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Reaction of Sesame Germplasm of Odisha against *Antigastra catalaunalis* under Field Condition

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Abstract

Twelve sesame germplasms developed from Odisha were screened under field condition against shoot damage (at 25 DAS) and capsule damage (at 50 DAS), caused by Antigastra catalaunalis during wet season of 2008 and 2009. OSC-560, OSC-207, OSC-366, OSC-440, OSC-9-06 were categorized as moderately resistant (MR) against shoot and capsule damage. OSC-32, OSC-162, OSC-442, OSC-566 and OSC-593 exhibited moderately susceptible (MS) reaction to shoot and capsule damage. Most of the entries from Odisha proved their worthiness at national level.

Key words : Sesamum indicum, Germplasm screening, Antigastra catalaunalis.

Sesame, *Sesamun indicum* L. is an important oil-seed crop of Odisha and India. Under coastal region of Odisha, sesame crop get infested by 21 insect (pest) species (1). Among the sesame insect pests, maximum damage is caused by *Antigastra catalaunalis* (Dup.). It webs young shoot and leaves, bores into tender capsules, thereby causing great economical loss to farmers[1]. Under AICRP system of ICAR, breeders, entomologists and pathologists are making unified effort for the the development of pest and disease resistant / tolerant varieties with an aim to reduce the environmental pollution due to injudicious use of pesticides.

Hundreds of sesame germplasm are screened against major insect pest under field condition every year throughout India by multilocational trials (2—4). KMS-4-247, RJS-190, RJS-148-1-84, IS-116-B, KMS-5-373, NIC-16370, EC-303421-A, IS-216-1, KMR-23, KMR-25, KMR-252-A, NIC-8485, NIC-1789-A, NIC-8448, N-66-39-b, NIC-8538-A, X-99-9-9-8, ISS-56-B, NIC-8368, ES-22-B, ES-22-B, ES-123-3-84, KMS-5-367, KMS-62, IC-320, Murg-1, 8496, RJS-147, 8879, S-06-22, IC-96245, 8317, IS-52, IC-132522, IC-131546, IS-299-A and 8459 were categorized as moderately resistant (MR) against shoot and capsule damage caused by *A. catalaunalis*. Very little information is available on the interaction of sesame germplasm of Odisha and *A. catalaunalis*. Therefore, field experiments were conducted to determine the host plant reaction against the pest.

Methods

Twelve germplasm of *S. indicum*, developed from AICRP on Sesame, OUAT, Bhubaneswar were screened under field condition to determine their relative susceptibility against *A. catalaunalis* during wet season of 2008 and 2009. The seeds of experimental material were sown in the week 4 of August of both the years. All the field operations were carried out as per the state recommended package of practices without any insecticide umbrella. The shoot infestation (%) by *A. catalaunalis* larvae at 25 DAS (Days after sowing) was recorded. At 50 DAS, per cent capsule damage was noted. Rating of shoot damage and capsule damage was estimated (Table 1) (5).

Table 1. Categorization of host plant reaction of sesame germplasm against infestation by *A. catalaunalis*.

Rating	Infestation (%) Shoot (25 DAs)	Capsule (50 DAS)	Category
I	0-10	0-5	Resistant
II	10.1-20	5.1-10	Moderately resistant
III	20.1-30	10.1-15	Moderately susceptible
IV	30.1-50	15.1-25	Susceptible
V	>50	>25	Highly susceptible

Table 2. Screening of sesame germplasm of Odisha against *Antigastra catalaunalis* in field condition (wet season, 2008 and 2009). * Pooled rating of two years, DAS —Days after sowing, MR—Moderately resistant, MS—Moderately susceptible.

	Name of the entry	*Rating for mean shoot damage (%) at 25 DAS	*Rating for mean capsule damage (%) at 50 DAS
1.	OSC – 32	MS	MS
2.	OSC – 79	MS	MR
3.	OSC – 162	MS	MS
4.	OSC – 207	MR	MR
5.	OSC – 366	MR	MR
6.	OSC – 389 – 06	MS	MR
7.	OSC – 440	MR	MR
8.	OSC – 442	MS	MS
9.	OSC – 560	MR	MR
10.	OSC– 566	MS	MS
11.	OSC – 593	MS	MS
12.	OSC – 9 – 06	MR	MR

Results and Discussion

Experimental results (Table 2) indicated that, OSC-32, OSC-162, OSC-442, OSC-566 and OSC-593 exhibited moderately susceptible reaction against shoot and capsule damage by *A. catalaunalis* at 25 DAS and 50 DAS respectively. OSC-79 and OSC-389-06 exhibited moderately susceptible reaction to shoot infestation at 25 DAS and moderately resistant reaction to capsule infestation at 50DAS. In no case, moderately resistant reaction at 25 DAS to shoot damage and moderately susceptible reaction at 50 DAS to capsule damage was exhibited. In OSC-207, OSC-366, OSC-440, OSC-560 and OSC-9-06, moderately resistant reaction was observed against shoot and capsule infestation at 25 DAS and 50 DAS respectively. At the national level, by means of multilocational trials, OSC-440, OSC-389-06, OSC-442, OSC-79, OSC-366, OSC-9-06, OSC-207 and OSC-560 (all from Odisha) were evaluated and categorized as Moderately Resistant to *A. catalaunalis* (2—4). The experimental results of this paper support the findings of earlier workers.

References

1. Behera P. K. 2009. *Management of major insect pests of sesamum in coastal condition of Orissa.* Ph. D. thesis. OUAT, Bhubaneswar, India. 170 pp.
2. Anonymous. 2007. *Annual report* (2006-07). All India Co-ord. Res. Proj. on sesame and niger. Proj. Co-ord. Unit (ICAR), Jabalpur, India 215 pp.
3. Anonymous. 2008. *Annual report* (2007-08). *All India Co-ord. Res. Proj. on sesame and niger.* Proj. Co-ord. Unit (ICAR), Jabalpur, India. 278 pp.
4. Anonymous. 2009. *Annual report* (2008-09) *All India Co-ord. Res. Proj. on sesame and niger,* Proj. Co-ord. Unit (ICAR), Jabalpur, India. 278 pp.
5. Anonymous. 2008. Technical program for sesamum entomology. *Proc. 8th Ann. Works.* All India Co-ord. Res. Proj. on sesame and niger, Proj. Co-ord. Unit (ICAR), Jabalpur, India. 53 pp.