**Table 1.** Evaluation of coriander cultivars for disease intensity and yield

| Cultivars | Disease intensity (%) | Reaction | Seed yield g/plant | | Yield loss (%) |
|---|---|---|---|---|---|
| | | | Healthy | Diseased | |
| UD-1 | 26 | S | 1.89 | 0.63 | 14.4 |
| UD-20 | 5 | R | 1.86 | 0.17 | 3.9 |
| UD-21 | 12 | MR | 1.69 | 0.44 | 11.2 |
| UD-373 | 14 | MR | 1.97 | 0.34 | 10.3 |
| UD-374 | 15 | MR | 1.87 | 0.48 | 13.5 |
| UD-435 | 13 | MR | 1.95 | 0.51 | 14.0 |
| UD-436 | 25 | MR | 1.90 | 0.74 | 12.3 |
| JD-12 | 2 | R | 2.01 | 0.09 | 2.0 |
| G 5365-91 | 4 | R | 2.08 | 0.15 | 3.4 |
| Moreccon | 26 | S | 2.01 | 0.66 | 13.8 |
| CS-2 | 15 | MR | 1.77 | 0.48 | 10.5 |
| CS-4 | 42 | S | 1.61 | 1.13 | 26.0 |
| CS-6 | 16 | MR | 1.99 | 0.55 | 12.0 |
| CS-7 | 24 | MR | 1.93 | 0.77 | 16.5 |
| CS-193 | 18 | MR | 1.94 | 0.56 | 13.1 |
| CS-208 | 25 | MR | 1.84 | 0.76 | 15.2 |
| CS-362 | 32 | S | 2.16 | 0.91 | 17.9 |
| Rcr-41 | 9 | R | 1.98 | 0.29 | 5.6 |
| Pant Haritma | 7 | R | 1.86 | 0.26 | 5.3 |
| Comp-1 | 26 | S | 1.82 | 0.74 | 16.5 |
| Comp-2 | 27 | S | 1.92 | 0.88 | 17.3 |
| Gwalior local | 25 | S | 1.69 | 0.60 | .4 |
| SEm ± CD (P=0.05) | | | | | |

yield loss by multiple of 0.496. Gupta (1954) and Naqvi (1986) also described a model for estimating a seed yield loss due to stem gall disease and recorded positive and significant correlation coefficients (*viz.*, 0.902, 0.833) between disease intensity and % yield loss.

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# Assessment of Avoidable Yield Loss of Sunflower due to *Rotylenchulus reniformis*


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Sunflower (*Helianthus annus* L.) a non-traditional oil seed crop was introduced in the sixties. At present, sunflower occupies an area of 1.70 million hectares with a production of 1.16 million tonnes (Hegde & Kiresur, 1999). It is thermo and photo-insensitive crop and can be grown throughout the year. A number of plant parasitic nematodes have been reported to be

associated with sunflower in India, among these, *Rotylenchulus reniformis* was greatly associated with this crop. Therefore, it was felt desirable to report the yield loss of sunflower due to *R. reniformis* for three consecutive years i.e. 1999, 2000 and 2001.

The trials was conducted in three consecutive years in the field of IARI, New Delhi. The field was well ploughed, freed of weeds and 3x2 m plots were prepared and sunflower hybrid MSHF-8 were sown in lines. The treatment for the trials was, carbofuran 3G @ 2 kg a.i./ha and untreated check, replicated 5 times. The population of *R. reniformis* was taken before and at the time of harvest. Data on yield and nematode population were recorded after 4 months of experimentation.

The yield of sunflower seeds was found to be higher with the application of nematicide-carbofuran @ 2 kg a.i./ha. The % increase over control was calculated to be 40.1, 40.8 and 48.7% in the years 1999, 2000 and 2001 respectively (Table-1). The significant reduction in the yield of sunflower in untreated plots was mainly attributed to direct of damage of root system by feeding of reniform nematode. Prasad (1997) reported 33.1% yield loss of groundnut due to *Meloidogyne arenaria* and *R. reniformis* together found in a field of Uttar Pradesh. *R. reniformis* population in carbofuran treated plots was significantly lower than in the untreated check in all three years, however, at the harvest, the population was significantly low but in the check, the nematode multiplied many fold during the crop season. High *R. reniformis* population in the untreated check plot decreased the plant growth and ultimately reduced the flower size, number of seeds and weight of seeds. Prasad and Narayana (1999) reported that *M. incognita* could significantly reduce oil content of sunflower by 40.1% in 3000 $J_2$ of root knot nematode in pot culture conditions.

**Table 1.** Avoidable yield loss of sunflower due to *Rotylenchulus reniformis*

| | Average of 5 replications | | |
|---|---|---|---|
| **Treatments** | **1999** | **2000** | **2001** |
| | **Yield Loss** | | |
| Treated | 102.00 | 97.50 | 119.00 |
| Untreated | 61.00 | 57.80 | 61.00 |
| SEm± | 1.41 | 1.98 | 1.59 |
| CD (P=0.05) | 8.60 | 12.06 | 9.70 |
| % Avoidable yield loss | 40.10 | 40.80 | 48.70 |
| | **Nematode Population** | | |
| Initial | 516.6 | 429.9 | 375.0 |
| Control | 842.6 | 472.4 | 1080.0 |
| Treated with carbofuran | 133.0 | 119.0 | 196.7 |
| SEm± | 105.40 | 22.1 | 71.4 |
| CD (P=0.05) | 310.9 | 65.2 | 210.7 |

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# Ovicidal Effect of Endosulfan and Neem Formulations Against *Chilo partellus* Eggs


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The pest control potential of neem remained largely untapped due to advent of synthetic insecticides. The pest control potential of the neem has been appreciated in the past decade. Though subtle, neem effects such as repellence, feeding and oviposition deterrence, ovicidal action,