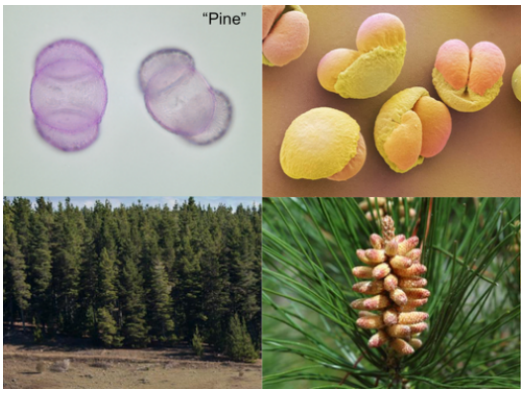
Scientific Name: ***Pinus kesiya***

Morphology:

Pinus kesiya is a tree reaching up to 30–35 meters (98–115 feet) tall with a straight, cylindrical trunk. The bark is thick and dark brown, with deep longitudinal fissures. The branches are vigorous, red brown from the second year, & the branchlets are horizontal to drooping. The leaves are needle-like, dark green, usually 3 per fascicle, 15–20 cm (6–8 inches) long, the fascicle sheaths are 1–2 cm (1⁄2–3⁄4 in) long and persistent. The cones are ovoid, 5–9 cm (2–3+1⁄2 in) long, often curved downwards, sometimes slightly distorted; the scales of second-year cones are dense, the umbo a little convex, sometimes acutely spinous. The scales have transverse and longitudinal ridges across the middle of the scale surface. The seeds are winged, 6–7 mm (1⁄4–9⁄32in) long with a 1.5–2.5 cm wing.

Pine trees are sub-tropical to mildly temperate trees seen in the mountains of the Philippines, China, India, Vietnam and Malaysia. They grow in moist and sandy soils. Khasi pines usually grow in pure stands or mixed with broad-leaved trees, but do not form open pine forests

Pollination occurs in mid-spring, with the cones maturing 18–20 months after.



The pollen grains are huge with a wing structure that promotes long-distance dispersal on windy days.

Yellow to white dust are the pollens of the Pine trees

Pine pollen allergies : Those who have pine pollen allergies are also allergic to grass pollens.

References:

As an allergen, you can refer to these studies: https://aacijournal.biomedcentral.com/track/pdf/10.1186/s13223-020-00471-9.pdf and https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1365-2222.2009.03308.x

https://www.canberrapollen.com.au/news-events/learn-more-about-pollen-pine-trees/Baguio city Pine Tree pollen season- https://www.youtube.com/watch?v=1g9lxLWn

Mango Pollen

Scientific name: **Mangifera Indica L.**
Family: **Anacardiceae**

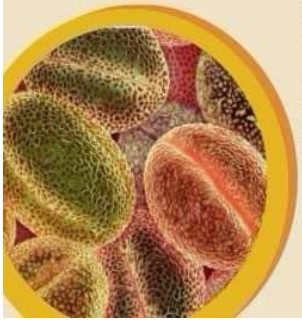
Description: A large wooden, perennial, evergreen tropical fruit tree, cultivated worldwide in regions with tropical and subtropical climates reaching up to 40 m. (1)

- Pollen - The dehydrated form is 20-45 micrometers (um) long with 3 symmetrical narrowing channels along the longitudinal margin when dehydrated, spherical / triangular shape when hydrated. There are significant differences in pollen germination rate and pollen tube length among different varieties. (4)
- Leaves - variable morphology, elliptic to lanceolate, leathery with visible nerves
- Flowers- large inflorescences (up to 30 cm long), branched and heavily flowered (300–6000) with colors vary depending on cultivar in the Philippines. Flowers bloom in summer and cold seasons. (2) They are highly sensitive to temperature changes

Sources of Allergy : Pollen.
Symptoms: *Pollen allergy may manifest as* localized reactions wheals to systemic reaction such as anaphylaxis.
Allergy Manifestation : Pollen-Bronchial asthma, Allergic Rhinitis, Atopic Dermatitis

Epidemiology

- Mango tree pollens were shown to be allergen triggers in 18% of patients with allergic rhinitis and other studies show Asthma/Allergic rhinitis patients are sensitive to mango allergens by specific IgE allergy tests.
- Risk factors: Male patients and adults (19–60 years old), Preschool age children are more susceptible than younger children.
- Exposure during the spring season and eczema increased the risk of anaphylaxis to Mango .



