



WIN THE WAR ON COGONGRASS.

WHEN COGONGRASS
ATTACKS, FIGHT BACK
WITH **ARSENAL®** HERBICIDE.


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BASF  PROFESSIONAL
VEGETATION
MANAGEMENT

COGONGRASS

ONE OF THE WOR

Cogongrass is a fast-growing, rapidly spreading perennial grass that infests more than 1.25 billion acres worldwide.



...it's been called "one of the World's 10 Worst Weeds," "the Grass from Hell" and "the mother of all invasive species..."

VEGETATION MA
COGONGRASS CONTR

our home's value

IMPERATA CYLINDRICA

WORLD'S TEN WORST WEEDS

Cogongrass is a fast-growing, rapidly spreading perennial grass that infests over 1.25 billion acres worldwide. It's been called "one of the World's 10 Worst Weeds," "the Grass from Hell" and "the mother of all invasive species..."

A native of Southeast Asia, cogongrass today affects 35 crops in 73 countries, including the United States. Already reported in the forests, pastures, roadways and wetlands of our nation's warmer regions – Florida, Georgia, Alabama, Mississippi, Louisiana and South Carolina – cogongrass presents a far-reaching problem of wide-spread proportion.

A Good Grass Goes Bad.

Once used as a packing material, cogongrass

is said to have first invaded the United States when it escaped from an orange crate into Mobile Bay, Alabama, in the early 1900s.

Later, it was tried as a forage crop, but quickly rejected due to its low nutritive value and livestock distaste for its spiky, silica-rich leaves.

Until recently, the tough, dense-growing perennial was even used in soil stabilization. Incredibly, cultivars are still sold in U.S. nurseries as an ornamental, under the names *Japanese Bloodgrass*, *Red Baron* and *Rubra*. Yet, as early as the 1940s, many experts had already found no redeeming value in cogongrass: "Steps should be taken at once to completely eradicate this noxious weed from the Western hemisphere," wrote one.¹

COGONGRASS INFESTATION BY STATE



The Perfect Weed?

Hardy; at home in a wide variety of soil types and ecosystems; tolerant of shade, full sun, high salinity, drought, flooding, mowing and fire; able to reproduce and spread via wind-borne seeds or sprouting rhizome fragments, with rapidly growing stands forming thick mats at ground level and

populated by cogongrass only. But the aggressive alien weed also crowds out native plants, forming thick ground-level mats that act as a physical barrier to seedling establishment.

Displacing Forage. Plant-eating animals shy away from cogongrass for good reason. It drives out

“LARGE INFESTATIONS [OF COGONGRASS] CREATE BIOLOGICAL DESERTS THAT HAVE NO VALUE...”

~ Randy Browning, USFWS and Mississippi Fish & Wildlife Foundation Biologist

reaching heights of up to five feet. Small wonder cogongrass has been called the “perfect weed.”

