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# Screening of Some Groundnut Genotypes Against *Spodoptera Litura*

**Key words :** Days after sowing, Ground nut, Genotyopes, Leaf damage, *Spodoptera lirura*.

A field experiment in a RBD was carried out during *rabi*, 2010-11 for the reaction of 32 genotypes of groundnut (20 pre released and 12 released) against the defoliator, *spodoptera litura*. Each accession was grown in 5 m row with 22.5 cm x 10 cm spacing replicating thrice. For every four rows, one row of susceptible check variety i.e narayani was maintained. Incidence of *s.litura* larvae in terms of leaf damage was recorded at 10 days interval from 30 DAS to 80 DAS. Five randomly selected plants were tagged in each genotype for recording total number of leaves and damaged leaves from which per cent damaged leaves was calculated.

At all the intervals of data recorded, relatively lower per cent leaf damage of 8 to 10% was observed in three accessions i.e. ICGS-79 (fdrs – 79), bheema and TCGS -901(a). The genotypes TCGS-888, TCGS-1048 and GPBD-4 had exposed to lesser damage than check i.e. Narayani (19%). Highest leaf damage around 30 per cent was recorded with three genotypes i.e.TCGS-1073, TCGS-913 and TCGS-1043.

The damage in different cultures from 30 DAS to 50 DAS was in the range of 21 to 23 per cent and after that started to decline to 17 per cent. The pest preference for tenderness of the crop may be the reason for the above observations. The increased temperatures and low humidities during feb – march also might led to the reduction of *s,litura* population there by the damage.

By considering leaf damage caused by *s.litura*, the 32 different genotypes can be grouped in the following manner.

1. **Moderately resistant** ( 5 to 10% damaged leaves) : TCGS – 901(a), Bheema, ICGS (FDRS-79)
2. **Susceptible (** 11 to 20% damage ) : TCGS -876, 888, 1014, 1048, k-1375, GPBD-4, Narayani
3. **Highly susceptible** (20 to 30% and above per cent damage) : tpt-1, 4, 25,TCGS-341,584, 647, 894, 913, 957, 969, 991, 1043, 4045, 1054,1070,1071,1073,1076, k-6, 134, TIG-45, ICGV-91114.

Dharne and patel (2000) recorded less than 10% leaf damage by *S.litura* in 21 groundnut genotypes out of 32 genotypes. Patil *et al.,* ( 1991) extracted ICGV 87264, 86276, 87287, 86350, and 86890 as resistant ones with least leaf damage.

With respect to tcgs cultures and TPT-1, fifteen – 30% leaf damage was recorded in the present experiment. Vasanthi and padmavathamma (2000) noticed 24-29% leaf damage by *s.litura* in three tcgs genotypes viz., TCGS -636, 659 and 667 & 52 – 63% leaf damage in JL-24, TPT-1,TCGS-644, 652, 653, 654 and 655.

## LITERATURE CITED

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Table 1. Groundnut leaf damage due to *spodoptera litura* In 32 genotypes during *rabi,* 2010

