



# ALTERNATIVE CONTROL OF JOHNSONGRASS

CURRENT TOPIC

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Johnsongrass reproduces readily from seed, rootstock, and underground rhizomes. Stands of johnsongrass are thickened and improved by disking and other forms of tillage that cut and spread rhizomes. On the other hand, defoliation (by grazing, mowing, burning, etc.) prior to maturity reduces rhizome production, which peaks just prior to heading. Preventing seed production is also essential to controlling spread of the plant (1).

Light infestations of seedling johnsongrass in row-crop and vegetable fields can usually be controlled by regular cultivation and crop competition. Escaped plants, however, must be dealt with by hand-hoeing or other means to prevent seed production. Where the weed population has reached problem levels, more strategy is required. A USDA Farmers' Bulletin, *Johnson Grass as a Weed* (2), mentions several nonchemical options:

- A crop rotation strategy is effective against light to moderate weed stands. Rotate winter-annual small grains and legume forages, using them as smother crops or mowing them frequently. Intensive seedbed preparation and cultivation are important. Tillage should cut and bring rhizomes to the soil surface for desiccation, not simply cut and distribute them throughout the field.
- Fallowing, with regular cultivation every four to five weeks, is useful against denser stands of johnsongrass, reducing them to a few plants per acre. Alternating tillage equipment increases the effectiveness of this strategy.
- Timely mowing and/or close grazing can greatly reduce dense stands of johnsongrass. Rotation to alfalfa that is regularly cut for hay can also reduce stands in pastures. In some cropping situations, *properly managed* weeder geese can also be effective against johnsongrass. ATTRA can provide more information on weeder geese.

An important component of these strategies is keeping top-growth down. This is aimed at preventing the root and rhizome system from producing "tertiary growth." Tertiary root growth starts about the time of flowering. It is these roots that overwinter, and from which the plant will sprout the following spring. If tertiary growth is suppressed, cultivation is more likely to kill the roots and rhizomes. For more detail on root growth and how to manage it, see page 7 of the enclosed USDA Farmers' Bulletin No. 279.

Johnsongrass makes good forage. It is a higher-energy grass in relation to crude protein, so cattle can achieve excellent gains on it. Troubled fields can be converted to pasture, turning a problem into an income source. Though it is not best for pasture grasses in general, continuous grazing will give better johnsongrass control than rotational grazing. Continuous grazing will deplete the rhizomes and eventually kill the plants. The grazing must be managed to avoid prussic acid poisoning, which can occur when johnsongrass is grazed after frost, after drought stress, or in the early growth stages.

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Two herbicidal techniques using Roundup™ for johnsongrass control qualify as low-input and low-impact. A systemic, nonselective herbicide, Roundup™ moves throughout the plant, usually eliminating regrowth from the roots. The first technique, spot spraying with Roundup™, can be effective in eliminating johnsongrass hot spots. The second technique; applying Roundup™ with a rope-wick applicator where the weed towers above the crop, is also a target-specific method. The rope-wick applicators function like sponge mops, absorbing and holding the herbicide. The chemical is then “wiped” directly onto the weed. Rope wick applicators are available in hand-held and tractor-mounted models.

## References

- 1) Heath, Maurice, Robert F. Barnes, and Darrel S. Metcalf. 1985. Forages: The Science of Grassland Agriculture, 4th ed. Iowa State University Press. Ames, IA. 643 p.
- 2) McWhorter, C.G. 1981. Johnsongrass...as a Weed. USDA Farmers’ Bulletin 1537. 19 p.

## Enclosures

Anon. 1992. He wipes weeds as he cultivates. Farm Show. Vol. 16, No. 5. p. 6.

Cates, J.S., and W.J. Spillman. 1907. A Method of Eradicating Johnsongrass. USDA Farmers’ Bulletin 279. 16 p.

Hutchinson, M. 1992. Vegetation management guideline: Johnsongrass. Natural Areas Journal. October. p. 219–220.

McWhorter, C.G. 1981. Johnsongrass...as a Weed. USDA Farmers’ Bulletin 1537. 19 p.

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