

# Koa

*Acacia koa* Gray

Legume family (Leguminosae)

Native species (endemic)

Koa, the largest native tree and second most common, is well known. This large to very large evergreen tree becomes 100 ft (30 m) tall and 5 ft (1.5 m) or more in trunk diameter but may be only half that size. Trunk straight and tall or becoming crooked and branched; crown spreading, rounded to irregular, dark green. Bark light gray, smooth on small trunks, becoming very rough, thick, and deeply furrowed, scaly and shaggy. Twigs brown, becoming hairless. Mimosa subfamily (Mimosoideae).

Leaves alternate, mostly modified as sickle-shaped leafstalks or petioles (phyllodes), narrowly lanceshaped, curved, 4–6 inches (10–15 cm) long and ¼–1 inch (6–25 mm) wide, slightly thickened and leathery, hairless, very long-pointed at both ends, with dotlike gland near base, several fine parallel veins from base, dull green to dark green. True (juvenile) leaves on seedlings and young twigs twice compound or divided (bipinnate), 6–7 inches (15–18 cm) long, with 5–7 pairs of axes, each with 24–30 paired stalkless oblong leaflets ¼ inch (6 mm) long.

Flower clusters of light yellow balls (heads) ⅔ inch (1 cm) in diameter, one or few on slender stalks about ½ inch (13 mm) long at leaf base. Flowers tiny, numerous, stalkless in balls, nearly ¼ inch (6 mm) long, consisting of cup-shaped calyx, five narrow petals slightly united at base, many spreading threadlike separate stamens ending in dot anther, and narrow pistil with threadlike style. Flowering mostly in late winter and early spring.

Fruits (pods) broad, flat, 3–6 inches (7.5–15 cm) long, ⅝–1 inch (1.5–2.5 cm) wide, brown, mostly not splitting open. Seeds several, beanlike, ⅕ inch (8 mm) long, oblong, flattened, straight, dark brown or blackish, slightly shiny.

Koa is an excellent cabinet wood of reddish brown color that is often highly figured. It is moderately heavy wood (sp. gr. 0.55) identical in weight and strength properties with black walnut (Skolmen 1968). This stable wood works and seasons well and takes a high polish. It is not resistant to decay and is quite susceptible to drywood termites.

The wood is used for furniture, cabinetwork, carved bowls and turnery, gunstocks, and veneer; formerly for

construction and surfboards. Many large offices as well as homes in Hawaii have paneling and furniture of koa. It is Hawaii's best known wood. Native Hawaiians had many uses, such as house timbers, carved dugout canoes, and paddles. Koa canoes are prized for competitive paddling by outrigger canoe clubs today and logs suitable for making them are extremely scarce and costly. The bark served in tanning.

Koa is widely distributed in both dry and rain forests at 600–7000 ft (183–2134 m) altitude. Koa forests are an important habitat for rare birds. This species may be seen on all the larger islands, near Kokee on Kauai, along Likelike and Nuuanu Pali Highways on Oahu, the Hana Road near Keanae, Maui, and Hawaii Volcanoes National Park on Hawaii. There are 2.5 million cu ft (0.7 million cu m) of sawtimber in Hawaii. Only Hawaii and Kauai have tall straight-stemmed koa suitable for lumber. The trees on other islands have short crooked stems. Trees on the Island of Hawaii growing in closed forest at 4,000–6000 ft (1219–1829 m) are by far the largest.

## Special areas

Waimea, Arboretum, Tantalus, Haleakala, City, Volcanoes, Kipuka Puauulu

## Former champion

Height 140 ft (42.7 m), c.b.h. above bulge, 37.3 ft (11.4 m), spread 148 ft (45.1 m). District of Ka'u, Hawaii (1969). This giant was probably the largest native tree in Hawaii, the tallest as well as greatest in trunk circumference. Unfortunately, it split in two from the groundline in the late 1970s and is now quite small. A new champion has not been selected.

