

# TIMELY INFORMATION

## Agriculture & Natural Resources

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### WEED HOSTS FOR RENIFORM NEMATODES

*William S. Gazaway, Alabama Cooperative Extension System, Kathy Lawrence, Entomology and Plant Pathology Dept., Auburn University and Andrew Price, U.S.D.A., Auburn University*

Reniform nematodes cost Alabama farmers millions of dollars in production losses annually. It is estimated in cotton that reniform nematodes accounted for approximately \$30 million in yield losses alone in 2006. Other crops such as soybean and vegetables suffer substantial losses to this devastating pest as well. Reniform nematodes produce enormous populations that feed on and destroy the susceptible plants' root systems. An adult female produces from 200 to 300 offspring which mature and reproduce within 18 to 26 days, depending on the soil's temperature and moisture content. Reniform nematodes become active as soon as the soil temperature reaches 65°F and are most active from 80°F to 85°F. Therefore it is easy to understand how reniform populations achieve huge numbers during the growing season.

Since reniform nematodes cannot be eradicated under field conditions, the objective of a successful management program is to reduce their populations as low as possible so the crop can establish a healthy root system before the reniform populations build up in the spring. This is achieved by the use of nematicides or rotation with summer non-host crops such as peanut, corn, or resistant soybean varieties. In fields where reniform populations are especially large, crop rotation is the only solution.

In addition to crops and vegetables, reniform nematodes also feed and reproduce on many weed species. Therefore, controlling susceptible weeds is essential to a successful crop rotation program. Dr. Kathy Lawrence in greenhouse studies developed the following table which lists the relative susceptibility of weed reniform nematodes. Growers are advised to control any weeds that have a Rf value greater than 1.0. For example, weeds such as Morningglory, Coffee Senna, Common Ragweed, Sicklepod, and Teaweed must be controlled for any crop rotation program to be effective.

**Table 1. Susceptibility of Common Weeds to Reniform Nematodes.**

Common Name	Scientific Name	Rf Value	
		Total	**
Pearly Morningglory	<i>Ipomea tricolor</i>	35028	17.5
Scarlet Morningglory	<i>Ipomea nil</i>	25242	12.6
Coffee Senna	<i>Senna occidentalis</i>	22990	11.5
Common Ragweed	<i>Ambrosia artemisifolia</i>	17323	8.7
Teaweed	<i>Sida spinosa</i>	13812	6.9
Tall Morningglory	<i>Ipomea purpurea</i>	12814	6.4
Wild Buckwheat	<i>Polygonum convolvulua</i>	9455	4.7
Black Medic	<i>Medicago lupulina</i>	9177	4.6
Ivy Leaf Morningglory	<i>Ipomea hederacea</i>	7524	3.8
Sicklepod	<i>Senna obtusifolia</i>	6937	3.5
Musk Thistle	<i>Carduus nutans</i>	6767	3.4
<b>Cotton</b>	<b>Gossypium hirsutum</b>	<b>6762</b>	<b>3.4</b>
Pale Smartweed	<i>Polygonum lapathifolium</i>	5145	2.6
Common Waterhemp	<i>Amaranthus rudis</i>	5099	2.5
Carolina geranium	<i>Geranium carolinianum</i>	4992	2.5
Coffee Weed	<i>Sesbania punicea</i>	4419	2.2
Pitted Morningglory	<i>Ipomea lacunose</i>	3924	2.0
Velvet Leaf	<i>Abutilon theophrasti</i>	3708	1.9
Carpet Weed	<i>Mullugo verticillata</i>	2794	1.4
Wild Mustard	<i>Sinapis arvensis</i>	2519	1.3
Redroot Pigweed	<i>Armaranthus retroflexus</i>	2410	1.2
Hemp Sesbania	<i>Sesbania herbacea</i>	2323	1.2
Blue Fescue	<i>Festuca glauca</i>	2178	1.1
Tropical Spiderwort	<i>Commelina benghalensis</i>	1864	0.9
Henbit	<i>Lamium amplexicaule</i>	962	0.5
B. Plantain	<i>Plantago lanceolata</i>	760	0.4
Field Bindweed	<i>Convolvulus arvensis</i>	711	0.4
Johnsongrass	<i>Sorghum halepense</i>	680	0.3
Kochia	<i>Kochia scoparia</i>	574	0.3
Curly Dock	<i>Rumex crispus</i>	418	0.2
Corn Spurry	<i>Spergula arvensis</i>	346	0.2
Jimsonweed	<i>Datura stramonium</i>	326	0.2
Common Lambsquarters	<i>Chenopodium album</i>	295	0.2
Red Sorrel	<i>Rumex acetosella</i>	294	0.1
Green Foxtail	<i>Setaria viridis</i>	273	0.1
Texas Panicum	<i>Panicum texanum</i>	270	0.1
Purple Nutsedge	<i>Cyperus rotundus</i>	247	0.1
Barnyard Grass	<i>Echinochloa crus-galli</i>	216	0.1
Yellow Foxtail	<i>Setaria glauca</i>	212	0.1
Fall Panicum	<i>Panicum dichotomiflorum</i>	106	0.1
Broadleaf Signalgrass	<i>Urochloa platyphylla</i>	78	0.0
Cogongrass	<i>Imperata cylindrical</i>	62	0.0

Common Name	Scientific Name		Rf Value
		Total	**
Large Crabgrass	<i>Digitaria sanguinalis</i>	60	0.0