# CHAPTER V
# ENTOMOLOGY

# ENTOMOLOGY

Total nine entomological trials (total 8 locations) were conducted at Pearl Millet Research Station, Junagadh Agricultural University, Jamnagar , Regional Research Station, Anand Agricultural University, Anand in Gujarat state, RARI, Duragpura, Jaipur, Fatehpur-Shelhawati, Sikar and ARS mandor Jodhpur in Rajasthan, National Agriculture Research Project, Aurangabad in Maharashtra, CCS HAU, Hisar in Haryana & Anantapur in Andhra Pradesh.

**Seasonal features & Insect-pest population build up:**

**Jamnagar (Gujarat):** During, *kharif*-2024, monsoon commenced in the third week of June. Total rainfall *i.e.* 873.5 mm was received in 20 rainy days during the crop period. Sowing of entomological trials was done on 18th July, 2024. Incidence of various insect-pests on pearl millet crop *viz.*, shoot fly, stem borer, leaf binder, grass hopper, chaffer beetles, hairy cater pillar, grey weevil and *Helicoverpa* were observed during crop period. Natural enemies *i.e.* lady bird beetle and chrysopa were also observed during the crop period. Amongst major insect-pests, the incidence of shoot fly was higher (av. 12.50%) as compared to stem borer (7.92%). Overall crop condition was good. Harvesting was done in the 3rd week of October (20.10.2024).

**Anand (Gujarat):** Total 915.00 mm rainfall was recorded from 31 rainy days during the crop period. Sowing of the trials was done during last week of July (26.07.2024). The overall crop condition & weather was good. Harvesting was done during second week of November (08.11.2024). The major insect pests were shoot fly, stem borer, grass hopper, Chaffer beetle, *Helicoverpa* and *Eublema silicula*. Amongst major insect-pests, the incidence of shoot fly (7.31%) was higher as compared to stem borer (4.62%).The natural enemy lady bird beetle was also observed during the season. Overall pest incidence at Anand was low to moderate.

**Jaipur (Rajasthan):** Total 854.50 mm rainfall with 24 rainy days was recorded at Jaipur. Ofcourse, the rainfall figures are high but it was not scattered rainfall during the crop period. Sowing of the trials was done during fourth week of July (27.07.2024) to get sufficient pest pressure. The overall crop condition & weather was good. Harvesting was done during first week of November (04.11.2024). The major insect-pests were shoot fly, stem borer, leaf roller, chaffer beetle and termite.

**Mandor-Jodhpur (Rajasthan):** Sowing of the trial was done on 15th July, 2024. Total 429.7 mm rainfall received. The overall crop condition was good. Harvesting was done during last week of October (25.10.2024). The major insect-pests were shoot fly, termite, leaf roller grass hopper, grey weevil, leaf hopper, chaffer beetle, *Helicoverpa* and *Eublema silicula*.

**Fatehpur-Shekhawati, Sikar (Rajasthan):** During, *kharif*-2024, total rainfall *i.e.* 309.1 mm was received from 21 rainy days during the crop period. Sowing of entomological trials was done on 13th July, 2024. Incidence of various insect-pests on pearl millet crop *viz.*, shoot fly, stem borer, termite, leaf binder, grey weevil, hairy cater pillar, blister beetles, *Eublema* and *Helicoverpa* were observed during crop period. Natural enemies *i.e.* lady bird beetle, chrysopa and spiders were also observed during the crop period. Amongst major insect-pests, the incidence of shoot fly was very high (av. 26.25%) as compared to stem borer (3.33%). Overall crop condition was good. Harvesting was done in the 2nd week of October (15.10.2024).

**Aurangabad (Maharashtra):** During, *kharif*-2024, total rainfall *i.e.* 316.0 mm was received in 21 rainy days during the crop period. Sowing of the experiment was done on 24th July, 2024. The major insect-pests were shoot fly, stem borer and fall army worm. The average incidence of shoot fly was

12.22%.Whereas, for stem borer it was 7.78%. The Fall Army Worm (FAW) damage was around 10.56%. The natural enemy lady bird beetle & chrysopa were also observed during the crop period. Harvesting was done in the first week of October (04.10.2024).

**Hisar (Haryana):** Total rainfall was 351.3 mm from 15 rainy days during the crop period. Sowing of the trial was done on 10th July; 2024. Overall pest incidence was very low. However, the major insect-pests were shoot fly, stem borer, grass hopper, Fall Army Worm and *Helicoverpa.* Whereas, the minor insect pests were grey weevil, leaf roller, blister beetle and chaffer beetle**.** The natural enemy lady bird beetle & chrysopa were also observed in few numbers during the crop period.

**Anantapur (Andhra Pradesh):** There was no any field trial at this centre. However, one laboratory trial was allotted and conducted and it has been reported.

## METHODOLOGY AND OBSERVATIONS

### 1. PMET-1A: Screening of pearl millet lines against major insect pest (Initial lines/ populations). Centres: Jamnagar, Jaipur and Fatehpur-Shekhawati (Total centres: 3)

**Methodology:** At vegetative stage (28 DAG), observations were recorded from total plants of net plot plants by counting the dead hearts. Thus, shoot fly dead heart percent incidence was worked out. For stem borer, plant showing parallel holes due to stem borer larvae in the leaves were considered as damaged plant and percent damaged plant was calculated. At ear head stage, number of ear heads showing shoot fly (deformed ear head) and stem borer (empty/white ear head) damage were recorded separately and thus percent ear head damage was worked out from ear heads of total plants of net plot. Whereas, for *Helicoverpa armigera*, the population of larvae was counted from 5 ear heads of the randomly selected. Leaf roller damage score (0-10) was worked out on 5 plant basis at ear head stage.

**Observations recorded:**

**a. Shoot fly** – Per cent infestation at 28 DAG (Vegetative stage) and ear head stage.
**b. Stem borer** – Per cent plant damage at 28 DAG (Vegetative stage) and at ear head stage.
**c. *Helicoverpa*** larvae – Number of larvae/ 5 ear heads.
**d. Leaf roller** – Damage score (0-10) at ear head stage.
**e. Grey weevil**- Damage score (0-10) at ear head stage.

**Criteria:**

a. Shoot fly – Percent infestation at vegetative stage (28 DAG) & at ear head stage (Criteria: 0.0%= Resistant, 0.1-5.0%=Moderate resistant, 5.1-10.0% = Tolerant, 10.1-20.00%= Susceptible & Above 20.00% = Highly susceptible)
b. Stem borer – Percent infestation at vegetative stage (28 DAG) & at ear head stage (Criteria: 0.0%= Resistant, 0.1-5.0%=Moderate resistant, 5.1-10.0% = Tolerant, 10.1-20.00%= Susceptible & Above 20.00% = Highly susceptible)
c. *Helicoverpa* larvae – Number of larvae/ 5 ear head
d. Leaf roller- Damage score (0-10).
e. Grey weevil- Damage score (0-10).

### 2. PMET-1B: Screening of pearl millet lines against major insect pest (advance lines). Centres: Jamnagar, Mandor-Jodhpur, Jaipur and Fatehpur-Shekhawati (Total centres: 4)

**N.B.: Methodology, observations recorded and criteria as per PMET-1A experiment.**

### 3. PMET-2: Monitoring of major insect pests of pearl millet

**Centres: Jamnagar, Anand, Jaipur, Mandor-Jodhpur, Fatehpur-Shekhawati, Aurangabad & Hisar (Total centres: 7).**

**Methodology:**

**(A) Untreated plot:** Sowing of released pearl millet variety was done over an area of 100 $m^2$ which was kept free from insecticidal application during crop season. The whole block was divided into 10 quadrates of 1.0 X 1.0 m. The incidence (%) and population of various insect pests observed during the crop period was recorded at weekly interval from 2 plants of each quadrate randomly selected, 7 days after germination (DAG) of the crop till maturity. Thus total 20 plants were observed at weekly interval. The presence of bio agents was also recorded simultaneously. Weather data also recorded on weekly basis (Standard Meteorological Week) at least, Temperature Minimum & Maximum, RH Morning & Evening, Rainfall mm & Rainy days. If some other facility available than other parameters were recorded for correlation.

**(B) Treated plot:** One treated plot of 100 $m^2$ was maintained by taking recommended package of practices for insect pest management to get the information of yield losses.

**The following treatments were adopted for treated plot.**

1. Shoot fly, stem borer, white grub & termite: Seed treatment imidacloprid 600 FS @ 8.75 ml/kg seed.
2. Shoot fly, stem borer foliar spray: Imidacloprid 17.8 SL 0.009% at 35 DAG
3. *Helicoverpa armigera:* Spray of novaluron 10 EC 0.01%, at ear head stage at pest appearance.
4. Fall Army Worm: *Beauveria bassiana* 5 g/ litre whorl application ($1X10^8$ cfu/g) at the initiation of pest appearance and repeat it after 10 days if required.
5. Leaf binder, grass hopper, grey weevil, leaf roller, hairy cater pillar and any other leaf feeding insects: Spraying of NSKE 5%.

**Observations recorded:**

**1.** From Un-treated plot, per cent incidence and population of various insect pests observed during the crop period was recorded at weekly interval from 20 randomly selected plants (2 plants from each quadrate) 7 days after germination (DAG) of the crop till maturity. The presence of bio agents was also recorded simultaneously.

**2.** Yield kg/plot converted into hactare from treated as well as Un-treated plot.

**4. PMET-3: Survey of major insect pests in *kharif* pearl millet on farmer's fields.**

**Centres: Jamnagar, Anand, Jaipur, Fatehpur-Shekhawati,Aurangabad and Hisar (Total centres: 6)**

Survey of insect pests was carried out in pearl millet crop during *Kharif* season at different locations. Incidence of various insect pests infesting pearl millet was recorded. For shoot fly and stem borer per cent incidence was worked out from 20 randomly selected plants. Whereas, for rest of the insects, population was recorded from randomly selected 5 plants/ear heads as the case may be. The population of bio-agents was also recorded from randomly selected 5 plants/ear heads.

**5. PMET-4: Management of insect-pest complex of pearl millet through seed treatment and foliar application of bio-pesticides**

**Centres:** Jamnagar, Anand, Jaipur, Mandor-Jodhpur, Fatehpur-Shekhawati & Aurangabad**(Total centres: 6).**

**Methodology:** Seed treatment was given initially at the time of sowing. While, two foliar applications were given at 30 DAG and ear head stage. At vegetative stage (28 DAG), observations were recorded on 20 plants of net plot plants by counting the dead hearts. Thus, shoot fly percent incidence was worked out. For stem borer, plant showing parallel holes due to stem borer larvae in the leaves was considered as damaged plant and thus percent incidence was recorded. At ear head stage, number of ear heads showing shoot fly (deformed ear head) and stem borer (empty/white ear head) damage was recorded separately and thus per cent ear head damage was worked out from ear heads of 20 plants of net plot. Grass hopper per cent damage was recorded at 45 DAG. Fall Army worm % damage was also recorded at 45 DAG of the crop. Larval population of *Helicoverpa* was recorded on 5 ear heads in each treatment at ear head stage before spray (24 hrs before spray) and after spray 1, 3, and 7 days. Termite and white grub damage was recorded from 20 plants of net plot and thus per cent damage was recorded at ear head stage. Grey

weevil damage score (0-10) was recorded at ear head stage. Grain and fodder yield was recorded from net plot area at harvest and data thus obtained were analyzed statistically. The ICBR was also calculated.

**Observations to be recorded:**

a. Per cent incidence of shoot fly at 28 DAG (vegetative stage) and at ear head stage.
b. Per cent incidence of stem borer at 28 DAG (vegetative stage) and at ear head stage.
c. Per cent termite and white grub damage at ear head stage.
d. Larval population of *Helicoverpa* to be recorded on 5 ear heads in each treatment before & after spray (24 hrs before, 1, 3 & 7 days after spray).
e. Grass hopper per cent damage at 45 DAG of the crop.
f. Fall Army worm % damage at 45 DAG of the crop.
g. Grey weevil damage score at ear head stage (0-10).
h. Grain & fodder yield.

**6. PMET-5: Management of ear head worm, *Helicoverpa armigera* in pearl millet through chemical insecticides**

**Centres: Jamnagar, Mandor-Jodhpur and Fatehpur-Shekhawati (Total centres: 3).**

**Methodology:**

The pearl millet crop will be sown followed by all the agronomical practices. If any major incidence of foliage pest (shoot fly, stem borer, grass hopper & FAW) is observed it will be protected with spray of Azadirachtin 1500 ppm (40 ml/10 litres) as a blanket spray. Rest of all the treatments will be given at ear head stage at the appearance of *H. armigera*.

**Observations to be recorded:**

1. *Helicoverpa armigera* larval population 24 hrs before spray, 24 hrs, 3 days and 7 days after spray from randomly selected 20 ear heads of net plot.
2. Grain and fodder yield will be recorded from the net plot.

**7. PMET 7: Survey of insect- pests of summer pearl millet on farmers' fields.**

**Centres: Jamnagar, Anand and Aurangabad (Total centres: 3)**

Survey of insect pests was carried out in pearl millet crop on farmer's field during summer season. Incidence/population of insect pests infesting pearl millet crop was recorded from 20 randomly selected plants per field. For shoot fly and stem borer per cent incidence was worked out from 20 randomly selected plants. Whereas, for rest of the insects, population was recorded from randomly selected 5 plants/ear heads as the case may be. The population of bio-agents was also recorded from randomly selected 5 plants/ear heads.

**8. PMET-8: Relative susceptibility of pearl millet advanced entries to storage insect pests**

**Centres: Jamnagar, Anand, Jaipur, Mandor-Jodhpur and Anantapur (Total centres: 5)**

Since installation of storage trial was done after the harvest of *kharif* trial, the observations recorded at 3 & 6 months of period of 2024 will be presented next year, whereas the results of entries of *kharif* 2023 are presented in this year's report.

**Observations:**

a. Number of adults (*Tribolium/Rhizopertha*) emerged at 3 & 6 months period of storage
b. Per cent grain damage at 3 & 6 months period of storage
c. Per cent weight loss at 3 & 6 months period of storage
d. Germination percentage at 6 months

**9. PMET-9: Monitoring of Fall Army worm (*Spodoptera frugiperda*) through pheromone traps in *Kharif* pearl millet**

**Centres: Jamnagar, Anand, Jaipur, Mandor-Jodhpur, Fatehpur-Shekhawati & Aurangabad (Total centres: 6)**

**Methodology & Observations recorded:** The pheromone traps of Fall Army Worm (5 traps) were installed in the general pearl millet crop field of the station. The catches per 5 traps were recorded at weekly interval as per Meteorological Standard week (MSW). The mean catches per week were worked out to know the population fluctuations. Simultaneously, damage per cent was also recorded.

**N.B.: The traps were supplied by PI (Entomology), Pearl millet Research Station, JAU, Jamnagar to the above locations.**

**RESULTS-2021**

**1. PMET-1A: Screening of pearl millet lines against major insect pests (Initial lines/ populations).**

**One hundred and fourteen different pearl millet entries were screened for their resistance against major insect pests. This trial was conducted at Jamnagar, Fatehpur-Shekhawati and Jaipur (Table V.1a, V.1b, V.1c and V.1d).**

**Shoot fly incidence:** At vegetative stage, none of the entry was found resistant (0.0%), 10 entries (86M94, MH 2871, MH 2878, MH 2836, MP 7878, MH 2826, 86M86, MH 2829, MH 2830 and MH 2834) were found moderate resistant (0.1 to 5.0% damage). Seventy six entries were found tolerant (5.1-10.0%), 28 entries were found susceptible (10.1-20.0%). None of the entry was highly susceptible (above 20.0%) and the overall range of incidence was 2.76% to 16.70%. The overall average incidence was 8.40%. As far as location wise incidence is concerned the mean incidence was higher at Jaipur (13.96%) as compared to Jamnagar (3.01%) and Fatehpur-Shekhawati (8.23%). At ear head stage, none of the entry was found free from damage (Resistant), forty eight entries were found moderate resistant, 62 entries were found tolerant, four entries were found susceptible and none of the entry was highly susceptible ( > 20.00%). The overall range of incidence was 1.40% to 13.24%. As far as location wise incidence is concerned the overall mean incidence was higher at Jaipur (12.36%) as compared to Jamnagar (1.05%) and Fatehpur-Shekhawati (3.78%). The overall incidence was higher at vegetative stage (8.40%) as compared to ear head stage (5.73%), table V.1a & V.1c.

**Stem borer incidence:** It was observed and recorded at Jamnagar and Fatehpur-Shekhawati only. At vegetative stage, 12 entries (MH 2813, MH 2819, MH 2815, MH 2852, MH 2876, MH 2881, MPMH 35, 86M94, Pratap, KBH 108, 86M86 and AHB 1200) were found resistant (0.0%) or free and 102 entries were found to be moderate resistant. The overall range of incidence was 0.25% to 2.44%. Location wise the overall mean incidence was higher at Jamnagar (1.35%) as compared to Fatehpur-Shekhawati (0.70%). At ear head stage overall incidence was low, 70 entries were found free-resistant, 43 entries were moderate resistant (< 5.0%) and one entry was found tolearant. The overall range was 0.28-7.69%. Location wise the incidence was higher at Fatehpur-Shekhawati (0.96%) as compared to Jamnagar (0.15%). The overall incidence was higher at vegetative stage (1.03%) as compared to ear head stage (0.56%), table V.1a & V.1c.

***Helicoverpa armigera:*** It was observed and recorded at Jamnagar and Fatehpur-Shekhawati. The larval population of *H. armigera* recorded at ear head stage revealed that none of the entry was found free. Fifty entries recorded larval population in the range of 0.1 to 1.0 larvae/5 ear heads, 30 entries recorded larval population in the range of 1.1 to 2.0 larvae/5 ear heads, 15 entries recorded larval population in the range of 2.1-5.0 larvae/5 ear heads and 19 entries recorded larval population above 5.1/ 5 ear heads. The overall range of population was 0.25 to 13.0 larvae/ 5 ear heads and the average population was 2.47 larvae/5 ear heads. The mean population of Jamnagar (2.07 larvae/ 5 ear heads) was lower as compared to Fatehpur-Shekhawati (2.86 larvae/5 ear heads), table V.1b & V.1d

**Grey Weevil:** It was observed and recorded at Fatehpur-Shekhawati only. At ear head stage, none of the entry was found free. Forty entries recorded Grey Weevil Damage Score (GWDS) in the range of 0.1 to 1.0, 69 entries recorded GWDS in the range of 1.1 to 2.0 and five entries recorded GWDS in the range of 2.1 to 5.0. The overall range was 0.50-3.00 with a mean score of 1.45, table V.1b & V.1d

**Leaf roller:** It was observed and recorded at Jaipur only. At ear head stage, none of the entry was found free. Sixteen entries were found with the Leaf Roller Damage Score (LRDS) in the range of 0.1 to 1.0, 63

entries recorded LRDS in the range of 1.1 to 2.0 and , 35 entries recorded LRDS in the range of 2.1 to 5.0. The overall range was 0.50 to 3.50 with a mean score of 1.89, table V.1b & V.1d

**2. PMET-IB: Screening of pearl millet lines against major insect-pest (advance lines)**

**Forty nine different advance entries were screened for their resistance against major insect pests. This trial was conducted at Jamnagar, Jaipur, Fatehpur-shekhwati & Jodhpur (Table V.2a, V.2b, V.2c and V.2d).**

**Shoot fly incidence:** At vegetative stage, none of the entry was found resistant (0.0%), five entries (MH 2709, MH 2806, MH 2773, MH 2777 and MP 637 were found moderate resistant (0.1 to 5.0% damage), 26 entries were found tolerant (5.1-10.0%), 18 entries were found susceptible (10.1-20.0%) and the overall range of incidence was 3.77% to 16.23%. The overall average incidence was 8.97%. As far as location wise the overall mean incidence is concerned it was higher at Jaipur (12.02%), Jodhpur (9.99%) and Fatehpur-Shekhawati (10.40%) as compared to Jamnagar (3.47%). At ear head stage, none of the entry was found free from damage (Resistant), 19 entries were found moderate (MH 2801, Raj 171, MH 2796, RHB 223, KBH 108, MH 2758, NBH 4903, MH 2798, MH 2784, Kaveri Super Boss, MH 2712, MH 2797, MH 2717, MH 2808, MH 2744, 86M84, JBV 2, Pusa Comp. 383, MP 7878, MH 2747, MH 2682, MH 2675, Pusa Comp. 701 and MH 2673), 27 entries were found tolerant and three entries were found susceptible. The overall range of incidence was 2.67% to 13.32%. As far as location wise the overall mean incidence is concerned it was highest at Jaipur (11.80%) as compared to Jodhpur (4.39%), Fatehpur-Shekhawati (6.24%) and Jamnagar (1.54%). The overall incidence was higher at vegetative stage (8.97%) as compared to ear head stage (5.99%), table V.2a & V.2c.

**Stem borer incidence: Overall during *kharif* 2024 the incidence of stem borer was very low. It was observed and recorded at Jamnagar and Fatehpur-Shekhawati only.** At vegetative stage, seven entries were found resistant or free (MH 2767, MH 2775, MH 2798, AHB 1269, Pratap, MP 7878 and AHB 1200) and 42 entries were found tolerant. The overall range of incidence was 0.0% to 4.73%. The mean incidence was only 1.27%. Location wise the incidence was higher at Jamnagar (1.39%) as compared to Fatehpur-Shekhawati (1.14%). At ear head stage the overall incidence was low at both the locations. Fifteen entries were found free-resistant (MH 2675, MH 2748, MH 2767, MH 2775, MH 2777, MH 2784, MH 2796, MH 2798, 86M01, MP 7878, Kaveri Super Boss, NBH 4903, Raj 171, ICMV 221 and Pusa Comp. 383) and 34 entries were moderate resistant (< 5.0%). Location wise the incidence was higher at Fatehpur-Shekhawati (2.27%) as compared to Jamnagar (0.23%). The overall incidence was almost same at vegetative stage (1.26%) and at ear head stage (1.25%), table V.2a & V.2c.

***Helicoverpa armigera:*** It was observed and recorded at Jamnagar, Jodhpur and Fatehpur-Shekhawati only. The larval population of *H. armigera* recorded at ear head stage revealed that none of the entry was found free. Seven entries (MH 2712, Raj 171, MH 2747, MH 2777, MH 2797, MH 2798 and NBH 4903) recorded larval population in the range of 0.1 to 1.0 larvae/5 ear heads, 13 entries recorded larval population in the range of 1.1 to 2.0 larvae/5 ear heads, 20 entries recorded larval population in the range of 2.1-5.0 larvae/5 ear heads and nine entries recorded larval population above 5.0 larvae/ 5 ear heads. The overall range of population was 0.67 to 7.67 larvae/5 ear heads and the average population was 3.04 larvae/5 ear heads. The mean population of Fatehpur-Shekhawati (5.68 larvae/5 ear heads) was higher than Jamnagar (1.55 larvae/ 5 ear heads) and Jodhpur (1.90 larvae/5 ear heads), table V.2b & V.2d.

**Grey Weevil:** It was observed and recorded at Jodhpur and Fatehpur-Shekhawati only. At ear head stage, none of the entry was found free. Thirty two entries recorded Grey Weevil Damage Score (GWDS) in the range of 0.1 to 1.0, 16 entries recorded GWDS in the range of 1.1 to 2.0 and one entry recorded GWDS in the range of 2.1-5.0. The overall range was 0.50-2.25 DS with a mean damage score of 1.02, table V.2b & V.2d

**Leaf roller:** It was observed and recorded at Jaipur only. At ear head stage, none of entry entry was found free. Seven entries (MH 2795, MH 2796, MH 2797, RHB 223, MP 7878, Kaveri Super Boss and NBH 4903) recorded Leaf Roller Damage Score (LRDS) in the range of 0.1 to 1.0, 33 entries recorded LRDS in the range of 1.1 to 2.0 and nine entries recorded LRDS in the range of 2.1-5.0. The overall range was 1.00-3.00, with a mean score of 1.82, table V.2b & V.2d

**3. PMET-2: Monitoring of major insect pests of pearl millet**

**With a view to study the population fluctuation of different insect pests of pearl millet during crop season *i.e*. on station monitoring, a study was conducted at Jamnagar & Anand in Gujarat, Jaipur, Fatehpur-Shekhawati & Mandor-Jodhpur in Rajasthan, Aurangabad in Maharashtra and Hisar in Haryana. Incidence of different insect pests was recorded at weekly intervals. Moreover, correlation of these pests was worked with different weather parameters. The loss caused by insect-pest complex was also worked out.**

**Centre: Jamnagar**

**The weekly incidence of insect-pests was recorded on variety GHB 538 at Pearl Millet Research Station, JAU, Jamnagar (Table- V.3a).**

**Insect-pest incidence: Shoot fly incidence**: The initiation of shoot fly incidence (5.00%) was found in 30$^{th}$ Standard Meteorological Week (SMW). The highest shoot fly incidence (20.00%) was observed during 34$^{th}$ SMW. The average incidence was 12.50% during the crop period. **Stem borer incidence**: The initiation of stem borer was found from 31$^{st}$ SMW (5.00%). However, its incidence was found highest (10.00%) during 35$^{th}$, 36$^{th}$, 10$^{th}$ and 41$^{st}$ SMW with an average incidence of 7.92% during the crop period. The overall range of other insect pests *viz.*, **leaf roller** (0.0-4.0 damage score), **Grey weevil** damage score (0.0-3.00). **grass hopper (0.0-10.00%), chaffer beetles** (0.0-15.00/20 ear heads), hairy cater pillar (0.0-30.00 larvae/20 ear heads) and *Helicoverpa* (0.0-47.00 larvae/20 ear heads) observed. The natural enemy **lady bird beetle** (0.0-5.00/ 20 plants) and **chrysopa** (0.0-10.00/ 20 plants) were also observed in pearl millet eco-system.

**Losses:** The treated plot recorded 2903 kg/ha grain and 5848 kg/ha fodder yield. The losses in grain yield were 13.44% and 14.80% in fodder yield**,** table-V.3b.

**Correlation:** The correlation (table-V.3c**)** of shoot fly and stem borer incidence with different weather parameters was non-significant. *Helicoverpa armigera* larval population correlation was found negative and significant with temperature minimum (r= -0.600*) and rainy days (r= -0.689*). Whereas, it was positive and significant with bright sun shine hours (r = 0.652*).

**Centre: Anand:**

**Weekly incidence and population of insect-pests was recorded on pearl millet variety GHB 1129 at Regional Research Station, Anand Agricultural University, Anand (Table-V.3d).**

**Incidence: Shoot fly:** Its incidence initiated in 37$^{th}$ SMW (5.00%) and it was highest during 38$^{th}$ to 43$^{rd}$ SMW (15.00%) with an average of 7.31%. **Stem borer** incidence initiated in 38$^{th}$ SMW (5.0%) and it was highest during 43$^{rd}$ SMW (15.00%) with an average of 4.62%. **Grass hopper** damage ranged from 0.0-10.00% (av. 3.08%). The overall population range of other insect pests *viz.* ***Helicoverpa*** (0-4/20 ear heads) and ***Eublema silicula*** (0-3 larvae/ 20 ear heads).The natural enemy **lady bird beetle** (0-3 beetles/20 plants) was also observed in pearl millet eco-system. **The overall pest incidence was low to moderate.**

**N.B.: There was no incidence of fall army worm throughout the crop period.**

**Losses:** There was 8.25% grain and 5.46% fodder losses in pearl millet due to insect-pest complex during *Kharif* 2024 at Anand (Table V.3e).

**Correlation:** The correlation (Table V.3f) of major insect-pests with weather parameters has been depicted in table V.3f. The correlation of shoot fly per cent incidence was found positively significant with maximum temperature (r = 0.672*), and bright sun shine hours (r = 0.562*).The correlation was negative and significant with relative humidity evening (r = -579*) and wind speed km/hour (r = -0.683*). The correlation of stem borer per cent incidence was positively significant with maximum temperature (r = 0.667*) and negatively significant with minimum temperature (r = -0.769**) relative humidity evening (r = -0.611*) and wind speed (r = -0.831**). The correlation of *Helicoverpa* larval population was positively significant with maximum temperature (r = 0.585*) and wind speed (r = -0.761**)

**Centre: Mandor-Jodhpur:**

**Incidence: Weekly observations on incidence of various insect pests during *kharif* 2024 on pearl millet crop (variety MPMH 21) was recorded at ARS, Mandor, Jodhpur- Rajasthan (Table V.3g).**

**Shoot fly:** The infestation was noticed during 31st to 42nd MSW and the maximum infestation of 30.00% was recorded in 33rd MSW with an average of 11.92% during the crop period. **Termite:** The incidence initiated in the 31st MSW (20.00%) and it remained till harvest with an average of 18.46%. **Leaf roller**: The damage initiated in 33rd MSW (1.00 damage score) and the maximum was during 39th MSW (5.00 DS) with an average of 1.00 DS during the crop period. **Grass hopper:** The damage initiated during 33rd MSW (5.00%) with maximum of 20.00% during 35th to 37th MSW (20.00%) with an average of 7.31%. **FAW**: The damage of fall army worm was observed only during 34-36th MSW (5.0-10.0%) with an average of 1.92% over the period. **Grey weevil:** The grey weevil damage score ranged from 0.0-3.0, with an average of 1.46 during the season. **Hairy cater pillar**: Its larval population was observed during 35-37th MSW ranging from 0.0-2.0 larvae/ 20 ear heads with an average of 0.46 larvae/ 20 ear heads. **Leaf hopper- jassids**: Its population was observed during mid stage of the crop ranging from 0.0-16.20 adults/ 20 plants with an average of 2.50 adults/20 plants. **Chaffer beetle**: Its average population was 0.77 adults/20 ear heads. ***Helicoverpa armigera***: Its larval population was observed during 35-39th MSW, its range was 0.0-10.00 larvae/20 ear heads with an average of 2.15 larvae/20 ear heads. ***Eublema silicula*:** Its larval population was during 37-39th MSW with an average of 0.38 larvae/20 ear heads. The natural enemy **lady bird beetle** population was observed in good numbers during 32nd to 39th MSW with an average of 1.77 adults/20 plants during the crop period. Another natural predator, chrysopa was also observed but in few numbers from 32nd to 38th MSW with average of 0.54 adults/20 plants.

