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SEX RATIO OF THE INDIAN LAC INSECT ON PIGEONPEA

Pigeonpea has been a common lac host in Assam (**Misra**, 1929; **Glover**, 1937 and **Roonwal**, 1962). Attempts have always been made to utilise it as a lac host in other areas also but desired success is yet to be achieved (**Anon**, 1960-61). It is generally believed, though not well documented, that there is an excess of males among the lac insects, *Kerria lacca* (Kerr) on this plant. Males in excess are expected to lead to poor lac crop since they do not contribute towards the lac of commerce, but are quite essential for lac crop as unfertilised females cannot secrete the bulk of lac of commerce. **Misra** (1929) has mentioned about it, which appears to have been based on casual observations. In order to provide a clear picture in this regard the proportion of males was examined on fifteen varieties of pigeonpea and is being reported herein.

Fifteen varieties of pigeonpea (Table 1) were sown under Randomised block design at the ILRI farm and inoculated for *baisakhi* (October-November to June-July) -1983-84 crop as per standard agronomical and lac cultivation practices. Sex ratio of the lac insects was scored at the time of sexual maturity from 1 cm length of the shoots, collected from three plants, selected at random from each of the three blocks of all the varieties. Thus sex ratio for each variety is based on nine samples and expressed as percentage of males. Significant deviations from the normal sex ratio of the lac insect during *baisakhi* crop which records 35 per cent males on an average (**Glover**, 1937) were established and tested for significance by Chi-square test.

The data on the sex ratio of the lac insects on fifteen varieties of pigeonpea are presented in Table 1. It will be seen that the sex ratio varied with the varieties

Table 1. Sex ratio of the lac insects on pigeonpea

Varieties	n	male lac insects (%)	Varieties	n	male lac insects (%)
SA-1	193	58.32*	ICP No. 7188	276	38.76**
GWL-3	288	54.48*	ICP No. 7197	159	38.36**
2 E	268	47.38*	No. 3570	282	38.29**
ICP No. 8501	240	46.66*	S-8	205	38.04**
BDN-3	188	45.21*	ICP No. 3783	173	37.05**
Basant	283	44.87*	K-35/6	210	36.66**
Laxmi	234	43.58*	7-S	151	32.66*
Bahar	478	39.45**			

*Significant.
**Difference not significant at 5% level.

from 32.66 to 58.32 per cent males. Of the fifteen varieties tried, seven recorded significant variation from the normal sex ratio in favour of males, whereas, others

did not show much of difference. Numerically out of 15 varieties, only two (SA-1 and GWL-3) showed higher percentage of males, being 58.3 and 54.5%, respectively. Five varieties had marginally less percentage (43.6—47.4%) of males, whereas, 8 varieties showed much lesser percentage of males (32.7-39.5%)

Thus this study has clearly shown that sex ratio of lac insect on pigeonpea varies with the varieties. Use of pigeonpea as a lac host, therefore, should not be discouraged due to the apprehended drawback of excess of males. The selection of varieties should actually be made after initial trials keeping in view the male proportions also. The sex ratio in the coccides is known to be influenced by environmental factors (**Glover**, 1937 and **Beardsley** and **Gonzalez**, 1975).

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REFERENCES

Anonymous (1960-61) Annual Report, Indian Lac Research Institute, Namkum, Ranchi, pp. 6.

Beardsley Jr., J.W. and Gonzalez, R.H. (1975) The biology and ecology of armored scales. *Ann. Rev. Entomol*, **20** : 47-73.

Glover, P.M. (1937) *Lac cultivation in India.* Indian Lac Research Institute, Namkum, Ranchi, Bihar, India.

Misra, C.S. (1929) *The cultivation of lac in the plains of India.* Calcutta : Government of India Central Publication Branch. Agricultural Research Institute, Pusa, Bulletin No. 185.

Roonwal, M.L. (1962) *A Monograph on Lac*, Indian Lac Research Institute, Namkum, Ranchi, Bihar, India.