

GIANT REED

Also known as arundo grass, bamboo reed

Arundo donax

Grass Family (Poaceae)

DESCRIPTION

Giant reed is a tall perennial grass that typically forms dense stands on disturbed sites, sand dunes, riparian areas, and wetlands.

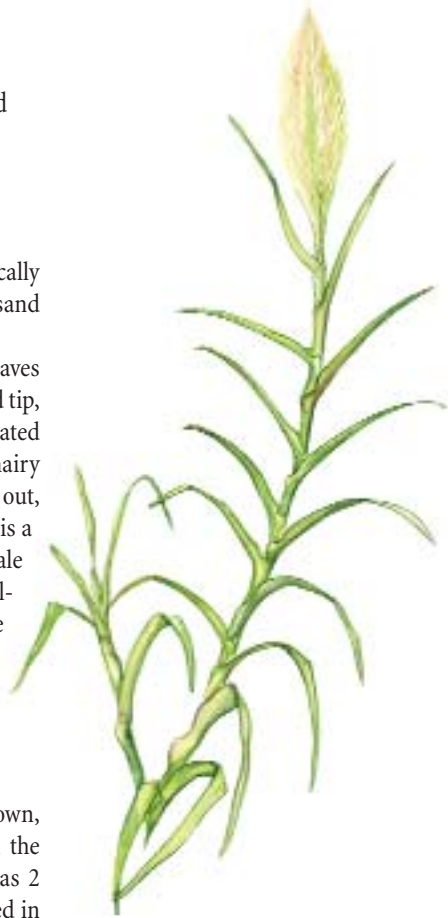
Giant reed grows up to 30 feet tall. The leaves are alternate, up to 1 foot long with a tapered tip, slender, and smooth, but with coarsely serrated margins. They are gray-green and have a hairy tuft at the base. The leaves point straight out, droop, or lie folded, and at the base of each is a hairy tuft. As the leaves dry, they turn pale brown like papyrus. The hardy stalks are hollow, about 1 inch in diameter, and resemble bamboo canes. The roots are tough and fibrous and form knotty, spreading mats that penetrate deep into the soil.

REPRODUCTION

The inflorescence is cream to yellowish brown, and appears from March to September in the form of upright, feathery plumes as long as 2 feet. Giant reed does not produce fertile seed in California. Instead, it reproduces vegetatively, by underground rhizomes. Riparian flooding dislodges clumps of giant reed and transports it downstream, where it can root from broken stem nodes and rhizomes. Fire appears to stimulate new growth.

IMPACT

Giant reed is threatening California's riparian ecosystems by outcompeting native species, such as willows, for water. Its rapid growth and high water uptake allow it to outcompete native vegetation and form monocultural stands. Noxious alkaloids contained in the plant deter wildlife from feeding. Stands of dry leaves and canes are flammable.



KEY FACTORS

- u Resprouts from roots and 2-noded stem fragments left in moist soil.
- u Roots can reach as deep as 10 feet.
- u Rapid growth.

TREATMENT OPTIONS

- u Giant reed can be successfully removed only by completely killing the root system, either by thorough physical removal or with herbicide. Pulling and cutting can both be effective techniques if *all* of the rhizomes and above-ground vegetation are removed. Herbicides are often applied as a follow-up to pulling or digging, but the more thoroughly the rhi-

zomes are removed, the less follow-up herbicide will be needed.

- u **Pull or dig** plants, from seedlings to 6 feet tall, ideally after heavy rains loosen the soil. It is important to pull up and remove the roots.
- u **Cut** the stems of larger plants with a chainsaw or brushcutter, and dig up the roots with a shovel, pickax, or Swedish brush ax. Alternatively, use heavy equipment, such as an excavator.
- u **Cut** the stems as close to the ground as possible in May, and cover the clump with a very thick tarp or with several tarps for an entire growing season. This should prevent light from reaching the plant (reducing its ability to photosynthesize), and keep resprouts from tearing the tarp. The lack of light will eventually deplete the plant's energy reserves and it will die back.
- u **Foliar spray.** Some practitioners have sprayed a 2–5 percent dilution of glyphosate onto the leaves after the plant has flowered but before summer dormancy.
- u **Cut and treat.** As an alternative to foliar spraying, a stronger concentration of glyphosate can be applied to stems immediately after cutting. Make sure that where necessary, you choose an herbicide product suitable for use near water.

DISPOSAL

Both treated and non-treated stems can be left on-site to decompose, although they break down very slowly. If left to compost, the essential point to remember is to keep the debris well away from water. For stems that have not been chemically treated and in areas where it is feasible, the debris can be burned. Otherwise, the canes can be chipped into very small pieces for mulching. The stems are easier to chip when dry, and you will need a heavy-duty chipper to handle the plant's tough fibers. Chipped material can be disposed of either in green waste containers, or spread out to dry and possibly sprayed with herbicide if any regrowth occurs from chipped debris. Stem pieces that have no nodes or only one node won't reproduce.

INTERESTING FACTS

Thought to originate from the Indian subcontinent, giant reed was introduced to California from the Mediterranean in the 1820s for roofing material and erosion control along drainage ditches. It has been cultivated on other continents for thousands of years. Ancient Egyptians wrapped their dead in the leaves. The canes contain silica, perhaps the reason for their durability, and have been used to make fishing rods, walking sticks, and paper. Giant reed is still used to make reeds for woodwind instruments. It continues to be planted for ornamental purposes and erosion control.

Notes