**Losses:** There was 20.00% loss in grain and 20.00% in fodder yield due to pest complex in pearl millet (Table V.3h).

**Centre: Fatehpur-Shekhawati**:

**Weekly observations on incidence of various insect pests during *kharif* 2024 on pearl millet crop (Variety RHB 234) was recorded at ARS, Fatehpur-Shekhawati, Sikar, Rajasthan (Table V.3i).**

**Incidence: Shoot fly:** The infestation was noticed during 31st to 41st MSW and the maximum infestation of 35.00% was recorded during 39th to 41st MSW with an average of 26.25% during the crop period. **Stem borer**: Its incidence initiated in 33rd MSW (5.00%) and then after remained present throughout the crop period. The maximum incidence was 10.00% with an average of 6.67%. **Termite:** The incidence initiated in the 34th MSW and it remained till harvest. It was maximum (5.00%) during 34th and 41st MSW with an average of 3.33%. **Leaf roller**: The damage was observed throughout the crop period with an average of 3.08 damage score. **Grey weevil:** The grey weevil damage score ranged from 1.0-3.0, with an average of 2.42 during the season. **Hairy cater pillar**: Its population was observed very low in the range of 0.0-1.00 larvae/20 plants with an average of 0.20 larvae/ 20 plants. **Blister beetles**: It was observed during 39th and 40th MSW with an average of 1.17 beetle/20 ear heads. ***Helicoverpa*:** Its population was observed during 37th to 41st MSW with an average of 1.25 larvae/ 20 ear heads. The maximum 5 larvae /20 ear heads was recorded during 40th MSW. ***Eublema***: The larva was observed only at ear head stage with very low population with an average of 0.25 larvae/20 ear heads. The natural enemies' *viz*., lady bird beetle (0.0-5/20 plants), chrysopa (0.0-1.0/20 plants) and spiders (0.0-9.0/20 plants) were observed in good numbers in pearl millet eco-system.

**Losses:** There was 33.00% loss in grain and 37.00% in fodder yield due to pest complex in pearl millet (Table V.3j).

**Correlation:** The correlation of major insect-pests with weather parameters has been depicted in table V.3k. The correlation of shoot fly incidence was negatively significant with minimum temperatue (r = -657*).Whereas, with rest of the parameters it was non-significant. The correlation of stem borer incidence was negatively significant with minimum temperatue (r = -0.630*) and positively significant with bright sun shine hours (r = 0.639*).

**Centre: Aurangabad:**

**Weekly incidence and population of insect pests was recorded on pearl millet variety AHB 1200 at National Agriculture Research Project, Aurangabad in Maharashtra (Table V.3l).**

**Incidence: Shoot fly:** Its incidence initiated in 32nd MSW (5.00%) and it was highest during 33rd to 39th MSW (10.00%) with an average of 12.22% during the season. **Stem borer** incidence initiated in 33rd MSW (10.00%) and it was highest (10.00%) during 33rd to 39th MSW (15.00%) with an average of 7.78% during the crop period. **Fall Army Worm:** Its damage was observed during 34th MSW (10.00%) to 39th MSW (20.00%) with an average of 10.56% damage. Hairy cater pillar ranged from 0.0-2.0 larvae/ 20 plants. Chaffer beetle adult population ranged from 0.0-1.0/ 20 ear heads. The natural enemy **lady bird beetle** (0.0-3.00/20 plants) and **chrysopa** (0.0-0.05/ 20 plants) was observed during the crop stage in pearl millet eco-system.

**Losses:** There was 9.09% loss in grain and 15.56% in fodder due to pest complex in pearl millet (Table V.3m).

**Centre: Hisar:**

**Monitoring of different insect-pest in pearl millet variety HB 299 was done at weekly interval at CCS HAU Hisar (Table V.3n).**

**Incidence:** The incidence of **shoot fly** was observed very low (mean 1.36%) and it was observed only during 30th (5.00%) and 31st MSW (10.00%). **Stem borer** incidence was also very low and it was observed during 32nd (5.00%) to 34th MSW (15.00%). **Grass hopper** damage was observed during the crop period *i.e*. 32nd MSW (2.00%) to 33rd (3.00%) MSW with an average of 0.45% during the crop period. **Fall army worm** damage ranged from 0.0-15.00% with an average of 1.82%. Mean **grey weevil** damage score was 1.82. **Blister beetle** population was observed during 37th MSW (5 beetles/20 EH) and 38th MSW (2 beetles/20 EH). **Chaffer beetle** was moderate (range 0.0-2.00) with an average of 0.27 adults/20 ear heads. ***Helicoverpa*** larval population was very low at ear head stage and it was 0.0-2.0 larvae/ 20 ear heads during 37th MSW to 38th MSW with an average of 0.27 larvae/20 ear heads. The natural enemy lady bird beetle (Av.0.23/20 plants) and chrysopa (Av. 0.36/20plants) was observed during mid to stage of the crop.

**Losses:** The loss in grain was 6.90%, whereas in case of fodder it was 5.13% due to insect- pest complex in pearl millet (Table V.3o).

**Centre: Jaipur**:

**Weekly observations on incidence of various insect pests during *kharif* 2024 on pearl millet crop (Variety RHB 228) was recorded at RARI, Durgapura, Jaipur , Rajasthan (Table V.3p).**

**Incidence: Shoot fly:** The infestation initiated from 33rd SMW (4.76%) and afterwards it was observed throughout the crop period. The maximum infestation was recorded during 43rd SMW (25.00%) with an average of 11.27%. **Stem borer:** Overall stem borer incidence was very low (2.05%) during the season and it was observed only at few stages. **Termite:** Its incidence was observed very high during 33rd to 44th SMW and the average incidence was 22.27% during the crop period. **Leaf roller:** The damage was observed during 36th to 44th SMW with an average of 3.62 damage score. **Chaffer beetle:** It was observed during 39th to 44th SMW, with an average of 1.62/5 ear heads.

**Losses:** There was 43.96% loss in grain and 29.52% in fodder yield due to pest complex in pearl millet (Table V.3q).

**Correlation:** Data presented in table V.3r indicates that, there was non significant correlations of shoot fly and stem borer with different weather parameters. However, in case of termite the correlation was found significant with weather parameters. The Correlation was found negative and significant with minimum temperature (r = -0.834**), wind speed (r = -747**), rainfall (r = -805**) and rainy days (r = -827**).

**4. PMET-3: Survey of insect pests of *kharif* pearl millet crop on farmer's field**

**With a view to examine the intensity of different insect pests of pearl millet on farmer's fields, a field survey was conducted by Jamnagar & Anand centre in Gujarat, Jaipur & Fatehpur-Shekhawati centre in Rajasthan, Aurangabad centre in Maharashtra and Hisar in Haryana.**

**Centre: Jamnagar & Anand**: Scientists of Jamnagar centre (Sr. no. 1 to 71, table- V.4a) carried out survey in pearl millet farmer's fields for insect-pests comprising of four districts (Anand, Banaskantha,

Kutch and Anand) of Gujarat state during *kharif* 2024. Whereas, scientists of RRS, AAU, Anand carried out survey in 38 fields three Districts (Anand, Kheda and Vadodara) at ear head stage (Sr. no.72 to 109, table-V.4 a). Shoot fly, stem borer *Helicoverpa*, blister beetle, chaffer beetle, grass hopper, grey weevil and leaf binder were found pre dominantly in the fields and its intensity was low to moderate. The pest wise intensity has been given in details (Table- V.4a). District wise pest situation is given in table- V.4b.

**(a) Shoot fly**: Its incidence ranged from 0.0% to 25.0% at different locations/fields with an average of 10.60% in surveyed fields. The highest incidence (25.0%) was observed at Dungrasan (Tehsil, Kankrej, district Banaskantha) in 86M22 variety at ear head stage.

**(b) Stem borer**: Its incidence ranged from 0.0% to 20.0% at different locations/fields with an average of 8.73% in surveyed fields. The highest incidence (20.0%) was observed at Kosindra (Tehsil, Sankheda and district Vadodara) in Desi variety and Sandesar (Tehsil and district, Anand) in Desi variety at ear head stage.

**(c) Ear head worm (*Helicoverpa armigera*)**: Average population of these larvae was 6.50 larvae/5 ear heads in surveyed fields. Its range was 0.0 to 30.0 larvae/5 ear heads and it was recorded highest (30.0 larvae/5 ear heads) at Dali (Tehsil, Borsad, district Anand) in variety Triveni 972 in surveyed fields.

**(d) Blister beetle**: The population of blister beetle ranged from 0 to 15.0/5 ear heads (average 2.83 beetles/ 5 ear heads) in surveyed fields. The highest number of blister beetle population (15.0/5 ear heads) were observed at Juna katariya (Tehsil- Bhachau, district Kutch, variety-Sagar 222) and at Malgadh (Tehsil-Deesa, district-Banaskantha, variety-86M11) in surveyed fields.

**(e) Grass hopper**: The damage of grass hopper was in the range of 0 to 25.0% and it was highest at Chandarani (Tehsil- Anjar, district-Kutch) in Desi Pearl millet variety with an average of 5.98% in surveyed fields.

**(f) Grey weevil damage score**: Its damage score was in the range of 0.0-7.0 with an average of 2.04 damage score in surveyed fields. It was highest at Moldi nani (Tehsil-Chotila, district-Surendranagar) in variety Sagar 222 at ear head stage in surveyed fields.

**(g) Chaffer beetle**: It ranged from 0.0 to 15.0/5 ear heads with an average of 2.99/5 ear heads. It was highest (15.0/5 ear heads) at Mehelav (Tehsil-Petlad, district-Anand) in variety Avani 44at ear head stage in surveyed fields.

**(h) Leaf binder**: Its damage was in the range of 0.0-7.0 with an average of 2.17 damage score. It was highest at Ravipura (Tehsil- Petlad, district Anand) in variety Kedar 888 at ear head stage in surveyed fields.

**(i) Lady bird beetle**: The natural enemy lady bird beetle (range 0.0-15.0/5 plants) was observed at many places but in few numbers with an average of 190 adults/5 plants.

**(j) Chrysopa:** The natural enemy chrysopa was observed at few locations surveyed, ranging from 0.0-7.0/5 plants with an average of 1.28/5 plants.

As far as the district wise insect pest situation is concerned, mean shoot fly (16.67%) and stem borer incidence (20.00%) incidence was highest in Vadoadara district in surveyed fields. Mean *Helicoverpa armigera* larval population (8.65 larvae/ 5 ear heads) and blister beetle adult population (6.10 adults/ 5 ear heads) were recorded highest in Banaskantha District in surveyed fields. Whereas, grey weevil damage score was highest in Surendranagar district (5.18 DS) in surveyed fields. Chaffer beetle population (4.64 adults/ 5 ear heads) and grass hopper per cent damage (16.36%) was highest in Kutch Pocket in surveyed fields. Leaf binder was highest in Vadodara district (3.00%) in surveyed fields. The natural enemy lady bird beetle (2.18/5 pl.) was highest in Anand pocket & chrysopa (2.00/5 pl.) was highest in Banaskantha pocket in surveyed fields (Table- **V.4**b).

**Centres: Jaipur & Fatehpur-Shekhawati**

A survey of insect pests of pearl millet at farmer's field was carried out in Rajasthan during *kharif* 2024. Total eight districts (Alwar, Bharatpur, Dausa, Ganagapur city, Karauli, Kotputli behror and Sikar) were surveyed by scientists of Fatehpur-Shekhawati (Field number, 1-91 fields) and Jaipur Scientists

(Field number, 92-130). Hence, the results of Rajasthan state are presented combined here based on survey conducted in whole region by both the centres, (Table V.4c).

a. **Shoot fly**: Its damage was observed in all the fields ranging from 2.00% to 40.00%. The highest damage (40.0%) was recorded at Garinda and Harsawa of Sikar district at vegetative stage in surveyed fields. The mean incidence was 14.51%.
b. **Stem borer:** Its damage was found in majority of the fields and its range was 0.0-25.00% with an average of 5.55% in surveyed fields. Its incidence was found highest (25.00%) at emla Khurd (Tehsil Barod Mev) in Alwar district in unknown hybrid at ear head stage in surveyed fields.
c. **White grub % damage:** Its damage was found in many fields and it ranged from 0.0-15.00% with an average of 2.33% in surveyed fields. The highest (15.00%) was recorded at Purohiton ka baas, Devipura , Bassi and Pujari ka baas (Tehsil- Khandela) of Sikar district at vegetative stage in surveyed fields.
d. **Termite damage %:** Its incidence was found in many of the fields & highest damage (20.00%) was observed at Danta and Behror in unknown hybrid. The mean incidence was 4.19%.
e. ***Helicoverpa*:** It was observed at many places with an average of 4.15 larvae/5 ear heads. The overall range was 0.0-45.00 larvae/ 5 ear heads. The highest population was observed at Bathond (Faehpur-Sikar) in Desi variety.
f. **Grass hopper:** Its infestation was found at many locations with an average of 7.23% infestation in surveyed fields. The overall range was 0.0-30.00%.
g. **Grey weevil:** Its damage was observed at many places**.** Its damage was found ranging from 0.0-3.0 damage, with an average of 0.95 damage score.
h. **Blister beetles:** Its population was found at few locations ranging from 0.0-9.0 adults/ 5 plants with an average of 0.72 adults/ 5 plants.
i. **Chaffer beetles:** Its population was found low and it was observed only at few locations ranging from 0.0-10.0 adults/ 5 ear heads with an average of 0.25 ear heads/ 5 plants.
j. **Leaf binder**: Its damage was observed at many places, ranging from 0.0-3.00 damage score with an average of 1.15 damage score (DS).

**The natural enemy lady bird beetles ranged from 0.0-3.00 beetles/ 5 plants with an average of 0.22 beetles/5 plants in surveyed fields. Chrysopa adults ranged from 0.0-2.00/ 5 plants with an average of 0.22/ 5 plants.**

**District wise insect-pest incidence:**

The survey of insect-pest incidence was carried out in eight districts and it was found that, **shoot fly** per cent incidence was recorded in almost all Districts and it was highest in Sikar (17.00%) in surveyed fields. Whereas, **stem borer** was low to moderate and it was observed in all the districts and it was highest in Alwar district (8.29%). **White grub** damage was observed in all the districts and it was highest in Jaipur (6.00%) in surveyed fields. **Termite** damage was observed in all the Districts (Av. 3.89%) and it was highest in Dausa (10.00%) in surveyed fields. ***Helicoverpa armigera*** larval population was observed in all the districts except and it was highest in Gangapur city (7.57 larvae/5 ear heads) in surveyed fields **Blister beetle** population was observed only in Karauli (3.50adults/ 5 plants), Kotputli behror (0.33 adults/ 5 plants) and Sikar (0.86 adults/ 5 plants) districts. **Chaffer beetle** population was observed in Alwar (1.43 adults/ 5 ear heads), Karauli (1.00 adults/ 5 ear heads) and Kotputli behror (3.33 adults/ 5 ear heads) districts. However, its overall population was very low. **Grass hopper** damage % was observed in all the districts and it was highest in Kotputli behror (15.00%) in surveyed fields. **Grey weevil** damage was observed only in Sikar (1.24 damage score) in surveyed fields. **Leaf binder** % damage was observed in all the Districts and it was highest in Ganagapur city (1.57 damage score). **Fall Army Worm** was not observed in any fields surveyed. The natural enemy **lady bird beetle** was observed only in Sikar (0.28 beetles/5 plants). The another natural enemy **Chrysopa** was observed only in Sikar (0.28 adults/ 5 plants) in surveyed fields, table V.4 d.

**Centre: Aurangabad**:

Survey was carried out in 25 fields of Aurangabad and Jalna district at ear head stage at farmer's fields (Table V.4e).

a. **Shoot fly**: Its incidence ranged from 0.0% to 40.0% at different locations/fields with an average of 11.20% in surveyed fields. The highest incidence (40.0%) was observed at Koli Bodakha and Rajapur of district Aurangabad) at ear head stage.
b. **Stem borer**: Its incidence was observed at few locations ranging from 0.0% to 40.0% at different locations/fields with an average of 4.80%.
c. **Blister beetle**: The population of blister beetle was observed at few locations, ranging from 0.0 to 0.40 adults/5 ear heads (average 0.06 beetles/5 ear heads) in surveyed fields.
d. **Chaffer beetle**: The population of chaffer beetle was observed at few locations, ranging from 0.0 to 1.00 adults/5 ear heads (average 0.24 beetles/5 ear heads) in surveyed fields.
e. **Fall Army worm:** The damage ranged from 0.0-40.00% with highest observed at Kingaon (Tehsil- Ambad, district Jalna, variety local) and at Kachner Tanda (Tehsil- Paithan, district-Aurangabad, variety- 7872). The mean damage was 12.80% in these locations in surveyed fields.
f. **Hairy caterpillar:** It was observed at few locations in surveyed fields.

The natural enemy lady bird beetle (av.0.20 adults/ 5 plants) was observed at few places and in few numbers.

**Centre: Hisar:**

**Survey in Haryana was conducted by CCS HAU, Hisar scientists in 58 farmer's fields of Bhiwani, Hisar, Jhajhar, Mahendragarh Rewari and Rohtak districts (Table- V.4f).**

a. **Shoot fly**: Its damage was observed in few fields ranging from 0.0-4.0%, with an average of 0.33% in surveyed fields.
b. **Stem borer:** Its damage was found in few fields and its range was 0.0-8.00% with an average of 1.4% in surveyed fields in surveyed fields.
c. **White grub:** Its range was 0.0-6.0% with an average of 1.26% in surveyed fields.
d. **Termite:** The termite per cent damage ranged between 0.0-5.0, with an average of 0.52% in surveyed fields.
e. ***Helicoverpa*:** It was observed at many places with an average of 0.19 larvae/5 ear heads. The overall range was 0.0-2.00 larvae/ 5 ear heads, in surveyed fields.
a. **Blister beetles:** Its population was found very low and it was observed only at few locations ranging from 0.0-12 adults/ 5 plants with an average of 1.12 adults/ 5 plants in surveyed fields.
b. **Chaffer beetles:** Its population was found low and it was observed only at few locations ranging from 0.0-8.0 adults/ 5 ear heads with an average of 1.16 ear heads/ 5 plants in surveyed fields.
c. **Grass hopper:** Its infestation was found at few locations with an average of 2.41% infestation in surveyed fields.
d. **Grey weevil:** Its damage was found ranging from 0.0-8.0 damage score, with an average of 2.36 damage score in surveyed fields.
e. **Fall Army Worm**: Its damage was observed at few places, ranging from 0.0-15.0% with an average of 3.1% in surveyed fields.
f. **Hairy caterpillar**: The population ranged from 0.0-15.0 larvae/5 ear head with an average of 2.71 larvae/ 5 ear heads.
g. **Natural enemy**-The population of **lady bird beetle** was found at few locations ranging from 0.0-3.0 with an average of 0.34 adults/5 plants. Whereas, chrysopa was also observed at few locations ranging from 0.0-5.0 adults/5 plants with an average of 072 adults/5 plants.

**5. PMET-4: Management of insect-pest complex of pearl millet through seed treatment and foliar application of bio-pesticides.**

**The objective of this trial was to evaluate different foliar applications of bio-pesticides along with seed treatment against Insect-pest complex infesting pearl millet. Total eight combinations were evaluated, (Table V.5a) with control including standard check. This experiment was conducted at Jamnagar, Anand, Mandor-Jodhpur, Fatehpur-Shekhawati Jaipur and Aurangabad during 2024.**

**Centre: Jamnagar**

**(a) Shoot fly**: Among the different treatments tested for their effectiveness against shoot fly, $T_1$ (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed **+** *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage, recorded lowest shoot fly incidence at vegetative stage (1.53%). However, it was at par with rest of the treatments except $T_9$-Untreated control. At ear head stage, again $T_8$ (Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG, Standard Check) recorded lowest shoot fly incidence (2.07%) and it was at par with $T_1$ (2.72%) and $T_4$ (2.30%). Whereas, among bio-pesticides $T_4$ (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at ear head stage) recorded least shoot fly incidence (2.30%) incidence at ear head stage. Whereas, 13.07% incidence was recorded in $T_9$- Untreated-control (Table-V.5a).

**(b) Stem borer**: At vegetative stage, $T_4$ (**Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at ear head stage) recorded least stem borer damage *i.e.* 1.89%. However, it was statistically at par with rest of the treatments except $T_9$-Untreated- control (8.22%). At ear head stage the lowest stem borer incidence *i.e.* 1.93% was recorded in $T_8$-Standard check. However, it was at par with $T_1$ (2.16%), $T_2$ (2.84%), $T_4$ (2.03%), $T_5$ (2.76%, and $T_7$ (2.77%) as compared to 7.34% in T9 (Table-V.5a). Amongst bio-pesticides foliar spray, $T_4$ recorded least stem borer at ear head stage *i.e.* 2.03%.

**(c) Grass hopper:** The lowest grass hopper per cent incidence (4.00%) was recorded in $T_5$ (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage. ). However, it was at par with rest of the treatments, except $T_9$-untreated control (10.00%), Table-V.5a.

**(d) Ear head worm (*Helicoverpa armigera*):** The results of before spray were non significant**.** After 3 days of spray the lowest *H. armigera* population was recorded in $T_4$ (18.00 larvae/5 ear heads). However, it was at par with rest of the treatments except $T_8$ (47.00 larvae/5 ear heads) and $T_9$ (49.33 larvae/5 ear heads). After 7 days of spray, again the lowest population was recorded in $T_4$ (10.00 larvae/5 ear heads). However, it was at par with rest of the treatments except $T_8$ (50.00 larvae/5 ear heads) and $T_9$ (53.33), Table-V.5a

**(e) Yield:** The Highest grain yield was recorded in $T_4$ (3171 kg/ha). However, it was at par $T_1$ (2914 kg/ha), $T_5$ (3169), $T_6$ (2979), $T_7$ (2822 kg/ha) and $T_8$ (2910 kg/ha) .Whereas, it was 2229 kg/ha in $T_9$-untreated-control. The results of fodder yield were non-significant. However, the highest yield was recorded in $T_4$ (6852 kg/ha). Whereas, it was 5157 kg/ha in $T_9$-Untreated-control, Table-V.5a
**ICBR:** Highest additional income (26940/- per hectare) & net return (Rs. 25330/- per hectare) was recorded in $T_4$ *i.e.* Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed **+** *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at ear head stage. . However, ICBR was found highest (1:18.83) in $T_8$- Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG (Standard Check). However, amongst foliar application of bio-pesticides, again $T_4$ recorded highest ICBR (1:16.73), Table-V.5b.

**Centre: Anand**

**(a) Shoot fly**: Among the different treatments tested for their effectiveness against shoot fly, $T_1$ (5.00%), T5 (5.00%) and T6 (5.00%), recorded lowest shoot fly incidence at vegetative stage. However, it was at par with rest of the treatments except T4 (10.00%) and $T_9$-Untreated control (21.67%). At ear head stage, again $T_8$ (**Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg** seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG, Standard Check recorded lowest shoot fly incidence (8.33%) and it was at par with $T_1$ (10.00%) T2 (11.67%), T5 (10.00%) and $T_6$ (11.67%). Whereas, 31.67% incidence was recorded in $T_9$- Untreated-control (Table-V.5c).

**(b) Stem borer**: At vegetative stage, incidence was very very low hence not recorded. At ear head stage the lowest stem borer incidence was recorded in T5 (5.00%) and $T_8$-Standard check (5.00%). However, it was at par with $T_1$ (8.33%), $T_2$ (8.33%) and $T_6$ (8.33%) as compared to 13.33% in $T_9$- Untreated-control (Table-V.5c).

**(c) Ear head worm (*Helicoverpa armigera*):** The results of before spray were non significant**.** After 3 days of spray the lowest *H. armigera* population was recorded in $T_5$ (1.67 larvae/5 ear heads). However, it was at par with T1 (2.33 larvae/5 ear heads), T2 (3.00 larvae/5 ear heads) and $T_6$ (2.67 larvae/5 ear heads). After 7 days of spray, again the lowest population was recorded in $T_5$ (0.67 larvae/5 ear heads). However, it was at par with $T_1$ (1.33 larvae/5 ear heads) and $T_6$ (1.66 larvae/5 ear heads), table-V.5c

**(d) Yield:** The Highest grain yield was recorded in $T_5$ (2717 kg/ha). However, it was at par $T_6$ (2640 kg/ha) and $T_7$ (2308 kg/ha) .Whereas, it was 1468 kg/ha in $T_9$-untreated-control. The highest fodder yield was recorded in $T_5$ (4990 kg/ha). Whereas, it was 3659 kg/ha in $T_9$-Untreated-control, table-V.5c

**(e) ICBR:** Highest additional income (33887/- per hectare) & net return (Rs. 29977/- per hectare) was recorded in $T_5$ *i.e.* Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage. However, ICBR was found highest (1:11.68) in $T_6$- Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage (Table-V.5d).

**Centre: Mandor-Jodhpur**

**(f) Shoot fly**: Among the different treatments tested for their effectiveness against shoot fly (Table-V.5e), $T_5$ recorded lowest shoot fly incidence at vegetative stage (2.16%). However, it was at par with rest of the treatments except $T_9$-Untreated control (16.98). At ear head stage, $T_8$ recorded lowest shoot fly incidence (0.30%) and it was at par with $T_5$ (0.74%).

**(g) Grass hopper:** The lowest grass hopper per cent incidence (1.67%) was recorded in $T_5$ (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage. ). However, it was at par with $T_6$ (2.33%), table-v.5e.

**(h) Ear head worm (*Helicoverpa armigera*):** The results of before spray were non significant**.** After 3 days of spray the lowest *H. armigera* population was recorded in $T_5$ (20.00 larvae/5 ear heads). However, it was at par with rest of the treatments except, $T_4$ (36.67 larvae/ 5 ear heads), $T_8$ (46.67 larvae/5 ear heads) and $T_9$ (47.33 larvae/5 ear heads). After 7 days of spray, again the lowest population was recorded in $T_1$ (4.67 larvae/5 ear heads). However, it was at par with $T_2$ (5.33 larvae/5 ear heads), $T_3$ (5.67 larvae/5 ear heads), $T_5$ (6.00 larvae/5 ear heads), $T_6$ (6.33 larvae/5 ear heads) and $T_7$ (6.67 larvae/5 ear heads). However, it was 48.67 larvae/5 ear heads in $T_9$-Untreated control, table-V.5e

**(i) Yield:** The highest grain yield was recorded in $T_5$ (1806 kg/ha). However, it was at par $T_6$ (1764 kg/ha) and $T_7$ (1681 kg/ha) .Whereas, it was 1056 kg/ha in $T_9$-untreated-control. The results of fodder yield were found significant and the highest yield was recorded in $T_5$ (3250 kg/ha) and it was at par with $T_1$ (2750 kg/ha), $T_2$ (2700 kg/ha), $T_6$ (3175 kg/ha and $T_7$ (3025 kg/ha). Whereas, it was 1900 kg/ha in $T_9$-Untreated-control, table-V.5e

**(j) ICBR:** Highest additional income (21450/- per hectare) & net return (Rs. 17540/- per hectare) was recorded in T5 (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage. Whereas, ICBR was found highest (1:7.47) in T6 ( Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage), table-V.5f.

**Centre: Fatehpur-Shekhawati**

a. **Shoot fly and stem borer incidence:**
**At 28 DAG:** The seed treatment with imidacloprid 600FS were fine in all the treatments except $T_9$ which was absolutely untreated plot (control). The maximum incidence of shoot fly (15.19%) and stem borer (5.36%) were recorded in $T_9$- control and other all treatments were at par with each other.
**At ear head stage: Shoot fly:** Among the treatments, $T_8$ recorded the lowest shoot fly incidence (7.15%), which was significantly lower than all other treatments except $T_4$ (8.51%). In contrast, $T_9$ exhibited the highest incidence (20.70%), which was significantly higher than all other treatments. Treatments $T_1$ to $T_7$ showed comparable shoot fly incidence, ranging from 8.51% to 9.83%, with no significant differences among them. **Stem Borer:** Among the treatments, $T_8$ recorded the lowest stem borer incidence (1.12%), which was significantly lower than all other treatments except $T_4$ (1.65%) and $T_1$ (1.76%). Conversely, $T_9$ exhibited the highest incidence (7.65%), which was significantly higher than all other treatments. Treatments $T_2$ to $T_7$ showed comparable shoot fly incidence, ranging from 2.24% to 2.66%, with no significant differences among them (Table-V.5g).

b. **White grub and termite damage:** The white grub and termite damage percentage at the ear head stage showed minimal variation among treatments, ranging from 1.10% ($T_4$) to 1.24% ($T_9$). $T_4$ recorded the lowest damage (1.10%), while $T_9$ had the highest (1.24%), though the differences among treatments were statistically non-significant due to the high standard error (SEm ± 98.47) and a large critical difference (C.D. 5% = 292.56). The coefficient of variation (CV) of 7.08% indicates moderate variability in the data, suggesting that all treatments performed similarly in minimizing white grub and termite damage (Table-V.5g).

c. **Ear head worm *Helicoverp armigera* population:** The *H.armigera* larval population per 20 ear heads was statistically similar among treatments 24 hours before spray (C.D. = NS), indicating uniform infestation levels. However, 24 hours after spraying, $T_4$ and $T_5$ recorded the lowest larval counts (35.33), while T9 had the highest (42.00). At 3 days after spraying, $T_4$ showed the most effective reduction (15.00 larvae), which was significantly lower than most other treatments, whereas $T_9$ (46.33) and $T_8$ (44.00) had the highest larval populations, indicating poor efficacy. At 7 days after spraying, $T_4$ again had the lowest larval population (7.33), followed by $T_1$ (8.00), while $T_9$ (50.33) and $T_8$ (47.00) continued to have the highest infestation (Table-V.5h).

d. **Yield:** The highest grain yield (Table-V.5i) was recorded in $T_8$ (2981kg/ha). However, it was at par with $T_3$ (2500kg/ha), $T_4$ (2918 kg/ha) and $T_6$ (2704 kg/ha). However, the highest fodder yield was recorded in $T_8$ (5425kg/ha) which was at par with $T_4$ (5311kg/ha), and $T_6$ (4922 kg/ha).

e. **ICBR:** The highest additional income 24264/- per hectare, net return Rs. 23304/- per hectare and ICBR was recorded in $T_8$- with 1:25.28 which was standard chemical check but keeping in mind the bio-pesticide treatments, the maximum additional income 22474/- per hectare, net return Rs. 20864/- per hectare and ICBR was recorded in T4- with 1:13.96, (Table-V.5i).

