

## Abundance and Seasonability of Sucking Pests of Dolichos Bean\*

The Dolichos bean, *Lablab purpureus* L. an important pulse-cum-vegetable crop in India is cultivated for its tender and mature pods, seeds and also for fodder. The primary cause attributed for lower yields of field bean has been due to the damage caused by the insect pests. Govindan (1974) recorded as many as 55 species of insects and a species of mite feeding on the crop from seedling stage to the harvest of the crop in Karnataka.

Among the sucking pests, lablab bug, *Coptosoma cribraria* (Fabricius.) and *Riptortus pedestris* (Fabricius) occurred commonly and found in large numbers throughout the cropping period (Govindan, 1974). The bugs were found congregating on tender vines and sucking sap resulting in fading of vines and shoots (Ayyar, 1963). Whereas, the aphid, *Aphis craccivora* Koch. a serious pest of leguminous crop, suck the sap from tender shoots, inflorescence and pods resulting in drying up of tender shoot and premature fall of flower buds, flowers and tender pods.

The studies were carried out during the year 2004-05 at Main Agricultural Research Station (MARS), University of Agricultural Sciences (UAS), Dharwad. Konkanabushan, a popular field bean variety was sown during 3<sup>rd</sup> week of August and first week of September, on an area of one gunta each to study the abundance of sucking pests at two different sowing dates. After crop germination, the observations were made at five spots per plot on five randomly selected plants at each spot. The observations were made at weekly intervals. The sucking pest population was recorded by counting the number of leaf hoppers, thrips and aphids per three leaves on tagged plants. Similarly, the incidence of bug population was observed on five plants per spot.

The results indicated that the aphid, *Aphis craccivora* incidence was noticed in large number from September to first week of October with a population range of 30.5 to 50.0 and 8.4 to 11.2 aphids/3 leaves on crop sown during 3<sup>rd</sup> week of August and 1<sup>st</sup> week of September, respectively. The aphids usually found in colonies on tender twigs, inflorescence and pods. The leaf hopper appeared commonly in the vegetative phases of the

crop. Both nymphs and adults stayed on the ventral surface of the leaf and sucked the sap. Whereas, the thrips was found in large numbers on the leaves during September to October with the average number varying from 4.7 to 7.6 thrips/3 leaves on the August sown crop. Whereas, the crop sown in September harboured 1.2 to 3.36 thrips /3 leaves during October-November months. The results are in conformity with the observations made by Govindan (1974).

The bug, *Eurybrachys tomentosa* F. was found usually sucking the sap from twigs and rarely from the pods. Similar observations were made by Govindan (1974) on dolichos bean. However, Fletcher (1914) reported this species as a pest on calotropis, cotton and various malvaceous plants. The coreid bug, *A. phasiana* incidence was noticed from September to December, the adults of which were found feeding on the sap from tender twigs. *Clavigrella gibbosa* and *C. horrens* harboured the crop from October-January. Both the nymphs and adults were seen sucking the sap from the pods due to which brown spots were formed on the pods and also there was shriveling of seeds.

The nymphs and adults of *R. pedestris* were observed at later stages of crop growth and were found sucking the sap from the pods. Owing to sap sucking, brown spots appeared on the pod and also shriveling of seeds was noticed. On August sown crop, the bug population ranged from 0.2 to 10.8/5 plants. Govindan (1974) also recorded the incidence of *R. pedestris* during September to January. Lefroy (1909), Gangrade (1961) and Singh and Patel (1968) reported *C. gibbosa* and *C. horrens* as pest of red gram pods. *R. pedestris* has been observed sucking the pods of lablab, cowpea, blackgram, greengram, ridgegourd and wheat by Fletcher (1914). Whereas, *Anoplocnemis phasiana* (F.) has been reported to feed on grapes, brinjal, lablab, redgram, groundnut, glyricidia, pongamia and ridge gourd (Puttarudraiah and Maheswaraiyah, 1956).

Both nymphs and adults of *Dolicoris indicus* and *Nezara viridula* (Hemiptera : Pentatomidae) were found throughout the main cropping season on August sown crop. The mean population ranged from 0.2 to 4.3 bugs per 5 plants.

Table 1: Occurrence of sucking pests on August sown crop

Pests	15 DAS	30 DAS	45 DAS	60 DAS	75 DAS	90 DAS	105 DAS	120 DAS	135 DAS
Leaf hopper/3 leaves	3.20	4.60	5.20	2.20	0.00	0.00	0.00	0.00	0.00
Thrips/ 3 leaves	6.50	6.90	7.60	4.70	0.00	0.00	0.00	0.00	0.00
Aphids/3 leaves	30.5	35.5	40.00	50.0	42.0	38.0	37.0	36.5	30.00
Coreid bugs / 5 pl	0.2	0.41	1.02	9.20	10.8	7.8	6.0	3.4	0.80
Pentatomid bugs /5 pl	0.1	0.2	0.86	4.30	3.80	2.0	1.6	0.41	0.20

DAS: Days After Sowing

Coreid bugs : (*Riptortus pedestris*, *Anoplocnemis phasiana*, *Clavigrella gibbosa*, *C. horrens*)

Pentatomid bugs : (*Nezara viridula*, *Dolicoris indicus*)

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Table 2. Occurrence of sucking pests on September sown crop

Pests	30 DAS	45 DAS	60 DAS	75 DAS	90 DAS	105 DAS
Thrips /3 leaves	2.70	3.36	1.20	1.24	0.00	0.00
Aphids/ 3 leaves	11.00	11.20	9.40	9.60	8.40	9.00
Eurybrachid bug/5 pl	0.00	0.40	2.00	3.00	0.80	0.41

However, the number was negligible on September sown crop. The bugs sucked sap from all the aerial parts of the plant which agrees with earlier observations made by Govindan (1974). Fletcher (1914) and Corpuz (1969) mentioned these bugs as pest

of jowar, maize, bhendi, citrus, tobacco, sunflower, cowpea, brinjal and lablab. Singh and Taylor (1978) recorded green stinkbug (*N. viridula*) as a pest of greengram which attacks young leaves, shoots and pods.

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