

Fact Sheet: Tree-of-Heaven (*Ailanthus altissima*)

SPOT IT: How to Identify

Don't mistake it for native Black Walnut, Hickory, or Sumac! Look for these specific clues:

- **The Leaves:** Large, feather-like compound leaves (1–4 feet long) with 10 to 40 leaflets.
 - **The Leaf Edge Test:** Unlike native lookalikes which have jagged, saw-toothed edges, Tree-of-Heaven leaflets are completely smooth. The only exception is 1 or 2 small, smooth, rounded lobes ("glandular teeth") integrated right into the main curve at the very base of the leaflet blade.
 - **The Bark:** Starts smooth and brownish-green when young, turning light gray and textured like a cantaloupe skin as it matures.
 - **The Scratch-and-Sniff:** Crushing any part of the plant releases a foul, offensive odor resembling rancid peanut butter.
 - **The Seeds:** Massive, hanging clusters of 1-to-2-inch twisted, "winged" seeds (samaras) that turn yellow, red, or brown. A single female tree drops over 300,000+ seeds annually.
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THE THREAT: Why It Must Go

- **Infrastructure Damage:** Its aggressive, fast-growing root system splits sidewalks, cracks foundations, and invades sewer lines.
 - **Chemical Warfare (Allelopathy):** The roots, leaves, and bark exude toxic chemicals into the soil that actively stunt or kill surrounding native plants.
 - **Invasive Pest Magnet:** It is the primary preferred host tree for highly destructive agricultural pests, including the Spotted Lanternfly and Brown Marmorated Stink Bug.
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CRITICAL MISTAKE: Do Not Just Cut It Down!

Cutting, mowing, or pruning alone **WILL backfire**. Simply chopping the tree down triggers a massive underground survival response. The extensive root system will immediately send up dozens of aggressive clones (root suckers) up to 50 feet away from the stump, rapidly multiplying your problem.

How to Properly Eradicate

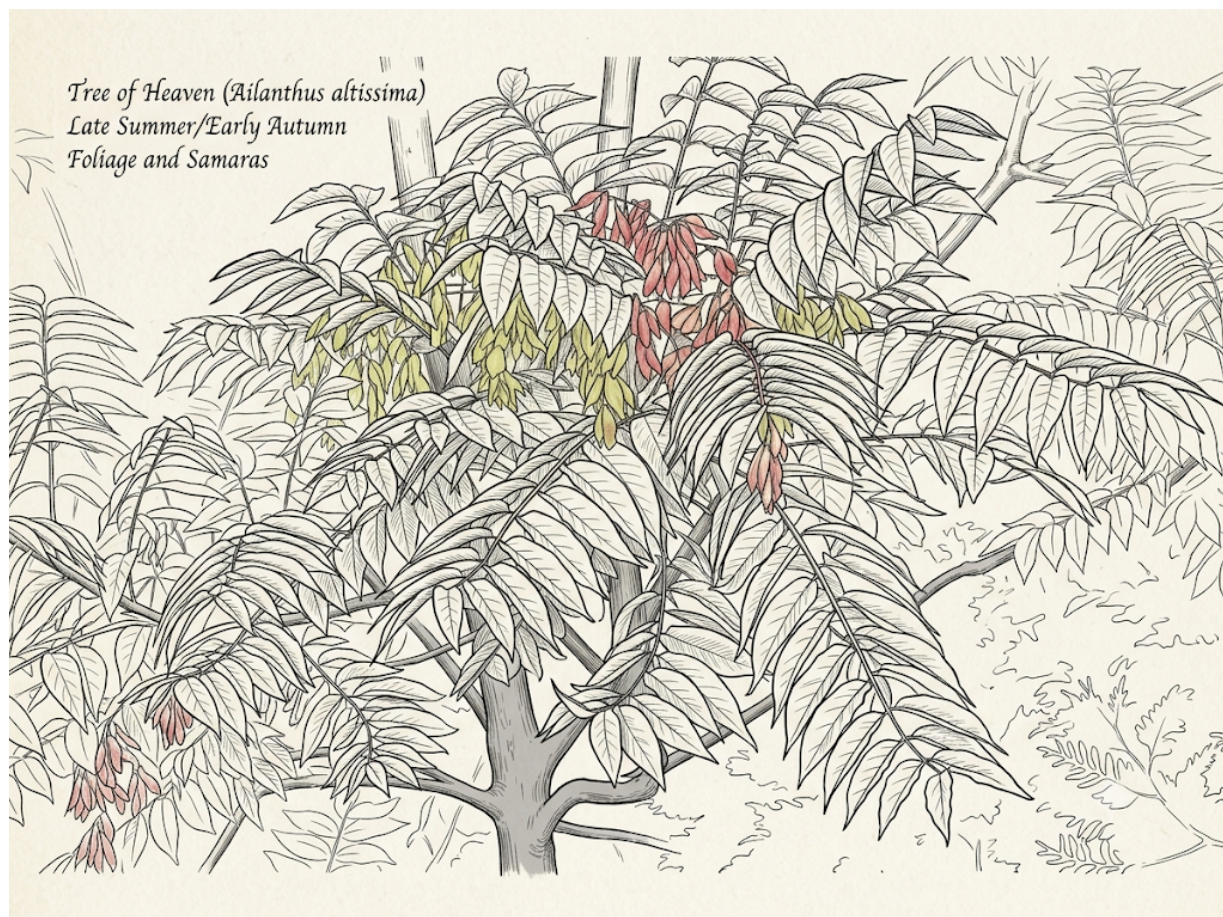
- **The Golden Rule:** You must kill the root system using systemic herbicides (typically glyphosate or triclopyr) applied during mid-to-late summer (July through autumn). This is when the tree actively moves nutrients downward, pulling the treatment into the roots.
 - **If Cutting is Required:** For hazardous trees that must come down, apply a targeted herbicide treatment (like the "hack-and-squirt" or basal bark method) first. Wait 30 days for the roots to die, and only then cut down the tree.
 - **Seedlings vs. Suckers:** Very young seedlings can be hand-pulled if the soil is damp and the entire root system is removed. However, if it's a sucker connected to an underground root network, hand-pulling will break it, leaving fragments that sprout anew.
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HEALTH WARNING