**Centre: Jaipur**

a. **Shoot fly**: Among the different treatments tested for their effectiveness against shoot fly (Table-v.5j), $T_5$ recorded lowest shoot fly incidence at vegetative stage (4.56%). However, it was at par

with rest of the treatments except $T_9$-Untreated control (17.98). At ear head stage, $T_3$ recorded lowest shoot fly incidence (2.96%) and it was at par with $T_1$ (3.60%), $T_2$ (3.70%), $T_5$ (4.20%) and $T_6$ (4.00%). However, it was 15.43% in $T_9$-Untreated control

b. **Termite and white grub % incidence:** Significantly the lowest termite and white grub % incidence (1.45%) was recorded in $T_1$ However, it was 19.28% in $T_9$-Untreated control, table-V.5j.
c. **Yield:** The data could not be recorded due to heavy lodging at maturity stage.
d. **ICBR:** It could not be worked out due to non availability of yield data.

**Centre: Aurnagabad**

**(a) Shoot fly**: Among the different treatments tested for their effectiveness against shoot fly, $T_3$ (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage, recorded lowest shoot fly incidence at vegetative stage (5.00%). However, it was at par with rest of the treatments except $T_9$-Untreated control (20.00%). At ear head stage, significantly $T_3$ recorded lowest shoot fly incidence (5.00%). Whereas, 25.00% incidence was recorded in $T_9$- Untreated-control (Table-V.5k).

**(b) Stem borer**: At vegetative stage, $T_2$ (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage and T3 (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage) recorded least stem borer damage *i.e.* 5.00%. However, it was statistically at par $T_6$ (10.00%) and T7 (10.00%).Whereas, it was 20.00% in $T_9$-Untreated- control. At ear head stage the lowest stem borer incidence *i.e.* 5.00% was recorded in $T_3$ (5.00%). However, it was at par with $T_2$ (10.00%) as compared to 25.00% in $T_9$ (Table- V.5k).

**(c) Fall Army worm damage:** The lowest fall army worm per cent damage (5.00%) was recorded in $T_2$ (5.00%) and $T_3$ (5.00%). However, it was at par with $T_1$ (10.00%), $T_5$ (10.00%), $T_6$ (10.00%) and $T_8$ (10.00%).Whereas. it was 25.00% in $T_9$-untreate**d** control, table- V.5k.

**(d) Yield:** The Highest grain yield was recorded in $T_3$ (2300.00 kg/ha). However, it was at par $T_1$ (2100.00 kg/ha) and $T_7$ (2100.00 kg/ha) .Whereas, it was 1800.00 kg/ha in $T_9$-untreated-control. Incase, of fodder, $T_3$ recorded significantly the highest fodder yield (4000.00 kg/ha). Whereas, it was 3600.00 kg/ha in $T_9$-Untreated-control, table- V.5k

**(e) ICBR:** Highest additional income (17000/- per hectare) & net return (Rs. 10810/- per hectare) was recorded in $T_3$ ***i.e.*** Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage. However, ICBR was found highest (1:2.87) in $T_1$- (Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed + Beauveria bassiana , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage, ), table- V.5l.

**6. PMET-5: Management of ear head worm, *Helicoverpa armigera* in pearl millet through chemical insecticides.**

**The objective of this trial was to evaluate different chemicals against *Helicoverpa* infesting pearl millet. Total nine chemicals were evaluated, (Table V.6a) with control. This experiment was conducted at Jamnagar, Mandor-Jodhpur and Fatehpur-Shekhawati during 2024.**

**Centre: Jamnagar**

a. **Ear head worm (*Helicoverpa armigera*) population:** The results of before spray were non significant**.** After 24 hrs after spray, $T_5$-Emamectin benzoate 0.002% recorded least larval population (29.00 larvae/20 ear heads) and it was at par with $T_3$-Spinosad 0.009%

(37.33 larvae/20 ear heads), $T_4$-Indoxacarb 0.006% (30.67 larvae/ 20 ear heads), $T_6$-Chlorantraniprole 0.006% (30.67 larvae/ 20 ear heads) and $T_7$-Lambda-cyhalothrin 0.003% (31.00 larvae/20 ear heads). Whereas, it was 65.00 larvae/20 ear heads in $T_{10}$-Untreated-control. After 3 days of spray the same trend was observed and the least larval population was recorded in $T_5$ (10.00 larvae/20 ear heads) and it was at par with $T_3$ (11.00 larvae/20 ear heads), $T_4$ (10.33 larvae/20 ear heads), $T_6$ (10.33 larvae/20 ear heads) and $T_7$ (10.67 larvae/20 ear heads). ). Whereas, it was 66.00 larvae/20 ear heads in $T_{10}$-Untreated-control. After 7 days of spray, the same trend of effectiveness was found and $T_5$ recorded 3.00 larvae/20 ear heads larval population and it was at par with $T_3$ (3.67 larvae/20 ear heads), $T_4$ (3.33 larvae/20 ear heads), $T_6$ (3.67 larvae/20 ear heads) and $T_7$ (3.67 larvae/20 ear heads), table-V.6a

**b. Yield:** The Highest grain yield was recorded in $T_5$ (3088 kg/ha). However, it was at par with $T_1$ (2813 kg/ha), $T_3$ (3037 kg/ha), $T_4$ (3042 kg/ha) and T6 (3006 kg/ha). The results of fodder yield were found non-significant. However, the highest fodder yield was recorded in $T_5$ (6352 kg/ha), table-V.6a.

**c. ICBR:** The highest additional income (14724- per hectare), net return (Rs. 13724/- per hectare) and ICBR was recorded in $T_5$-Emamectin benzoate 0.002% (1:14.72), table-V.6b.

**Mandor-Jodhpur**

**(a) Ear head worm (*Helicoverpa armigera*) population:** The results of before 24 hrs and after 24 hrs spray were non significant**.** After 3 days, $T_5$-Emamectin benzoate 0.002% recorded least larval population (8.00 larvae/20 ear heads) and it was at par with rest of the treatments except $T_1$ (14.67 larvae/20 ear heads), $T_9$ (25.33 larvae/20 ear heads) and $T_{10}$-Untreated control (55.67 larvae/20 ear heads). After 7 days of spray, the least larval population was recorded in $T_5$ recorded 1.67 larvae/20 ear heads larval population and it was at par with $T_6$ (2.67 larvae/20 ear heads). Whereas, it was 57.67 larvae/20 ear heads were recorded in T10-Intreated control, table-V.6c.

**(b) Yield:** The Highest grain yield was recorded in $T_5$ (1833 kg/ha). However, it was at par with $T_3$ (1708 kg/ha), $T_4$ (1639 kg/ha), $T_6$ (1819 kg/ha) and $T_7$ (1764 kg/ha). The results of fodder yield were found significant and the highest fodder yield was recorded in $T_5$ (3300 kg/ha), table-V.6c.

**(c) ICBR:** The highest additional income (16365- per hectare), net return (Rs. 15365/- per hectare) was recorded in $T_5$-Emamectin benzoate 0.002%. But looking to the management cost T7 recorded highest ICBR (1:20.84), table-V.6d.

**Centre: Fatehpur-Shekhawati:**

**(a) Ear head worm *Helicoverpaarmigera* population:** The results of before spray were observed non-significant**.** After 24 hrs after spray,$T_5$-Emamectin benzoate 0.002% recorded least larval population 16.33 larvae/20 ear heads and it was at par with $T_3$-Spinosad 0.009%, 18.67 larvae/20 ear heads, $T_4$-Indoxacarb 0.006% 19.33 larvae/ 20 ear heads, $T_6$-Chlorantraniprole 0.006%, 19.33 larvae/20 ear heads and $T_7$-Lambda-cyhalothrin 0.003% 21.33 larvae/20 ear heads. Whereas, it was 51.67 larvae/20 ear heads in $T_{10}$-Untreated-control. After 3 days of spray, significantly the least larval population was recorded in $T_5$, 1.67 larvae/20 ear heads followed. Whereas, it was 54.00 larvae/20 ear heads in $T_{10}$-Untreated-control.After 7 days of spray, $T_5$ recorded nil larval population which was at par with $T_3$ 0.33 larvae/20 ear heads. Whereas, 61.67 larvae/20 ear heads in $T_{10}$-Untreated-control (Table-V.6e).

**(b) Yield:** The highest grain yield was recorded in $T_{5,}$ 2667 kg/ha. However, it was at par with $T_{3,}$ 2500kg/ha, $T_{4,}$ 2164 kg/ha and $T_{6,}$ 2417 kg/ha. The results of fodder yield were found non-significant. However, the highest fodder yield was recorded in $T_{5,}$ 5569 kg/ha (Table-V.6e).

**(c) ICBR:** The highest additional income per hectare (Rs. 12338/-), net return (Rs. 11238/-) per hectare and ICBR (1:11.22) was recorded in $T_5$-Emamectin benzoate 0.002% (Table-V.6f).

**Conclusion:**

**The spray of emamectin benzoate 0.002% recorded lowest larval population after 24 hrs, 3 days and 7 days of spray as well as recorded the highest grain and fodder yield.**

**7. PMET 7: Survey of insect- pests of summer pearl millet on farmers' fields.**

**Centre: Jamnagar and Anand (Gujarat) and Aurnagabad (Maharashtra).**

**Survey was carried out in pearl millet at farmer's fields by scientists of Jamnagar centre (Field no. 1-74) and Anand centre (Field no. 75-106) during summer 2024 (Table-V.7a). It was carried out in eight Districts *viz*., Anand, Banaskantha, Dev. Dwarka, Gandhinagar, Jamnagar, Kutch, Mahesana and Patan, major summer growing pockets of Gujarat. Total 106 fields were observed for insect pests in pearl millet during the survey. The overall pest incidence was low.**

a. **Shoot fly:** The shoot fly per cent incidence ranged from 0.0 to 20.00% with an average of 4.37% in surveyed fields. The highest incidence was recorded at Dedarda (Tehsil- Borsad, district- Anand) at ear head stage in Desi variety in surveyed fields.
b. **Stem borer:** The stem borer per cent incidence ranged from 0.0 to 20.00% with an average of 5.58% in surveyed fields. The highest incidence was recorded at Dedarda , Kavitha and Pansora of Anand district in Desi variety at ear head stage in surveyed fields.
c. ***Helicoverpa armigera*:** The larval population ranged from 0.0-25.0 larvae/ 5 ear heads with an average of 3.66 larvae/ 5 ear heads at ear head stage in surveyed fields. The highest larval population (25.0 larvae/5 ear heads) was recorded at Mudetha (Tehsi- Deesa, district- B.Kantha, variety- 86M22) at ear head stage in surveyed fields.
d. **Grey weevil:** The grey weevil damage score ranged from 0.0 to 3.0 with an average of 0.58 in surveyed fields.
e. **Fall Army worm:** The fall army worm per cent damage ranged from 0.0-5.0 with an average of 0.21%. It was found highest at Dali and Dedarda (Tehsil- Borsad, district- Anand) at ear head stage in surveyed fields.

**District-wise insect-pest situation:**

Survey was carried out in eight Districts *viz*., Anand, Banaskantha, Dev.Dwarka, Gandhinagar, Jamnagar, Kutch, Mahesana and Patan, major summer growing pockets of Gujarat (Table-V.7b). The mean **shoot fly** (5.82%), **Stem borer** (7.70%) and **FAW** (0.39%) was recorded in Anand Pocket in surveyed fields. Whereas, ***Helicoverpa armigera*** larval population was highest in Banaskantha (10.50 larvae/ 5 ear heads) in surveyed fields. **Grey weevil damage score** (2.0) was highest in Kucth belt.

**Centre: Aurangabad**

**Survey was carried (Table-V.7c) out in pearl millet at farmer's fields by scientists of Aurnagabad centre (Field no. 1-25) It was carried out in two Districts *viz*., Jalna and Aurangabad, major summer growing pockets of Maharashtra. Total 25 fields were observed for insect pests in pearl millet during the survey. The overall pest incidence was low to moderate.**

a. **Shoot fly:** The shoot fly per cent incidence ranged from 0.0 to 20.00% with an average of 7.20% in surveyed fields. The highest incidence was recorded at many places (Satara, Gandheli, Mardi, Nihalsing wadi, Kumbhefal, Karkin, Chitegaon, Murumkheda) at ear head stage in different variety in surveyed fields.

b. **Stem borer:** The stem borer per cent incidence ranged from 0.0 to 20.00% with an average of 4.00% in surveyed fields. The incidence was observed in few fields only. The highest incidence was recorded at Satara, Dhakalgaon, Rohilagad, Badnapur and Karkin in different varieties at ear head stage in surveyed fields.
**c. Blister beetles:** The blister beetle adult population ranged from 0.0 to 0.40/ 5 ear heads with an average of 0.07 in surveyed fields.
d. **Chaffer beetle:** Its population ranged from 0.0-1.0 adults/ 5 ear heads with an average of 0.34 in surveyed fields.
e. **Fall Army worm:** The fall army worm per cent damage ranged from 0.0-40 with an average of 6.40%. It was found highest at Satara (Tehsil and district- Aurangabad) at ear head stage in surveyed fields.
f. The natural enemy Lady bird beetles (range 0.0-1.0/5 plants) and chrysopa (range 0.0-1.0) in surveyed fields.

**8. PMET-8: Relative susceptibility of pearl millet advanced entries to storage insect pests.**
**This is laboratory trial and it was conducted at 5 locations (Jamnagar, Anand, Jaipur, Mandor-Jodhpur and Anantapur). Since the installation of storage trial was done after the harvest of PMET-1B trial of *Kharif season* of 2023 and the observations were recorded at 3 & 6 months of period (2023-24). So, the final results have been presented in this year's report.**
**Centre: Jamnagar**
**Thirty two advance entries were screened in laboratory at Jamnagar against red rust flour beetle, *Tribolium castaneum* (Table V.8a).**
**Grain damage**: At 3 months storage period, least per cent grain damage (0.25%) was recorded in GHB 1305, APHB-126, MP7214, NBH 5992, JKBH 1870, GHB 1337, HHB 67 Imp. And 86M01. However, these entries were at par PB 1939, MP 7173, US 7773 and Pratap. The highest damage was recorded in HHB 344 (2.13%). At 6 months storage period, least per cent grain damage (3.25%) was recorded in NBH 5992. However, it was at par with JKBH 1870, 86M01, MP 7173, MP 7179, APHB-126, PB 1939, US 7773 and GHB 1337. The highest damage was recorded in Kaveri Super Boss (23.13%).
**Adult population (*Tribolium* sp):** At 3 months storage period least adult population (37.50 adults/100g seeds) was recorded in NBH 5992. However, it was at par with APHB-126, MP 7173, JKBH 1870, 86M01, GHB 1305, MP 7214, PB 1939, MP 7179, US 7773 and GHB 1337. The highest adult population (23.50 adults/100g seeds) was observed in HHB 344. At 6 months storage period the least adult population was recorded in JKBH 1870 (35.50 adults/100g seeds). However, it was at par with NBH 5992, 86M01, MP7173, APHB-126, GHB 1305, PB 1939, US 7773, MP 7214, MP 7179 and GHB 1337. The highest number of adults was recorded in HHB 344 (222.50 adults/100g seeds).
**Weight loss:** At 3 months storage period, least per cent weight loss *i.e.* 0.75% was recorded in NBH 5980 and APHB-126. However, it was at par with GHB 1305, MP 7214, PB 1939, MP 7173, MP 7179, US 7773, 86M01, JKBH 1870, DHBH-21003, KPH 6277, GHB 1337, PB 1756, KBH 10, HHB 67 Imp. , Pratap, CZH 267 and RHB 223. The highest per cent weight loss was observed in HHB 344 (11.00%). At 6 months storage period least per cent weight loss (2.50%) was recorded in NBH 5992. However, it was at par with MP 7173, JKBH 1870, 86M01, APHB-126, PB 1939, US 7773, MP 7179, MP 7214 and GHB 1337. The highest per cent weight loss was recorded in HHB 344 (21.00%).
**Germination:** At 6 months storage period, the highest germination *i.e.* 97.00% was recorded in NBH 5992. However, it was at par with JKBH 1870, 86M01, MP 7214, MP 7173, MP 7179, GHB 1337, GHB 1305, APHB-126, PB 1939, US 7773, HHB 67 Imp. and Pratap. The least germination was recorded in Kaveri Super Boss (77.50%).
**Conclusion: On the basis of lowest per cent grain damage,adult emergence ,per cent weight loss and highest germination percentage at 6 months storage period APHB-126, PB1939, MP7173, MP7179, NBH 5992, US7773, JKBH1870, GHB 1337 and 86M01 were found to be most promising against *Tribolium sp* at Jamnagar.**
**Centre: Anand**

**Thirty two advance entries (Table V.8b) were screened in laboratory at RRS, AAU, Anand against *Rhyzopertha dominica*.**

**Grain damage**: At 3 months storage period, least per cent grain damage (1.50 %) was recorded inHHB 344.However, these entries were at par RHB-273, VNR-106, GHB 1305, APHB-126, IIMRPH2, US7773, MP7214, MP7179, 86M01, AHB 1200, MP7173 and Pratap. The highest damage was recorded in KBH 108 (8.00 %).At 6 months storage period, least per cent grain damage (8.00 %) was recorded in GHB 1305, APHB-126, IIMRPH2 and MP7173. However, it was at par with VNR-106, VNR-107, NBH 5992, US7773 and CZH 267. The highest damage was recorded in MP 7878(36.00 %).

**Adult population (*Rhizopertha dominica*):** At 3 months storage period least adult population (1.50 adults/100g seeds) was recorded in GHB 1305, APHB-126, IIMRPH2, MP7173 and VNR-106.The highest adult population (8.50 adults/100g seeds) was observed in MP 7878.At 6 months storage period the least adult population was recorded in US7773 (3.00 adults/100g seeds).The highest number of adults was recorded in 86M86 (12.00 adults/100g seeds).

**Weight loss:** At 3 months storage period, least per cent weight loss *i.e.*1.50 % was recorded in GHB 1305, APHB-126, IIMRPH2, MP7173, VNR-106, VNR-107 and NBH 5992. However, it was at par withUS7773,MP7179,BLPMH 112,KPH6277,JKBH1870,GHB 1337,PB 1756,MPMH 21,RHB-273,HHB 344,RHB 223,Pratap,AHB 1269 and KBH 108.The highest per cent weight loss was observed in MP 7878 (7.00%).At 6 months storage period least per cent weight loss (3.50%) was recorded inAPHB-126 and MP7173.However, it was at par withMP7173, JKBH1870, VNR-107, MPMH 21, BLPMH 112, MP7179 and VNR-106. The highest per cent weight loss was recorded in NBH 4903 (12.50 %).

**Germination:** At 6 months storage period, the highest germination *i.e.*90.00% was recorded in GHB 1305, APHB-126, IIMRPH2 and MP7173. However, it was at par with VNR-106, VNR-107, NBH 5992, MP7179, US7773, BLPMH 112, KPH6277, JKBH1870, GHB 1337, PB 1756, MPMH 21 and RHB 223. The least germination was recorded in MP 7878 (76.00 %).

**Conclusion: On the basis of lowest per cent grain damage, adult emergence, per cent weight loss and highest germination percentage at 6 months storage period APHB-126, MP7173, VNR-106 and VNR-107 were found to be most promising against *Rhizopertha dominica*at Anand.**

**Mandor-Jodhpur:**

On the basis of per cent grain damage, adult emergence, per cent weight loss and germination percentage at 6 months storage period (Table V.8c) the entries *viz*., MH 2711, MH 2712, AHB 1269, PRatap, MH 2713, 86M01, KBH 108, MH 2715, MH 2678 and MH 2675 performed better against *Rhizopertha dominica*

**Anantapur:**

During 2024-25, 32 entries of pearl millet were evaluated against the lesser grain borer *Rhizopertha dominica* (Table V.8d). The entries were evaluated for their relative susceptibility to *Rhizopertha dominica.* Observations were taken in two replications for every 3 months and six months for adult emergence and per cent grain damage. After six months the entries were evaluated for germination.

After 3 months, the entry 86M86 recorded highest number of adults (174.5/100g seeds). At 6 months RHB 223 recorded highest number of adults of 608.5 (mean of two replications) at six months of storage. With reference to per cent grain damage, highest was observed by the entry number MH 2712 with 77.25 while the same entry showed 78.5 after six months and meanwhile per cent grain damage was also highest in entry number MH 2713 with 83.1 after six months.

With reference to the germination, the lowest per cent germination (7.5) was observed in entry no. Kaveri Super Boss, which showed 155.5 and 426 adults after 3$^{rd}$ and 6$^{th}$ months respectively. The highest germination percentage (64.5) was observed in entry number AHB 1200 at 6 months of storage period.

**Centre: Jaipur: See table number V.8e**

**Grain damage**: At 3 months storage period, least per cent grain damage (1.50%) was recorded in CZH 267. However, it was at par with RHB 273, VNR 107, MPMH 21, VNR 106, APHB 126, GHB 1305, DHBH 21003, PB 1756, AHB 1200 and MP 7173. The highest grain damage was recorded in PB 1939

(6.50%). At 6 months storage period, least per cent grain damage (4.50%) was recorded in MPMH 21. However, it was at par with RHB 273, VNR 107, CZH 267, APHB 126, DHBH 21003, AHB 1200 and GHB 1305. The highest grain damage was recorded in 86M01 (40.50%).

**Adult population (*Rhizopertha* sp):** At 3 month's storage period least adult population (15.50 adults/100g seeds) was recorded in RHB 273. However, it was at par with APHB-126, VNR 107, CZH 267, MPMH 21, GHB 1305, AHB 1200, VNR 106, HHB 344 and DHBH 21003. The highest adult population (78.50 adults/100g seeds) was observed in PB 1939. At 6 months storage period the least adult population was recorded in MPMH 21 (49.00 adults/100g seeds). However, it was at par with VNR 107, RHB 273, AHB 1200, DHBH 21003, APHB 126, CZH 267 and GHB 1305. The highest number of adults was recorded in 86M01 (404.50 adults/100g seeds).

**Weight loss:** At 3 months storage period, least per cent weight loss was recorded in CZH 267 (0.85%). However, it was at par with, RHB 273, VNR 107, VNR 106, MPMH 21, GHB 1305, PB 1756, APHB 126, DHBH 21003, MP 7173 and AHB 1200. The highest per cent weight loss was observed in PB 1939 (5.80%). At 6 months storage period least per cent weight loss was recorded in RHB 273 (4.20%). However, it was at par with VNR 107, MPMH 21, CZH 267, DHBH 21003, GHB 1305 and AHB 1200. The highest per cent weight loss was recorded in 86M01 (31.65%).

**Germination:** At 6 months storage period, the highest germination was recorded in VNR 107 (87.50%). However, it was at par with many entries. The least germination was recorded in 86M01 (60.50%).

### 9. PMET-9: Monitoring of Fall Army worm (*Spodoptera frugiperda*) in *Kharif* pearl millet.

**Centres: Jamnagar, Anand, Mandor-Jodhpur, Fatehpur-Shekhawati, Jaipur, Hisar & Aurangabad.**

**The study on monitoring of FAW through pheromone traps revealed that there were no catches of male moths of FAW at Anand, Fatehpur-Shekhawati, Mandor-Jodhpur and Jaipur. Whereas, very few catches were recorded at Jamnagar, Hisar and Aurangabad.**

**Centre: Jamnagar:**

The data presented in table V.9a indicates that, observations of FAW moth catches were recorded only during 31$^{st}$ SMW. The numbers of catches were very low during the crop period and its range was 0.0-5.40 adults/ pheromone trap. Simultaneously, there was no any damage in pearl millet.

**Centre: Aurangabad:**

The data presented in table- V.9b indicates that, observations of FAW moth catches were observed from 34$^{th}$ to 38$^{th}$ MSW. The number of catches was very low during the crop period and its range was 0.0-1.40 adults/ 5 pheromone trap. Simultaneously, damage was also recorded in pearl millet and it was the range of 0.0-1.0.0%.

**Centre: Hisar:**

The data presented in table- V.9c indicates that, observations of FAW moth catches were observed during 31$^{st}$, 32$^{nd}$ 36$^{th}$ and 37$^{th}$ MSW. The number of catches was very low during the crop period and its range was 0.0-7.2 adults/pheromone trap. Simultaneously, damage was also recorded in pearl millet and it was the range of 0.0-10.0%.

**Mandor-Jodhpur**

The data presented in table- V.9d indicates that, there were no FAW moth catches observed during the crop period. However, larval counts per 20 plants was observed during mid crop stage *i.e.* 34-37$^{th}$ MSW. The damage was also recorded in pearl millet and it was the range of 0.0-10.0%.

**Table-V.1a: (PMET-1A) Screening of pearl millet lines against major insect pests (Initial entries/populations).**

| Sr.No. | Entry no. | Name of Entry | Shoot fly % Incidence At Veg. stage (28 DAG) | | | | Shoot fly % Incidence At Ear head stage | | | | Stem borer % Incidence At Veg. stage (28 DAG) | | | Stem borer Incidence At Ear head stage | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | JAM | JP | FPS | Mean | JAM | JP | FPS | Mean | JAM | FPS | Mean | JAM | FPS | Mean |
| 1 | PIT 101 | MH 2811 | 3.85 | 6.49 | 25.00 | **11.78** | 3.33 | 17.95 | 13.46 | **11.58** | 0.00 | 1.00 | **0.50** | 0.00 | 9.62 | **4.81** |
| 2 | PIT 102 | MH 2812 | 3.75 | 15.80 | 3.85 | **7.80** | 1.25 | 8.76 | 5.77 | **5.26** | 1.25 | 0.00 | **0.63** | 0.00 | 0.00 | **0.00** |
| 3 | PIT 103 | MH 2813 | 2.47 | 14.00 | 3.85 | **6.77** | 0.00 | 3.78 | 5.77 | **3.18** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 4 | PIT 104 | MH 2814 | 3.75 | 10.09 | 1.92 | **5.25** | 0.00 | 4.13 | 1.92 | **2.02** | 2.47 | 0.50 | **1.49** | 0.00 | 0.00 | **0.00** |
| 5 | PIT 105 | MH 2815 | 2.47 | 12.50 | 15.38 | **10.12** | 0.00 | 12.87 | 3.85 | **5.57** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 6 | PIT 106 | MH 2816 | 2.50 | 6.37 | 7.69 | **5.52** | 0.00 | 5.66 | 7.69 | **4.45** | 1.25 | 0.00 | **0.63** | 0.00 | 1.92 | **0.96** |
| 7 | PIT 107 | MH 2817 | 2.50 | 13.16 | 3.85 | **6.50** | 0.83 | 10.53 | 15.38 | **8.91** | 1.22 | 0.00 | **0.61** | 0.83 | 0.00 | **0.42** |
| 8 | PIT 108 | MH 2818 | 3.81 | 5.33 | 11.54 | **6.89** | 2.86 | 14.13 | 13.46 | **10.15** | 1.28 | 0.00 | **0.64** | 0.00 | 3.85 | **1.93** |
| 9 | PIT 109 | MH 2819 | 3.75 | 9.75 | 26.92 | **13.47** | 4.72 | 7.66 | 15.39 | **9.26** | 0.00 | 0.00 | **0.00** | 0.00 | 3.85 | **1.93** |
| 10 | PIT 110 | MH 2820 | 2.50 | 7.83 | 17.31 | **9.21** | 0.71 | 20.12 | 15.38 | **12.07** | 2.50 | 0.50 | **1.50** | 0.00 | 3.85 | **1.93** |
| 11 | PIT 111 | MH 2821 | 2.38 | 16.00 | 26.92 | **15.10** | 0.00 | 14.22 | 7.69 | **7.30** | 1.25 | 0.50 | **0.88** | 0.00 | 1.92 | **0.96** |
| 12 | PIT 112 | MH 2822 | 6.48 | 7.85 | 5.77 | **6.70** | 2.50 | 8.04 | 5.77 | **5.44** | 2.60 | 0.50 | **1.55** | 0.00 | 0.00 | **0.00** |
| 13 | PIT 113 | MH 2823 | 2.56 | 10.29 | 17.31 | **10.05** | 13.75 | 6.74 | 19.23 | **13.24** | 1.28 | 2.00 | **1.64** | 0.00 | 5.77 | **2.89** |
| 14 | PIT 114 | MH 2824 | 3.81 | 11.18 | 19.23 | **11.41** | 0.91 | 8.95 | 19.23 | **9.70** | 2.53 | 0.50 | **1.52** | 0.91 | 0.00 | **0.46** |
| 15 | PIT 115 | MH 2825 | 1.25 | 21.93 | 26.92 | **16.70** | 3.33 | 4.61 | 19.23 | **9.06** | 0.00 | 0.50 | **0.25** | 0.00 | 0.00 | **0.00** |
| 16 | PIT 116 | MH 2826 | 3.69 | 8.69 | 1.92 | **4.77** | 0.77 | 8.00 | 0.00 | **2.92** | 2.44 | 0.00 | **1.22** | 0.00 | 1.92 | **0.96** |
| 17 | PIT 117 | MH 2827 | 6.19 | 12.71 | 9.62 | **9.51** | 0.00 | 15.03 | 9.62 | **8.22** | 1.25 | 0.50 | **0.88** | 0.00 | 3.85 | **1.93** |
| 18 | PIT 118 | MH 2828 | 3.66 | 14.21 | 1.92 | **6.60** | 3.93 | 11.51 | 0.00 | **5.15** | 1.22 | 0.50 | **0.86** | 0.00 | 0.00 | **0.00** |
| 19 | PIT 119 | MH 2829 | 2.41 | 10.42 | 1.92 | **4.92** | 2.78 | 7.52 | 0.00 | **3.43** | 2.41 | 0.50 | **1.46** | 0.83 | 0.00 | **0.42** |
| 20 | PIT 120 | MH 2830 | 0.00 | 9.06 | 5.77 | **4.94** | 1.25 | 10.92 | 5.77 | **5.98** | 1.22 | 0.50 | **0.86** | 0.00 | 0.00 | **0.00** |
| 21 | PIT 121 | MH 2831 | 1.19 | 16.50 | 7.69 | **8.46** | 1.00 | 18.95 | 7.69 | **9.21** | 1.19 | 0.00 | **0.60** | 0.00 | 0.00 | **0.00** |
| 22 | PIT 122 | MH 2832 | 3.63 | 6.37 | 7.69 | **5.90** | 0.00 | 11.00 | 11.54 | **7.51** | 2.41 | 0.50 | **1.46** | 0.00 | 0.00 | **0.00** |
| 23 | PIT 123 | MH 2833 | 4.88 | 6.22 | 11.54 | **7.55** | 0.00 | 7.82 | 9.62 | **5.81** | 1.22 | 2.00 | **1.61** | 0.00 | 1.92 | **0.96** |
| 24 | PIT 124 | MH 2834 | 2.41 | 8.63 | 3.85 | **4.96** | 0.00 | 8.92 | 0.00 | **2.97** | 1.22 | 0.50 | **0.86** | 0.00 | 0.00 | **0.00** |
| 25 | PIT 125 | MH 2835 | 3.75 | 14.50 | 1.92 | **6.72** | 0.00 | 12.60 | 1.92 | **4.84** | 1.25 | 1.00 | **1.13** | 0.00 | 1.92 | **0.96** |
| 26 | PIT 126 | MH 2836 | 2.50 | 9.22 | 1.92 | **4.55** | 1.11 | 15.16 | 1.92 | **6.06** | 2.50 | 0.50 | **1.50** | 0.00 | 0.00 | **0.00** |
| 27 | PIT 127 | MH 2837 | 5.06 | 19.05 | 1.92 | **8.68** | 0.00 | 12.14 | 0.00 | **4.05** | 1.28 | 1.50 | **1.39** | 0.00 | 0.00 | **0.00** |
| 28 | PIT 128 | MH 2838 | 2.60 | 14.43 | 1.92 | **6.32** | 0.00 | 8.34 | 0.00 | **2.78** | 2.60 | 0.00 | **1.30** | 0.00 | 0.00 | **0.00** |
| 29 | PIT 129 | MH 2839 | 1.28 | 16.93 | 3.85 | **7.35** | 0.00 | 12.47 | 0.00 | **4.16** | 0.00 | 1.00 | **0.50** | 0.00 | 0.00 | **0.00** |
| 30 | PIT 130 | MH 2840 | 2.50 | 16.08 | 1.92 | **6.83** | 0.00 | 9.19 | 0.00 | **3.06** | 1.25 | 0.00 | **0.63** | 0.00 | 1.92 | **0.96** |
| 31 | PIT 131 | MH 2841 | 1.25 | 17.79 | 3.85 | **7.63** | 1.43 | 17.12 | 0.00 | **6.18** | 2.53 | 1.00 | **1.77** | 0.00 | 1.92 | **0.96** |
| 32 | PIT 132 | MH 2842 | 2.50 | 13.76 | 9.62 | **8.63** | 0.00 | 12.60 | 1.92 | **4.84** | 1.25 | 0.00 | **0.63** | 0.00 | 0.00 | **0.00** |
| 33 | PIT 133 | MH 2843 | 3.78 | 19.47 | 11.54 | **11.60** | 0.00 | 14.91 | 1.92 | **5.61** | 1.28 | 2.50 | **1.89** | 0.00 | 1.92 | **0.96** |
| 34 | PIT 134 | MH 2844 | 1.28 | 22.56 | 7.69 | **10.51** | 0.00 | 11.59 | 0.00 | **3.86** | 1.25 | 1.50 | **1.38** | 0.00 | 0.00 | **0.00** |
| 35 | PIT 135 | MH 2845 | 1.28 | 21.24 | 3.85 | **8.79** | 0.00 | 23.13 | 3.85 | **8.99** | 2.60 | 0.00 | **1.30** | 0.00 | 0.00 | **0.00** |
| 36 | PIT 136 | MH 2846 | 5.20 | 12.74 | 1.92 | **6.62** | 0.00 | 18.59 | 0.00 | **6.20** | 1.25 | 1.00 | **1.13** | 0.00 | 3.85 | **1.93** |
| 37 | PIT 137 | MH 2847 | 3.78 | 16.81 | 7.69 | **9.43** | 0.00 | 16.84 | 5.77 | **7.54** | 1.25 | 0.00 | **0.63** | 0.00 | 0.00 | **0.00** |
| 38 | PIT 138 | MH 2848 | 1.25 | 24.62 | 13.46 | **13.11** | 0.00 | 18.67 | 5.77 | **8.15** | 2.57 | 1.00 | **1.79** | 0.00 | 0.00 | **0.00** |
| 39 | PIT 139 | MH 2849 | 2.50 | 11.67 | 11.54 | **8.57** | 0.00 | 16.36 | 9.62 | **8.66** | 0.00 | 1.00 | **0.50** | 0.00 | 7.69 | **3.85** |
| 40 | PIT 140 | MH 2850 | 5.06 | 19.61 | 5.77 | **10.15** | 2.50 | 12.31 | 5.77 | **6.86** | 2.53 | 1.00 | **1.77** | 0.00 | 0.00 | **0.00** |
| 41 | PIT 141 | MH 2851 | 2.57 | 13.22 | 3.85 | **6.55** | 3.00 | 11.10 | 5.77 | **6.62** | 2.57 | 1.00 | **1.79** | 0.00 | 0.00 | **0.00** |
| 42 | PIT 142 | MH 2852 | 2.57 | 19.52 | 11.54 | **11.21** | 0.00 | 10.01 | 3.85 | **4.62** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 43 | PIT 143 | MH 2853 | 3.72 | 19.46 | 7.69 | **10.29** | 0.00 | 16.52 | 5.77 | **7.43** | 1.28 | 1.00 | **1.14** | 0.00 | 0.00 | **0.00** |
| 44 | PIT 144 | MH 2854 | 3.72 | 17.61 | 7.69 | **9.67** | 1.25 | 11.43 | 1.92 | **4.87** | 1.22 | 0.00 | **0.61** | 0.00 | 1.92 | **0.96** |