| Varieties | 30 DAS | 40 DAS | 50 DAS | 60 DAS | 70 DAS | 80 DAS | Mean |
|---|---|---|---|---|---|---|---|
| TPT-25 | 21.67(27.74)$^{Ij}$ | 23.76(29.17)$^{Hi}$ | 24.00(29.33)$^{Fg}$ | 23.33(28.88)$^{G}$ | 20.00(26.56)$^{Fgh}$ | 16.42(23.89)$^{Fghi}$ | 21.53(27.60)$^{Hi}$ |
| TPT-1 | 29.50(32.90)$^{N}$ | 30.83(33.73)$^{O}$ | 31.33(34.04)$^{M}$ | 30.67(33.62)$^{N}$ | 27.50(31.63)$^{L}$ | 23.17(28.77)$^{P}$ | 28.83(32.45)$^{P}$ |
| TCGS-1054 | 23.43(28.95)$^{L}$ | 24.67(29.78)$^{Ijk}$ | 24.33(29.56)$^{Fgh}$ | 25.50(30.33)$^{Hij}$ | 23.67(29.11)$^{Jk}$ | 19.50(26.20)$^{Mno}$ | 23.52(28.99)$^{Jk}$ |
| K-134 | 20.56(26.96)$^{Ghi}$ | 21.17(27.39)$^{Def}$ | 21.67(27.74)$^{Cde}$ | 22.00(27.97)$^{Ef}$ | 19.83(26.44)$^{Efgh}$ | 16.50(23.96)$^{Ghi}$ | 20.29(26.75)$^{Feg}$ |
| K-6 | 25.37(30.24)$^{M}$ | 25.45(30.30)$^{Jkl}$ | 27.00(31.31)$^{Kl}$ | 26.83(31.20)$^{Kl}$ | 24.67(29.78)$^{K}$ | 20.83(27.16)$^{O}$ | 25.03(30.00)$^{Lmn}$ |
| ICG (FDRS-79) | 8.17(16.60)$^{A}$ | 9.08(17.54)$^{A}$ | 9.50(17.95)$^{A}$ | 10.00(18.43)$^{A}$ | 9.33(17.77)$^{A}$ | 8.33(16.77)$^{A}$ | 9.07(17.52)$^{A}$ |
| K-1375 | 19.00(25.84)$^{Ef}$ | 20.33(26.80)$^{Cd}$ | 20.67(27.04)$^{C}$ | 21.00(27.27)$^{De}$ | 19.00(25.84)$^{Cdef}$ | 15.83(23.44)$^{Fgh}$ | 19.31(26.04)$^{De}$ |
| TLG-45 | 21.46(27.60)$^{Hij}$ | 23.90(29.26)$^{Hi}$ | 23.33(28.88)$^{F}$ | 23.50(28.99)$^{G}$ | 20.83(27.16)$^{H}$ | 17.33(24.60)$^{Ijk}$ | 21.73(27.75)$^{Efg}$ |
| TCGS-913 | 31.00(33.83)$^{O}$ | 33.17(35.16)$^{P}$ | 32.33(34.65)$^{M}$ | 32.00(34.45)$^{N}$ | 29.33(32.79)$^{M}$ | 25.00(30.00)$^{Q}$ | 30.47(33.48)$^{P}$ |
| TCGS-647 | 24.27(29.51)$^{Lm}$ | 26.00(30.66)$^{Lm}$ | 25.17(30.11)$^{Hi}$ | 26.00(30.66)$^{Ijk}$ | 23.83(29.22)$^{Jk}$ | 20.00(26.56)$^{Mno}$ | 24.21(29.45)$^{Kl}$ |
| TCGS-969 | 24.32(29.55)$^{Lm}$ | 27.00(31.31)$^{M}$ | 26.50(30.98)$^{Jk}$ | 25.33(30.22)$^{Hij}$ | 22.33(28.20)$^{I}$ | 18.67(25.59)$^{Klm}$ | 24.03(29.31)$^{Jkl}$ |
| TCGS-1045 | 23.17(28.77)$^{Kl}$ | 25.44(30.29)$^{Jkl}$ | 25.00(30.00)$^{Gh}$ | 25.17(30.11)$^{Hij}$ | 22.70(28.45)$^{Ij}$ | 18.33(25.35)$^{Jkl}$ | 23.30(28.83)$^{Jk}$ |
| TCGS-1043 | 30.50(33.52)$^{No}$ | 32.33(34.65)$^{P}$ | 32.50(34.76)$^{M}$ | 31.67(34.24)$^{N}$ | 29.83(33.11)$^{M}$ | 25.00(30.00)$^{Q}$ | 30.31(33.38)$^{P}$ |
| TCGS-1073 | 31.67(34.24)$^{O}$ | 33.17(35.16)$^{P}$ | 32.33(34.65)$^{M}$ | 31.83(34.35)$^{N}$ | 29.83(33.11)$^{M}$ | 25.43(30.29)$^{Q}$ | 30.71(33.63)$^{P}$ |
| TPT-4 | 23.50(29.00)$^{L}$ | 26.00(30.66)$^{Lm}$ | 26.33(30.87)$^{Ijk}$ | 26.17(30.77)$^{Jkl}$ | 24.50(29.67)$^{K}$ | 19.00(25.84)$^{Lmn}$ | 24.25(29.47)$^{Kl}$ |
| TCGS-1048 | 17.73(24.90)$^{Cd}$ | 19.83(26.44)$^{Bc}$ | 19.67(26.33)$^{B}$ | 20.00(26.56)$^{C}$ | 18.67)(25.59)$^{Cde}$ | 12.67(20.84)$^{C}$ | 18.09(25.11)$^{C}$ |
| TCGS-1076 | 24.12(29.41)$^{Lm}$ | 26.67(31.09)$^{Lm}$ | 27.83(31.84)$^{L}$ | 28.67(32.37)$^{M}$ | 26.17(30.77)$^{L}$ | 22.67(28.43)$^{P}$ | 26.02(30.65)$^{N}$ |
