

INTRODUCTION

- Ajwain (Oma/ Carum seed/ Bishop’s weed) is one of the minor seed spices. It is botanically known as *Trachyspermum ammi* (L.), which is an important rabi season seed spice with 2n=18 and belonging to Apiaceae family.
- The stem fly, *Melanagromyza* sp. (Agromyzidae: Diptera), is recently noticed on ajwain crop.
- The maggots mines through the mesophyll leaf tissue towards the vein, later downward tunneling into the stem (Curioletti *et al.*, 2018).
- Infected leaves and stems were turn to pinkish red colour later turns to yellow colour and distinct zigzag tunnel was made by maggots inside, some exit holes were present on the stem.
- Later whole plant dries up and ultimately plant will die.
- It reduces the ajwain crop yield, depending on the intensity and the phenological plant stage.
- Keeping this in view, the present investigation was conducted on screening of ajwain genotypes against stem fly.

MATERIAL AND METHODS

- The present investigation on ajwain crop was undertaken during *rabi* season in 2019-20 at Department of Plantation, Spices, Medicinal and Aromatic Crops, College of Horticulture, Bagalkote. The experiment was laid out in randomized complete block design with 16 treatments and 4 replications.
- The plot size was 3 m × 2.25 m with a spacing of 45 cm × 30 cm. The crop was sown in the first week of November. Observations were recorded systematically at monthly interval and analyzed as per the standard procedure.
- The stem fly incidence was scored based on following index (Azmi and Sharma, 2020),
 - 0: Immune
 - 1-10 : Highly resistance
 - 10-25: Resistance
 - 25-50: Moderately resistance
 - 50-75: Susceptible
 - >75: Highly susceptible

RESULTS & DISCUSSION

- Among the 16 genotypes screened, none of the genotypes showed immune reaction to stem fly. However, the genotype AA-1 and AA-93 showed resistance.
- Remaining genotypes (AA-2, GA-1, AL-3, Lam selection-1, LTA-26, DAC-1, DAC-2, DAC-3, DAC-4, DAC-5, DAC-6, DAC-7, AL-5 and AL-4) showed moderately resistance to stem fly.
- No genotypes showed susceptible and highly susceptible reaction to stem fly of ajwain crop.
- Since, there was no report of stem fly on ajwain crop, the reviews on stem fly incidence on soyabean crop was discussed and compared with the present incidence of stem fly on ajwain crop.
- Among the 50 genotypes of soyabean, 5 genotypes exhibited minimum stem tunneling *viz.* TGX 849-D-13-4 (25.69%), EC-390981 (28.50%), VP-1143 (28.97), EC 241 771 (32.24%) and SQL-89 (34.74%), 23 had medium stem tunneling percentage and 16 had maximum stem tunneling percentage (Azmi and Sharma, 2020).
- Hence, resistance genotypes identified during present study (AA-1 and AA-93) needs further investigation at different seasons and location to develop the host plant resistance (HPR) against stem fly of ajwain as one of the IPM component.

TABLES & FIGURES

Table1. Reactions of ajwain genotypes against stem fly

Treatments	Stem fly incidence (%)	Seed yield per plant (g)	Seed yield per plot (g)	Seed yield (q/ha)
T ₁ – AA-1	20.91	10.99	274.56	4.14
T ₂ – AA-2	28.06	8.53	211.06	3.12
T ₃ – AA-93	23.98	9.93	245.81	3.64
T ₄ – GA-1	26.53	9.17	224.64	3.32
T ₅ – AL-3	41.32	5.86	143.44	2.12
T ₆ – AL-4	45.40	5.20	127.34	1.88
T ₇ – AL-5	37.24	7.70	187.43	2.77
T ₈ – Lam selection-1	40.30	6.18	151.26	2.24
T ₉ –LTA-26	39.79	6.27	153.62	2.27
T ₁₀ -DAC-1	29.08	7.96	195.05	2.88
T ₁₁ -DAC-2	42.34	5.70	139.67	2.07
T ₁₂ -DAC-3	37.80	6.70	164.17	2.43
T ₁₃ -DAC-4	34.69	7.61	184.89	2.75
T ₁₄ -DAC-5	35.71	7.65	186.62	2.76
T ₁₅ -DAC-6	31.63	7.74	189.55	2.80
T ₁₆ -DAC-7	38.77	6.49	158.93	2.35
S. Em ±	1.99	0.18	4.10	0.06
C. D. (P = 0.05)	5.67	0.52	11.69	0.18

PHOTOS



Plate 1. stem fly infested plants



Plate 2. stem fly (*Melanagromyza* sp.)

CONCLUSION

In the present investigation, results revealed that AA-1 and AA-93 genotypes showed resistance to stem fly and recorded highest yield when compared to other genotypes.

REFERENCES

- Curioletti, L. E., Arnemann, J. A., Muraro, D. S., Melo, A. A., Perini, C. R., Cavallin, L. A. and Guedes, J. V. C., 2018, First insights of soybean stem fly (SSF) *Melanagromyza sojae* control in South America. *Aust. J. Crop Sci.*, **12**(05):841-848.
- Azmi, A. and Sharma, A. N., 2020, Screening of soybean genotypes/varieties for resistance and/or tolerance against major insect-pests (kharif 2016 and kharif2017). *J. Entomol. Zool. Stud.*, **8**(01):576-583.