| Sr.No. | Entry no. | Name of Entry | Shoot fly % Incidence At Veg. stage (28 DAG) | | | | Shoot fly % Incidence At Ear head stage | | | | Stem borer % Incidence At Veg. stage (28 DAG) | | | Stem borer Incidence At Ear head stage | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | JAM | JP | FPS | Mean | JAM | JP | FPS | Mean | JAM | FPS | Mean | JAM | FPS | Mean |
| 45 | PIT 145 | MH 2855 | 2.92 | 8.67 | 9.62 | **7.07** | 0.00 | 6.43 | 7.69 | **4.71** | 1.25 | 1.00 | **1.13** | 0.00 | 1.92 | **0.96** |
| 46 | PIT 146 | MH 2856 | 2.50 | 14.50 | 5.77 | **7.59** | 0.00 | 16.22 | 1.92 | **6.05** | 1.25 | 1.50 | **1.38** | 0.00 | 1.92 | **0.96** |
| 47 | PIT 147 | MH 2857 | 4.91 | 13.14 | 9.62 | **9.22** | 0.00 | 14.03 | 11.54 | **8.52** | 2.47 | 2.00 | **2.24** | 0.00 | 0.00 | **0.00** |
| 48 | PIT 148 | MH 2858 | 3.63 | 13.86 | 3.85 | **7.11** | 1.00 | 12.27 | 3.85 | **5.71** | 0.00 | 2.00 | **1.00** | 0.00 | 0.00 | **0.00** |
| 49 | PIT 149 | MH 2859 | 2.56 | 14.45 | 9.62 | **8.88** | 0.00 | 22.11 | 0.00 | **7.37** | 0.00 | 2.00 | **1.00** | 0.00 | 0.00 | **0.00** |
| 50 | PIT 150 | MH 2860 | 2.63 | 11.25 | 5.77 | **6.55** | 0.00 | 9.07 | 0.00 | **3.02** | 1.32 | 0.50 | **0.91** | 0.00 | 0.00 | **0.00** |
| 51 | PIT 151 | MH 2861 | 3.88 | 5.69 | 11.54 | **7.04** | 2.68 | 13.04 | 9.62 | **8.45** | 1.32 | 0.00 | **0.66** | 0.00 | 0.00 | **0.00** |
| 52 | PIT 152 | MH 2862 | 3.81 | 11.08 | 5.77 | **6.89** | 3.86 | 9.02 | 1.92 | **4.93** | 2.53 | 1.00 | **1.77** | 0.00 | 0.00 | **0.00** |
| 53 | PIT 153 | MH 2863 | 3.78 | 15.19 | 1.92 | **6.96** | 1.67 | 7.96 | 0.00 | **3.21** | 1.25 | 2.00 | **1.63** | 0.00 | 0.00 | **0.00** |
| 54 | PIT 154 | MH 2864 | 5.00 | 18.30 | 7.69 | **10.33** | 0.00 | 22.52 | 5.77 | **9.43** | 0.00 | 2.50 | **1.25** | 0.00 | 0.00 | **0.00** |
| 55 | PIT 155 | MH 2865 | 2.53 | 7.47 | 9.62 | **6.54** | 1.67 | 6.48 | 3.85 | **4.00** | 1.28 | 3.00 | **2.14** | 0.00 | 0.00 | **0.00** |
| 56 | PIT 156 | MH 2866 | 3.81 | 13.02 | 1.92 | **6.25** | 0.00 | 5.30 | 0.00 | **1.77** | 2.53 | 1.00 | **1.77** | 0.00 | 0.00 | **0.00** |
| 57 | PIT 157 | MH 2867 | 1.22 | 6.32 | 9.62 | **5.72** | 0.00 | 6.78 | 1.92 | **2.90** | 2.47 | 0.00 | **1.24** | 0.00 | 0.00 | **0.00** |
| 58 | PIT 158 | MH 2868 | 2.38 | 4.61 | 9.62 | **5.54** | 0.00 | 9.28 | 5.77 | **5.02** | 1.19 | 0.50 | **0.85** | 0.00 | 1.92 | **0.96** |
| 59 | PIT 159 | MH 2869 | 2.47 | 16.22 | 5.77 | **8.15** | 0.00 | 18.06 | 0.00 | **6.02** | 0.00 | 1.50 | **0.75** | 0.00 | 0.00 | **0.00** |
| 60 | PIT 160 | MH 2870 | 1.22 | 13.73 | 5.77 | **6.91** | 2.50 | 6.78 | 1.92 | **3.73** | 1.22 | 0.00 | **0.61** | 0.00 | 0.00 | **0.00** |
| 61 | PIT 161 | MH 2871 | 1.28 | 8.95 | 1.92 | **4.05** | 0.00 | 11.69 | 3.85 | **5.18** | 1.28 | 1.50 | **1.39** | 0.00 | 1.92 | **0.96** |
| 62 | PIT 162 | MH 2872 | 2.53 | 14.30 | 9.62 | **8.82** | 0.00 | 18.39 | 7.69 | **8.69** | 1.28 | 1.00 | **1.14** | 0.00 | 15.38 | **7.69** |
| 63 | PIT 163 | MH 2873 | 2.47 | 12.89 | 3.85 | **6.40** | 0.00 | 17.33 | 0.00 | **5.78** | 2.47 | 1.00 | **1.74** | 0.00 | 0.00 | **0.00** |
| 64 | PIT 164 | MH 2874 | 3.69 | 22.00 | 3.85 | **9.85** | 1.67 | 18.09 | 0.00 | **6.59** | 1.25 | 1.50 | **1.38** | 0.00 | 1.92 | **0.96** |
| 65 | PIT 165 | MH 2875 | 2.44 | 11.46 | 5.77 | **6.56** | 0.00 | 9.72 | 0.00 | **3.24** | 1.19 | 1.50 | **1.35** | 0.00 | 0.00 | **0.00** |
| 66 | PIT 166 | MH 2876 | 2.44 | 27.85 | 5.77 | **12.02** | 0.00 | 18.73 | 1.92 | **6.88** | 0.00 | 0.00 | **0.00** | 0.00 | 1.92 | **0.96** |
| 67 | PIT 167 | MH 2877 | 2.53 | 19.42 | 3.85 | **8.60** | 0.00 | 20.07 | 3.85 | **7.97** | 2.53 | 1.00 | **1.77** | 0.00 | 5.77 | **2.89** |
| 68 | PIT 168 | MH 2878 | 1.28 | 8.34 | 3.85 | **4.49** | 1.67 | 7.77 | 0.00 | **3.15** | 2.56 | 1.50 | **2.03** | 0.00 | 0.00 | **0.00** |
| 69 | PIT 169 | MH 2879 | 1.25 | 19.20 | 7.69 | **9.38** | 0.00 | 8.46 | 3.85 | **4.10** | 1.25 | 1.00 | **1.13** | 0.00 | 0.00 | **0.00** |
| 70 | PIT 170 | MH 2880 | 2.50 | 24.07 | 5.77 | **10.78** | 1.25 | 18.10 | 5.77 | **8.37** | 0.00 | 2.00 | **1.00** | 0.00 | 0.00 | **0.00** |
| 71 | PIT 171 | MH 2881 | 2.50 | 20.90 | 3.85 | **9.08** | 0.00 | 19.15 | 0.00 | **6.38** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 72 | PIT 172 | MH 2882 | 3.63 | 23.85 | 9.62 | **12.37** | 1.25 | 24.19 | 0.00 | **8.48** | 0.00 | 1.00 | **0.50** | 0.00 | 0.00 | **0.00** |
| 73 | PIT 173 | MH 2883 | 1.22 | 16.88 | 3.85 | **7.32** | 0.00 | 11.26 | 0.00 | **3.75** | 1.22 | 1.50 | **1.36** | 0.00 | 0.00 | **0.00** |
| 74 | PIT 174 | MH 2884 | 2.50 | 14.59 | 7.69 | **8.26** | 0.00 | 11.50 | 3.85 | **5.12** | 2.50 | 0.50 | **1.50** | 0.00 | 9.62 | **4.81** |
| 75 | PIT 175 | MH 2885 | 1.25 | 9.97 | 5.77 | **5.66** | 0.00 | 11.32 | 0.00 | **3.77** | 1.25 | 0.50 | **0.88** | 0.00 | 0.00 | **0.00** |
| 76 | PIT 176 | MH 2886 | 2.47 | 25.17 | 13.46 | **13.70** | 0.00 | 13.81 | 0.00 | **4.60** | 2.47 | 1.00 | **1.74** | 0.83 | 0.00 | **0.42** |
| 77 | PIT 177 | MP 640 | 2.47 | 6.21 | 11.54 | **6.74** | 0.00 | 4.52 | 7.69 | **4.07** | 1.19 | 0.00 | **0.60** | 0.00 | 0.00 | **0.00** |
| 78 | PIT 178 | MP 641 | 5.06 | 26.44 | 15.38 | **15.63** | 2.00 | 17.74 | 1.92 | **7.22** | 0.00 | 0.50 | **0.25** | 2.00 | 0.00 | **1.00** |
| 79 | PIT 179 | MP 642 | 2.47 | 6.06 | 15.38 | **7.97** | 0.00 | 7.02 | 0.00 | **2.34** | 1.22 | 1.00 | **1.11** | 0.00 | 0.00 | **0.00** |
| 80 | PIT 180 | MP 643 | 5.00 | 6.51 | 7.69 | **6.40** | 1.00 | 4.85 | 0.00 | **1.95** | 2.50 | 1.00 | **1.75** | 0.00 | 0.00 | **0.00** |
| 81 | PIT 181 | MP 644 | 1.22 | 18.24 | 7.69 | **9.05** | 0.00 | 11.23 | 0.00 | **3.74** | 1.22 | 1.00 | **1.11** | 0.00 | 0.00 | **0.00** |
| 82 | PIT 182 | MP 645 | 3.55 | 25.09 | 13.46 | **14.03** | 0.00 | 17.30 | 0.00 | **5.77** | 1.28 | 0.00 | **0.64** | 0.00 | 0.00 | **0.00** |
| 83 | PIT 183 | MP 646 | 2.44 | 19.11 | 11.54 | **11.03** | 0.00 | 12.64 | 3.85 | **5.50** | 1.25 | 0.00 | **0.63** | 0.00 | 0.00 | **0.00** |
| 84 | PIT 184 | MP 647 | 3.66 | 19.47 | 15.38 | **12.84** | 0.00 | 16.14 | 1.92 | **6.02** | 1.22 | 0.00 | **0.61** | 0.00 | 0.00 | **0.00** |
| 85 | PIT 185 | MP 648 | 1.25 | 13.26 | 3.85 | **6.12** | 2.00 | 15.86 | 1.92 | **6.59** | 1.25 | 0.00 | **0.63** | 0.00 | 0.00 | **0.00** |
| 86 | PIT 186 | MP 649 | 2.39 | 8.78 | 5.77 | **5.65** | 1.67 | 9.81 | 7.69 | **6.39** | 2.39 | 0.50 | **1.45** | 0.00 | 0.00 | **0.00** |
| 87 | PIT 187 | MP 650 | 3.66 | 9.84 | 9.62 | **7.71** | 1.00 | 12.55 | 5.77 | **6.44** | 1.28 | 0.50 | **0.89** | 0.00 | 1.92 | **0.96** |
| 88 | PIT 188 | MP 651 | 2.50 | 18.14 | 5.77 | **8.80** | 3.00 | 13.43 | 1.92 | **6.12** | 1.25 | 0.00 | **0.63** | 1.00 | 0.00 | **0.50** |
| 89 | PIT 189 | PB 1756 | 3.91 | 10.65 | 5.77 | **6.78** | 1.67 | 10.74 | 1.92 | **4.78** | 2.60 | 0.50 | **1.55** | 0.00 | 1.92 | **0.96** |

| Sr.No. | Entry no. | Name of Entry | Shoot fly % Incidence At Veg. stage (28 DAG) | | | | Shoot fly % Incidence At Ear head stage | | | | Stem borer % Incidence At Veg. stage (28 DAG) | | | Stem borer Incidence At Ear head stage | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | JAM | JP | FPS | Mean | JAM | JP | FPS | Mean | JAM | FPS | Mean | JAM | FPS | Mean |
| 90 | PIT 190 | RHB 223 | 1.28 | 13.15 | 19.23 | **11.22** | 1.43 | 10.13 | 5.77 | **5.78** | 0.00 | 0.50 | **0.25** | 0.71 | 0.00 | **0.36** |
| 91 | PIT 191 | MPMH 35 | 2.47 | 16.12 | 1.92 | **6.84** | 0.00 | 11.51 | 0.00 | **3.84** | 0.00 | 0.00 | **0.00** | 0.56 | 0.00 | **0.28** |
| 92 | PIT 192 | HHB 67 Imp. | 4.88 | 19.32 | 3.85 | **9.35** | 7.78 | 12.95 | 3.85 | **8.19** | 2.44 | 1.00 | **1.72** | 4.44 | 0.00 | **2.22** |
| 93 | PIT 193 | PB 1852 | 2.57 | 13.25 | 0.00 | **5.27** | 0.00 | 8.02 | 0.00 | **2.67** | 1.32 | 0.00 | **0.66** | 0.00 | 0.00 | **0.00** |
| 94 | PIT 194 | 86M94 | 2.50 | 5.79 | 0.00 | **2.76** | 0.00 | 6.76 | 3.85 | **3.54** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 95 | PIT 195 | DHBH 1397 | 2.56 | 13.24 | 17.31 | **11.04** | 0.00 | 12.09 | 1.92 | **4.67** | 2.53 | 1.00 | **1.77** | 0.00 | 0.00 | **0.00** |
| 96 | PIT 196 | AHB 1269 | 2.57 | 20.10 | 21.15 | **14.61** | 1.25 | 16.47 | 1.92 | **6.55** | 1.32 | 1.00 | **1.16** | 0.00 | 0.00 | **0.00** |
| 97 | PIT 197 | Pratap | 7.50 | 15.95 | 11.54 | **11.66** | 2.00 | 11.77 | 3.85 | **5.87** | 0.00 | 0.00 | **0.00** | 0.00 | 1.92 | **0.96** |
| 98 | PIT 198 | 86M01 | 2.44 | 15.47 | 13.46 | **10.46** | 0.00 | 13.29 | 1.92 | **5.07** | 0.00 | 1.00 | **0.50** | 0.00 | 0.00 | **0.00** |
| 99 | PIT 199 | 86M84 | 2.53 | 16.31 | 5.77 | **8.20** | 0.00 | 13.98 | 0.00 | **4.66** | 2.53 | 2.00 | **2.27** | 0.00 | 0.00 | **0.00** |
| 100 | PIT 200 | KBH 108 | 3.75 | 15.33 | 0.00 | **6.36** | 0.00 | 10.79 | 0.00 | **3.60** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 101 | PIT 201 | MP 7878 | 1.25 | 7.21 | 5.77 | **4.74** | 0.00 | 7.24 | 0.00 | **2.41** | 1.25 | 1.00 | **1.13** | 1.25 | 0.00 | **0.63** |
| 102 | PIT 202 | 86M86 | 2.50 | 6.31 | 5.77 | **4.86** | 0.00 | 10.61 | 0.00 | **3.54** | 0.00 | 0.00 | **0.00** | 0.00 | 1.92 | **0.96** |
| 103 | PIT 203 | Kaveri S Boss | 2.50 | 11.61 | 15.38 | **9.83** | 0.00 | 7.57 | 3.85 | **3.81** | 2.57 | 0.00 | **1.29** | 0.00 | 0.00 | **0.00** |
| 104 | PIT 204 | NBH 4903 | 2.53 | 17.41 | 9.62 | **9.85** | 0.00 | 11.76 | 1.92 | **4.56** | 1.28 | 0.00 | **0.64** | 0.00 | 0.00 | **0.00** |
| 105 | PIT 205 | AHB 1200 | 3.78 | 20.51 | 3.85 | **9.38** | 1.25 | 16.13 | 1.92 | **6.43** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 106 | PIT 206 | Raj 171 | 3.75 | 8.79 | 9.62 | **7.39** | 1.43 | 8.12 | 3.85 | **4.47** | 1.25 | 1.00 | **1.13** | 0.00 | 0.00 | **0.00** |
| 107 | PIT 207 | JBV 2 | 3.78 | 16.54 | 11.54 | **10.62** | 0.00 | 16.95 | 0.00 | **5.65** | 0.00 | 0.50 | **0.25** | 1.00 | 0.00 | **0.50** |
| 108 | PIT 208 | Dhanshakti | 2.50 | 11.87 | 7.69 | **7.35** | 6.45 | 13.72 | 0.00 | **6.72** | 2.50 | 0.00 | **1.25** | 0.91 | 0.00 | **0.46** |
| 109 | PIT 209 | ICMV 221 | 3.81 | 7.14 | 5.77 | **5.57** | 5.00 | 9.84 | 0.00 | **4.95** | 2.53 | 0.00 | **1.27** | 1.00 | 0.00 | **0.50** |
| 110 | PIT 210 | Pusa Comp. 383 | 3.78 | 13.73 | 7.69 | **8.40** | 1.82 | 15.73 | 0.00 | **5.85** | 1.25 | 0.00 | **0.63** | 0.91 | 0.00 | **0.46** |
| 111 | PIT 211 | Pusa Comp. 701 | 5.00 | 12.59 | 9.62 | **9.07** | 0.00 | 18.64 | 0.00 | **6.21** | 1.25 | 0.50 | **0.88** | 0.00 | 0.00 | **0.00** |
| 112 | PIT 212 | ABV 04 | 3.82 | 8.67 | 13.46 | **8.65** | 1.82 | 13.17 | 0.00 | **5.00** | 3.88 | 1.00 | **2.44** | 0.00 | 0.00 | **0.00** |
| 113 | PIT 213 | Pusa Comp. 612 | 5.06 | 9.40 | 7.69 | **7.38** | 0.00 | 4.21 | 0.00 | **1.40** | 2.53 | 0.50 | **1.52** | 0.00 | 0.00 | **0.00** |
| 114 | PIT 214 | ICMV 155 | 5.00 | 18.26 | 5.77 | **9.68** | 4.17 | 20.06 | 5.77 | **10.00** | 1.25 | 1.00 | **1.13** | 0.00 | 0.00 | **0.00** |
| | | **Mean** | **3.01** | **13.96** | **8.23** | **8.40** | **1.05** | **12.36** | **3.78** | **5.73** | **1.35** | **0.70** | **1.03** | **0.15** | **0.96** | **0.56** |
| | | | **JAM** | **JP** | **FPS** | **Mean** | **JAM** | **JP** | **FPS** | **Mean** | **JAM** | **FPS** | **Mean** | **JAM** | **FPS** | **Mean** |

**N.B.: JAM= Jamnagar, FPS= Fatehpur-Shekhawati, Jp=Jaipur.**

**Table-V.1b: (PMET-1A) Screening of pearl millet lines against major insect pests (Initial entries/populations).**

| Sr. No. | Entry no. | Name of Entry | *Helicoverpa armigera* larvae/ 5 Ear heads | | | GWDS, Ear head stage | LRDS Ear head stage |
|---|---|---|---|---|---|---|---|
| | | | JAM | FPS | Mean | FPS | JP |
| 1 | PIT 101 | MH 2811 | 1.00 | 0.00 | **0.50** | 1.50 | 1.50 |
| 2 | PIT 102 | MH 2812 | 1.50 | 11.50 | **6.50** | 1.50 | 2.00 |
| 3 | PIT 103 | MH 2813 | 2.00 | 0.50 | **1.25** | 1.50 | 1.50 |
| 4 | PIT 104 | MH 2814 | 1.00 | 0.00 | **0.50** | 2.00 | 0.50 |
| 5 | PIT 105 | MH 2815 | 1.50 | 2.50 | **2.00** | 1.00 | 1.00 |
| 6 | PIT 106 | MH 2816 | 1.00 | 9.50 | **5.25** | 1.00 | 2.00 |
| 7 | PIT 107 | MH 2817 | 1.00 | 2.50 | **1.75** | 1.00 | 2.50 |
| 8 | PIT 108 | MH 2818 | 1.00 | 11.00 | **6.00** | 1.50 | 2.00 |
| 9 | PIT 109 | MH 2819 | 1.50 | 0.00 | **0.75** | 1.00 | 1.50 |
| 10 | PIT 110 | MH 2820 | 1.00 | 0.00 | **0.50** | 1.00 | 1.50 |
| 11 | PIT 111 | MH 2821 | 1.50 | 0.00 | **0.75** | 1.50 | 1.50 |
| 12 | PIT 112 | MH 2822 | 1.00 | 0.00 | **0.50** | 1.00 | 2.00 |
| 13 | PIT 113 | MH 2823 | 0.50 | 10.00 | **5.25** | 1.50 | 2.00 |
| 14 | PIT 114 | MH 2824 | 1.00 | 0.00 | **0.50** | 1.00 | 2.00 |
| 15 | PIT 115 | MH 2825 | 1.00 | 0.00 | **0.50** | 2.00 | 3.00 |
| 16 | PIT 116 | MH 2826 | 1.50 | 0.00 | **0.75** | 1.00 | 2.00 |
| 17 | PIT 117 | MH 2827 | 1.50 | 3.00 | **2.25** | 1.50 | 2.50 |
| 18 | PIT 118 | MH 2828 | 2.00 | 1.50 | **1.75** | 1.50 | 2.00 |
| 19 | PIT 119 | MH 2829 | 3.00 | 1.00 | **2.00** | 2.50 | 1.00 |
| 20 | PIT 120 | MH 2830 | 3.00 | 0.00 | **1.50** | 1.00 | 1.00 |
| 21 | PIT 121 | MH 2831 | 2.50 | 0.00 | **1.25** | 1.50 | 1.50 |
| 22 | PIT 122 | MH 2832 | 3.50 | 0.00 | **1.75** | 1.50 | 2.50 |
| 23 | PIT 123 | MH 2833 | 1.00 | 8.00 | **4.50** | 1.00 | 3.50 |
| 24 | PIT 124 | MH 2834 | 1.50 | 0.00 | **0.75** | 1.50 | 2.00 |
| 25 | PIT 125 | MH 2835 | 2.00 | 19.00 | **10.50** | 2.00 | 2.00 |
| 26 | PIT 126 | MH 2836 | 2.00 | 0.00 | **1.00** | 1.50 | 1.00 |
| 27 | PIT 127 | MH 2837 | 2.50 | 0.00 | **1.25** | 2.00 | 1.50 |
| 28 | PIT 128 | MH 2838 | 3.50 | 0.00 | **1.75** | 1.00 | 2.00 |
| 29 | PIT 129 | MH 2839 | 1.00 | 0.00 | **0.50** | 1.00 | 2.00 |
| 30 | PIT 130 | MH 2840 | 1.50 | 0.00 | **0.75** | 1.50 | 1.50 |
| 31 | PIT 131 | MH 2841 | 1.50 | 0.00 | **0.75** | 1.00 | 1.50 |
| 32 | PIT 132 | MH 2842 | 1.50 | 0.00 | **0.75** | 1.50 | 1.00 |
| 33 | PIT 133 | MH 2843 | 1.00 | 0.00 | **0.50** | 1.50 | 0.50 |
| 34 | PIT 134 | MH 2844 | 1.50 | 0.00 | **0.75** | 1.50 | 1.50 |
| 35 | PIT 135 | MH 2845 | 2.00 | 0.00 | **1.00** | 1.50 | 1.50 |
| 36 | PIT 136 | MH 2846 | 2.00 | 0.00 | **1.00** | 1.50 | 2.00 |
| 37 | PIT 137 | MH 2847 | 1.50 | 0.00 | **0.75** | 1.00 | 2.50 |
| 38 | PIT 138 | MH 2848 | 2.00 | 0.00 | **1.00** | 1.00 | 2.50 |
| 39 | PIT 139 | MH 2849 | 2.00 | 0.00 | **1.00** | 1.50 | 2.50 |
| 40 | PIT 140 | MH 2850 | 0.50 | 0.00 | **0.25** | 1.00 | 2.50 |
| 41 | PIT 141 | MH 2851 | 2.00 | 3.00 | **2.50** | 1.50 | 1.50 |
| 42 | PIT 142 | MH 2852 | 2.00 | 0.00 | **1.00** | 1.50 | 2.50 |
| 43 | PIT 143 | MH 2853 | 1.00 | 0.00 | **0.50** | 1.50 | 2.00 |
| 44 | PIT 144 | MH 2854 | 1.00 | 0.00 | **0.50** | 1.50 | 1.00 |
| 45 | PIT 145 | MH 2855 | 0.50 | 0.00 | **0.25** | 1.00 | 1.50 |
| 46 | PIT 146 | MH 2856 | 2.00 | 0.00 | **1.00** | 1.00 | 2.50 |
| 47 | PIT 147 | MH 2857 | 1.50 | 13.50 | **7.50** | 1.50 | 2.00 |
| 48 | PIT 148 | MH 2858 | 1.50 | 0.00 | **0.75** | 1.50 | 2.00 |
| 49 | PIT 149 | MH 2859 | 1.00 | 0.00 | **0.50** | 1.50 | 1.50 |
| 50 | PIT 150 | MH 2860 | 2.00 | 0.00 | **1.00** | 1.50 | 2.50 |
| 51 | PIT 151 | MH 2861 | 1.50 | 0.00 | **0.75** | 2.00 | 3.00 |
| 52 | PIT 152 | MH 2862 | 1.50 | 0.00 | **0.75** | 1.00 | 2.00 |
| 53 | PIT 153 | MH 2863 | 1.00 | 0.00 | **0.50** | 2.00 | 1.00 |
| 54 | PIT 154 | MH 2864 | 1.50 | 0.00 | **0.75** | 1.00 | 1.00 |
| 55 | PIT 155 | MH 2865 | 3.00 | 0.00 | **1.50** | 2.00 | 1.00 |
| 56 | PIT 156 | MH 2866 | 1.50 | 0.00 | **0.75** | 1.00 | 1.00 |
| 57 | PIT 157 | MH 2867 | 2.50 | 0.00 | **1.25** | 2.00 | 1.50 |
| 58 | PIT 158 | MH 2868 | 4.00 | 0.00 | **2.00** | 1.50 | 1.50 |
| 59 | PIT 159 | MH 2869 | 4.00 | 0.00 | **2.00** | 2.50 | 1.50 |
| 60 | PIT 160 | MH 2870 | 5.00 | 0.00 | **2.50** | 1.50 | 2.50 |
| 61 | PIT 161 | MH 2871 | 1.00 | 3.00 | **2.00** | 1.50 | 1.50 |
| 62 | PIT 162 | MH 2872 | 1.00 | 0.00 | **0.50** | 2.50 | 2.50 |