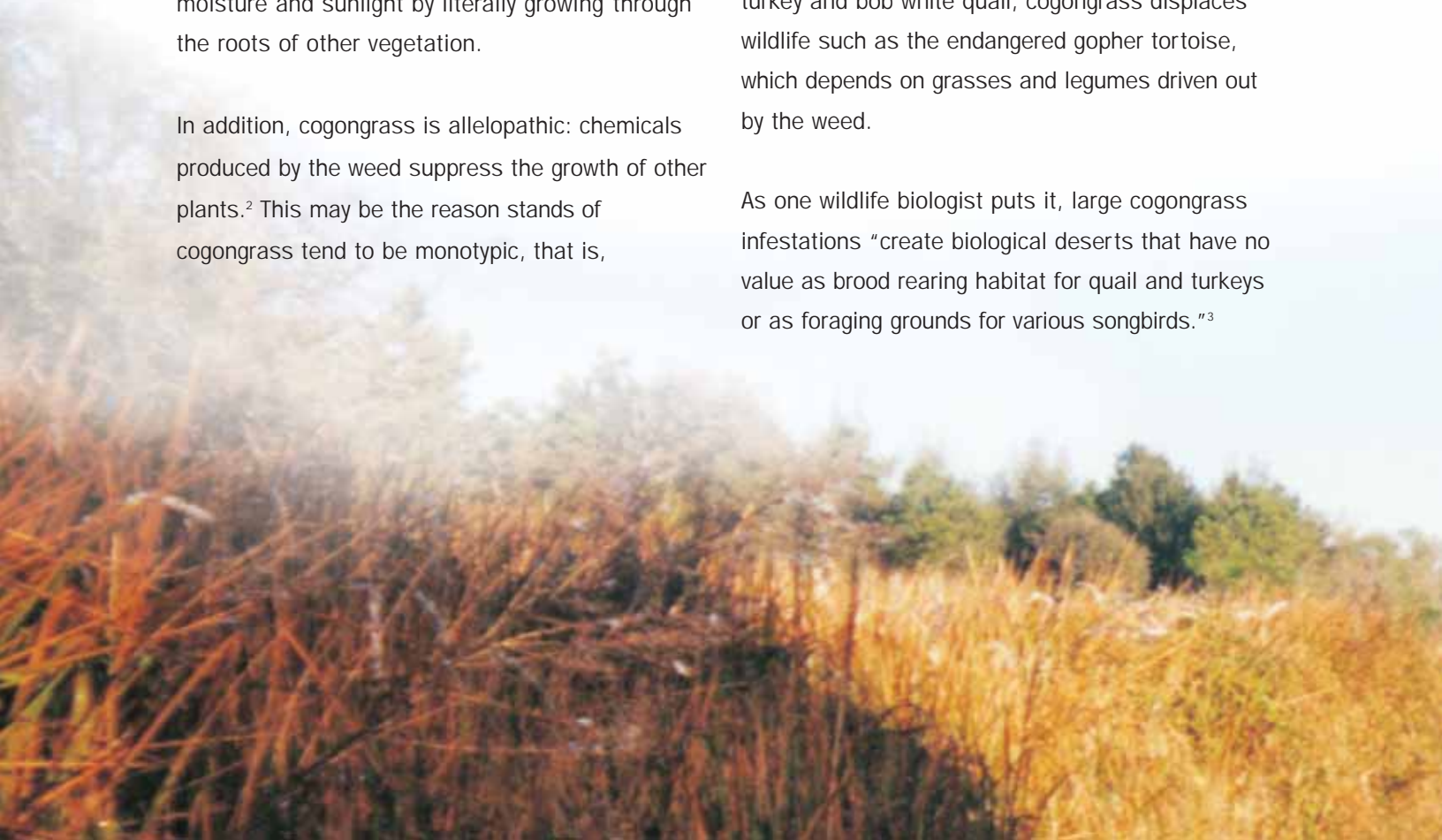
Driving Out Native Plants. Dense cogongrass stands compete for nutrients, rooting space, moisture and sunlight by literally growing through the roots of other vegetation.

In addition, cogongrass is allelopathic: chemicals produced by the weed suppress the growth of other plants.² This may be the reason stands of cogongrass tend to be monotypic, that is,

healthy, native food sources and makes a poor substitute for foraging livestock and wildlife.

Displacing Wildlife. As it overwhelms native plant species favored by ground-nesting wildlife, like turkey and bob white quail, cogongrass displaces wildlife such as the endangered gopher tortoise, which depends on grasses and legumes driven out by the weed.

As one wildlife biologist puts it, large cogongrass infestations “create biological deserts that have no value as brood rearing habitat for quail and turkeys or as foraging grounds for various songbirds.”³



Fire Risk. While cogongrass roots and rhizomes are remarkably fire-tolerant, the plant is extremely flammable. Worse yet, its vegetative density means that burning cogongrass can send temperatures soaring to more than 840°F at heights of up to five feet. The result? More frequent, hotter fires and disruption of the natural fire regime.

The Perfect Solution: Integrated Vegetation Management With Arsenal® Herbicide.

