



control
of
JOHNSONGRASS



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JOHNSONGRASS is a forage crop or a weed depending on where it occurs. Its weedy characteristics are due to (1) its luxuriant growth in close stands, (2) its abundant production of easily disseminated seed with varying dates of germination and (3) its copious production of rootstocks which penetrate the soil to considerable depth and perpetuate and spread the grass.

Effort in controlling this grass should be toward (1) preventing the introduction of seed, (2) destroying seedlings before rootstocks are formed, (3) preventing seed from maturing and (4) depleting and destroying rootstocks. Various cultural practices and weed-killing chemicals effectively control germinating seed, seedlings and established Johnsongrass. Control practices must be thorough to eradicate this grass.

Nonagricultural Land

- Mow frequently to keep grass short.
- Plow occasionally and follow up with periodic disking in special sites to keep grass short.
- Spray periodically with diesel fuel oil fortified with pentachlorophenol at rate of 3 percent by volume for temporary control where mowing or plowing is impractical. Use oil soluble dinitro or Octochlor-cyclohexenone, commonly called Oktone, according to instructions on label if a substitute for pentachlorophenol is desired. Use 6 pounds of commercial pentachlorophenate in 85 gallons of water plus 4 pounds of a synthetic detergent such as Tide, Surf or Fab or similar preparation emulsified with 15 gallons of diesel fuel oil if a straight oil spray is objectionable.
- Apply 30 to 50 pounds commercial dichloropropionate, commonly called Sodium Dalapon, in

200 to 500 gallons of water per acre once or twice per season if grass only is to be controlled and infrequent attention can be given to the infested site. Spot-treat surviving grass as needed. Use cultural practices or oil spray to kill subsequent growth of seedling grass.

- Apply a mixture of 450 to 600 pounds of sodium chlorate and 200 pounds of calcium chloride per acre for eradication where bare soil is not objectionable. Apply either as a dry mixture or in 300 to 400 gallons of water per acre. Dry organic matter containing sodium chlorate is FLAMMABLE. Handle sprays containing sodium chlorate as if they were gasoline. Use other soil-sterilizing chemicals according to instructions on label where fire is a hazard. Apply sodium chlorate and other soil sterilants only during seasons when rain shortly after application can be expected. DO NOT USE any soil-sterilizing chemicals near valuable plants.

Noncrop Farm Land

- Use methods suggested for nonagricultural land. Reduce stand of grass by tillage practices for economy prior to use of chemical.
- Use fortified diesel fuel oil or fortified oil and water emulsion for temporary control of grass under trees or along ditches filled with irrigation water. Sodium Dalapon or sodium trichloroacetate, commonly called Sodium TCA, or mixtures of these herbicides may be used in dry irrigation ditches for eradication.

Cropland

- Begin using the grass for the most economical control of extensive infestations. Mow frequently or overgraze to keep grass short, prevent maturity of seed, allow time for germination of seed in the soil, weaken the grass and reduce stand. Overseed infested land with suitable crops as needed to maintain or increase productive income during mowing or grazing periods. Sweetclover, burclover, alfalfa, vetch, oats, sudan and sorghum ordinarily make satisfactory yields on Johnson-

grass-infested land. Fall crops usually are preferred to spring crops for planting on infested land.

- Tillage and other cultural practices are the most widely accepted methods of controlling Johnsongrass on a large scale. Tillage practices are most effective when preceded by 3 or more years of repeated mowing or overgrazing. Use repeated tillage without preliminary treatment of infested land where the use of mowing or grazing is impractical. The best time to kill Johnsongrass by tillage is during the hot, dry season. Use cool-season crops liberally to furnish farm income and to make the infested land available for summer plowing.

- Use chemicals to control Johnsongrass on cropland only on small acreages or to supplement tillage and cultural practices.

Apply 50 pounds of Sodium TCA in 100 gallons of water per acre in the fall in the humid portion of the State for 80 percent or more reduction of established Johnsongrass by spring without material effect on cotton. Make application to short grass or bare soil in infested spots. Do NOT apply (1) to poorly drained soils, (2) near valuable plants or in crops without expecting stand losses, (3) preceding any crop other than cotton or (4) during the summer. Do not expect this chemical to control broad-leaved weeds or to prevent reinfestation by grass seedlings.

Apply 15 pounds of Sodium Dalapon in 75 gallons of water plus 1½ pounds of a synthetic detergent such as Tide, Surf or Fab or similar preparation per acre to tender foliage of short second-growth Johnsongrass in cotton any time during the growing season. Retreat within 10 days for 80 percent or more reduced stand if the grass is left undisturbed. Cotton in the treated spot will be killed by the first treatment.

Apply 1/3 teaspoon of a half-and-half mixture of naphtha and diesel fuel oil to the crowns of Johnsongrass stems in scattered stands of either seedlings or second-growth grass less than 18 inches tall to kill them to the ground. A single treatment

eradicates the seed grass. Four to six treatments at intervals to prevent second-growth grass from becoming 6 inches tall usually eradicates old grass. Crown-oiling of scattered stands of Johnsongrass in cotton can be done with a hand sprayer. Little or no loss to crop stands results when the oil is kept off the cotton. Crown-oiling second-growth Johnsongrass in other row crops is practical but less effective than in cotton. Crops such as corn and sorghum soon grow too tall for hand sprayers. For further information on this practice see Extension B-808, *Spot-oiling Johnsongrass*.

ON THE COVER

(Top photograph) This fence row was cleared of Johnsongrass by applications of Atlacide.

(Lower photograph) Field on left had Johnsongrass control with oil during previous and current years. Field on right had Johnsongrass control by hoeing.