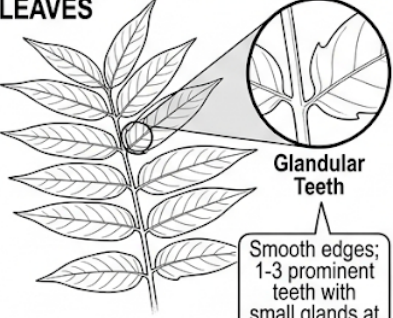
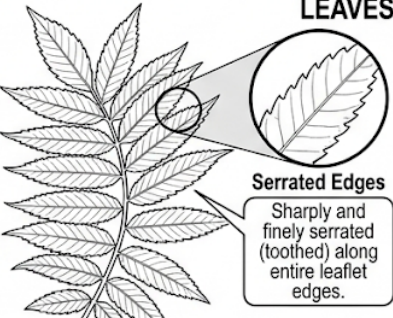
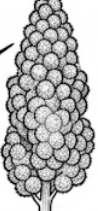
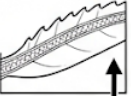
Safety First: Always wear heavy gloves and long sleeves when handling this plant. Direct contact with the sap can cause severe skin irritation, and sap entering open cuts has been linked to rare cases of heart inflammation (myocarditis).

Sources & Further Reading

- Jackson, D. R., Gover, A., & Wurzbacher, S. (2020, November 2). [Tree of Heaven](#). *Penn State Extension*.
- Shook, C. (2025, May 7). [Invasive Pest Spotlight: Tree-of-Heaven](#). *University of California Agriculture and Natural Resources*.



DIAGNOSTIC COMPARISON: TREE OF HEAVEN vs. STAGHORN SUMAC

TREE OF HEAVEN (<i>AILANTHUS</i>)	STAGHORN SUMAC (<i>RHUS</i>)
LEAVES  Glandular Teeth Smooth edges; 1-3 prominent teeth with small glands at leaflet base. BARK  Smooth, gray, with diamond/cantaloupe pattern. FRUIT  Clusters of flat, twisted, single-winged samaras (seeds).	LEAVES  Serrated Edges Sharply and finely serrated (toothed) along entire leaflet edges. BARK  Rougher, brown, with prominent lens-shaped marks (lenticels). FRUIT  Dense, upright, conical clusters of fuzzy red berries (drupes).
KEY DIFFERENCES AT A GLANCE (HIGHLIGHTS) SUMMARY LEAFLET EDGE   Smooth with base glands Serrated entire length FRUIT TYPE   Flat samara wings Fuzzy drupe berries ODOR Tree of Heaven: Unpleasant, peanut-butter-like odor from crushed leaves. * Sumac: No significant odor	