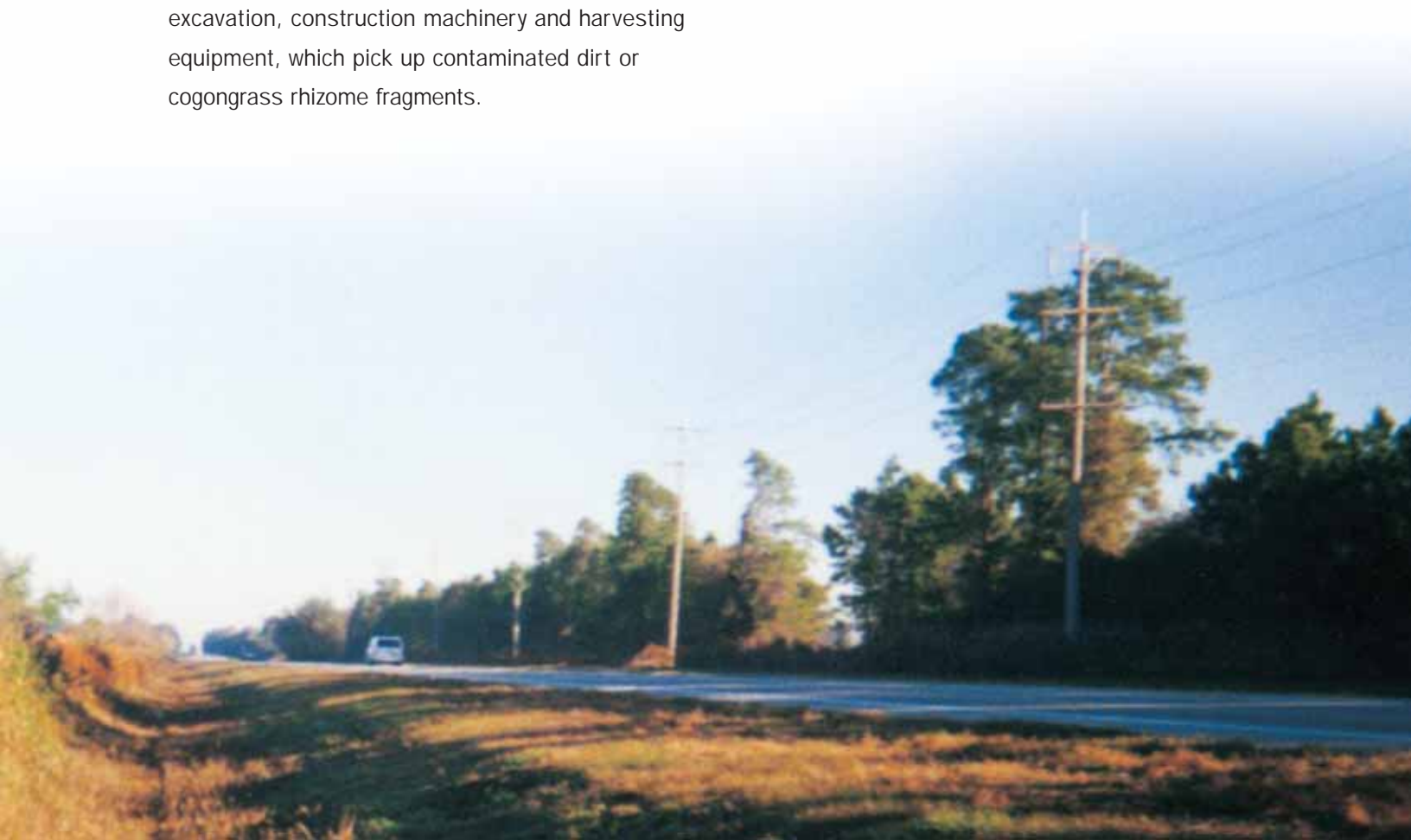
Cogongrass spreads quickly in a variety of ways. Wind-borne seeds – as many as 3,000 from a single plant, attached to feather-light, silky-white bloom-hairs – can be carried as far as 15 miles.

Cogongrass is also spread unwittingly by people – through rhizome-contaminated hay, dirt and sod – as well as through land-management practices, excavation, construction machinery and harvesting equipment, which pick up contaminated dirt or cogongrass rhizome fragments.

Once it's taken root, cogongrass is very hard to control. Mowing is only effective in removing aboveground portions of the plant – allowing cogongrass recovery with little adverse effect as new shoots emerge.

For effective, long-term control, integrated vegetation management tactics are best, using a selective herbicide such as Arsenal.

According to studies conducted by the Agronomy and Soils Department at Alabama's Auburn University, Arsenal is a key component in the effective, long-term control of cogongrass. Research shows that Arsenal also fits well into re-vegetation systems – both crimson clover and bahiagrass were found to thrive in areas previously infested with cogongrass that had been treated with Arsenal.



Growing height: 3 - 5 feet (avg.)
late in a growing season.

Leaf blades: narrow-erect, sometimes with
a whitish midvein noticeably off-center; tips
can be sharp and pointed.