| Sr. No. | Entry no. | Name of Entry | *Helicoverpa armigera* larvae/ 5 Ear heads | | | GWDS, Ear head stage | LRDS Ear head stage |
|---|---|---|---|---|---|---|---|
| | | | JAM | FPS | Mean | FPS | JP |
| 63 | PIT 163 | MH 2873 | 3.50 | 0.00 | **1.75** | 1.50 | 2.50 |
| 64 | PIT 164 | MH 2874 | 3.00 | 0.00 | **1.50** | 1.50 | 2.50 |
| 65 | PIT 165 | MH 2875 | 2.50 | 0.00 | **1.25** | 2.50 | 1.50 |
| 66 | PIT 166 | MH 2876 | 2.00 | 0.00 | **1.00** | 2.00 | 2.50 |
| 67 | PIT 167 | MH 2877 | 2.50 | 0.00 | **1.25** | 1.50 | 1.50 |
| 68 | PIT 168 | MH 2878 | 1.00 | 0.00 | **0.50** | 2.00 | 2.00 |
| 69 | PIT 169 | MH 2879 | 1.50 | 0.00 | **0.75** | 1.50 | 2.50 |
| 70 | PIT 170 | MH 2880 | 3.00 | 0.00 | **1.50** | 1.50 | 1.50 |
| 71 | PIT 171 | MH 2881 | 5.00 | 0.00 | **2.50** | 2.00 | 1.00 |
| 72 | PIT 172 | MH 2882 | 4.00 | 0.00 | **2.00** | 1.50 | 3.00 |
| 73 | PIT 173 | MH 2883 | 3.00 | 0.00 | **1.50** | 1.00 | 3.00 |
| 74 | PIT 174 | MH 2884 | 1.50 | 20.50 | **11.00** | 1.00 | 2.00 |
| 75 | PIT 175 | MH 2885 | 1.00 | 10.50 | **5.75** | 1.00 | 1.50 |
| 76 | PIT 176 | MH 2886 | 3.00 | 14.00 | **8.50** | 0.50 | 2.00 |
| 77 | PIT 177 | MP 640 | 2.50 | 4.00 | **3.25** | 1.50 | 2.00 |
| 78 | PIT 178 | MP 641 | 3.00 | 3.50 | **3.25** | 1.50 | 2.50 |
| 79 | PIT 179 | MP 642 | 2.00 | 8.50 | **5.25** | 1.50 | 2.50 |
| 80 | PIT 180 | MP 643 | 3.50 | 0.00 | **1.75** | 2.00 | 2.00 |
| 81 | PIT 181 | MP 644 | 5.50 | 0.00 | **2.75** | 2.00 | 1.50 |
| 82 | PIT 182 | MP 645 | 3.50 | 0.00 | **1.75** | 1.50 | 2.00 |
| 83 | PIT 183 | MP 646 | 2.00 | 0.00 | **1.00** | 1.00 | 2.00 |
| 84 | PIT 184 | MP 647 | 1.50 | 0.00 | **0.75** | 2.00 | 2.00 |
| 85 | PIT 185 | MP 648 | 2.00 | 0.00 | **1.00** | 1.50 | 2.50 |
| 86 | PIT 186 | MP 649 | 1.00 | 0.00 | **0.50** | 2.00 | 2.50 |
| 87 | PIT 187 | MP 650 | 3.00 | 0.00 | **1.50** | 1.50 | 1.50 |
| 88 | PIT 188 | MP 651 | 2.00 | 20.50 | **11.25** | 2.00 | 0.50 |
| 89 | PIT 189 | PB 1756 | 3.00 | 0.00 | **1.50** | 2.00 | 2.50 |
| 90 | PIT 190 | RHB 223 | 5.00 | 0.00 | **2.50** | 2.00 | 1.50 |
| 91 | PIT 191 | MPMH 35 | 3.00 | 23.00 | **13.00** | 3.00 | 1.50 |
| 92 | PIT 192 | HHB 67 Imp. | 2.00 | 0.00 | **1.00** | 1.00 | 2.00 |
| 93 | PIT 193 | PB 1852 | 2.00 | 0.00 | **1.00** | 1.00 | 1.50 |
| 94 | PIT 194 | 86M94 | 2.50 | 0.00 | **1.25** | 1.00 | 2.50 |
| 95 | PIT 195 | DHBH 1397 | 3.00 | 0.00 | **1.50** | 1.50 | 2.50 |
| 96 | PIT 196 | AHB 1269 | 3.50 | 0.00 | **1.75** | 1.50 | 2.00 |
| 97 | PIT 197 | Pratap | 3.50 | 1.00 | **2.25** | 1.50 | 2.50 |
| 98 | PIT 198 | 86M01 | 4.00 | 0.00 | **2.00** | 1.00 | 2.50 |
| 99 | PIT 199 | 86M84 | 1.00 | 0.00 | **0.50** | 1.50 | 2.00 |
| 100 | PIT 200 | KBH 108 | 1.00 | 0.00 | **0.50** | 1.00 | 2.50 |
| 101 | PIT 201 | MP 7878 | 1.00 | 0.00 | **0.50** | 1.00 | 2.00 |
| 102 | PIT 202 | 86M86 | 2.00 | 22.00 | **12.00** | 1.00 | 2.50 |
| 103 | PIT 203 | Kaveri S Boss | 2.50 | 5.50 | **4.00** | 1.50 | 1.50 |
| 104 | PIT 204 | NBH 4903 | 2.00 | 13.00 | **7.50** | 1.50 | 1.50 |
| 105 | PIT 205 | AHB 1200 | 2.50 | 6.00 | **4.25** | 1.50 | 1.00 |
| 106 | PIT 206 | Raj 171 | 1.50 | 6.00 | **3.75** | 1.00 | 1.00 |
| 107 | PIT 207 | JBV 2 | 1.50 | 12.00 | **6.75** | 1.50 | 2.50 |
| 108 | PIT 208 | Dhanshakti | 2.00 | 19.00 | **10.50** | 1.00 | 2.50 |
| 109 | PIT 209 | ICMV 221 | 3.00 | 10.50 | **6.75** | 1.50 | 2.50 |
| 110 | PIT 210 | Pusa Comp. 383 | 2.00 | 11.50 | **6.75** | 1.00 | 2.00 |
| 111 | PIT 211 | Pusa Comp. 701 | 2.00 | 8.50 | **5.25** | 1.00 | 2.00 |
| 112 | PIT 212 | ABV 04 | 2.50 | 4.00 | **3.25** | 1.00 | 1.50 |
| 113 | PIT 213 | Pusa Comp. 612 | 1.50 | 3.00 | **2.25** | 1.00 | 2.00 |
| 114 | PIT 214 | ICMV 155 | 1.50 | 0.50 | **1.00** | 1.00 | 2.00 |
| | | **Mean** | **2.07** | **2.86** | **2.47** | **1.45** | **1.89** |

**N.B.: JAM= Jamnagar, FPS= Fatehpur-Shekhawati, JP= Jaipur**

**Table-V.1c: Summarized shoot fly & stem borer incidence in pearl millet lines (Initial lines)**

| Sr. No. | Range of percent infestation | Number of entries showing shoot fly incidence at | | Number of entries showing stem borer incidence at | |
|---|---|---|---|---|---|
| | | Vegetative Stage (28 DAG) | Ear head stage | Vegetative stage (28 DAG) | Ear head stage |
| 1 | Free (0.0%) | 0 | 0 | 12 | 70 |
| 2 | 0.1 to 5.0% (Moderate resistant ) | 10 | 48 | 102 | 43 |
| 3 | 5.1 to 10.00% (Tolerant) | 76 | 62 | 0 | 1 |
| 4 | 10.1-20.00 (Susceptible ) | 28 | 4 | 0 | 0 |
| 5 | Above 20.00% (Highly susceptible) | 0 | 0 | 0 | 0 |
| 6 | Range (Mini. to Maxi.) | 2.76-16.70 | 1.40-13.24 | 0.25-2.44 | 0.28-7.69 |
| 7 | Average | 8.40 | 5.73 | 1.03 | 0.56 |
| 8 | Number of entries tested | 114 | | | |

**Table-V.1d: *Helicoverpa*, Grey weevil and Leaf roller incidence in pearl millet lines (Initial lines)**

| Sr. No. | Range of larval population/ 5 ear heads/GWDS/ LRDS | Number of entries showing *Helicoverpa* incidence at ear head stage | Number of entries showing Grey Weevil Damage Score at ear head stage | Number of entries showing Leaf Roller Damage Score at ear head stage |
|---|---|---|---|---|
| 1 | Free (0.0) | 0 | 0 | 0 |
| 2 | 0.1-1.0 | 50 | 40 | 16 |
| 3 | 1.1-2.0 | 30 | 69 | 63 |
| 4 | 2.1-5.0 | 15 | 5 | 35 |
| 5 | Above 5.0 | 19 | 0 | 0 |
| 6 | Range Minimum to maximum | 0.25-13.0 | 0.50-3.0 | 0.50-3.50 |
| 7 | Average | 2.47 | 1.45 | 1.89 |
| 8 | Entries screened | 114 | | |

**Table-V.2a: (PMET-1B) Screening of millet lines against major insect pests (Advance lines)**

| Sr. No. | Entry no. | Name of Entry | Shoot fly % Incidence At Veg. stage (28 DAG) | | | | | Shoot fly % Incidence At EH stage | | | | | Stem borer Incidence At Veg. Stage (28 DAG) | | | Stem borer Incidence At EH stage | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | JAM | JP | JOD | FPS | Mean | JAM | JP | JOD | FPS | Mean | JAM | FPS | Mean | JAM | FPS | Mean |
| 1 | PET 201 | MH 2672 | 3.81 | 8.53 | 7.60 | 22.12 | **10.52** | 0.83 | 7.25 | 3.00 | 17.31 | **7.10** | 2.53 | 0.00 | **1.27** | 0.00 | 1.92 | **0.96** |
| 2 | PET 202 | MH 2673 | 6.25 | 11.63 | 7.49 | 14.42 | **9.95** | 1.82 | 9.68 | 2.72 | 13.46 | **6.92** | 1.25 | 0.00 | **0.63** | 2.00 | 1.92 | **1.96** |
| 3 | PET 203 | MH 2675 | 3.88 | 6.14 | 9.03 | 15.38 | **8.61** | 1.11 | 6.25 | 2.54 | 13.46 | **5.84** | 1.25 | 0.00 | **0.63** | 0.00 | 0.00 | **0.00** |
| 4 | PET 204 | MH 2678 | 3.75 | 16.67 | 12.13 | 20.19 | **13.19** | 1.00 | 9.60 | 4.78 | 9.62 | **6.25** | 1.25 | 1.92 | **1.59** | 0.00 | 5.77 | **2.89** |
| 5 | PET 205 | MH 2743 | 2.50 | 19.89 | 8.88 | 18.27 | **12.39** | 0.00 | 16.05 | 2.80 | 11.54 | **7.60** | 0.00 | 1.92 | **0.96** | 1.00 | 7.69 | **4.35** |
| 6 | PET 206 | MH 2744 | 2.53 | 8.80 | 4.91 | 15.38 | **7.91** | 0.00 | 7.80 | 2.60 | 3.85 | **3.56** | 1.28 | 1.92 | **1.60** | 0.00 | 3.85 | **1.93** |
| 7 | PET 207 | MH 2746 | 5.06 | 15.80 | 12.18 | 31.73 | **16.19** | 5.57 | 10.51 | 4.72 | 5.77 | **6.64** | 1.25 | 0.00 | **0.63** | 0.00 | 1.92 | **0.96** |
| 8 | PET 208 | MH 2747 | 2.57 | 7.78 | 9.29 | 14.42 | **8.52** | 0.83 | 6.83 | 4.03 | 13.46 | **6.29** | 1.32 | 0.00 | **0.66** | 0.83 | 0.00 | **0.42** |
| 9 | PET 209 | MH 2748 | 2.57 | 12.69 | 15.10 | 13.46 | **10.96** | 2.44 | 7.57 | 7.22 | 28.85 | **11.52** | 2.57 | 0.00 | **1.29** | 0.00 | 0.00 | **0.00** |
| 10 | PET 210 | MH 2749 | 5.26 | 10.57 | 10.56 | 14.42 | **10.20** | 2.50 | 13.75 | 4.00 | 13.46 | **8.43** | 0.00 | 1.92 | **0.96** | 0.00 | 5.77 | **2.89** |
| 11 | PET 211 | MH 2754 | 2.53 | 13.53 | 10.00 | 14.42 | **10.12** | 0.00 | 18.43 | 3.70 | 13.46 | **8.90** | 1.28 | 3.85 | **2.57** | 0.00 | 3.85 | **1.93** |
| 12 | PET 212 | MH 2758 | 3.72 | 13.67 | 7.67 | 0.00 | **6.27** | 3.11 | 13.16 | 2.63 | 7.69 | **6.65** | 0.00 | 1.92 | **0.96** | 0.00 | 1.92 | **0.96** |
| 13 | PET 213 | MH 2682 | 5.06 | 9.00 | 20.00 | 0.00 | **8.52** | 0.00 | 10.69 | 6.25 | 3.85 | **5.20** | 1.25 | 1.92 | **1.59** | 0.00 | 7.40 | **3.70** |
| 14 | PET 214 | MH 2767 | 1.25 | 9.79 | 11.25 | 0.00 | **5.57** | 0.00 | 8.05 | 4.29 | 0.00 | **3.09** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 15 | PET 215 | MH 2773 | 3.69 | 7.66 | 2.50 | 4.81 | **4.67** | 0.00 | 9.13 | 2.08 | 5.77 | **4.25** | 1.22 | 1.92 | **1.57** | 0.00 | 5.77 | **2.89** |
| 16 | PET 216 | MH 2775 | 2.47 | 10.31 | 8.06 | 0.00 | **5.21** | 1.25 | 9.89 | 4.36 | 1.92 | **4.36** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 17 | PET 217 | MH 2777 | 3.63 | 7.69 | 8.68 | 0.00 | **5.00** | 0.00 | 7.75 | 2.92 | 0.00 | **2.67** | 2.44 | 0.00 | **1.22** | 0.00 | 0.00 | **0.00** |
| 18 | PET 218 | MH 2784 | 3.60 | 19.03 | 5.91 | 0.00 | **7.14** | 0.00 | 16.32 | 2.56 | 1.92 | **5.20** | 1.22 | 0.00 | **0.61** | 0.00 | 0.00 | **0.00** |
| 19 | PET 219 | MH 2709 | 0.00 | 11.03 | 4.06 | 0.00 | **3.77** | 0.00 | 9.27 | 1.95 | 0.00 | **2.81** | 2.47 | 1.92 | **2.20** | 0.00 | 7.69 | **3.85** |
| 20 | PET 220 | MH 2712 | 2.54 | 11.44 | 10.12 | 4.81 | **7.23** | 0.00 | 11.59 | 4.38 | 3.85 | **4.96** | 1.22 | 0.00 | **0.61** | 0.00 | 5.77 | **2.89** |
| 21 | PET 221 | MH 2717 | 4.08 | 10.42 | 11.61 | 4.81 | **7.73** | 0.00 | 11.17 | 5.63 | 5.77 | **5.64** | 1.43 | 1.92 | **1.68** | 0.00 | 3.85 | **1.93** |
| 22 | PET 222 | MH 2795 | 3.72 | 18.30 | 16.39 | 3.85 | **10.57** | 0.00 | 14.00 | 7.69 | 1.92 | **5.90** | 1.22 | 1.92 | **1.57** | 0.00 | 1.92 | **0.96** |
| 23 | PET 223 | MH 2796 | 2.44 | 9.91 | 6.79 | 4.81 | **5.99** | 0.00 | 11.18 | 3.24 | 0.00 | **3.61** | 2.44 | 0.00 | **1.22** | 0.00 | 0.00 | **0.00** |
| 24 | PET 224 | MH 2797 | 2.41 | 10.23 | 10.94 | 5.77 | **7.34** | 0.00 | 9.75 | 4.40 | 1.92 | **4.02** | 2.41 | 0.00 | **1.21** | 0.00 | 1.92 | **0.96** |
| 25 | PET 225 | MH 2798 | 4.88 | 14.04 | 4.51 | 3.85 | **6.82** | 0.00 | 15.02 | 3.50 | 0.00 | **4.63** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 26 | PET 226 | MH 2801 | 1.19 | 8.36 | 13.75 | 0.00 | **5.83** | 0.00 | 8.84 | 7.18 | 0.00 | **4.01** | 1.19 | 1.92 | **1.56** | 0.00 | 1.92 | **0.96** |
| 27 | PET 227 | MH 2806 | 2.41 | 8.91 | 3.13 | 3.85 | **4.58** | 0.00 | 7.27 | 2.27 | 1.92 | **2.87** | 0.00 | 5.77 | **2.89** | 0.00 | 5.77 | **2.89** |
| 28 | PET 228 | MH 2808 | 2.50 | 11.75 | 16.67 | 0.00 | **7.73** | 1.43 | 10.82 | 6.11 | 0.00 | **4.59** | 1.22 | 0.00 | **0.61** | 0.00 | 1.92 | **0.96** |
| 29 | PET 229 | MP 637 | 2.47 | 8.16 | 9.38 | 0.00 | **5.00** | 1.43 | 9.70 | 5.00 | 0.00 | **4.03** | 1.25 | 1.92 | **1.59** | 1.67 | 1.92 | **1.80** |
| 30 | PET 230 | HHB 67 Imp. | 3.69 | 7.69 | 12.05 | 30.77 | **13.55** | 7.98 | 12.11 | 5.06 | 11.54 | **9.17** | 2.47 | 3.85 | **3.16** | 0.00 | 3.85 | **1.93** |
| 31 | PET 231 | PB 1756 | 3.69 | 19.18 | 7.63 | 30.77 | **15.32** | 3.85 | 21.25 | 3.19 | 25.00 | **13.32** | 0.00 | 1.92 | **0.96** | 0.00 | 1.92 | **0.96** |
| 32 | PET 232 | MPMH 35 | 2.44 | 21.02 | 10.68 | 30.77 | **16.23** | 6.43 | 17.54 | 4.48 | 13.46 | **10.48** | 1.19 | 1.92 | **1.56** | 1.62 | 1.92 | **1.77** |
| 33 | PET 233 | RHB 223 | 7.38 | 14.64 | 2.50 | 0.00 | **6.13** | 0.83 | 14.40 | 1.79 | 3.85 | **5.22** | 1.19 | 0.00 | **0.60** | 0.83 | 0.00 | **0.42** |
| 34 | PET 234 | AHB 1269 | 3.66 | 6.54 | 16.25 | 14.42 | **10.22** | 3.25 | 10.69 | 8.07 | 11.54 | **8.39** | 0.00 | 0.00 | **0.00** | 1.00 | 0.00 | **0.50** |

| Sr. No. | Entry no. | Name of Entry | Shoot fly % Incidence At Veg. stage (28 DAG) | | | | | Shoot fly % Incidence At EH stage | | | | | Stem borer Incidence At Veg. Stage (28 DAG) | | | Stem borer Incidence At EH stage | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | JAM | JP | JOD | FPS | Mean | JAM | JP | JOD | FPS | Mean | JAM | FPS | Mean | JAM | FPS | Mean |
| 35 | PET 235 | 86M01 | 2.22 | 15.51 | 27.50 | 14.42 | **14.91** | 0.00 | 15.24 | 8.93 | 11.54 | **8.93** | 1.22 | 0.00 | **0.61** | 0.00 | 0.00 | **0.00** |
| 36 | PET 236 | Pratap | 3.60 | 20.62 | 15.13 | 13.46 | **13.20** | 1.11 | 17.03 | 4.72 | 3.85 | **6.68** | 0.00 | 0.00 | **0.00** | 1.11 | 0.00 | **0.56** |
| 37 | PET 237 | KBH 108 | 1.32 | 13.06 | 6.70 | 3.85 | **6.23** | 0.00 | 14.15 | 3.75 | 3.85 | **5.44** | 3.82 | 1.92 | **2.87** | 0.00 | 1.92 | **0.96** |
| 38 | PET 238 | 86M86 | 3.78 | 17.35 | 19.17 | 4.81 | **11.28** | 0.00 | 16.65 | 8.99 | 3.85 | **7.37** | 0.00 | 1.92 | **0.96** | 0.00 | 3.85 | **1.93** |
| 39 | PET 239 | 86M84 | 3.81 | 11.96 | 8.33 | 8.65 | **8.19** | 0.00 | 11.54 | 4.79 | 7.69 | **6.01** | 2.53 | 1.92 | **2.23** | 0.00 | 3.85 | **1.93** |
| 40 | PET 240 | MP 7878 | 3.78 | 19.54 | 10.71 | 0.00 | **8.51** | 0.00 | 19.70 | 5.00 | 1.92 | **6.66** | 0.00 | 0.00 | **0.00** | 0.00 | 0.00 | **0.00** |
| 41 | PET 241 | Kaveri Super Boss | 2.50 | 9.57 | 10.00 | 6.73 | **7.20** | 0.00 | 13.55 | 3.85 | 1.92 | **4.83** | 2.50 | 0.00 | **1.25** | 0.00 | 0.00 | **0.00** |
| 42 | PET 242 | NBH 4903 | 2.50 | 13.09 | 11.51 | 0.00 | **6.78** | 0.00 | 10.42 | 4.68 | 0.00 | **3.78** | 2.50 | 0.00 | **1.25** | 0.00 | 0.00 | **0.00** |
| 43 | PET 243 | AHB 1200 | 4.94 | 11.16 | 19.64 | 6.73 | **10.62** | 2.50 | 12.58 | 12.63 | 1.93 | **7.41** | 0.00 | 0.00 | **0.00** | 1.25 | 0.00 | **0.63** |
| 44 | PET 244 | Raj 171 | 4.88 | 10.71 | 8.33 | 0.00 | **5.98** | 0.00 | 10.45 | 2.50 | 0.00 | **3.24** | 2.44 | 0.00 | **1.22** | 0.00 | 0.00 | **0.00** |
| 45 | PET 245 | JBV 2 | 3.69 | 10.46 | 9.38 | 9.62 | **8.29** | 0.00 | 12.85 | 5.88 | 9.62 | **7.09** | 3.69 | 5.77 | **4.73** | 0.00 | 5.77 | **2.89** |
| 46 | PET 246 | Dhanshakti | 4.88 | 8.13 | 7.50 | 32.69 | **13.30** | 11.67 | 11.46 | 3.57 | 3.85 | **7.64** | 2.44 | 1.92 | **2.18** | 0.00 | 3.85 | **1.93** |
| 47 | PET 247 | ICMV 221 | 6.04 | 10.01 | 1.19 | 33.65 | **12.72** | 9.86 | 9.32 | 0.83 | 3.85 | **5.97** | 2.41 | 0.00 | **1.21** | 0.00 | 0.00 | **0.00** |
| 48 | PET 248 | Pusa Comp. 383 | 3.57 | 6.36 | 2.08 | 21.15 | **8.29** | 3.33 | 8.71 | 1.67 | 1.92 | **3.91** | 2.38 | 0.00 | **1.19** | 0.00 | 0.00 | **0.00** |
| 49 | PET 249 | Pusa Comp. 701 | 4.94 | 10.69 | 4.41 | 16.35 | **9.10** | 1.25 | 11.12 | 2.22 | 3.85 | **4.61** | 2.47 | 1.92 | **2.20** | 0.00 | 3.85 | **1.93** |
| | | **Mean** | **3.47** | **12.02** | **9.99** | **10.40** | **8.97** | **1.54** | **11.80** | **4.39** | **6.24** | **5.99** | **1.39** | **1.14** | **1.26** | **0.23** | **2.27** | **1.25** |

**N.B.: JAM= Jamnagar, JOD= Mandor-Jodhpur, FPS= Fatehpur-Shekhawati, JP=Jaipur.**

**Table-V.2b: (PMET-1B) Screening of pearl millet lines against major insect pests complex (Advance lines)**

| Sr.No. | Entry no. | Name of Entry | *Helicoverpa armigera* larval population per 5 Ear heads | | | | Grey Weevil Damage Score (0-10) At Ear head stage | | | Leaf Roller Damage Score (0-10) At Ear head stage |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | JAM | JOD | FPS | Mean | JOD | FPS | Mean | JP |
| 1 | PET 201 | MH 2672 | 0.50 | 1.00 | 2.00 | **1.17** | 0.00 | 1.50 | **0.75** | 1.50 |
| 2 | PET 202 | MH 2673 | 1.50 | 3.00 | 0.00 | **1.50** | 3.00 | 1.50 | **2.25** | 2.00 |
| 3 | PET 203 | MH 2675 | 2.50 | 1.00 | 0.00 | **1.17** | 0.00 | 1.50 | **0.75** | 2.50 |
| 4 | PET 204 | MH 2678 | 2.50 | 5.00 | 1.50 | **3.00** | 2.00 | 1.00 | **1.50** | 2.50 |
| 5 | PET 205 | MH 2743 | 1.50 | 1.00 | 2.00 | **1.50** | 0.00 | 1.00 | **0.50** | 1.50 |
| 6 | PET 206 | MH 2744 | 1.50 | 4.00 | 2.50 | **2.67** | 0.00 | 1.00 | **0.50** | 1.50 |
| 7 | PET 207 | MH 2746 | 2.00 | 3.00 | 2.00 | **2.33** | 2.00 | 1.50 | **1.75** | 2.00 |
| 8 | PET 208 | MH 2747 | 2.00 | 1.00 | 0.00 | **1.00** | 0.00 | 1.50 | **0.75** | 2.00 |
| 9 | PET 209 | MH 2748 | 2.00 | 3.00 | 11.00 | **5.33** | 2.00 | 1.50 | **1.75** | 2.50 |
| 10 | PET 210 | MH 2749 | 1.50 | 3.00 | 9.00 | **4.50** | 0.00 | 1.00 | **0.50** | 1.50 |
| 11 | PET 211 | MH 2754 | 1.00 | 3.00 | 10.00 | **4.67** | 2.00 | 2.00 | **2.00** | 1.50 |
| 12 | PET 212 | MH 2758 | 1.00 | 1.00 | 12.00 | **4.67** | 0.00 | 1.00 | **0.50** | 1.50 |
| 13 | PET 213 | MH 2682 | 0.50 | 5.00 | 13.00 | **6.17** | 1.00 | 1.00 | **1.00** | 2.50 |
| 14 | PET 214 | MH 2767 | 0.00 | 1.00 | 10.50 | **3.83** | 1.00 | 1.50 | **1.25** | 2.00 |
| 15 | PET 215 | MH 2773 | 0.50 | 1.00 | 9.50 | **3.67** | 2.00 | 1.50 | **1.75** | 3.00 |
| 16 | PET 216 | MH 2775 | 1.50 | 2.50 | 0.00 | **1.33** | 0.00 | 1.00 | **0.50** | 2.00 |
| 17 | PET 217 | MH 2777 | 1.50 | 1.00 | 0.50 | **1.00** | 0.00 | 1.50 | **0.75** | 2.50 |
| 18 | PET 218 | MH 2784 | 2.00 | 3.00 | 0.00 | **1.67** | 1.00 | 1.50 | **1.25** | 2.00 |
| 19 | PET 219 | MH 2709 | 1.50 | 1.00 | 1.00 | **1.17** | 0.00 | 1.50 | **0.75** | 2.00 |
| 20 | PET 220 | MH 2712 | 1.00 | 1.00 | 0.00 | **0.67** | 2.00 | 1.00 | **1.50** | 2.00 |
| 21 | PET 221 | MH 2717 | 1.00 | 3.00 | 9.00 | **4.33** | 0.00 | 1.50 | **0.75** | 1.50 |
| 22 | PET 222 | MH 2795 | 1.00 | 1.00 | 10.00 | **4.00** | 0.00 | 1.00 | **0.50** | 1.00 |
| 23 | PET 223 | MH 2796 | 3.00 | 4.00 | 0.00 | **2.33** | 1.00 | 1.00 | **1.00** | 1.00 |
| 24 | PET 224 | MH 2797 | 2.00 | 1.00 | 0.00 | **1.00** | 0.00 | 1.00 | **0.50** | 1.00 |
| 25 | PET 225 | MH 2798 | 2.00 | 1.00 | 0.00 | **1.00** | 2.00 | 2.00 | **2.00** | 2.00 |
| 26 | PET 226 | MH 2801 | 2.50 | 3.00 | 0.00 | **1.83** | 0.00 | 1.50 | **0.75** | 2.00 |
| 27 | PET 227 | MH 2806 | 2.50 | 1.00 | 0.00 | **1.17** | 0.00 | 1.50 | **0.75** | 2.00 |
| 28 | PET 228 | MH 2808 | 1.50 | 1.00 | 1.00 | **1.17** | 1.00 | 1.50 | **1.25** | 1.50 |
| 29 | PET 229 | MP 637 | 1.00 | 1.00 | 5.00 | **2.33** | 0.00 | 1.50 | **0.75** | 2.50 |
| 30 | PET 230 | HHB 67 Imp. | 1.50 | 3.00 | 2.50 | **2.33** | 0.00 | 1.50 | **0.75** | 1.50 |
| 31 | PET 231 | PB 1756 | 2.00 | 1.00 | 6.00 | **3.00** | 1.00 | 1.00 | **1.00** | 1.50 |
| 32 | PET 232 | MPMH 35 | 1.00 | 1.00 | 8.50 | **3.50** | 0.00 | 1.50 | **0.75** | 1.50 |
| 33 | PET 233 | RHB 223 | 2.00 | 2.00 | 12.00 | **5.33** | 0.00 | 1.50 | **0.75** | 1.00 |

| Sr.No. | Entry no. | Name of Entry | *Helicoverpa armigera* larval population per 5 Ear heads | | | | Grey Weevil Damage Score (0-10) At Ear head stage | | | Leaf Roller Damage Score (0-10) At Ear head stage |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | JAM | JOD | FPS | Mean | JOD | FPS | Mean | JP |
| 34 | PET 234 | AHB 1269 | 1.00 | 1.00 | 19.50 | **7.17** | 2.00 | 1.50 | **1.75** | 1.50 |
| 35 | PET 235 | 86M01 | 3.00 | 2.00 | 17.50 | **7.50** | 0.00 | 1.50 | **0.75** | 3.00 |
| 36 | PET 236 | Pratap | 3.00 | 1.00 | 19.00 | **7.67** | 0.00 | 1.50 | **0.75** | 2.00 |
| 37 | PET 237 | KBH 108 | 1.00 | 1.00 | 14.50 | **5.50** | 2.00 | 1.00 | **1.50** | 2.00 |
| 38 | PET 238 | 86M86 | 1.50 | 1.00 | 11.50 | **4.67** | 0.00 | 1.00 | **0.50** | 2.00 |
| 39 | PET 239 | 86M84 | 1.50 | 3.00 | 5.00 | **3.17** | 1.00 | 1.00 | **1.00** | 2.00 |
| 40 | PET 240 | MP 7878 | 2.00 | 1.00 | 12.50 | **5.17** | 0.00 | 2.00 | **1.00** | 1.00 |
| 41 | PET 241 | Kaveri Super Boss | 1.50 | 3.00 | 0.50 | **1.67** | 1.00 | 2.00 | **1.50** | 1.00 |
| 42 | PET 242 | NBH 4903 | 1.50 | 1.00 | 0.50 | **1.00** | 0.00 | 1.00 | **0.50** | 1.00 |
| 43 | PET 243 | AHB 1200 | 1.50 | 2.50 | 0.50 | **1.50** | 1.00 | 1.50 | **1.25** | 2.00 |
| 44 | PET 244 | Raj 171 | 1.00 | 1.00 | 0.00 | **0.67** | 0.00 | 1.50 | **0.75** | 1.50 |
| 45 | PET 245 | JBV 2 | 1.50 | 3.00 | 0.00 | **1.50** | 0.00 | 1.50 | **0.75** | 2.50 |
| 46 | PET 246 | Dhanshakti | 1.00 | 1.00 | 6.50 | **2.83** | 1.00 | 1.50 | **1.25** | 2.00 |
| 47 | PET 247 | ICMV 221 | 1.50 | 1.50 | 12.50 | **5.17** | 0.00 | 1.50 | **0.75** | 1.50 |
| 48 | PET 248 | Pusa Comp. 383 | 1.50 | 1.00 | 10.50 | **4.33** | 1.00 | 1.00 | **1.00** | 1.50 |
| 49 | PET 249 | Pusa Comp. 701 | 1.00 | 1.50 | 7.50 | **3.33** | 1.00 | 1.50 | **1.25** | 2.00 |
| | | **Mean** | **1.55** | **1.90** | **5.68** | **3.04** | **0.67** | **1.37** | **1.02** | **1.82** |

