

The sorghum genotypes screened differed widely in their response to Al toxicity (Table 1). Relative root lengths for the Al tolerant ones ranged from 90.81% to 101.53%. These genotypes exhibited no Al toxicity symptoms on roots. On the other hand, the Al sensitive ones, with RRL ranging from 63.85% to 76.12%, exhibited severe to very severe Al toxicity symptoms on roots and leaves.

Eleven out of the 25 genotypes screened were observed to be Al tolerant, the remaining 14 genotypes behaved as Al sensitive. The wide variability exhibited by these genotypes indicates that potential for developing Al tolerant inbreds exists in grain sorghum.

Susceptibility of Sorghum To Rootknot Nematode, Meloidogyne incognita

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Rootknot nematode, Meloidogyne incognita, infects and reproduces on sorghum grown in sandy desert soils of Arizona. While host damage is usually slight or non-detectable in most cultivars, the infection is of importance to growers who may use the crop in rotation with others such as carrots, melons, cucumbers, tomatoes or potatoes which are highly susceptible to infection. Even late planted cotton following sorghum may be damaged if soil fumigants are not applied.

Investigations were conducted under controlled environmental conditions to determine if certain types of sorghum vary in susceptibility to this species of nematode. Two thousand larvae were added to each 6 inch pot containing 3 seedlings of each cultivar that were 10 days old following emergence. Cultivars of milo, kafir, hegari, sorgo, sudangrass, broomcorn and feterita types were tested for 60 days following soil infestation. All were found to be susceptible, with the nematode completing its life cycle and producing eggs at least in low numbers on each cultivar tested.

In some sorghum lines the galls were only elongated swellings on the roots while in others the presence of the egg masses on the root surface was the only indication that invasion had occurred. Pronounced galls were seldom found, a factor no doubt, contributing to the general belief that the crop is resistant to rootknot infection.

Growers should be aware that sorghum serves as host to this nematode and if a susceptible crop is to follow it, then precaution is urged and remedial measures recommended.

The following table gives the degree of rootknot susceptibility based on the percent of the total rootsystem infected. The tomato bioassay established from tomatoes grown in the soil after the sorghum was removed at the end of 60 days, gives an indication of the numbers of eggs that were produced from the females infecting the sorghum.

<u>Sorghum type</u>	<u>Entry</u>	<u>Rootknot Index</u> ¹	<u>Tomato Bioassay</u> ¹
Milo	Dwarf White	46	75
	Double Dwarf 38	58	81
	TX 7078	28	91
	TX 2510	40	74
	Caprock	68	85
Feterita	TX 2536	41	67
	TX 09	38	52
	FC 811	29	74
Kafir	Combine 60B	80	100
	Texas Blackhull	100	100
	Sedan Kafir	95	87
Hegari	Regular	50	68
	Combine	69	73
	Bonita SA 79#15	71	84
	Early	67	90
Sorgo	Early Sumac	49	87
Broomcorn	Spanish #24	68	100

¹ % of roots infected