| TCGS-991 | 21.57(27.67)$^{Ij}$ | 24.50(29.67)$^{Ij}$ | 25.00(30.00)$^{Gh}$ | 25.00(30.00)$^{Hi}$ | 23.43(28.95)$^{Ijk}$ | 19.00(25.84)$^{Lmn}$ | 23.08(28.69)$^{J}$ |
| TCGS-1071 | 22.04(28.00)$^{Jk}$ | 23.03(28.67)$^{Gh}$ | 23.67(29.11)$^{F}$ | 23.00(28.65)$^{Fg}$ | 20.33(26.80)$^{Gh}$ | 16.50(23.96)$^{Ghi}$ | 21.43(27.54)$^{Hi}$ |
| TCGS-888 | 16.72(24.13)$^{C}$ | 18.73(25.64)$^{B}$ | 19.00(25.84)$^{B}$ | 18.50(25.47)$^{B}$ | 17.17(24.48)$^{B}$ | 10.67(19.06)$^{B}$ | 16.80(24.11)$^{B}$ |
| ICGV-91114 | 20.36(26.82)$^{Gh}$ | 22.33(28.20)$^{Fg}$ | 22.17(28.09)$^{E}$ | 23.17(28.77)$^{G}$ | 20.50(26.92)$^{Gh}$ | 17.00(24.35)$^{Hi}$ | 20.92(27.19)$^{Ghi}$ |
| TCGS-894 | 21.70(27.76)$^{Ij}$ | 24.00(29.33)$^{Hi}$ | 23.67(29.11)$^{F}$ | 23.50(29.00)$^{G}$ | 20.17(26.68)$^{Fgh}$ | 17.33(24.60)$^{Ijk}$ | 21.73(27.75)$^{I}$ |
| TCGS-1070 | 24.34(29.56)$^{Lm}$ | 25.83(30.55)$^{Klm}$ | 25.33(30.22)$^{Hij}$ | 24.83(29.89)$^{G}$ | 22.83(28.54)$^{Ij}$ | 18.67(25.60)$^{Lm}$ | 23.64(29.06)$^{Jk}$ |
| TCGS-901(A) | 9.17(17.60)$^{B}$ | 9.33(17.79)$^{A}$ | 9.67(18.11)$^{A}$ | 9.83(18.27)$^{A}$ | 9.33(17.78)$^{A}$ | 8.33(16.77)$^{A}$ | 9.28(17.73)$^{A}$ |
| TCGS-584 | 20.14(26.66)$^{Fg}$ | 21.00(27.27)$^{De}$ | 21.70(27.76)$^{Cde}$ | 22.67(28.43)$^{Fg}$ | 20.67(27.03)$^{Gh}$ | 17.17(24.47)$^{Ij}$ | 20.56(26.94)$^{Fgh}$ |
| TCGS-957 | 25.03(30.02)$^{M}$ | 26.77(31.16)$^{M}$ | 26.50(30.98)$^{Jk}$ | 25.33(30.22)$^{Hij}$ | 24.67(29.78)$^{K}$ | 20.17(26.67)$^{No}$ | 24.74(29.81)$^{Lm}$ |
| TCGS-341 | 24.95(29.97)$^{M}$ | 28.56(32.30)$^{N}$ | 28.00(31.95)$^{L}$ | 27.17(31.41)$^{L}$ | 24.33(29.56)$^{K}$ | 20.00(26.56)$^{Mno}$ | 25.50(30.29)$^{Mn}$ |
| TCGS-876 | 19.78(26.41)$^{Fg}$ | 21.00(27.27)$^{De}$ | 21.00(27.27)$^{Cd}$ | 20.83(27.16)$^{D}$ | 19.49(26.20)$^{Defg}$ | 15.17(22.91)$^{Ef}$ | 19.55(26.21)$^{Def}$ |
| TCGS-1014 | 19.00(25.84)$^{Ef}$ | 22.00(27.97)$^{Efg}$ | 21.83(27.85)$^{De}$ | 21.17(27.39)$^{De}$ | 19.00(25.84)$^{Cdef}$ | 13.83(21.83)$^{Cd}$ | 19.47(26.12)$^{De}$ |
| GPBD-4 | 18.47(25.45)$^{Ef}$ | 20.50(26.92)$^{Cd}$ | 21.00(27.27)$^{Cd}$ | 20.50(26.92)$^{Cd}$ | 18.50(25.47)$^{Cd}$ | 14.00(21.97)$^{De}$ | 18.83(25.67)$^{Cd}$ |
| Narayani | 19.67(26.33)$^{Fg}$ | 21.00(27.27)$^{De}$ | 20.67(27.04)$^{C}$ | 19.50(26.20)$^{C}$ | 17.92(25.04)$^{Bc}$ | 15.50(23.18)$^{Fg}$ | 19.04(25.85)$^{D}$ |
| Bheema | 8.50(16.93)$^{Ab}$ | 9.33(17.77)$^{A}$ | 10.00(18.43)$^{A}$ | 9.78(18.22)$^{A}$ | 9.27(17.72)$^{A}$ | 9.13(17.59)$^{A}$ | 9.34(17.78)$^{A}$ |
| Mean | 21.59(27.46) | 23.34(28.66) | 23.40(28.72) | 23.26(28.64) | 21.24(27.25) | 17.41(24.47) | 21.71(27.54) |
| S.Em± | 0.30 | 0.29 | 0.27 | 0.26 | 0.31 | 0.35 | 0.25 |
| CD (P=0.05%) | 0.84 | 0.82 | 0.77 | 0.74 | 0.88 | 0.99 | 0.71 |

Figures in parenthesis indicates angular transformed values.
DAS= Days after sowing.
*= Average of 5 Plants

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