Flowers: white-silky and plume
like; paired on unequal stalks,
with each spikelet surrounded by
long white hairs. Blooming
cogongrass and silver beardgrass
look similar, but silver beardgrass
blooms mid-summer, while
cogongrass blooms in spring
(except in Florida, where it
blooms year-round).

Allelopathic: produces
chemicals that inhibit the
growth of other plants.

COGONGRASS IMPERATA CYLINDRICA

- Non-native, fast-growing perennial grass.
- Forms dense ground-level mats, with scaly rhizomes below ground.
- Extremely flammable: dense growth causes hotter and more frequent fires. Alters natural fire regimes.

RECOMMENDED PRODUCT

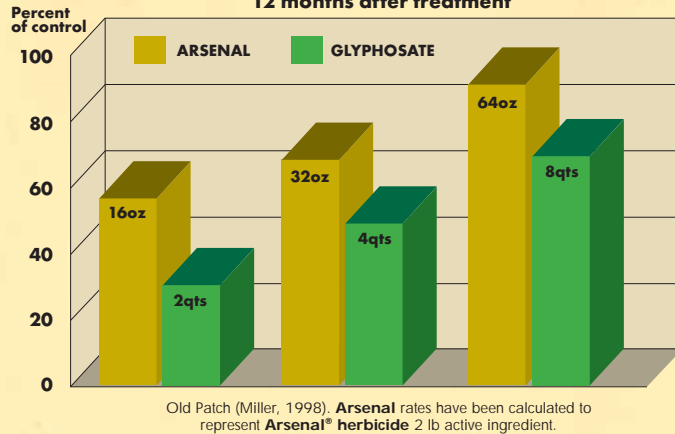
Arsenal® herbicide is powerfully effective – controlling cogongrass and other undesirable species down to the roots.



“IN EIGHT FIELD STUDIES OVER THE LAST THREE YEARS, EXCELLENT RESULTS IN THE LONG-TERM”

In recent studies, Arsenal reduced cogongrass stems by more than 80 percent – without prohibiting colonization by other species. With the addition of glyphosate and overplanting, above-ground control reached 100 percent after two years. Yet, Arsenal was recognized as “the key factor – with or without glyphosate.”⁴

COGONGRASS CONTROL
Arsenal vs. Glyphosate October Application
12 months after treatment



Targeted Control, Enhanced Habitat.

Arsenal is powerfully effective – controlling cogongrass and other undesirable species down to the roots. Plus, Arsenal works on an enzyme found only in plants, not humans. It doesn't target wildlife or the sources wildlife use for food. When desirable native plants are freed from competition with cogongrass and other invaders, wildlife can flourish, too.

Don't let cogongrass take over. Fight back with the most effective, long-term cogongrass control available: Arsenal.

Arsenal is recommended for controlling cogongrass in noncropland areas that include but are not limited to railroad, pipeline and highway rights-of-way, utility plant sites, petroleum tank farms, pumping installations, fence rows, storage areas, non-irrigation ditchbanks, wildlife openings within noncropland sites and other similar areas. Recommended use rate for broadcast spray is 32-64 fluid ounces per acre (equivalent to 0.5 to 1.0 lb ai/A). Recommended use rate for spot treatment is 2.0% spray solution by volume.

ARS, ARSENAL CONSISTENTLY PROVIDED MANAGEMENT OF COGONGRASS."

~ Wilson Faircloth, Auburn University

1. Pendelton, R.L. Cogongrass, *Imperata cylindrica* in the Western Hemisphere. *Journal of Agriculture* 1948: 40:1047-9. 2. Hussain, F.M., Abidi, S. Ayaz and A-U-R Saljoqi. 1992. Allelopathic suppression of wheat and maize seedling growth by *Imperata cylindrica* (L.) Beauv. *Sarhad Journal of Agriculture* 1992: 8(4): 433-9. 3. Browning R., Cogongrass: Interesting Facts About The Perfect Weed. *Wildlife Issues* 2003; Fall/Winter. 4. Faircloth, W., Patterson, M., Teem, D., Miller, J., Cogongrass: *Imperata cylindrica* - Management Tactics on Rights-Of-Way (Presentation). Auburn University, 2003.

CONTROL COGONGRASS WITH ARSENAL.

For the most effective long-term control of cogongrass, insist on Arsenal® herbicide. For more information about Arsenal or any of our vegetation management products, call 1-800-545-9525, or visit www.vanswers.com.

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