

## Relative Resistance in Groundnut Varieties for Sclerotial Root Rot (*Sclerotium rolfsii* Sacc.)

Groundnut is affected by many soil borne diseases. Sclerotial root rot caused by *Sclerotium rolfsii* Sacc., was reported for the first time by Singh and Mathur (1953) in Uttar Pradesh. It causes great damage to the crop by causing a high mortality. It was also observed that a few varieties of groundnut were affected severely. As such an attempt was made to test a few popular varieties and cultures for resistance for the disease.

In all, varieties and cultures numbering 20 were tested during the *Kharif* seasons of 1970-71 and 1972-73. The experiment was laid out at the Government Groundnut Research Station, Manipuri in randomised block design, replicated twice. Each culture was sown in a single row of 7 m in length. The pathogen was multiplied on sand maize medium. Such medium including the inoculum was incorporated into the soil at the rate of 2 kg per row at the time of sowing and regularly at monthly intervals till the crop was mature. The experiment was repeated for three years.

The data on mortality were recorded at 30 days intervals in each line throughout the duration of the crop. The percentage intensity of the sclerotial rot was transformed into angle

$\sin^{-1} \sqrt{\text{percentage intensity}}$  and analysed statistically by analysis of variance technique and tested for significance at 5 per cent level. The data are presented in Table 1.

It was seen from the combined analysis that with respect to the intensity of infection there was no significant variation among the years. The treatment differences was significant on testing against Y x T. The varieties TMV 1, *Asiriya mwitunde*, AH 5724 and AH 5723 were least susceptible to sclerotial root rot followed by T 64 AH 5701, AH 4111, Punjab 1, T 28 and TMV 3. Spanish improved RS 114, TMV 7 and TMV 2 were highly susceptible. The other varieties were intermediary in their susceptibility. None of the varieties tested was free from the disease. Subramaniam (1964) tested 8 varieties against the pathogen and reported that all of them to be susceptible in varying degree. Lewin *et al.* (1971) recorded that TMV 1 and *Asiriya mwitunde* were susceptible. Thomas (1941) reported that bunch varieties were generally more susceptible than spreading varieties. In the present studies also most of the bunch varieties except AH 6279 were found to be more susceptible than the spreading varieties.

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TABLE 1. Table showing the mean intensity of root rot

Treatments (Varieties and Cultures)	Average angle of the disease Sin <sup>1</sup> $\sqrt{\frac{\text{per cent intensity}}{\text{per cent intensity}}}$			Mean	Mean when transformed back	Type
	1970-71	1971-72	1972-73			
TMV 1	16.00	10.63	12.92	13.18	5.2	Spreading
<i>Assiriya mwitunde</i>	14.30	12.79	16.00	14.36	6.3	Semi-Spreading
AH 5724	13.18	17.66	15.68	15.51	7.2	Spreading.
AH 5723	12.11	17.26	19.09	16.15	7.7	"
T 64	19.46	20.96	18.05	19.49	11.1	Semi-Spreading
AH 5701	21.64	19.09	17.95	19.56	11.2	Spreading
AH 4111	22.95	19.46	20.53	20.98	12.8	"
AH 6279	19.00	24.35	21.56	21.64	13.6	Bunch
Punjab 1	20.44	22.06	23.03	21.84	13.8	Spreading
T 28	25.25	21.81	20.18	22.41	14.5	"
TMV 3	22.63	24.50	22.87	23.33	15.7	"
RS 55	33.58	32.08	41.61	35.76	34.2	Bunch
AH 334	37.94	33.41	36.33	35.99	34.5	Spreading
RS 60	37.70	36.39	37.05	37.05	36.3	Bunch
AH 1192	42.82	30.40	38.23	37.15	36.5	Bunch
Local	38.76	43.80	40.63	41.06	43.2	Spreading
panish Improved	49.49	52.18	36.15	45.94	51.6	Bunch
TMV 2	44.60	45.74	53.79	48.04	55.3	Bunch
TMV 7	50.94	58.56	47.70	52.40	62.8	Bunch
RS 114	55.67	57.04	60.33	57.68	71.4	Bunch
Mean	29.92	30.03	29.98			

S. E. for treatment — 30.056

C. D. at 5% — 8.733

## REFERENCES

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