**N.B.: JAM= Jamnagar, FPS= Fatehpur-Shekhawati, JP=Jaipur.**

**Table-V.2c: Summarized shoot fly & stem borer incidence in pearl millet lines (Advance lines)**

| Sr. No. | Range of percent infestation | Number of entries showing shoot fly incidence at | | Number of entries showing stem borer incidence at | |
|---|---|---|---|---|---|
| | | Vegetative stage | Ear head stage | Vegetative stage | Ear head stage |
| 1 | Free (0.0%) | 0 | 0 | 7 | 15 |
| 2 | 0.1 to 5.0% (Moderate resistant ) | 5 | 19 | 42 | 34 |
| 3 | 5.1 to 10.00% (Tolerant) | 26 | 27 | 0 | 0 |
| 4 | 10.1-20.00 (Susceptible ) | 18 | 3 | 0 | 0 |
| 5 | Above 20.00% (Highly susceptible) | 0 | 0 | 0 | 0 |
| 6 | Range (Mini. to Maxi.) | 3.77-16.23 | 2.67-13.32 | 0.0-4.73 | 0.0-4.35 |
| 7 | Average | 8.97 | 5.99 | 1.27 | 1.25 |
| 8 | Number of entries tested | 49 | | | |

**Table-V.2d: *Helicoverpa*, Grey weevil and Leaf roller incidence in pearl millet lines (Advance lines)**

| Sr. No. | Range of larval population/ 5 ear heads/GWDS (0-10)/ LRDS (0-10) | Number of entries showing *Helicoverpa* incidence at ear head stage | Number of entries showing Grey Weevil Damage Score at ear head stage | Number of entries showing Leaf Roller Damage Score at ear head stage |
|---|---|---|---|---|
| 1 | Free (0.0) | 0 | 0 | 0 |
| 2 | 0.1-1.0 | 7 | 32 | 7 |
| 3 | 1.1-2.0 | 13 | 16 | 33 |
| 4 | 2.1-5.0 | 20 | 1 | 9 |
| 5 | Above 5.0 | 9 | 0 | 0 |
| 6 | Range Minimum to maximum | 0.67-7.67 | 0.50-2.25 | 1.00-3.00 |
| 7 | Average | 3.04 | 1.02 | 1.82 |
| 8 | Entries screened | 49 | | |

**Table-V.3a: PMET-2: Statement showing incidence of insect-pests and population of natural enemies in pearl millet (Centre: Jamnagar)**

| No. | S M W | Date of Observation | Days After Germi. nation | Shoot fly % incidence | Stem borer % incidence | leaf roller damage score (0-10) | Grass hopper % damage | Mean Grey weevil damage score (0-10) | Hairy cater pillar /20 pl. | Blister beetles/ 20 EH | Chaffer beetle 20 / EH | *Helicoverpa* larvae/ 20 EH | Lady bird beetle/ 20 pl. | Chrysopa/ 20 pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | 29.07.24 | 7 DAG | 5.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2 | 31 | 05.08.24 | 14 DAG | 10.00 | 5.00 | 2.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3 | 32 | 12.08.24 | 21 DAG | 15.00 | 10.00 | 3.00 | 0.00 | 1.00 | 0 | 0 | 0 | 0 | 3 | 3 |
| 4 | 33 | 19.08.24 | 28 DAG | 15.00 | 10.00 | 3.00 | 0.00 | 2.00 | 0 | 0 | 0 | 0 | 2 | 5 |
| 5 | 34 | 26.08.24 | 35 DAG | 20.00 | 15.00 | 4.00 | 0.00 | 2.00 | 0 | 0 | 0 | 0 | 5 | 10 |
| 6 | 35 | 02.09.24 | 42 DAG | 15.00 | 10.00 | 3.00 | 5.00 | 3.00 | 0 | 0 | 0 | 0 | 4 | 0 |
| 7 | 36 | 09.09.24 | 49 DAG | 10.00 | 10.00 | 1.00 | 10.00 | 3.00 | 0 | 0 | 2 | 35 | 2 | 0 |
| 8 | 37 | 16.09.24 | 56 DAG | 10.00 | 5.00 | 0.00 | 10.00 | 2.00 | 15 | 0 | 3 | 47 | 3 | 0 |
| 9 | 38 | 23.09.24 | 63 DAG | 10.00 | 5.00 | 0.00 | 5.00 | 2.00 | 30 | 15 | 4 | 25 | 4 | 0 |
| 10 | 39 | 30.09.24 | 70 DAG | 10.00 | 5.00 | 0.00 | 0.00 | 1.00 | 0 | 0 | 5 | 20 | 0 | 0 |
| 11 | 40 | 07.10.24 | 77 DAG | 15.00 | 10.00 | 0.00 | 0.00 | 1.00 | 0 | 0 | 10 | 10 | 0 | 0 |
| 12 | 41 | 14.10.24 | 84 DAG | 15.00 | 10.00 | 0.00 | 0.00 | 1.00 | 0 | 0 | 15 | 5 | 0 | 0 |
| | | | **Mean** | **12.50** | **7.92** | **1.42** | **2.50** | **1.50** | **3.75** | **1.25** | **3.25** | **11.83** | **2.17** | **1.50** |
| | | | | | | | | | | | | | | |

**N.B.: Date of sowing: 18.07.2024, Harvesting: 20.10.2024, Variety: GHB 538 Imp.**

**Table-V.3b: PMET-2: Statement showing losses in pearl millet due to insect pest complex (Centre: Jamnagar)**

| Parameters | Yield kg/ha in treated plot | Yield kg/ha in Un-treated plot | % losses |
|---|---|---|---|
| **1. Grain** | 2903 | 2513 | 13.44 |
| **2. Fodder** | 5848 | 4982 | 14.80 |

**Table-V.3c: PMET-2: Correlation of major insect-pests of pearl millet with different weather parameters (Centre: Jamnagar)**

| No. | S W W | Date of Observation | Days After Germination | Temp. O Maxi. | Temp. O Mini. | R.H. Morn. | R.H. Even. | Wind speed km/hr | BSS (hrs) | Eo (mm) | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | 29.07.24 | 7 DAG | 31.1 | 27.1 | 92 | 80 | 9.7 | 1.6 | 3.0 | 122.0 | 2 |
| 2 | 31 | 05.08.24 | 14 DAG | 30.9 | 26.5 | 93 | 83 | 8.9 | 1.4 | 3.7 | 49.0 | 4 |
| 3 | 32 | 12.08.24 | 21 DAG | 30.8 | 26.4 | 90 | 81 | 7.9 | 1.7 | 3.1 | 18.0 | 3 |
| 4 | 33 | 19.08.24 | 28 DAG | 31.6 | 26.1 | 91 | 79 | 6.5 | 3.7 | 3.3 | 14.5 | 3 |
| 5 | 34 | 26.08.24 | 35 DAG | 33.3 | 26.7 | 87 | 69 | 8.8 | 6.8 | 4.1 | 27.5 | 1 |
| 6 | 35 | 02.09.24 | 42 DAG | 29.6 | 25.2 | 96 | 79 | 13.1 | 2.8 | 1.8 | 604.0 | 4 |
| 7 | 36 | 09.09.24 | 49 DAG | 32.0 | 26.0 | 94 | 70 | 6.9 | 6.1 | 3.7 | 1.5 | 0 |
| 8 | 37 | 16.09.24 | 56 DAG | 32.7 | 25.1 | 86 | 60 | 8.1 | 7.8 | 4.6 | 0.0 | 0 |
| 9 | 38 | 23.09.24 | 63 DAG | 32.9 | 25.1 | 88 | 62 | 7.1 | 8.7 | 4.8 | 0.0 | 0 |
| 10 | 39 | 30.09.24 | 70 DAG | 33.2 | 25.6 | 89 | 66 | 8.4 | 6.2 | 4.5 | 28.0 | 2 |
| 11 | 40 | 07.10.24 | 77 DAG | 33.4 | 25.5 | 87 | 62 | 6.6 | 8.1 | 4.5 | 0.0 | 0 |
| 12 | 41 | 14.10.24 | 84 DAG | 34.5 | 26.2 | 81 | 55 | 4.8 | 5.8 | 4.9 | 9.0 | 1 |
| **Correlation** | | | Shoot fly | $0.230^{NS}$ | $0.095^{NS}$ | $-0.280^{NS}$ | $-0.100^{NS}$ | $-0.038^{NS}$ | $0.186^{NS}$ | $0.007^{NS}$ | $0.052^{NS}$ | $0.020^{NS}$ |
| | | | Stem borer | $0.182^{NS}$ | $-0.001^{NS}$ | $-0.155^{NS}$ | $-0.113^{NS}$ | $-0.154^{NS}$ | $0.204^{NS}$ | $-0.042^{NS}$ | $0.047^{NS}$ | $-0.049^{NS}$ |
| | | | Helicoverpa | $0.328^{NS}$ | **$-0.600^{*}$** | $-0.167^{NS}$ | $-0.567^{NS}$ | $-0.238^{NS}$ | **$0.652^{*}$** | $0.492^{NS}$ | $-0.317^{NS}$ | **$-0.689^{*}$** |

**Table-V.3d: PMET-2: Statement showing incidence of insect-pests and population of natural enemies in pearl millet (Centre: Anand)**

| No. | S M W | Date of Observation | Days After Germination | Shoot fly % inci. | Stem borer % inci. | Grass hopper % damage | Helicovera larvae/20 EH | *Eublema silicula/20* E.H. | Lady bird beetle/20 pl. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 31 | 8/2/2024 | 7 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 32 | 8/9/2024 | 14 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 33 | 8/16/2024 | 21 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | 34 | 8/23/2024 | 28 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | 35 | 8/30/2024 | 35 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | 36 | 9/6/2024 | 42 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 37 | 9/13/2024 | 49 DAG | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 38 | 9/20/2024 | 56 DAG | 15.00 | 5.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 9 | 39 | 9/27/2024 | 63 DAG | 15.00 | 10.00 | 5.00 | 2.00 | 2.00 | 0.00 |
| 10 | 40 | 10/4/2024 | 70 DAG | 15.00 | 10.00 | 5.00 | 4.00 | 2.00 | 0.00 |
| 11 | 41 | 10/11/2024 | 77 DAG | 15.00 | 10.00 | 10.00 | 4.00 | 3.00 | 2.00 |
| 12 | 42 | 10/18/2024 | 84 DAG | 15.00 | 10.00 | 10.00 | 3.00 | 2.00 | 3.00 |
| 13 | 43 | 10/25/2024 | 91 DAG | 15.00 | 15.00 | 10.00 | 2.00 | 0.00 | 3.00 |
| | | | **Mean** | **7.31** | **4.62** | **3.08** | **1.23** | **0.69** | **0.62** |

N.B.: **Date of sowing: 26/07/2024, Date of Harvesting: 08.11.2024, Variety: GHB 1129**

**Table-V.3e: PMET-2: Statement showing losses in pearl millet due to insect pest complex (Centre: Anand)**

| Parameters | Yield kg/ha in treated plot | Yield kg/ha in Un-treated plot | % losses |
|---|---|---|---|
| 1. Grain | 2934 | 2692 | 8.25 |
| 2. Fodder | 5770 | 5455 | 5.46 |

**Table-V.3f: PMET-2: Correlation of major insect-pests of pearl millet with different weather parameters (Centre: Anand)**

| No. | S M W | Date of Observation | Days After Germination | Temp. O Maxi. | Temp. O Mini. | R.H. Morn. | R.H. Even. | Wind speed km/hr | BSS (hrs) | Eo (mm) | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31 | 8/2/2024 | 7 DAG | 30.9 | 26.4 | 91.9 | 75.0 | 6.5 | 1.5 | 19.6 | 56.4 | 4.0 |
| 2 | 32 | 8/9/2024 | 14 DAG | 31.4 | 26.1 | 93.0 | 79.1 | 5.5 | 1.9 | 19.1 | 54.0 | 5.0 |
| 3 | 33 | 8/16/2024 | 21 DAG | 32.7 | 26.7 | 90.3 | 65.1 | 4.5 | 6.2 | 26.3 | 55.8 | 2.0 |
| 4 | 34 | 8/23/2024 | 28 DAG | 32.5 | 26.0 | 92.9 | 81.9 | 5.0 | 3.1 | 18.5 | 185.6 | 2.0 |
| 5 | 35 | 8/30/2024 | 35 DAG | 30.4 | 26.0 | 92.6 | 75.6 | 8.2 | 4.3 | 20.2 | 225.8 | 6.0 |
| 6 | 36 | 9/6/2024 | 42 DAG | 31.1 | 25.8 | 95.3 | 73.1 | 5.6 | 4.0 | 19.4 | 132.6 | 3.0 |
| 7 | 37 | 9/13/2024 | 49 DAG | 32.6 | 25.9 | 88.9 | 61.8 | 6.6 | 7.0 | 29.7 | 1.6 | 0.0 |
| 8 | 38 | 9/20/2024 | 56 DAG | 33.7 | 26.7 | 87.0 | 59.7 | 6.0 | 9.3 | 32.7 | 0.0 | 0.0 |
| 9 | 39 | 9/27/2024 | 63 DAG | 30.9 | 24.7 | 96.6 | 84.0 | 4.1 | 1.5 | 21.5 | 132.6 | 6.0 |
| 10 | 40 | 10/4/2024 | 70 DAG | 33.6 | 26.0 | 88.9 | 59.0 | 3.4 | 8.1 | 23.4 | 0.0 | 1.0 |
| 11 | 41 | 10/11/2024 | 77 DAG | 33.3 | 24.9 | 85.9 | 61.9 | 2.9 | 4.8 | 22.0 | 15.8 | 1.0 |
| 12 | 42 | 10/18/2024 | 84 DAG | 34.6 | 25.4 | 88.0 | 57.9 | 2.7 | 7.9 | 26.4 | 54.0 | 1.0 |
| 13 | 43 | 10/25/2024 | 91 DAG | 35.0 | 23.2 | 87.3 | 41.7 | 2.0 | 9.6 | 22.3 | 0.8 | 0.0 |
| **Total** | | | | | | | | | | | **915.0** | **31.0** |
| **Correlation** | | **Shoot fly % incidence** | **0.672*** | -0.537$^{NS}$ | -0.540$^{NS}$ | **-0.579*** | **-0.683*** | **0.562*** | 0.434$^{NS}$ | | -0.531$^{NS}$ | -0.456$^{NS}$ |
| | | **Stem borer % incidence** | **0.667*** | **-0.769**** | -0.454$^{NS}$ | **-0.611*** | **-0.831**** | 0.485$^{NS}$ | 0.140$^{NS}$ | | -0.432$^{NS}$ | -0.358$^{NS}$ |
| | | ***Helicoverpa* larval population** | **0.585*** | -0.468$^{NS}$ | -0.513$^{NS}$ | -0.479$^{NS}$ | **-0.761**** | 0.391$^{NS}$ | 0.125$^{NS}$ | | -0.440$^{NS}$ | -0.358$^{NS}$ |

**Table-V.3g: PMET-2: Statement showing incidence of insect-pests and population of natural enemies in pearl millet (Centre: Jodhpur)**

| No. | S M W | Date of Observation | Days After Germi. nation | Shoot fly % inci. | Termite % Inci. | leaf roller amage score (0-10) | Grass hopper % damage | FAW % damage | Mean Grey weevil damage score (0-10) | Hiary cater pillar /20 pl. | Leaf hopper/ plants | Chaffer beetle/ 20 EH | *Helicoverpa* larvae/ 20 EH | *Eublema silicula/ 20* E.H. | Lady bird beetle/ 20 pl. | Chrysopa /20 pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | 29.07.24 | 7 DAG | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 31 | 5.08.24 | 14 DAG | 10.00 | 20.00 | 0 | 0.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 32 | 12.08.24 | 21 DAG | 25.00 | 20.00 | 0 | 0.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| 4 | 33 | 19.08.24 | 28 DAG | 30.00 | 20.00 | 1 | 5.00 | 0.00 | 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 1.00 |
| 5 | 34 | 26.08.24 | 35 DAG | 25.00 | 20.00 | 1 | 10.00 | 5.00 | 3 | 0.00 | 1.80 | 0.00 | 0.00 | 0.00 | 4.00 | 1.00 |
| 6 | 35 | 2.09.24 | 42 DAG | 20.00 | 20.00 | 2 | 20.00 | 10.00 | 2 | 2.00 | 5.55 | 2.00 | 3.00 | 0.00 | 5.00 | 1.00 |
| 7 | 36 | 9.09.24 | 49 DAG | 10.00 | 20.00 | 2 | 20.00 | 10.00 | 2 | 2.00 | 16.20 | 5.00 | 10.00 | 0.00 | 4.00 | 1.00 |
| 8 | 37 | 16.09.24 | 56 DAG | 10.00 | 20.00 | 1 | 20.00 | 0.00 | 2 | 2.00 | 5.20 | 2.00 | 8.00 | 2.00 | 4.00 | 1.00 |
| 9 | 38 | 23.09.24 | 63 DAG | 5.00 | 20.00 | 1 | 10.00 | 0.00 | 1 | 0.00 | 3.80 | 1.00 | 5.00 | 2.00 | 2.00 | 1.00 |
| 10 | 39 | 30.09.24 | 70 DAG | 5.00 | 20.00 | 5 | 10.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 2.00 | 1.00 | 1.00 | 0.00 |
| 11 | 40 | 7.10.24 | 77 DAG | 5.00 | 20.00 | 0 | 0.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | 41 | 14.10.24 | 84 DAG | 5.00 | 20.00 | 0 | 0.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | 42 | 21.10.24 | 91 DAG | 5.00 | 20.00 | 0 | 0.00 | 0.00 | 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | **Mean** | **11.92** | **18.46** | **1.00** | **7.31** | **1.92** | **1.46** | **0.46** | **2.50** | **0.77** | **2.15** | **0.38** | **1.77** | **0.54** |

**Date of sowing: 15.07.2024, Date of Harvesting: 25.10.24, Variety: MPMH 21, Rainfall=429.7 mm**

**Table-V.3h: PMET-2: PMET-2: Statement showing losses in pearl millet due to insect pest complex (Centre: Jodhpur)**

| Parameters | Treated plot (Kg/ha) | Untreated plot (Kg/ha) | % losses |
|---|---|---|---|
| 1. Grain | 1190.48 | 952.38 | 20.00 |
| 2. Fodder | 2142.86 | 1714.29 | 20.00 |

**Table-V.3i: PMET-2: Statement showing incidence of insect-pests and population of natural enemies in pearl millet (Centre: Fatehpur-Shekhawati)**

| No. | S M W | Date of Observation | Days After Germi. nation | Shoot fly % incidence | Stem borer % incidence | Termite % Inci. | leaf roller damage score (0-10) | Mean Grey weevil damage score (0-10) | Hiary cater pillar /20 pl. | Blister beetles/ 20 EH | Helicovera larvae/ 20 EH | *Eublema silicula/ 20* E.H. | Lady bird beetle/ 20 pl. | Chrysopa/ 20 pl. | Spider/20 pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | 27.07.2024 | 7 DAG | 5.00 | 0.00 | 0.00 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 31 | 03.08.2024 | 14 DAG | 10.00 | 0.00 | 0.00 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| 3 | 32 | 10.08.2024 | 21 DAG | 20.00 | 0.00 | 0.00 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 2 |
| 4 | 33 | 17.08.2024 | 28 DAG | 25.00 | 5.00 | 0.00 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 4 |
| 5 | 34 | 24.08.2024 | 35 DAG | 30.00 | 5.00 | 5.00 | 3 | 2 | 0 | 0 | 0 | 0 | 4 | 1 | 4 |
| 6 | 35 | 31.08.2024 | 42 DAG | 30.00 | 10.00 | 5.00 | 3 | 3 | 0 | 0 | 0 | 0 | 3 | 1 | 5 |
| 7 | 36 | 07.09.2024 | 49 DAG | 30.00 | 10.00 | 5.00 | 3 | 3 | 0 | 0 | 0 | 0 | 4 | 1 | 7 |
| 8 | 37 | 14.09.2024 | 56 DAG | 30.00 | 10.00 | 5.00 | 4 | 3 | 0 | 0 | 3 | 1 | 2 | 0 | 8 |
| 9 | 38 | 21.09.2024 | 63 DAG | 30.00 | 10.00 | 5.00 | 4 | 3 | 0 | 0 | 2 | 1 | 4 | 0 | 9 |
| 10 | 39 | 9/28/2022 | 70 DAG | 35.00 | 10.00 | 5.00 | 4 | 3 | 0 | 6 | 4 | 1 | 5 | 0 | 8 |
| 11 | 40 | 10/5/2022 | 77 DAG | 35.00 | 10.00 | 5.00 | 4 | 3 | 0 | 8 | 5 | 0 | 1 | 0 | 2 |
| 12 | 41 | 12.10.2024 | 84 DAG | 35.00 | 10.00 | 5.00 | 4 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 8 |
| | | | **Mean** | **26.25** | **6.67** | **3.33** | **3.08** | **2.42** | **0.20** | **1.17** | **1.25** | **0.25** | **2.17** | **0.50** | **4.92** |

**N.B.: Date of sowing: 13-07-2024, Date of Harvesting: 15.10.2024, Variety: RHB-234**

**Table-V.3j: PMET-2: PMET-2: Statement showing losses in pearl millet due to insect pest complex (Centre: Fatehpur- Shekhawati)**

| Parameters | Yield kg/ha in treated plot | Yield kg/ha in Un-treated plot | % losses |
|---|---|---|---|
| 1. Grain | 2021 | 1360 | 33.00 |
| 2. Fodder | 2538 | 1610 | 37.00 |

**Table-V.3k: PMET-2: Correlation of major insect-pests of pearl millet with different weather parameters (Centre: Fatehpur- Shekhawati)**

| No. | SWW | Date of Observation | DaysAfter Germination | Temp. O Maxi. | Temp. O Mini. | R.H. maxi. | R.H. Min. | Wind speed km/hr | BSS (hrs) | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | 27.07.2024 | 7 DAG | 35.6 | 26.4 | 83.1 | 74.1 | 1.1 | 5.3 | 63.9 | 2 |
| 2 | 31 | 03.08.2024 | 14 DAG | 34.3 | 26.3 | 88.4 | 67.6 | 1.3 | 5.6 | 41.2 | 1 |
| 3 | 32 | 10.08.2024 | 21 DAG | 30.0 | 25.1 | 93.3 | 83.3 | 1.7 | 0.8 | 38.3 | 5 |
| 4 | 33 | 17.08.2024 | 28 DAG | 33.2 | 25.4 | 90.4 | 76.7 | 0.7 | 5.3 | 42.9 | 2 |
| 5 | 34 | 24.08.2024 | 35 DAG | 35.6 | 25.6 | 88.7 | 71 | 1.0 | 6.1 | 5.2 | 1 |
| 6 | 35 | 31.08.2024 | 42 DAG | 34.5 | 24.9 | 90.6 | 75.4 | 13.9 | 5.7 | 1.8 | 0 |
| 7 | 36 | 07.09.2024 | 49 DAG | 32.8 | 24.3 | 93.7 | 79.7 | 0.7 | 4.5 | 98.8 | 7 |
| 8 | 37 | 14.09.2024 | 56 DAG | 34.2 | 23.8 | 92.0 | 65.3 | 1.2 | 7.2 | 7.6 | 2 |
| 9 | 38 | 21.09.2024 | 63 DAG | 35.0 | 23.2 | 90.4 | 70.1 | 0.7 | 6.5 | 2.2 | 0 |
| 10 | 39 | 9/28/2022 | 70 DAG | 37.4 | 23.8 | 84 | 50.6 | 0.8 | 8.2 | 0 | 0 |
| 11 | 40 | 10/5/2022 | 77 DAG | 37.7 | 21.9 | 83.4 | 41.7 | 1.2 | 9.1 | 0 | 0 |
| 12 | 41 | 12.10.2024 | 84 DAG | 35.7 | 18.1 | 83.1 | 42.7 | 0.5 | 7.9 | 7.2 | 1 |
| | | | | | | | | | **Total** | **309.1** | **21** |
| **Correlation** | | | **Shoot fly % incidence** | $0.322^{NS}$ | **$-0.657^{*}$** | $0.003^{NS}$ | $-0.497^{NS}$ | $0.078^{NS}$ | $0.511^{NS}$ | $-0.534^{NS}$ | $-0.197^{NS}$ |
| | | | **Stem borer % incidence** | $0.431^{NS}$ | **$-0.630^{*}$** | $-0.033^{NS}$ | $-0.478^{NS}$ | $0.182^{NS}$ | **$0.639^{*}$** | $-0.417^{NS}$ | $-0.235^{NS}$ |

**Table-V.3l: PMET-2: Statement showing incidence of insect-pests and population of natural enemies in pearl millet (Centre: Aurangabad)**

| No | S W W | Date of Observation | Days After Germi. nation | Shoot fly % incidence | Stem borer % incidence | FAW% damage | Hiary cater pillar /20 pl. | Chaffer beetle 20/EH | Lady bird beetle/ 20 pl. | Chryso pa/ 20 pl. | Temp. O Maxi. | Temp. O Mini. | R.H. Morn. | R.H. Even. | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31 | 30/7-05/8 | 7 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.1 | 23.4 | 86 | 97 | 18.5 | 3 |
| 2 | 32 | 06/8-12/8 | 14 DAG | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 29.3 | 23.1 | 79 | 96 | 4.5 | 1 |
| 3 | 33 | 13/8-19/8 | 21 DAG | 15.00 | 10.00 | 0.00 | 0.00 | 0.00 | 3.00 | 0.00 | 31.5 | 23.6 | 70 | 88 | 54.5 | 4 |
| 4 | 34 | 20/8-26/8 | 28 DAG | 15.00 | 10.00 | 10.00 | 0.00 | 0.00 | 2.00 | 0.00 | 30.3 | 22.8 | 83 | 94 | 85.0 | 4 |
| 5 | 35 | 27/8-02/9 | 35 DAG | 15.00 | 10.00 | 10.00 | 2.00 | 1.00 | 3.00 | 0.05 | 29.6 | 22.8 | 71 | 83 | 72.0 | 2 |
| 6 | 36 | 03/9-09/9 | 42 DAG | 15.00 | 10.00 | 15.00 | 2.00 | 1.00 | 3.00 | 0.05 | 28.3 | 22.5 | 81 | 96 | 14.5 | 3 |
| 7 | 37 | 10/9-16/9 | 49 DAG | 15.00 | 10.00 | 20.00 | 2.00 | 0.00 | 2.00 | 0.00 | 29.6 | 21.4 | 72 | 88 | 4.5 | 1 |
| 8 | 38 | 17/9-23/9 | 56 DAG | 15.00 | 10.00 | 20.00 | 1.00 | 1.00 | 3.00 | 0.00 | 31.3 | 22.4 | 59 | 85 | 0.0 | 0 |
| 9 | 39 | 24/9-30/9 | 63 DAG | 15.00 | 10.00 | 20.00 | 0.00 | 1.00 | 2.00 | 0.00 | 29.9 | 22.7 | 75 | 91 | 62.5 | 3 |
| | | | **Mean** | **12.22** | **7.78** | **10.56** | **0.78** | **0.44** | **2.22** | **0.01** | **29.88** | **22.74** | **75.11** | **90.89** | **316.00** | **21.00** |
| **Correlation** | | | | | | | | | **Shoot fly% incidence** | | 0.376$^{NS}$ | -0.462$^{NS}$ | -0.543$^{NS}$ | -0.612$^{NS}$ | 0.371$^{NS}$ | 0.052$^{NS}$ |
| | | | | | | | | | **Stem borer % incidence** | | 0.375$^{NS}$ | -0.447$^{NS}$ | -0.509$^{NS}$ | -0.617$^{NS}$ | 0.404$^{NS}$ | 0.134$^{NS}$ |
| | | | | | | | | | **FAW % incidence** | | 0.015$^{NS}$ | **-0.824**$^{**}$ | -0.448$^{NS}$ | -0.397$^{NS}$ | -0.089$^{NS}$ | -0.367$^{NS}$ |

