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Susceptibility of Some Genotypes of Pigeonpea to *Coccidohystrix insolita* (Green)*

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Spectacular success has been achieved n protecting the crops from insect damage and reduce losses by using one of the relatively less emphasised methods, the 'host plant resistance'. Plant resistance against the mealybug offers a good control avoiding all hazards but efforts in this direction are scanty. To determine the source of resistance as well as to locate the source of resistance, 16 genotypes of pigeonpea were sceened against he mealybug, *Coccidohystrix insolita* (Green).

The field and pot experiments were conducted during rainy season of 1991-92 and 1992-93 at College Farm, Junagadh adopting randomized block design with 16 genotypes (Table 1) of pigeonpea and three replications. In the field, each pigeonpea genotype was planted in two rows with 4.80 m length and spaced at 60 cm between the rows and 30 cm between the plants. All the recommended agronomic practices were adopted for raising the crop. Five plants with five secondary branches from each plant were selected for recording the mealybug population. The observations were recorded from top, middle and bottom leaves of each branch. In pot study, five mature females of mealybug were released on each potted plant of pigoenpea after five weeks of germination. Observations on mealybug index (0-4) were taken as categorised below :

Degree of infestation of mealybug on pigeonpea genotype	Mealybug index
— Plant free from mealybug pest	0
— Mealybug present but no colonies and no injury on the plant	1
— Small colonies present on tender leaves and leaves exhibited slight yellowish colour	2
— Leaves completely covered with mealybug and rinfested plant parts turn yellowish and withered	3
— Plants covered by mealybug and plants died	4

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TABLE 1

Population and Incidence of *C. insolita* In different genotypes of pigoenpea. (Mean of 1991-92 and 1992-93)

Genotype	*No. of C. insolita per leaf in field condition*		*Index value of C. insolita per plant in pot condition*
ICPL 2	3.34*	(11.16)	2.67
GAUT 86-10	3.40	(11.56)	2.83
GAUT 87-3	3.42	(11.70)	2.50
GAUT 84-13	3.49	(12.18)	2.83
T 21	3.95	(15.60)	2.83
Sehore 197	4.01	(16.08)	2.17
ICPL 6	4.02	(16.16)	3.17
ICPH 8	4.03	(16.24)	2.83
ICPL 87	4.15	(17.22)	2.17
UPAS 120	4.85	(23.52)	3.33
GAUT 89-17	4.93	(24.30)	2.50
T 15-15	5.11	(26.11)	3.50
BDN 2	5.45	(29.70)	3.17
GAUT 82-104	5.92	(35.05)	3.50
GT 100	6.00	(36.00)	3.83
ICPL 187-14	6.02	(36.24)	3.50
S. Em. ±	0.51		0.27
C. D at 5%	1.43		0.76
C. V. %	27.97		23.85

* $\sqrt{x}$ transformed values.
Figures in parentheses are retransformed values.

None of the genotypes was completely free from mealybug infestation (Table 1 and Fig. 1). However, in field screening, the genotype ICPL 2 was found significantly less susceptible (11.16 mealybugs/leaf) and it was statistically at par with GAUT 86-10, GAUT 87-3, GAUT 84-13, T 21, Sehore 197, ICPL 6 ICPH 8 and ICPL 87. The genotype, ICPL 187-14 was found to be the most susceptibl (36.24 mealybug/leaf) and at par with GT 100 GAUT 82-104, BDN 2, T 15-15, GAUT 89-1 and UPAS 120.