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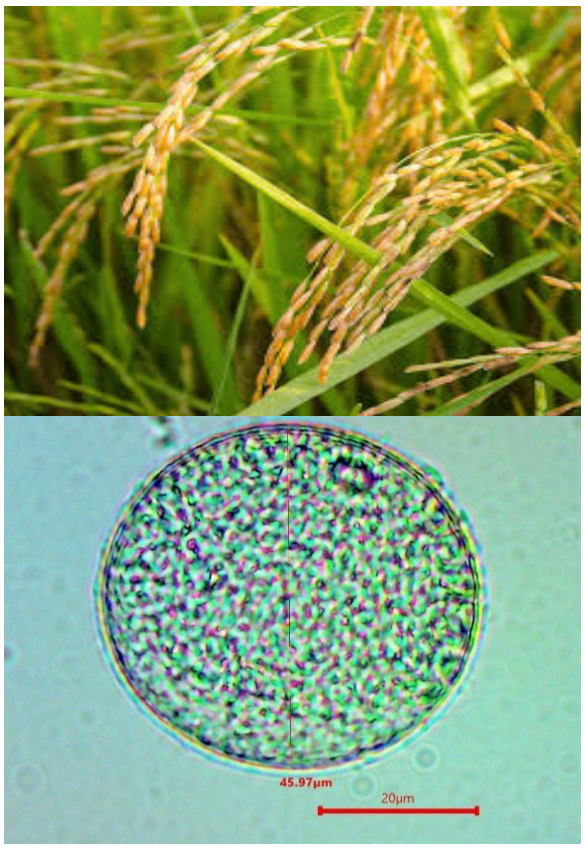
(2) CABI. Mangifera indica (mango) 2021 [cited 2022 13.01.22]. Available from: https://www.cabi.org/isc/datasheet/34505.

(3) Weber RW. Mango, Mangifera indica. Ann Allergy Asthma Immunol. 2009 Jun;102(6):A6. doi: 10.1016/s1081-1206(10)60114-7. PMID: 19558000.

(4) Liu X, Xiao Y, Zi J, Yan J, Li C, Du C, Wan J, Wu H, Zheng B, Wang S, Liang Q. Differential effects of low and high temperature stress on pollen germination and tube length of mango (Mangifera indica L.) genotypes. Sci Rep. 2023 Jan 12;13(1):611. doi: 10.1038/s41598-023-27917-5. PMID: 36635467; PMCID: PMC9837111.

Photo: DENNIS KUNKEL, SCIENCE PHOTO LIBRARY (Mango Pollen Grains)

RICE POLLEN



Name: Rice

Scientific name: *Oryza sativa*

Local name: palay (unmilled rice), bigas (uncooked rice), kanin (cooked rice)

Facts:

- ✓ Grows in temperature above 10°C and in mountainous regions.
- ✓ Rice grows in the Philippines all year round.
- ✓ An annual grass whose morphology is variable, erect, stout or slender with varying height and form.
- ✓ The stem of a rice plant measures 80-120 cm tall. It can be tufted, erect, hollow and slender or stout, smooth and hairless.
- ✓ Leaf consists of blade flat with parallel vein measuring 15-30 cm long.

- ✓ Rice inflorescence, also called “panicle”, is typically composed of a main rachis, primary branches and secondary branches, and spikelets.
- ✓ Pollen grains of *Oryza* are typically graminaceous, being monoporate with an annulate pore.

Sources:

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