Cortaderia selloana (Schultes) Asch. & Graebner; pampasgrass
Cortaderia jubata (Lemoine) Stapf; jubatagrass

Pampasgrass and jubatagrass


Cortaderia selloana


Cortaderia jubata

Family: Poaceae
Range: Jubatagrass is found along coastal areas of California and Oregon. Pampasgrass is primarily in coastal areas of California and Oregon, but can also be found inland in both states and Utah.
Habitat: Disturbed areas, dunes, bluffs, roadsides, road-cuts, logged forests. Many coastal shrub and grasslands (including serpentine soils) and adjacent inland areas moderated by fog or other maritime influences. Pampasgrass is also found in undisturbed coastal shrubland and marshes, inland riparian areas and other interior sites where sufficient moisture is available (may tolerate standing water for prolonged periods).
Origin: Jubatagrass is native to equitable mid-elevation regions of the Andes Mountains in Ecuador, Peru, Bolivia, and northern Argentina, where the climate is similar to that of coastal California. Pampasgrass is native from the mid-elevation Andes slopes of northeastern Chile and northwestern Argentina to the low elevation subtropical grasslands and riparian areas of northern Argentina, Uruguay, and southern Brazil. Jubatagrass and pampasgrass were introduced as landscape ornamentals and for erosion control, but have since escaped cultivation and become noxious weeds in some areas of California, especially along the coast.
Impacts: Mature plants of both species are highly competitive with native vegetation and forestry tree seedlings. Jubatagrass produces abundant apomictic seed, and is currently more widespread than pampasgrass in California. Yet pampasgrass may be the more invasive species since it tolerates a wider range of climate variation. Both species are noxious weeds in Australia, Tasmania, and New Zealand.
Western states listed as Noxious Weed: *Cortaderia jubata*, California
California Invasive Plant Council (Cal-IPC) Inventory: Both species are High Invasiveness

Cortaderia species are large, densely tufted perennial grasses with long basal leaves and tall, showy, plume-like inflorescences. The leaves have sharply serrated margins that can easily cut the skin. Pampasgrass tussocks typically grow much larger than those of jubatagrass, and have a more erect, fountain-like appearance. The dense fibrous roots grow from shallow short lateral rhizomes. Ligules consist of a dense ring of hairs mostly 2 to 3 mm long.

Both species produce plumes that are 1 to 3 ft long, although jubatagrass often has a more purplish tinge compared to pampasgrass. Despite the similarity in appearance, the reproductive strategy of pampasgrass and jubatagrass are very different. In jubatagrass, all plants are female and develop seed without fertilization (apomixis). In pampasgrass, plants are functionally male or female. Male plumes are sometimes purplish-tinted.

Unlike jubatagrass, pampasgrass develops seed only when male and female plants are within pollination range of one another. Historically, the plumes on female plants were considered more attractive and were exclusively propagated by division within the nursery trade for ornamental purposes. In more recent years, some nursery stock has been propagated by seed, and both sexes have been widely planted as landscape ornamentals. Weedy populations spread quickly near these ornamental plantings.

Plants of both species reproduce only by seed. Each seed-bearing plume can produce up to 100,000 seeds. The seeds are very light and can disperse long distances with wind (to about 20 miles). Human activity can also disperse plants long distances. Because the seeds are so small, they do not survive long in the soil seedbank. Germination occurs in fall after the first rains, continuing through spring. Seeds typically survive for less than 6 months under field conditions, and a persistent seedbank does not accumulate.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand-pulling seedlings can help prevent the spread of either species. For removing established clumps, pulaskis, mattocks, or shovels are the safest and most effective tools. To prevent resprouting, it is important to remove the entire crown and top section of the roots. Detached plants left lying on the soil surface may take root and reestablish under moist soil conditions. Some land managers recommend turning the removed clumps upside down so the roots dry out in the air. A large chainsaw or weedeater can expose the base of the plant, allow better access for removal of the crown, and make disposal of the detached plant more manageable. Plumes can also be cut off to avoid seed dispersal. However, plants that have had plumes removed may develop more plumes during the flowering season. Mechanical removal by heavy equipment, including excavators and backhoes, can be very effective and selective. However, these methods are labor- and cost-intensive, and feasibility depends upon site accessibility, size of the infestation, funding, and availability of volunteer support
Cultural	Heavily mulching bare sites or planting desirable vegetation may prevent or reduce seedling establishment. Burning or grazing are not typically considered effective control strategies for *Cortaderia* in North America, but cattle have been shown to provide effective control for pampasgrass in commercial forests of New Zealand. Any soil disturbance that creates bare ground, including natural disturbance (fire or landslides) and human-caused disturbance, promotes invasion by jubatagrass or pampasgrass.
Biological	There are no biological control agents available for either of the *Cortaderia* species.

CHEMICAL CONTROL

The following specific use information is based on publications and reports by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions for use may vary between brands; see label before use. Herbicides are listed by mode of action and then alphabetically. The order of herbicide listing is not reflective of the order of efficacy or preference.

LIPID SYNTHESIS INHIBITORS	
Fluazifop *Fusilade*	**Rate:** Spot treatment: 2 to 4% v/v solution (0.5 to 1% a.i.). Low volume treatment: 4% v/v solution of product. **Timing:** Postemergence. Best in late summer or fall, after flowering when translocation of herbicide to base of tillers and rhizomes is at its peak. **Remarks:** Control of jubatagrass with fluazifop was inconsistent. It has no soil residual activity. Other grass herbicides were not as effective.
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup*, *Accord XRT II*, and others	**Rate:** Broadcast treatment: 2 to 3.3 qt product (*Roundup ProMax*)/acre (2.25 to 3.7 lb a.e./acre). High-volume spray-to-wet spot treatment: 2% v/v solution of product. Low-volume treatment: 8 to 10% v/v solution of product. Wiper treatment: 33 to 50% of concentrated product. **Timing:** Postemergence. Best in late summer or fall, after flowering when translocation of herbicide to base of tillers and rhizomes is at its peak. **Remarks:** Glyphosate provides the most consistent jubatagrass control with all plant sizes in both fall and early summer. Low volume treatment at 8% and wiper applications at 33% gave the best and most consistent control.
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Imazapyr *Arsenal*, *Habitat*, *Polaris*	**Rate:** 2 to 4% v/v solution of product for spot treatment (0.45 to 0.9% a.e. solution) **Timing:** Postemergence. Best in late summer or fall, after flowering when translocation of herbicide to base of tillers and rhizomes is at its peak. **Remarks:** Results were inconsistent from site to site and year to year. Imazapyr is a slow-acting systemic herbicide and may take a year or two to achieve effective control on *Cortaderia*.

RECOMMENDED CITATION: DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.