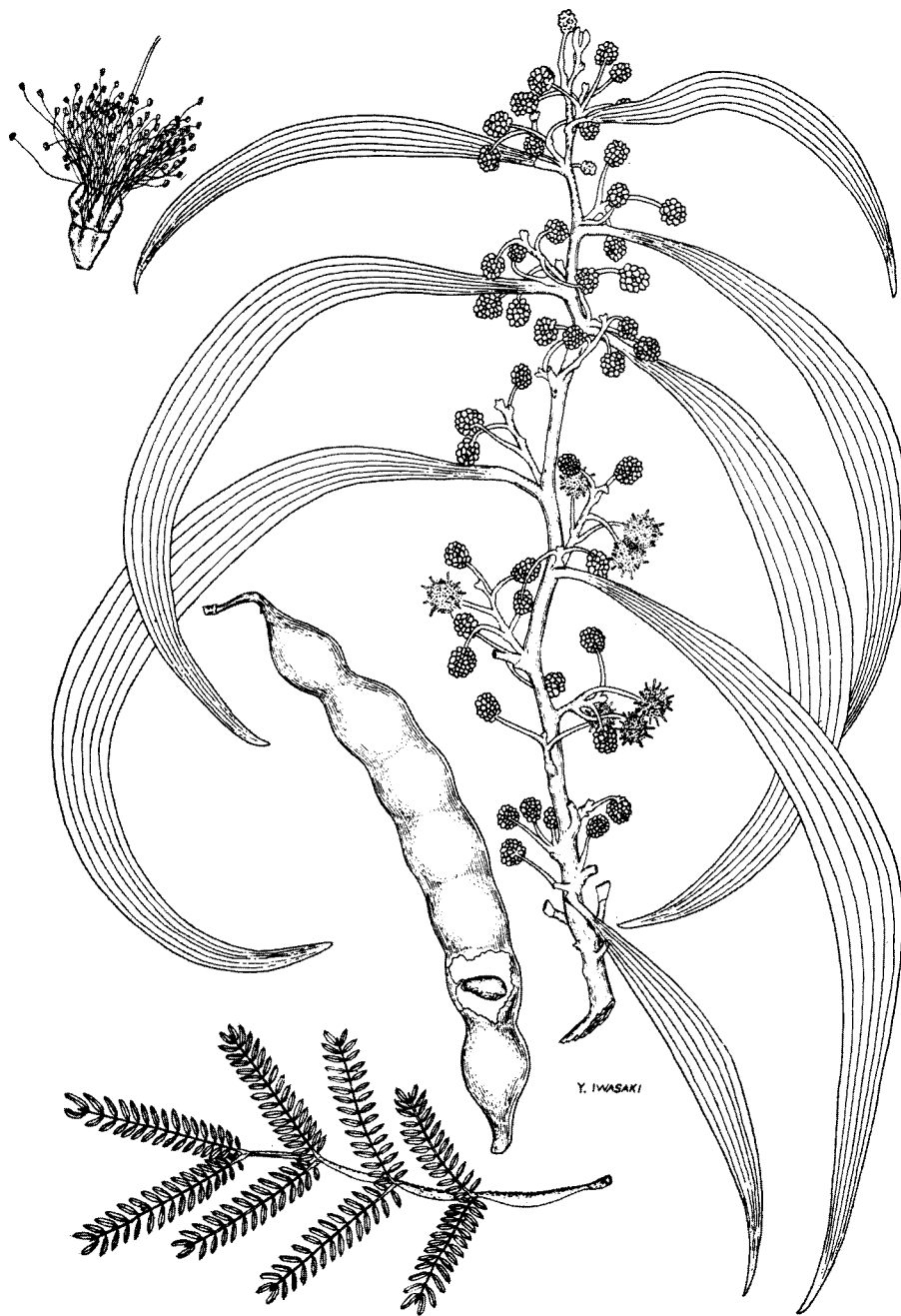
## Range

Known only from Hawaiian Islands

A few botanical varieties have been named from different islands, distinguished by shape of the "leaves."

Kauai koa (*Acacia kauaiensis* Hillebr.) is a closely related species endemic to Kauai and common at Kokee. This large tree is easily recognized by the flower clusters of many light yellow balls (heads) at ends of twigs.

Koaia (*Acacia koaia* Hillebr.), another closely related species, is endemic to dry areas of Molokai, Maui, and Hawaii and now rare and considered endangered. It is distinguished by seeds that lie parallel rather than perpendicular to the pod axis. Wood heavier, harder, and more finely textured than koa.



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Single flower (upper left), 5 X; twig with flowers, phyllodes, and pod, broken to show enclosed seed, ½ X; compound leaf (below), ¼ X (Degener).