



JOHNSONGRASS

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one and a half feet long with reddish-brown oval seeds.

'Bankruptcy grass' invading fields

LANCASTER, Pa. - Corn production on thousands of acres in Pennsylvania is reduced annually due to heavy infestations of johnsongrass. Furthermore, the problem is an increasing one as the weed continues to spread here.

According to Pennsylvania State University agronomists, johnsongrass is now widely scattered across the state causing yield losses wherever it occurs. Heaviest infestations are in the so-called South Mountain region - the southeast corner of the state - with Lebanon, Dauphin, Lancaster, York and Cumberland counties bearing the brunt of the attack.

However, University specialists agree that growers in all parts of the state should be on the lookout for the weed. It no longer restricts itself to the damper lowlands and river-bottoms, but has moved on to the well-drained mineral soils of the uplands. In addition, johnsongrass is reaching further north than ever before. Weed watchers speculate this may be due to milder winters that allow the rhizomes to get through the season. Others suggest the weed has evolved a hardier strain that can take the cold.

One major reason for the proliferation of the weed is its tremendous reproductive potential. Johnsongrass reproduces by seeds and underground rhizomes. The rhizomes spread easily through the soil. In fact, a single plant has the potential of producing 200 to 300 feet of rhizomes and each node (joints, approximately four inches apart) is capable of sprouting to produce a new plant. These plants in turn make new rhizomes and seed. In one recent field study, over four million viable johnsongrass seeds were measured in the top 2 1/2 inches of soil in a single heavily infested acre. Furthermore, these seeds are viable in the soil at least five years, making the effective control of johnsongrass all the more difficult.

Bankruptcy Grass

If proper control measures aren't used against johnsongrass, it can take over a crop within three years, causing sufficient damage to reduce yields up to 50 per cent and more. In some severe infestations, growers find the corn is

not worth harvesting. It's commonly believed that there are more corn fields abandoned because of johnsongrass than any other single weed. Older growers used to call it 'bankruptcy grass' for obvious reasons.

Several Pennsylvania growers recently put the problem into field perspective. According to Jesse Copenhaver of Lebanon, "I was ready to quit farming one farm because of the johnsongrass. I had a real mess - used to lose 50 acres of corn, and I mean a total loss."

One of Copenhaver's neighbors, John Landis, faced similar problems: "My one regret is that I didn't start a control program soon enough," says Landis. "I only had small patches of johnsongrass four years ago when I first noticed it. Unfortunately, I didn't do anything special to control it and last year I had the weed in over 80 acres of corn. In fact, it was so bad in some areas - about two acres worth - I had to go in and cut down the corn along with the johnsongrass."

It is not difficult to identify johnsongrass since it usually towers above corn. It grows more than eight feet high, has a seed head one and one-half feet high, and its root-like rhizomes are about the size of a man's thumb in diameter. The reddish-brown seeds are about one-eighth of an inch long and oval shaped.

The jungle-like growth of this grass has been compared to that of sugarcane. It is a fierce competitor to cultivated crops such as corn and alfalfa.

In addition to competing for light, soil nutrients, and moisture, it also serves as a host for the corn disease called Maize dwarf mosaic. The virus over-winters in johnsongrass rhizomes and is spread from johnsongrass to corn by aphids. This disease causes stunting of the corn plant and dwarfing of the ears in some of the more sensitive, non-resistant varieties.

A continual problem in Lebanon County

"Although johnsongrass may be new to some areas of the state, we have been plagued by it for more than a dozen years now," explains Dennis Hoke, Lebanon Extension agent. "It



Johnsongrass roots and rhizomes. Having the plant on the farm can be a costly consequence, hence the nickname 'bankruptcy grass.' Getting rid of the weed can be tricky and is not cheap.



John Landis, Lebanon County farmer, examines johnsongrass rhizomes. Lebanon County reportedly has the worst infestation of the weed in Pennsylvania, although it is found in many other parts of the state and also in neighboring states. At a recent meeting of the Lebanon County Farmers' Association, it was voted to have the state classify the plant as a noxious weed.

seemed to be a continual problem since we didn't know how to handle it, until recently. Now we have the chemicals to control it, and know what cultural practices to employ to help."

"One practice I find that helps is fall plowing," says Copenhaver, "this brings the rhizomes to the surface for a good winter kill. However, fall plowing alone won't get it; you need the appropriate herbicides."

"You must disc the soil enough times to break up clods and cut the rhizomes into small pieces before applying herbicides," Hoke adds. "This weakens rhizomes and enables the herbicide to make contact with rhizomes and seedlings." For example, in the spring, Jesse Copenhaver first field cultivates, then discs at least once before applying herbicides, and after application, cross-discs.

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