**N.B.: Date of sowing: 24.07.2024, Variety: AHB-1200, Date of Harvesting: 04.10.2024**

**Table-V.3m: PMET-2: Statement showing losses in pearl millet due to insect pest complex (Centre: Aurangabad)**

| No. | Treatments | Treated plot | Untreated plot | % losses |
|---|---|---|---|---|
| **1** | **Grain yield kg/ha** | 2200 | 2000 | 9.09 |
| **2** | **Fodder yield kg/ha** | 4500 | 3800 | 15.56 |

**Table- V.3n: PMET-2: Incidence of insect-pests and population) and population of natural enemies in pearl millet (Centre: Hisar)**

| No. | SMW | Date of Observation | Days After Germi. nation | Shoot fly% inci. | Stem borer % inci. | Grass hopper % damage | FAW % damage | Mean Grey weevil damage score (0-10) | Hiary caterpillar /20 pl. | Blister beetles/ 20 EH | Chaffer beetle 20 / EH | Helicovera larvae/ 20 EH | Lady bird beetle/ 20 pl. | Chrysopa / 20 pl. | Temp. O Maxi. | Temp. O Mini. | R.H. Mor. | R.H. Eve. | Wind speed km/hr | BSS (hrs) | Eo (mm) | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 29 | 19.7.24 | 7 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37.8 | 28.7 | 85 | 60 | 6.8 | 6.2 | 6.3 | 1.2 | 0 |
| 2 | 30 | 26.7.24 | 14 DAG | 5.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37.6 | 28.8 | 83 | 56 | 4.8 | 4.3 | 4.9 | 8 | 1 |
| 3 | 31 | 02.8.24 | 21 DAG | 10.00 | 0.00 | 0.00 | 0.00 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 35.5 | 28.0 | 87 | 68 | 7.1 | 5.0 | 5.5 | 71 | 2 |
| 4 | 32 | 09.8.24 | 28 DAG | 0.00 | 5.00 | 2.00 | 5.00 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 33.4 | 26.7 | 93 | 75 | 6.8 | 5.7 | 4.2 | 143.8 | 4 |
| 5 | 33 | 16.8.24 | 35 DAG | 0.00 | 10.00 | 3.00 | 15.00 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 33.5 | 27.3 | 93 | 70 | 3.8 | 5.5 | 3.2 | 23.4 | 1 |
| 6 | 34 | 23.8.24 | 42 DAG | 0.00 | 15.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 34.5 | 27.2 | 87 | 66 | 4.2 | 6.6 | 3.9 | 9 | 2 |
| 7 | 35 | 30.8.24 | 49 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 33.0 | 26.2 | 94 | 72 | 5.2 | 5.2 | 3.2 | 29.2 | 2 |
| 8 | 36 | 06.9.24 | 56 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 31.7 | 25.7 | 93 | 83 | 3.4 | 2.4 | 3.9 | 46.1 | 2 |
| 9 | 37 | 13.9.24 | 63 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 5 | 2 | 1 | 0 | 0 | 33.9 | 25.0 | 92 | 63 | 4.6 | 5.3 | 3.8 | 19.6 | 1 |
| 10 | 38 | 20.9.24 | 70 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 34.1 | 24.4 | 92 | 60 | 3.6 | 5.7 | 3.2 | 0 | 0 |
| 11 | 39 | 27.9.24 | 77 DAG | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35.0 | 25.2 | 89 | 56 | 5.2 | 6.1 | 4.3 | 0 | 0 |
| **Mean** | | | | **1.36** | **2.73** | **0.45** | **1.82** | **1.82** | **0.27** | **0.64** | **0.27** | **0.27** | **0.27** | **0.36** | **--** | **--** | **--** | **--** | **--** | **Total** | | | **351.3** | **15** |

**Table- V.3o: PMET-2: Statement showing losses in pearl millet due to insect pest complex (Centre: Hisar)**

| Parameters | Yield kg/ha in treated plot | Yield kg/ha in Un-treated plot | % losses |
|---|---|---|---|
| 1. Grain | 2900 | 2700 | 6.90 |
| 2. Fodder | 3900 | 3700 | 5.13 |

**Table-V.3p: PMET-2: Statement showing incidence of insect-pests and population of natural enemies in pearl millet (Centre: Jaipur)**

| No. | S M W | Date of Observation | Days After Germi. nation | Shoot fly % incidence | Stem borer % incidence | Termite % Inci. | leaf roller damage score (0-10) | Chaffer beetle 20 / EH | Temp. O Maxi. | Temp. O Mini. | R.H. Morn. | R.H. Even. | Wind speed km/hr | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 32 | 7.8.24 | 7 DAG | 0.00 | 0.00 | 0.00 | 0 | 0 | 33.50 | 24.80 | 79.40 | 59.70 | 6.80 | 245.00 | 7.00 |
| 2 | 33 | 14.8.24 | 14 DAG | 4.76 | 0.00 | 1.58 | 0 | 0 | 35.60 | 25.90 | 65.10 | 43.10 | 6.70 | 163.50 | 5.00 |
| 3 | 34 | 21.8.24 | 21 DAG | 5.00 | 0.00 | 4.11 | 0 | 0 | 36.50 | 24.60 | 78.30 | 48.10 | 7.50 | 73.00 | 2.00 |
| 4 | 35 | 28.8.24 | 28 DAG | 11.11 | 3.17 | 12.58 | 0 | 0 | 32.50 | 24.30 | 84.10 | 66.10 | 6.70 | 194.00 | 3.00 |
| 5 | 36 | 4.9.24 | 35 DAG | 15.87 | 4.76 | 14.17 | 2 | 0 | 31.30 | 24.80 | 87.60 | 67.90 | 5.50 | 151.00 | 5.00 |
| 6 | 37 | 11.9.24 | 42 DAG | 12.69 | 1.58 | 18.02 | 2 | 0 | 30.00 | 24.30 | 85.40 | 73.10 | 7.90 | 28.00 | 2.00 |
| 7 | 38 | 18.9.24 | 49 DAG | 12.69 | 1.58 | 21.20 | 2 | 0 | 30.20 | 23.90 | 89.70 | 73.00 | 7.00 | 0.00 | 0.00 |
| 8 | 39 | 25.9.24 | 56 DAG | 6.25 | 0.00 | 29.03 | 4 | 2 | 32.00 | 24.30 | 85.30 | 61.30 | 6.20 | 0.00 | 0.00 |
| 9 | 40 | 2.10.24 | 63 DAG | 9.37 | 0.00 | 30.22 | 6 | 3 | 33.40 | 23.60 | 82.60 | 53.40 | 4.20 | 0.00 | 0.00 |
| 10 | 41 | 9.10.24 | 70 DAG | 18.75 | 6.25 | 31.55 | 7 | 6 | 35.70 | 21.00 | 66.00 | 31.90 | 3.60 | 0.00 | 0.00 |
| 11 | 42 | 16.10.24 | 77 DAG | 18.75 | 9.37 | 39.51 | 8 | 6 | 32.10 | 19.00 | 66.70 | 41.10 | 4.60 | 0.00 | 0.00 |
| 12 | 43 | 23.10.24 | 84 DAG | 25.00 | 0.00 | 43.77 | 8 | 3 | 30.90 | 17.50 | 60.10 | 30.00 | 5.10 | 0.00 | 0.00 |
| 13 | 44 | 30.10.24 | 91 DAG | 6.25 | 0.00 | 43.77 | 8 | 1 | 30.70 | 13.90 | 55.30 | 29.00 | 3.40 | 0.00 | 0.00 |
| | | | **Mean** | **11.27** | **2.05** | **22.27** | **3.62** | **1.62** | | | | | **Total** | **854.50** | **24.00** |

**N.B.: Date of sowing: 27.7.2024, Date of Harvesting: 04.11.2024, Variety: RHB 228, Total rainfall=854.50, Rainy days= 24.00**

**Table-V.4q: PMET-2: PMET-2: Statement showing losses in pearl millet due to insect pest complex (Centre: Jaipur)**

| Yields (kg/ha) | Protected Plot kg/ha | Unprotected Plot kg/ha | Losses % |
|---|---|---|---|
| Grain Yield | 1820 | 1020 | 43.96 |
| Fodder Yield | 3760 | 2650 | 29.52 |

**Table-V.3k: PMET-2: Correlation of major insect-pests of pearl millet with different weather parameters (Centre: Jaipur)**

| No. | SMW | Date of Observation | Days After Germination | Temp. O Maxi. | Temp. O Mini. | R.H. maxi. | R.H. Min. | Wind speed km/hr | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 32 | 7.8.24 | 7 DAG | 33.50 | 24.80 | 79.40 | 59.70 | 6.80 | 245.00 | 7.00 |
| 2 | 33 | 14.8.24 | 14 DAG | 35.60 | 25.90 | 65.10 | 43.10 | 6.70 | 163.50 | 5.00 |
| 3 | 34 | 21.8.24 | 21 DAG | 36.50 | 24.60 | 78.30 | 48.10 | 7.50 | 73.00 | 2.00 |
| 4 | 35 | 28.8.24 | 28 DAG | 32.50 | 24.30 | 84.10 | 66.10 | 6.70 | 194.00 | 3.00 |
| 5 | 36 | 4.9.24 | 35 DAG | 31.30 | 24.80 | 87.60 | 67.90 | 5.50 | 151.00 | 5.00 |
| 6 | 37 | 11.9.24 | 42 DAG | 30.00 | 24.30 | 85.40 | 73.10 | 7.90 | 28.00 | 2.00 |
| 7 | 38 | 18.9.24 | 49 DAG | 30.20 | 23.90 | 89.70 | 73.00 | 7.00 | 0.00 | 0.00 |
| 8 | 39 | 25.9.24 | 56 DAG | 32.00 | 24.30 | 85.30 | 61.30 | 6.20 | 0.00 | 0.00 |
| 9 | 40 | 2.10.24 | 63 DAG | 33.40 | 23.60 | 82.60 | 53.40 | 4.20 | 0.00 | 0.00 |
| 10 | 41 | 9.10.24 | 70 DAG | 35.70 | 21.00 | 66.00 | 31.90 | 3.60 | 0.00 | 0.00 |
| 11 | 42 | 16.10.24 | 77 DAG | 32.10 | 19.00 | 66.70 | 41.10 | 4.60 | 0.00 | 0.00 |
| 12 | 43 | 23.10.24 | 84 DAG | 30.90 | 17.50 | 60.10 | 30.00 | 5.10 | 0.00 | 0.00 |
| 13 | 44 | 30.10.24 | 91 DAG | 30.70 | 13.90 | 55.30 | 29.00 | 3.40 | 0.00 | 0.00 |
| **Correlation** | | | **Shoot fly % incidence** | $-0.329^{NS}$ | $-0.401^{NS}$ | $-0.221^{NS}$ | $-0.252^{NS}$ | $-0.372^{NS}$ | $-0.473^{NS}$ | $-0.480^{NS}$ |
| | | | **Stem borer % incidence** | $-0.012^{NS}$ | $-0.148^{NS}$ | $-0.065^{NS}$ | $-0.076^{NS}$ | $-0.332^{NS}$ | $-0.116^{NS}$ | $-0.145^{NS}$ |
| | | | **Termite % incidence** | $-0.455^{NS}$ | **$-0.834^{**}$** | $-0.487^{NS}$ | $-0.524^{NS}$ | **$-0.747^{**}$** | **$-0.805^{**}$** | **$-0.827^{**}$** |

**Table V.4a: PMET-3: Survey of insect pests of *kharif* pearl millet crop on farmer's fields (Centre: Jamnagar & Anand in Gujarat)**

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) | Leaf binder damage % | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18.09.24 | Chotila | Chotila | Sur.nagar | Sagar 222 | 1.0 | EH | 15.0 | 5.0 | 15 | 5 | 10 | 5.0 | 5.0 | 2.0 | 0 | 0 |
| 2 | 18.09.24 | Moldi nani | Chotila | Sur.nagar | Sagar 222 | 1.0 | EH | 15.0 | 10.0 | 10 | 2 | 5 | 5.0 | 7.0 | 3.0 | 0 | 0 |
| 3 | 18.09.24 | Janivadla | Chotila | Sur.nagar | Sagar 222 | 1.0 | EH | 5.0 | 10.0 | 5 | 2 | 2 | 5.0 | 5.0 | 2.0 | 1 | 1 |
| 4 | 18.09.24 | Chanpa | Chotila | Sur.nagar | Sagar 222 | 1.0 | EH | 10.0 | 5.0 | 5 | 1 | 1 | 5.0 | 6.0 | 2.0 | 1 | 1 |
| 5 | 18.09.24 | Kumbhara | Chotila | Sur.nagar | Sagar 222 | 0.5 | EH | 5.0 | 5.0 | 2 | 0 | 0 | 5.0 | 5.0 | 2.0 | 0 | 0 |
| 6 | 18.09.24 | Maghrikhada | Chotila | Sur.nagar | Avani 44 | 1.0 | EH | 5.0 | 5.0 | 5 | 1 | 1 | 5.0 | 5.0 | 2.0 | 0 | 0 |
| 7 | 18.09.24 | Nanakandhasar | Chotila | Sur.nagar | Avani 44 | 1.0 | EH | 5.0 | 5.0 | 5 | 1 | 1 | 5.0 | 5.0 | 2.0 | 1 | 1 |
| 8 | 18.09.24 | Vanki | Chotila | Sur.nagar | Sagar 222 | 0.5 | EH | 5.0 | 0.0 | 1 | 1 | 2 | 10.0 | 6.0 | 2.0 | 1 | 1 |
| 9 | 18.09.24 | Shapur | Chotila | Sur.nagar | Sagar 222 | 0.5 | EH | 20.0 | 5.0 | 1 | 0 | 0 | 5.0 | 5.0 | 2.0 | 1 | 1 |
| 10 | 18.09.24 | Hadala | Sayla | Sur.nagar | Sagar 222 | 1.0 | EH | 10.0 | 5.0 | 1 | 1 | 1 | 0.0 | 6.0 | 1.0 | 0 | 0 |
| 11 | 18.09.24 | Dhedhuki | Sayla | Sur.nagar | Sagar 222 | 1.0 | EH | 10.0 | 5.0 | 1 | 1 | 5 | 5.0 | 6.0 | 3.0 | 1 | 2 |
| 12 | 18.09.24 | Aya | Sayla | Sur.nagar | Sagar 222 | 1.0 | EH | 10.0 | 5.0 | 5 | 1 | 10 | 5.0 | 4.0 | 1.0 | 1 | 1 |
| 13 | 18.09.24 | Doliya | Sayla | Sur.nagar | Sagar 222 | 1.0 | EH | 10.0 | 0.0 | 4 | 1 | 5 | 10.0 | 5.0 | 2.0 | 2 | 2 |
| 14 | 18.09.24 | Gosal | Sayla | Sur.nagar | Avani 44 | 1.0 | EH | 10.0 | 10.0 | 5 | 1 | 6 | 5.0 | 4.0 | 1.0 | 1 | 0 |
| 15 | 18.09.24 | Sayla | Sayla | Sur.nagar | Avani 45 | 1.0 | EH | 10.0 | 5.0 | 10 | 0 | 5 | 5.0 | 4.0 | 3.0 | 3 | 0 |
| 16 | 18.09.24 | Navimorwad | Chuda | Sur.nagar | Avani 46 | 1.0 | EH | 10.0 | 5.0 | 5 | 0 | 2 | 5.0 | 5.0 | 2.0 | 1 | 0 |
| 17 | 18.09.24 | Limbdi | Sur.nagar | Sur.nagar | Sagar 222 | 1.0 | EH | 15.0 | 5.0 | 5 | 2 | 5 | 5.0 | 5.0 | 2.0 | 4 | 0 |
| 18 | 18.09.24 | Isnav | Sojitra | Anand | 86M20 | 1.0 | EH | 10.0 | 10.0 | 25 | 1 | 5 | 5.0 | 2.0 | 3.0 | 2 | 2 |
| 19 | 18.09.24 | Sunav | Petlad | Anand | DNA 145 | 1.0 | EH | 5.0 | 15.0 | 20 | 2 | 7 | 10.0 | 3.0 | 4.0 | 5 | 4 |
| 20 | 18.09.24 | Piplav | Sojitra | Anand | Sagar 222 | 1.0 | EH | 5.0 | 10.0 | 15 | 2 | 6 | 5.0 | 3.0 | 5.0 | 7 | 3 |
| 21 | 18.09.24 | Naar | Petlad | Anand | 86M22 | 1.0 | EH | 10.0 | 10.0 | 25 | 1 | 4 | 5.0 | 4.0 | 4.0 | 8 | 5 |
| 22 | 18.09.24 | Dali | Borsad | Anand | Triveni 972 | 1.0 | EH | 5.0 | 15.0 | 30 | 3 | 5 | 5.0 | 4.0 | 6.0 | 9 | 4 |
| 23 | 18.09.24 | Sojitra | Sojitra | Anand | Avani 44 | 1.0 | EH | 10.0 | 10.0 | 15 | 5 | 8 | 5.0 | 5.0 | 5.0 | 10 | 6 |
| 24 | 18.09.24 | Rauli | Petlad | Anand | Ekta 31 | 1.0 | EH | 15.0 | 10.0 | 20 | 4 | 9 | 10.0 | 6.0 | 4.0 | 12 | 5 |
| 25 | 18.09.24 | Ravipura | Petlad | Anand | Kedar 888 | 1.0 | EH | 10.0 | 10.0 | 25 | 3 | 10 | 5.0 | 2.0 | 7.0 | 5 | 4 |
| 26 | 18.09.24 | Palaj | Petlad | Anand | 86M20 | 1.0 | EH | 10.0 | 5.0 | 12 | 2 | 12 | 5.0 | 4.0 | 6.0 | 4 | 5 |
| 27 | 18.09.24 | Ishwarda | Petlad | Anand | 86M22 | 1.0 | EH | 5.0 | 10.0 | 14 | 5 | 4 | 5.0 | 3.0 | 5.0 | 15 | 6 |
| 28 | 18.09.24 | Mehelav | Petlad | Anand | Avani 44 | 1.0 | EH | 5.0 | 10.0 | 15 | 4 | 15 | 5.0 | 2.0 | 6.0 | 10 | 5 |
| 29 | 18.09.24 | Bandhani | Petlad | Anand | Adittya 755 | 1.0 | EH | 5.0 | 10.0 | 25 | 3 | 10 | 10.0 | 2.0 | 5.0 | 10 | 7 |
| 30 | 30.09.24 | Juna katariya | Bhachau | Kutch | Sagar 222 | 1.0 | EH | 5.0 | 5.0 | 5 | 15 | 2 | 10.0 | 3.0 | 2.0 | 2 | 1 |
| 31 | 30.09.24 | Lakadiaya | Bhachau | Kutch | Sagar 222 | 1.0 | EH | 5.0 | 5.0 | 4 | 6 | 5 | 10.0 | 3.0 | 2.0 | 2 | 1 |
| 2 | 30.09.24 | Nava Katariya | Bhachau | Kutch | Avani | 1.0 | EH | 5.0 | 5.0 | 10 | 2 | 2 | 15.0 | 2.0 | 2.0 | 1 | 1 |
| 33 | 30.09.24 | Samakhiyali | Bhachau | Kutch | Avani | 1.0 | EH | 5.0 | 5.0 | 5 | 5 | 5 | 20.0 | 3.0 | 1.0 | 1 | 1 |
| 34 | 30.09.24 | Chandarani | Anjar | Kutch | Desi bajra | 1.0 | EH | 5.0 | 10.0 | 4 | 5 | 2 | 25.0 | 2.0 | 3.0 | 0 | 0 |
| 35 | 30.09.24 | Mevasa | Rapar | Kutch | Sagar 222 | 1.0 | EH | 10.0 | 5.0 | 5 | 5 | 5 | 15.0 | 3.0 | 2.0 | 0 | 0 |
| 36 | 30.09.24 | Gagodar | Rapar | Kutch | Sagar 222 | 1.0 | EH | 10.0 | 5.0 | 5 | 7 | 10 | 10.0 | 3.0 | 2.0 | 1 | 1 |
| 37 | 30.09.24 | Mangadh | Rapar | Kutch | Sagar 222 | 1.0 | EH | 5.0 | 5.0 | 5 | 5 | 5 | 15.0 | 3.0 | 2.0 | 1 | 1 |
| 38 | 30.09.24 | Palasva | Rapar | Kutch | Sagar 222 | 1.0 | EH | 5.0 | 5.0 | 5 | 5 | 5 | 20.0 | 3.0 | 1.0 | 1 | 1 |
| 39 | 30.09.24 | Makhel | Rapar | Kutch | Sagar 222 | 1.0 | EH | 5.0 | 5.0 | 5 | 5 | 5 | 20.0 | 3.0 | 1.0 | 1 | 1 |
| 40 | 30.09.24 | Adesar | Rapar | Kutch | Sagar 222 | 1.0 | EH | 5.0 | 5.0 | 5 | 5 | 5 | 20.0 | 3.0 | 1.0 | 1 | 1 |
| 41 | 30.09.24 | Dungrasan | Kankrej | B.Kantha | 86M22 | 1.0 | EH | 25.0 | 5.0 | 5 | 5 | 2 | 5.0 | 2.0 | 2.0 | 1 | 2 |
| 42 | 30.09.24 | Shihori | Kankrej | B.Kantha | 86M11 | 1.0 | EH | 10.0 | 10.0 | 10 | 7 | 3 | 0.0 | 3.0 | 3.0 | 2 | 0 |

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) | Leaf binder damage % | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | 01.10.24 | Kant | Deesa | B.Kantha | 86M22 | 1.0 | EH | 15.0 | 5.0 | 12 | 9 | 4 | 5.0 | 2.0 | 4.0 | 2 | 1 |
| 44 | 01.10.24 | Chekhla | Palanpur | Banaskantha | Sagar 222 | 1.0 | EH | 20.0 | 5.0 | 15 | 4 | 2 | 0.0 | 4.0 | 5.0 | 3 | 2 |
| 45 | 01.10.24 | Khodla | Palanpur | Banaskantha | 86M22 | 1.0 | EH | 15.0 | 5.0 | 10 | 5 | 5 | 10.0 | 2.0 | 2.0 | 4 | 3 |
| 46 | 01.10.24 | Mudetha | Deesa | Banaskantha | 86M11 | 1.0 | EH | 15.0 | 10.0 | 14 | 6 | 6 | 0.0 | 3.0 | 3.0 | 5 | 4 |
| 47 | 01.10.24 | Khetwa | Deesa | Banaskantha | 86M22 | 1.0 | EH | 20.0 | 5.0 | 12 | 4 | 4 | 0.0 | 2.0 | 3.0 | 2 | 0 |
| 48 | 01.10.24 | Lorwada | Deesa | Banaskantha | Dhanya | 1.0 | EH | 15.0 | 5.0 | 10 | 1 | 5 | 5.0 | 2.0 | 0.0 | 3 | 5 |
| 49 | 01.10.24 | Vaghpura | Deesa | Banaskantha | Nandi75 | 1.0 | EH | 20.0 | 5.0 | 7 | 5 | 4 | 0.0 | 3.0 | 2.0 | 1 | 0 |
| 50 | 01.10.24 | Vadaval | Deesa | Banaskantha | 86M22 | 1.0 | EH | 15.0 | 10.0 | 19 | 2 | 2 | 5.0 | 4.0 | 0.0 | 2 | 4 |
| 51 | 01.10.24 | Kunpat | Deesa | Banaskantha | 86M22 | 1.0 | EH | 15.0 | 5.0 | 20 | 3 | 3 | 10.0 | 5.0 | 3.0 | 0 | 0 |
| 52 | 01.10.24 | Malgadh | Deesa | Banaskantha | 86M11 | 1.0 | EH | 20.0 | 10.0 | 15 | 15 | 4 | 5.0 | 2.0 | 0.0 | 0 | 2 |
| 53 | 01.10.24 | Akhol | Deesa | Banaskantha | Kaveri | 1.0 | EH | 10.0 | 10.0 | 14 | 5 | 8 | 5.0 | 2.0 | 5.0 | 0 | 0 |
| 54 | 01.10.24 | Vaghrol | Dantiwada | Banaskantha | Nandi75 | 1.0 | EH | 15.0 | 5.0 | 10 | 10 | 4 | 0.0 | 3.0 | 0.0 | 5 | 2 |
| 55 | 01.10.24 | Motibhakhar | Dantiwada | Banaskantha | 86M22 | 1.0 | EH | 10.0 | 10.0 | 8 | 5 | 5 | 0.0 | 1.0 | 6.0 | 0 | 2 |
| 56 | 01.10.24 | Nanibhakhar | Dantiwada | Banaskantha | Sagar 222 | 1.0 | EH | 15.0 | 5.0 | 4 | 9 | 6 | 0.0 | 1.0 | 0.0 | 1 | 3 |
| 57 | 01.10.24 | Dabhipura | Dantiwada | Banaskantha | 86M22 | 1.0 | EH | 20.0 | 5.0 | 5 | 8 | 6 | 5.0 | 0.0 | 0.0 | 2 | 5 |
| 58 | 01.10.24 | Dantiwada | Dantiwada | Banaskantha | 86M11 | 1.0 | EH | 15.0 | 10.0 | 8 | 7 | 5 | 5.0 | 1.0 | 1.0 | 2 | 4 |
| 59 | 01.10.24 | Ganeshpura | Dantiwada | Banaskantha | 86M22 | 1.0 | EH | 10.0 | 10.0 | 9 | 6 | 5 | 5.0 | 1.0 | 2.0 | 0 | 3 |
| 60 | 01.10.24 | Neelpur | Dantiwada | Banaskantha | Dhanya | 1.0 | EH | 20.0 | 5.0 | 6 | 5 | 4 | 5.0 | 0.0 | 0.0 | 3 | 0 |
| 61 | 01.10.24 | Dangiya | Dantiwada | Banaskantha | 86M22 | 1.0 | EH | 15.0 | 5.0 | 5 | 8 | 4 | 5.0 | 1.0 | 2.0 | 5 | 0 |
| 62 | 01.10.24 | Madana | Palanpur | Banaskantha | Sagar 222 | 1.0 | EH | 20.0 | 15.0 | 4 | 7 | 3 | 0.0 | 2.0 | 3.0 | 8 | 5 |
| 63 | 01.10.24 | Chandisar | Palanpur | Banaskantha | Kaveri | 1.0 | EH | 10.0 | 5.0 | 5 | 4 | 2 | 0.0 | 2.0 | 2.0 | 0 | 4 |
| 64 | 01.10.24 | Kushkal | Palanpur | Banaskantha | Dhanya | 1.0 | EH | 15.0 | 10.0 | 5 | 6 | 1 | 0.0 | 2.0 | 2.0 | 4 | 2 |
| 65 | 01.10.24 | Badarpura | Vadgam | Banaskantha | 86M11 | 1.0 | EH | 10.0 | 5.0 | 5 | 8 | 0 | 0.0 | 1.0 | 3.0 | 0 | 2 |
| 66 | 01.10.24 | Chadotar | Palanpur | Banaskantha | 86M11 | 1.0 | EH | 15.0 | 5.0 | 4 | 5 | 1 | 0.0 | 1.0 | 1.0 | 1 | 3 |
| 67 | 01.10.24 | Jodnapura | Palanpur | Banaskantha | 86M11 | 1.0 | EH | 15.0 | 5.0 | 8 | 7 | 2 | 5.0 | 2.0 | 2.0 | 2 | 1 |
| 68 | 01.10.24 | Sherpura | Deesa | Banaskantha | Sagar 222 | 1.0 | EH | 10.0 | 5.0 | 5 | 6 | 4 | 5.0 | 2.0 | 3.0 | 0 | 0 |
| 69 | 01.10.24 | Rajosana | Vadgam | Banaskantha | Nandi75 | 1.0 | EH | 10.0 | 10.0 | 4 | 5 | 5 | 5.0 | 1.0 | 2.0 | 5 | 1 |
| 70 | 01.10.24 | Teniwada | Vadgam | Banaskantha | Dhanya | 1.0 | EH | 15.0 | 5.0 | 5 | 10 | 6 | 5.0 | 1.0 | 3.0 | 0 | 0 |
| 71 | 01.10.24 | Chapi | Vadgam | Banaskantha | 86M11 | 1.0 | EH | 20.0 | 5.0 | 5 | 2 | 4 | 5.0 | 5.0 | 1.0 | 6 | 2 |
| 72 | 9/27/2024 | Navli | Anand | Anand | Dhany | 0.5 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 73 | 9/27/2024 | Navli | Anand | Anand | Sagar 222 | 0.9 | E.H. | 5.00 | 2.00 | 0.00 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0.00 | 0.00 |
| 74 | 9/27/2024 | Napad | Anand | Anand | Advanta 555 | 0.8 | E.H. | 5.00 | 15.00 | 1.00 | 0 | 0 | 5.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 75 | 9/27/2024 | Khadol | Anklav | Anand | Dhany 555 | 0.5 | E.H. | 5.00 | 10.00 | 1.00 | 0 | 0 | 3.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 76 | 9/27/2024 | Khadol | Anklav | Anand | Advanta | 0.2 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 77 | 9/27/2024 | Asodar | Anklav | Anand | Dhany 555 | 0.4 | E.H. | 5.00 | 10.00 | 1.00 | 0 | 0 | 3.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 78 | 9/27/2024 | Mujkuva | Anklav | Anand | Advanta | 0.4 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 79 | 9/27/2024 | Mujkuva | Anklav | Anand | Pionear | 0.6 | E.H. | 5.00 | 10.00 | 0.00 | 0 | 0 | 2.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 80 | 9/27/2024 | Kosindra | Sankheda | Vadodara | Desi | 0.4 | E.H. | 20.00 | 20.00 | 4.00 | 0 | 0 | 15.00 | 0.0 | 3.00 | 2.00 | 1.00 |
| 81 | 9/27/2024 | Kosindra | Sankheda | Vadodara | Desi | 0.7 | E.H. | 15.00 | 20.00 | 3.00 | 0 | 0 | 15.00 | 0.0 | 3.00 | 1.00 | 0.00 |
| 82 | 9/27/2024 | Kosindra | Sankheda | Vadodara | Desi | 0.1 | E.H. | 15.00 | 20.00 | 3.00 | 0 | 0 | 10.00 | 0.0 | 3.00 | 1.00 | 0.00 |
| 83 | 9/27/2024 | Sundarana | Petlad | Anand | Sagar | 0.5 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0.00 | 0.00 |
| 84 | 9/27/2024 | Sundarana | Petlad | Anand | Sagar | 0.7 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0.00 | 0.00 |
| 85 | 9/27/2024 | Sundarana | Petlad | Anand | Pionear | 0.7 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 2.00 | 0.0 | 1.00 | 0.00 | 0.00 |