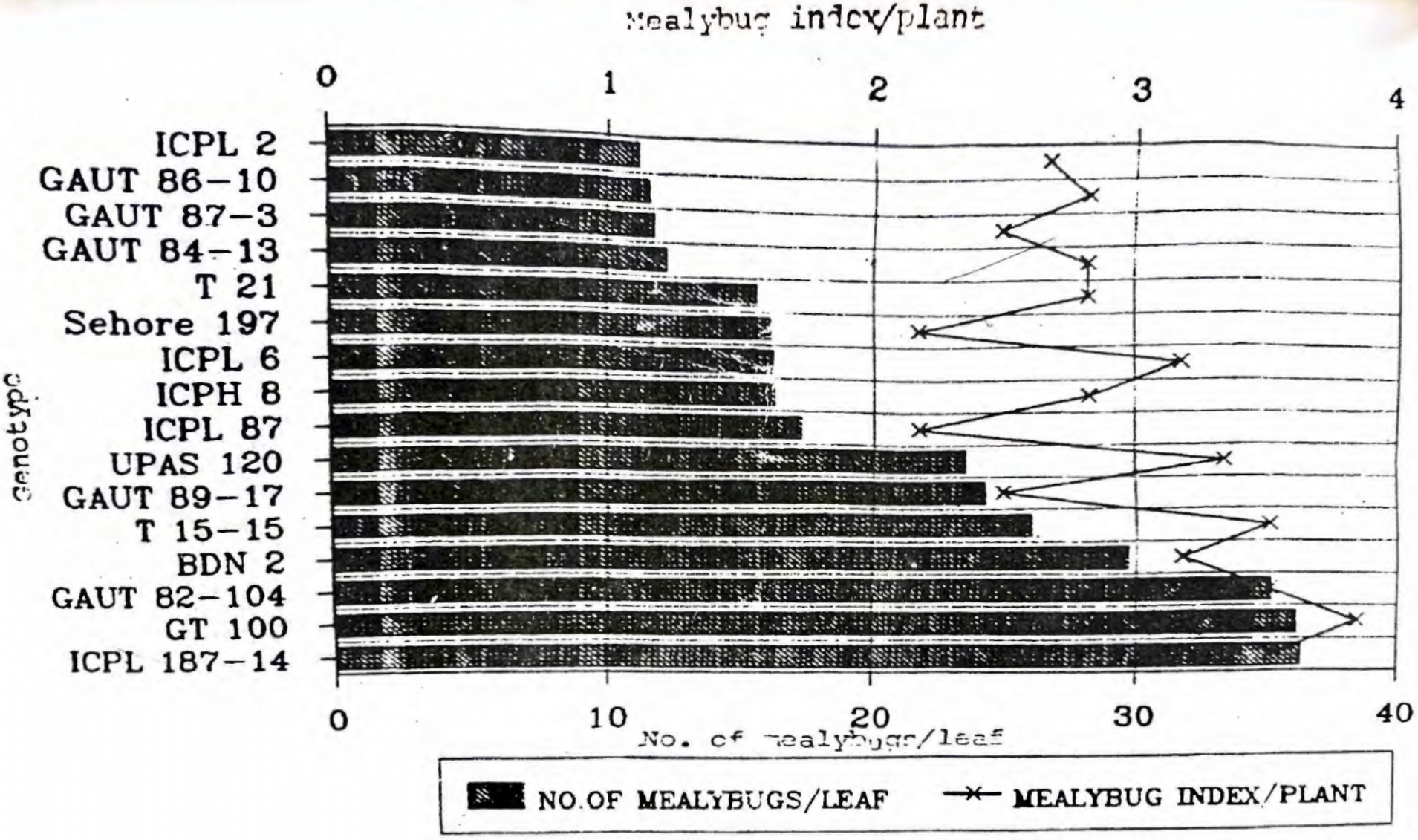


Fig. 1 : Incidence of C. insolita in different genotypes of pigeonpea.

In pot screening, the infestation of the pest ranged from 2.17 to 3.83 mealybugs index values per plant in different genotypes of pigeonpea was recorded (Table 1 and Fig 1). Among these, minimum (2.17) index value was observed in Sehore 197 and ICPL 87. These were at par with GAUT 89-17, GAUT 87-3, ICPL 2, GAUT 86-10, T 21, ICPH 8 and GAUT 84-13. The variety GT 100 was found to be the most susceptible with 3.83 mealybug index value.

Patel *et al.*, (1991) reported the genotype GAUT 85-18 as less susceptible while BDN 2 and GAUT 82-90 as highly susceptible to mealybug infestation.

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