

LESSONS FROM

Arundo Control Man

➡ OR How you can be a super hero and KICK A(rundo) out of Texas roadways and waterways



Arundo donax, also known as giant reed or Carrizo cane, is a **HIGHLY INVASIVE, NON-NATIVE, DOMINATING PLANT** that grows up to 30-feet tall in dense stands.

Train your eye to see Arundo.

- ➡ Tall, cane-like grass with hollow stems, long wide leaves, and showy plumes
- ➡ Fast-growing in tall, thick stands
- ➡ Dormant and brown in winter; not dead, only sleeping
- ➡ Tuber-like, shallow roots form a dense mass
- ➡ Commonly found in roadside ditches and along creeks and rivers



Sprouting node



Root mass



Stalk with sprouting node

The impacts of an Arundo invasion are **DEVASTATING** to Texas waterways, and prevention is **CRITICAL**.



Key things to know about Arundo:

Spreads Like Wildfire.

When disturbed, the Arundo plant will sprout new plants from tiny fragments of stalk or root material and will quickly spread and take over a waterway or right-of-way.

Changes Flood Patterns.

Arundo interferes with the floodplain's natural ability to lessen flood energy. As a result, flow patterns and volumes change, leading to greater damage from floods.

Diverts Water Supply.

Arundo is a thirsty plant that can reduce stream flows and change water quality. Studies have shown dense colonies of Arundo may use 24 to 48 acre-feet of water for each acre of infestation within a stream bed.

Causes Bank Erosion.

Arundo roots form a thick mat near the surface but have no deep root strength. Floodwaters can easily undercut the root mass resulting in bank failure, erosion, and damage to property, structures and bridges.

Creates a Fire Hazard.

The Arundo plant has a high wax content and is an extremely volatile fuel. It can substantially increase the danger and intensity of wildfires and decrease the ability of the waterway to act as a firebreak.

Alters Native Habitat.

Non-native Arundo crowds out native plants, and its roots dominate banks. As a result, habitat for native fish and wildlife is lost or degraded.

MOWING, TILLING, BULLDOZING and other mechanical treatments cause Arundo to spread.

Watch for Arundo Contamination and Learn Proper Treatment

***DO NOT TREAT THIS
PLANT CASUALLY!***

In Construction Fill Dirt. Construction fill dirt and other aggregate materials sometimes contain Arundo roots or fragments that can cause an infestation. Watch for and manage Arundo plants at material source locations and remove any root or cane fragments during construction to help prevent an expensive problem down the road. During follow-up inspections, **watch for sprouting canes and treat with herbicide promptly!** Tips for proper herbicide use are on the back page.



At Construction Sites. Construction activities that involve the use of earthmoving equipment always have the potential to spread Arundo. **When possible, treat mature Arundo with herbicide long BEFORE bringing in construction equipment.** Otherwise, take great care to ensure that Arundo is removed and transported to the landfill. Plant fragments should not be spread about on-site or moved to new places on equipment. Re-vegetation plans should use native plants when possible.



In Your Path. **Do not cut, mow, till, bulldoze, or shred Arundo.** Even a tiny fragment can create a new plant and be spread by a stream or river. When Arundo is present, mow around it. If you accidentally mow Arundo, immediately stop and pick up any fragments. Turn off mower and follow manufacturer's safety recommendations to remove any fragments caught in the mower deck to prevent carrying them to a new site. Managing infestations with herbicide is more effective. In areas away from where water might run, Arundo may be cut to reduce herbicide use—remove cut canes! Then treat regrowth with herbicide; repeat as needed.



Tips for Herbicide Use

Herbicides are the best way to treat mature *Arundo* plants. When used properly, herbicides have the least environmental impact and greatest effect.

Several herbicides are specifically labeled for use to treat *Arundo donax*. Herbicides with imazapyr or imazamox, mixed with glyphosate, have shown to be most effective, as is treating regrowth after cutting (collect all fragments!). Learn more at AquaPlant.tamu.edu

Near water, the law requires that you use an herbicide formulation labeled for aquatic use. Before managing *Arundo* on public waters or tributaries, a Nuisance Aquatic Vegetation treatment proposal must be submitted to Texas Parks and Wildlife Department.

After herbicide application, leave treated plants in place, even after they brown. Except for burning (where safe/permitted), do not disturb herbicide-treated plants for two years or you risk reinvigorating the plant.

When left in place, dying *Arundo* provides some erosion control and acts as a nursery area to protect young, native plants. Watch for *Arundo* regrowth and look for new sprouts. Re-treat with herbicide as necessary.

Small sprouts may be removed by hand, but be careful to collect all fragments. Take care that they don't take root while drying. Once completely dry, the sprouts are no longer a hazard to spreading.



Be an *Arundo* Control Hero!

Know the enemy. Learn to recognize non-native *Arundo*—mature plants, roots and fragments.

Sound the alarm. Spread the facts about *Arundo* and how to manage it. Speak up when you see *Arundo* being mismanaged.

Be aware. Take a good look at fill dirt and other aggregate materials, especially when building near a creek or river. If *Arundo* pieces are found in material, reject the delivery or remove the pieces.

More information:

For help in making an *Arundo* management plan, call 512-389-4444 and ask for an aquatic invasive specialist. Good online resources are:

- AquaPlant.tamu.edu
- TPWD.texas.gov/arundo
- TexasInvasives.org



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Invasive Species: Arundo Donax

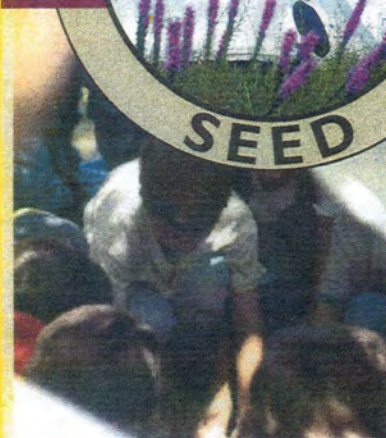


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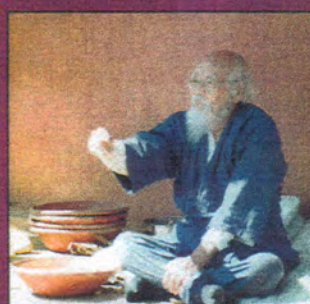
SEED BALL RECIPE -

"Remember when you were a kid and used to eat dirt? Well, this is the best," Neiman told a group of students as he sifted one hand through a bucketful of red powder clay. "And you have to use this when making seed balls." Neiman, who owns the Native American Seed Company in Junction, talked about restoring Texas' diminishing tallgrass prairies as he showed the youngsters what goes into a seed ball recipe:

- 6 parts dry sifted clay
- 1 part dry sifted compost
- 2 parts seeds (native grasses and wildflowers)
- 1 part water

are mixed into a mushy dough and rolled into half-inch balls. The balls are then allowed to dry and harden. After that, they simply may be tossed on the ground; Mother Nature does the rest.

- from Texas Parks & Wildlife Magazine



Masanobu Fukuoka

(1913-2008) re-invented and advanced the use of clay seed balls which were originally an ancient practice. Fukuoka was a Japanese farmer and philosopher celebrated for his Natural Farming method and re-vegetation of desertified lands.