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) | Leaf binder damage % | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 86 | 9/27/2024 | Shahpur | Petlad | Anand | Advanta 5151 | 1.1 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 87 | 9/27/2024 | Shahpur | Petlad | Anand | Pionear | 0.9 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 2.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 88 | 9/27/2024 | Fangani | Petlad | Anand | Pionear | 1.2 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 2.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 89 | 9/27/2024 | Fangani | Petlad | Anand | Balram 222 | 0.4 | E.H. | 5.00 | 15.00 | 1.00 | 0 | 0 | 5.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 90 | 9/27/2024 | Sihol | Petlad | Anand | 86M84 | 0.3 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 91 | 9/27/2024 | Sandesar | Anand | Anand | Sagar 222 | 0.2 | E.H. | 0.00 | 0.00 | 0.00 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0.00 | 0.00 |
| 92 | 9/27/2024 | Sandesar | Anand | Anand | Desi | 0.1 | E.H. | 15.00 | 20.00 | 3.00 | 0 | 0 | 10.00 | 0.0 | 3.00 | 1.00 | 0.00 |
| 93 | 10/4/2024 | Valasan | Anand | Anand | Advanta | 0.5 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 94 | 10/4/2024 | Valasan | Anand | Anand | Balram | 0.9 | E.H. | 5.00 | 10.00 | 1.00 | 0 | 0 | 5.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 95 | 10/4/2024 | Bandhani | Petlad | Anand | Desi | 0.8 | E.H. | 15.00 | 15.00 | 3.00 | 0 | 0 | 10.00 | 0.0 | 3.00 | 1.00 | 0.00 |
| 96 | 10/4/2024 | Mahelav | Petlad | Anand | 86M11 | 0.5 | E.H. | 15.00 | 15.00 | 2.00 | 0 | 0 | 10.00 | 0.0 | 2.00 | 1.00 | 1.00 |
| 97 | 10/4/2024 | Mahelav | Petlad | Anand | 86M11 | 0.2 | E.H. | 15.00 | 15.00 | 2.00 | 0 | 0 | 10.00 | 0.0 | 2.00 | 1.00 | 0.00 |
| 98 | 10/4/2024 | Padgol | Petlad | Anand | Desi | 0.4 | E.H. | 15.00 | 15.00 | 3.00 | 0 | 0 | 10.00 | 0.0 | 3.00 | 1.00 | 0.00 |
| 99 | 10/4/2024 | Akhdol | Nadiad | Kheda | Balram | 0.4 | E.H. | 5.00 | 15.00 | 1.00 | 0 | 0 | 5.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 100 | 10/4/2024 | Akhdol | Nadiad | Kheda | Pionear | 0.6 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 2.00 | 0.0 | 1.00 | 0.00 | 0.00 |
| 101 | 10/4/2024 | Bamroli | Petlad | Anand | 86M84 | 0.4 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 102 | 10/4/2024 | Jol | Anand | Anand | 86M84 | 0.7 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 103 | 10/7/2024 | Dalapura | Anand | Anand | Desi | 0.1 | E.H. | 15.00 | 15.00 | 3.00 | 0 | 0 | 10.00 | 0.0 | 3.00 | 1.00 | 0.00 |
| 104 | 10/7/2024 | Tarapur | Tarapur | Anand | Pionear | 0.5 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 1.00 | 0.0 | 0.00 | 0.00 | 0.00 |
| 105 | 10/7/2024 | Lingda | Umreth | Anand | Pionear | 0.2 | E.H. | 5.00 | 5.00 | 0.00 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0.00 | 0.00 |
| 106 | 10/7/2024 | Pandvania | Thasra | Kheda | 86M84 | 0.4 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 107 | 10/7/2024 | Dhunadara | Thasra | Kheda | 86M84 | 0.4 | E.H. | 10.00 | 15.00 | 2.00 | 0 | 0 | 5.00 | 0.0 | 2.00 | 0.00 | 0.00 |
| 108 | 10/7/2024 | Khambholaj | Anand | Anand | Desi | 0.6 | E.H. | 15.00 | 15.00 | 3.00 | 0 | 0 | 10.00 | 0.0 | 3.00 | 1.00 | 0.00 |
| 109 | 10/7/2024 | Sarsa | Anand | Anand | Desi | 0.4 | E.H. | 15.00 | 15.00 | 2.00 | 0 | 0 | 10.00 | 0.0 | 2.00 | 1.00 | 1.00 |
| | | | | | | | **Mini.** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| | | | | | | | **Maxi.** | **25.00** | **20.00** | **30.00** | **15.00** | **15.00** | **25.00** | **7.00** | **7.00** | **15.00** | **7.00** |
| | | | | | | | **Mean** | **10.60** | **8.73** | **6.50** | **2.83** | **2.99** | **5.98** | **2.04** | **2.17** | **1.90** | **1.28** |

**Table V.4b: PMET-3: District wise insect pest situation on farmer's field in pearl millet in Gujarat (Centre: Jamnagar & Anand)**

| Districts/pockets | Shoot fly % | Stem borer % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) | Leaf binder damage % | Lady bird beetle/5 Pl. | Chrysopa/ 5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|
| **1. Surendranagar** | 10.00 | 5.29 | 5.00 | 1.18 | 3.59 | 5.29 | **5.18** | 2.00 | 1.06 | 0.59 |
| **2. Anand** | 8.90 | 11.74 | 5.96 | 0.70 | 1.90 | 5.64 | 0.80 | 2.38 | **2.18** | 1.18 |
| **3. Kutch** | 5.91 | 5.45 | 5.27 | 5.91 | **4.64** | **16.36** | 2.82 | 1.73 | 1.00 | 0.82 |
| **4. Banaskantha** | 15.32 | 6.94 | **8.65** | **6.10** | 3.84 | 3.23 | 2.03 | 2.10 | 2.23 | **2.00** |
| **5. Kheda** | 7.50 | 12.50 | 1.25 | 0.00 | 0.00 | 4.25 | 0.00 | 1.50 | 0.00 | 0.00 |
| **6. Vadodara** | **16.67** | **20.00** | 0.00 | 0.00 | 0.00 | 13.33 | 0.00 | **3.00** | 1.33 | 0.33 |

**Table V.4 c: PMET-3: Survey of insect pests of *kharif* pearl millet crop on farmer's fields (Centre: Jaipur & Fatehpur Shekhawati in Rajasthan)**

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grasshopper % damage | Grey weevil damage score (0-10) | Leaf binder damage score (0-10) | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15.07.24 | Madhopura | Palsana | Sikar | Proagro9444 | 1.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.0 | 2.0 | 0.0 | 1.0 | 0.0 |
| 2 | 15.07.24 | Madhopura | Palsana | Sikar | Proagro | 2.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.0 | 1.0 | 0.0 | 1.0 | 1.0 |
| 3 | 15.07.24 | Todi Madhopura | Palsana | Sikar | Proagro9444 | 1.0 | V.S. | 10.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 4 | 15.07.24 | Todi Madhopura | Palsana | Sikar | Proagro9444 | 1.0 | V.S. | 10.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 5 | 15.07.24 | Bagdiyon ki dhani | Palsana | Sikar | Proagro9444 | 1.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.0 | 1.0 | 0.0 | 0.0 | 1.0 |
| 6 | 15.07.24 | Bagdiyon ki dhani | Palsana | Sikar | Proagro9444 | 1.5 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 7 | 15.07.24 | Bagdiyon ki dhani | Palsana | Sikar | Proagro9444 | 1.5 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 8 | 15.07.24 | Kalakhet | Palsana | Sikar | Balwan | 1.5 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 9 | 15.07.24 | Kalakhet | Palsana | Sikar | Balwan | 1.5 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 10 | 15.07.24 | Kalakhet | Palsana | Sikar | Proagro9444 | 2.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 11 | 15.07.24 | Kalakhet | Palsana | Sikar | Balwan | 5.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 12 | 15.07.24 | Kalakhet | Palsana | Sikar | Balwan | 5.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 13 | 15.07.24 | Shob | Palsana | Sikar | Proagro9444 | 2.0 | V.S. | 10.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 14 | 15.07.24 | Palasara | Palsana | Sikar | Proagro9444 | 1.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 2.0 | 0.0 | 0.0 | 1.0 |
| 15 | 15.07.24 | Palasara | Palsana | Sikar | Proagro9444 | 2.0 | V.S. | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 16 | 15.07.24 | Shisyu | Palsana | Sikar | Balwan | 3.0 | V.S. | 10.0 | 5.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 20.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 17 | 15.07.24 | Shisyu | Palsana | Sikar | Balwan | 2.0 | V.S. | 10.0 | 5.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 20.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 18 | 15.07.24 | Ranoli | Palsana | Sikar | Proagro9444 | 1.5 | V.S. | 10.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 19 | 15.07.24 | Ranoli | Palsana | Sikar | Proagro9444 | 1.0 | V.S. | 10.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 20 | 15.07.24 | Ranoli | Palsana | Sikar | Proagro9444 | 1.0 | V.S. | 10.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 21 | 15.07.24 | Ranoli | Palsana | Sikar | Desi | 1.5 | V.S. | 10.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 22 | 15.07.24 | Ranoli | Palsana | Sikar | Desi | 1.5 | V.S. | 10.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 23 | 15.07.24 | Ajabpura | Palsana | Sikar | Proagro9444 | 4.0 | V.S. | 15.0 | 5.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 15.0 | 2.0 | 0.0 | 1.0 | 1.0 |
| 24 | 15.07.24 | Tapipalya | Khandela | Sikar | Balwan | 2.0 | V.S. | 15.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 25 | 15.07.24 | Kotdi Dhaylan | Khandela | Sikar | Proagro9444 | 2.3 | V.S. | 15.0 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 26 | 15.07.24 | Kotdi Dhaylan | Khandela | Sikar | Proagro9444 | 1.8 | V.S. | 15.0 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 27 | 15.07.24 | Kotdi Dhaylan | Khandela | Sikar | Proagro9444 | 2.0 | V.S. | 15.0 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 28 | 15.07.24 | Dadiyarampura | Khandela | Sikar | Proagro9444 | 2.0 | V.S. | 10.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 10.0 | 2.0 | 0.0 | 0.0 | 1.0 |
| 29 | 15.07.24 | Dadiyarampura | Khandela | Sikar | Proagro9444 | 1.6 | V.S. | 10.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 10.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 30 | 15.07.24 | Purohiton ka baas | Khandela | Sikar | Proagro 9444 | 1.5 | V.S. | 10.0 | 15.0 | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 1.0 | 0.0 |
| 31 | 15.07.24 | Purohiton ka baas | Khandela | Sikar | Proagro 9444 | 2.0 | V.S. | 10.0 | 10.0 | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 3.0 | 1.0 |
| 32 | 15.07.24 | Devipura | Khandela | Sikar | Desi | 2.5 | V.S. | 15.0 | 10.0 | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 15.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 33 | 15.07.24 | Bassi | Khandela | Sikar | Proagro | 3.0 | V.S. | 10.0 | 10.0 | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 10.0 | 1.0 | 0.0 | 0.0 | 1.0 |

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle / 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) | Leaf binder damage score (0-10) | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 15.07.24 | Pujari ka baas | Khandela | Sikar | Proagro | 2.0 | V.S. | 10.0 | 5.0 | 15.0 | 5.0 | 0.0 | 0.0 | 0.0 | 15.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 35 | 25.07.24 | Garinda | Fatehpur | Sikar | Desi | 1.6 | V.S. | 35.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 | 1.0 |
| 36 | 25.07.24 | Garinda | Fatehpur | Sikar | Desi | 1.0 | V.S. | 35.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 2.0 | 0.0 | 0.0 |
| 37 | 25.07.24 | Garinda | Fatehpur | Sikar | Balwan | 1.5 | V.S. | 30.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 1.0 | 1.0 | 0.0 |
| 38 | 25.07.24 | Garinda | Fatehpur | Sikar | Desi | 1.2 | V.S. | 40.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 3.0 | 1.0 | 1.0 |
| 39 | 25.07.24 | Harsawa | Fatehpur | Sikar | Desi | 1.3 | V.S. | 30.0 | 20.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 1.0 | 1.0 | 0.0 |
| 40 | 25.07.24 | Harsawa | Fatehpur | Sikar | Balwan | 1.5 | V.S. | 30.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 1.0 | 0.0 | 0.0 |
| 41 | 25.07.24 | Harsawa | Fatehpur | Sikar | Desi | 1.1 | V.S. | 40.0 | 20.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 1.0 |
| 42 | 25.07.24 | Harsawa | Fatehpur | Sikar | Proagro9444 | 1.9 | V.S. | 40.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 1.0 |
| 43 | 25.07.24 | Harsawa | Fatehpur | Sikar | Desi | 1.5 | V.S. | 40.0 | 15.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 2.0 | 0.0 | 1.0 |
| 44 | 25.07.24 | Rinau | Fatehpur | Sikar | Proagro9444 | 1.0 | V.S. | 30.0 | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 0.0 | 0.0 |
| 45 | 25.07.24 | Rinau | Fatehpur | Sikar | Local | 1.5 | V.S. | 30.0 | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 0.0 | 0.0 |
| 46 | 25.07.24 | Rinau | Fatehpur | Sikar | Proagro9444 | 1.9 | V.S. | 30.0 | 10.0 | 10.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 1.0 | 0.0 |
| 47 | 25.07.24 | Rinau | Fatehpur | Sikar | local | 2.0 | V.S. | 25.0 | 10.0 | 10.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 1.0 | 0.0 |
| 48 | 25.07.24 | Rinau | Fatehpur | Sikar | local | 2.5 | V.S. | 25.0 | 10.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 1.0 | 1.0 |
| 49 | 25.07.24 | Rinau | Fatehpur | Sikar | local | 1.0 | V.S. | 30.0 | 10.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 1.0 | 1.0 |
| 50 | 25.07.24 | Chuwas | Fatehpur | Sikar | local | 1.5 | V.S. | 25.0 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 1.0 |
| 51 | 25.07.24 | Chuwas | Fatehpur | Sikar | local | 1.4 | V.S. | 25.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| 52 | 25.07.24 | Chuwas | Fatehpur | Sikar | local | 1.6 | V.S. | 25.0 | 5.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 1.0 |
| 53 | 25.07.24 | Chuwas | Fatehpur | Sikar | Balwan | 1.2 | V.S. | 25.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| 54 | 25.07.24 | Chuwas | Fatehpur | Sikar | Balwan | 2.0 | V.S. | 20.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 0.0 | 0.0 |
| 55 | 25.07.24 | Chuwas | Fatehpur | Sikar | Desi | 1.5 | V.S. | 20.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 0.0 | 0.0 |
| 56 | 25.07.24 | Chuwas | Fatehpur | Sikar | Balwan | 1.0 | V.S. | 25.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 0.0 | 0.0 |
| 57 | 25.07.24 | Bathond | Fatehpur | Sikar | Desi | 1.0 | V.S. | 30.0 | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 |
| 58 | 25.07.24 | Bathond | Fatehpur | Sikar | Desi | 1.5 | V.S. | 30.0 | 5.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 59 | 25.07.24 | Bathond | Fatehpur | Sikar | Desi | 2.0 | V.S. | 30.0 | 5.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 1.0 | 0.0 |
| 60 | 25.07.24 | Bathond | Fatehpur | Sikar | Desi | 2.7 | V.S. | 25.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| 61 | 25.07.24 | Bathond | Fatehpur | Sikar | Desi | 1.0 | V.S. | 25.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| 62 | 25.07.24 | Bathond | Fatehpur | Sikar | Desi | 1.0 | V.S. | 25.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 2.0 |
| 63 | 25.07.24 | Jalalsar | Fatehpur | Sikar | Balwan | 1.0 | V.S. | 20.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| 64 | 25.07.24 | Jalalsar | Fatehpur | Sikar | Local | 1.0 | V.S. | 20.0 | 10.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 1.0 | 0.0 | 0.0 |
| 65 | 25.07.24 | Jalalsar | Fatehpur | Sikar | Proaro9444 | 1.0 | V.S. | 15.0 | 10.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 1.0 | 0.0 | 0.0 |
| 66 | 25.07.24 | Jalalsar | Fatehpur | Sikar | Balwan | 1.5 | V.S. | 20.0 | 15.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 1.0 | 0.0 | 0.0 |
| 67 | 25.07.24 | Jalalsar | Fatehpur | Sikar | Balwan | 1.2 | V.S. | 30.0 | 15.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 1.0 | 0.0 | 0.0 |
| 68 | 25.07.24 | Jalalsar | Fatehpur | Sikar | Balwan | 1.2 | V.S. | 15.0 | 15.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 69 | 25.07.24 | Narsara | Fatehpur | Sikar | Desi | 3.0 | V.S. | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 1.0 | 1.0 | 1.0 |
| 70 | 25.07.24 | Narsara | Fatehpur | Sikar | Desi | 2.0 | V.S. | 20.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 71 | 21.08.24 | Garinda | Fatehpur | Sikar | Desi | 1.6 | E.H. | 20.0 | 0.0 | 0.0 | 5.0 | 35.0 | 5.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 1.0 |
| 72 | 21.08.24 | Garinda | Fatehpur | Sikar | Desi | 1.0 | E.H. | 15.0 | 0.0 | 0.0 | 5.0 | 30.0 | 6.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 73 | 21.08.24 | Garinda | Fatehpur | Sikar | Desi | 1.2 | E.H. | 15.0 | 0.0 | 0.0 | 5.0 | 29.0 | 9.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| 74 | 22.08.24 | Harsawa | Fatehpur | Sikar | Desi | 1.3 | E.H. | 15.0 | 0.0 | 0.0 | 5.0 | 28.0 | 8.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 75 | 22.08.24 | Harsawa | Fatehpur | Sikar | Balwan | 1.5 | E.H. | 10.0 | 0.0 | 0.0 | 5.0 | 30.0 | 8.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle / 5 E.H. | Grasshopper % damage | Grey weevil damage score (0-10) | Leaf binder damage score (0-10) | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76 | 22.08.24 | Harsawa | Fatehpur | Sikar | Proagro9444 | 2.0 | E.H. | 15.0 | 0.0 | 0.0 | 5.0 | 15.0 | 7.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 |
| 77 | 22.08.24 | Harsawa | Fatehpur | Sikar | Desi | 1.5 | E.H. | 10.0 | 0.0 | 0.0 | 5.0 | 26.0 | 8.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 |
| 78 | 24.08.24 | Rinau | Fatehpur | Sikar | Proagro9444 | 2.0 | E.H. | 10.0 | 0.0 | 0.0 | 0.0 | 14.0 | 5.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 79 | 24.08.24 | Rinau | Fatehpur | Sikar | Local | 2.0 | E.H. | 10.0 | 0.0 | 0.0 | 0.0 | 17.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 80 | 24.08.24 | Rinau | Fatehpur | Sikar | local | 2.0 | E.H. | 10.0 | 0.0 | 0.0 | 5.0 | 10.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| 81 | 24.08.24 | Rinau | Fatehpur | Sikar | local | 2.5 | E.H. | 15.0 | 0.0 | 0.0 | 5.0 | 11.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 82 | 24.08.24 | Rinau | Fatehpur | Sikar | local | 2.0 | E.H. | 5.0 | 0.0 | 0.0 | 5.0 | 9.0 | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 83 | 26.08.24 | Chuwas | Fatehpur | Sikar | local | 1.5 | E.H. | 5.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 |
| 84 | 02.09.2024 | Bathond | Fatehpur | Sikar | Desi | 2.0 | E.H. | 5.0 | 0.0 | 0.0 | 5.0 | 10.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 1.0 | 0.0 |
| 85 | 2.09.24 | Bathond | Fatehpur | Sikar | Desi | 2.7 | E.H. | 10.0 | 0.0 | 0.0 | 0.0 | 45.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 |
| 86 | 2.09.24 | Bathond | Fatehpur | Sikar | Desi | 1.0 | E.H. | 10.0 | 0.0 | 0.0 | 5.0 | 4.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| 87 | 2.09.24 | Bathond | Fatehpur | Sikar | Desi | 2.0 | E.H. | 10.0 | 0.0 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 88 | 07.09.24 | Jalalsar | Fatehpur | Sikar | Balwan | 1.0 | E.H. | 15.0 | 0.0 | 0.0 | 0.0 | 15.0 | 5.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| 89 | 07.09.24 | Jalalsar | Fatehpur | Sikar | local | 1.5 | E.H. | 10.0 | 0.0 | 0.0 | 0.0 | 8.0 | 6.0 | 0.0 | 0.0 | 1.0 | 2.0 | 1.0 | 0.0 |
| 90 | 07.09.24 | Jalalsar | Fatehpur | Sikar | local | 1.5 | E.H. | 15.0 | 0.0 | 0.0 | 0.0 | 10.0 | 5.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| 91 | 07.09.24 | Jalalsar | Fatehpur | Sikar | Proagro | 2.0 | E.H. | 10.0 | 0.0 | 0.0 | 0.0 | 14.0 | 9.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 92 | 4.10.24 | Khejrawas | Phulera | Jaipur | Pioneer 86M90 | 1.00 | E.H. | 10.00 | 0.00 | 10.00 | 2.00 | 0.0 | 0.0 | 0.0 | 5.00 | 0.0 | 2 | 0.0 | 0.0 |
| 93 | 4.10.24 | Pratappura Kishangarh | Renwal | Jaipur | unknown hybrid | 0.50 | E.H. | 8.00 | 0.00 | 6.00 | 10.00 | 2.0 | 0.0 | 0.0 | 8.00 | 0.0 | 1 | 0.0 | 0.0 |
| 94 | 4.10.24 | Kalyanpura | Danta Ramgarh | Sikar | unknown hybrid | 1.50 | E.H. | 5.00 | 0.00 | 0.00 | 10.00 | 0.0 | 0.0 | 0.0 | 12.00 | 0.0 | 2 | 0.0 | 0.0 |
| 95 | 4.10.24 | Kuli | Danta Ramgarh | Sikar | unknown hybrid | 0.75 | E.H. | 5.00 | 10.00 | 8.00 | 5.00 | 2.0 | 0.0 | 0.0 | 10.00 | 0.0 | 1 | 0.0 | 0.0 |
| 96 | 4.10.24 | Sundriya | Danta Ramgarh | Sikar | unknown hybrid | 1.20 | E.H. | 6.00 | 2.00 | 10.00 | 15.00 | 2.0 | 0.0 | 0.0 | 15.00 | 0.0 | 1 | 0.0 | 0.0 |
| 97 | 4.10.24 | Danta | Danta Ramgarh | Sikar | unknown hybrid | 1.00 | E.H. | 10.00 | 0.00 | 2.00 | 20.00 | 1.0 | 0.0 | 0.0 | 8.00 | 0.0 | 2 | 0.0 | 0.0 |
| 98 | 4.10.24 | Maganpur,Bay | Danta Ramgarh | Sikar | unknown hybrid | 1.00 | E.H. | 5.00 | 0.00 | 0.00 | 10.00 | 0.0 | 0.0 | 0.0 | 8.00 | 0.0 | 2 | 0.0 | 0.0 |
| 99 | 4.10.24 | Kailash,Bay | Danta Ramgarh | Sikar | unknown hybrid | 1.00 | E.H. | 5.00 | 0.00 | 0.00 | 15.00 | 10.0 | 0.0 | 0.0 | 5.00 | 0.0 | 2 | 0.0 | 0.0 |
| 100 | 4.10.24 | Khatu | Danta Ramgarh | Sikar | unknown hybrid | 1.00 | E.H. | 5.00 | 2.00 | 10.00 | 15.00 | 1.0 | 0.0 | 0.0 | 5.00 | 0.0 | 2 | 0.0 | 0.0 |
| 101 | 4.10.24 | Lampuwa | Danta Ramgarh | Sikar | unknown hybrid | 1.00 | E.H. | 8.00 | 2.00 | 10.00 | 10.00 | 1.0 | 0.0 | 0.0 | 12.00 | 0.0 | 3 | 0.0 | 0.0 |
| 102 | 4.10.24 | Govindgarh | Govindgarh | Jaipur | Kaveri super boss | 1.50 | E.H. | 15.00 | 0.00 | 2.00 | 5.00 | 5.0 | 0.0 | 0.0 | 5.00 | 0.0 | 2 | 0.0 | 0.0 |
| 103 | 5.10.24 | Khori | Bassi | Jaipur | unknown hybrid | 2.50 | E.H. | 5.00 | 2.00 | 10.00 | 10.00 | 2.0 | 0.0 | 0.0 | 15.00 | 0.0 | 1 | 0.0 | 0.0 |
| 104 | 5.10.24 | Gothra | Bassi | Jaipur | unknown hybrid | 1.00 | E.H. | 5.00 | 2.00 | 2.00 | 12.00 | 2.0 | 0.0 | 0.0 | 10.00 | 0.0 | 1 | 0.0 | 0.0 |

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grasshopper % damage | Grey weevil damage score (0-10) | Leaf binder damage score (0-10) | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | 5.10.24 | Reta | Sikandara | Dausa | unknown hybrid | 1.00 | E.H. | 5.00 | 2.00 | 0.00 | 10.00 | 2.0 | 0.0 | 0.0 | 15.00 | 0.0 | 1 | 0.0 | 0.0 |
| 106 | 5.10.24 | Ramgarh | Sikandara | Dausa | unknown hybrid | 1.00 | E.H. | 10.00 | 0.00 | 2.00 | 10.00 | 5.0 | 0.0 | 0.0 | 10.00 | 0.0 | 2 | 0.0 | 0.0 |
| 107 | 5.10.24 | Gidhani | Gangapurcity | Gangapur city | unknown hybrid | 1.20 | E.H. | 5.00 | 5.00 | 0.00 | 10.00 | 2.0 | 0.0 | 0.0 | 10.00 | 0.0 | 2 | 0.0 | 0.0 |
| 108 | 5.10.24 | Gudha Chandraji | Gangapurcity | Gangapur city | unknown hybrid | 1.00 | E.H. | 2.00 | 2.00 | 0.00 | 5.00 | 2.0 | 0.0 | 0.0 | 20.00 | 0.0 | 1 | 0.0 | 0.0 |
| 109 | 5.10.24 | Sahar | Nandoti | Gangapur city | unknown hybrid | 0.60 | E.H. | 2.00 | 2.00 | 0.00 | 5.00 | 5.0 | 0.0 | 0.0 | 12.00 | 0.0 | 0 | 0.0 | 0.0 |
| 110 | 5.10.24 | Vinega | Nandoti | Gangapur city | unknown hybrid | 1.00 | E.H. | 2.00 | 2.00 | 5.00 | 5.00 | 10.0 | 0.0 | 0.0 | 10.00 | 0.0 | 3 | 0.0 | 0.0 |
| 111 | 5.10.24 | Raypur | Nandoti | Gangapur city | unknown hybrid | 1.00 | E.H. | 5.00 | 0.00 | 10.00 | 15.00 | 2.0 | 0.0 | 0.0 | 5.00 | 0.0 | 2 | 0.0 | 0.0 |
| 112 | 5.10.24 | Meri | Vajirpur | Gangapur city | unknown hybrid | 1.00 | E.H. | 2.00 | 2.00 | 2.00 | 5.00 | 30.0 | 0.0 | 0.0 | 5.00 | 0.0 | 1 | 0.0 | 0.0 |
| 113 | 5.10.24 | Haripura | Vajirpur | Gangapur city | unknown hybrid | 1.00 | E.H. | 5.00 | 20.00 | 2.00 | 5.00 | 2.0 | 0.0 | 0.0 | 30.00 | 0.0 | 2 | 0.0 | 0.0 |
| 114 | 5.10.24 | Bahadurpur | Bayana | Karoli | unknown hybrid | 0.80 | E.H. | 5.00 | 2.00 | 2.00 | 2.00 | 5.0 | 5.0 | 0.0 | 10.00 | 0.0 | 0 | 0.0 | 0.0 |
| 115 | 5.10.24 | Milkipur | Bayana | Karoli | unknown hybrid | 1.30 | E.H. | 2.00 | 5.00 | 0.00 | 15.00 | 5.0 | 2.0 | 2.0 | 5.00 | 0.0 | 1 | 0.0 | 0.0 |
| 116 | 6.10.24 | Moraka | Nagar | Bharatpur | unknown hybrid | 1.00 | E.H. | 10.00 | 5.00 | 0.00 | 5.00 | 5.0 | 0.0 | 0.0 | 5.00 | 0.0 | 1 | 0.0 | 0.0 |
| 117 | 6.10.24 | Ranota | Nagar | Bharatpur | unknown hybrid | 1.00 | E.H. | 5.00 | 5.00 | 0.00 | 5.00 | 5.0 | 0.0 | 0.0 | 10.00 | 0.0 | 2 | 0.0 | 0.0 |
| 118 | 6.10.24 | Semla Khurd | Barod Mev | Alwar | unknown hybrid | 1.00 | E.H. | 5.00 | 25.00 | 0.00 | 2.00 | 2.0 | 0.0 | 0.0 | 10.00 | 0.0 | 1 | 0.0 | 0.0 |
| 119 | 6.10.24 | Bagar Mev | Barod Mev | Alwar | unknown hybrid | 1.00 | E.H. | 5.00 | 2.00 | 0.00 | 10.00 | 10.0 | 0.0 | 10.0 | 15.00 | 0.0 | 1 | 0.0 | 0.0 |
| 120 | 6.10.24 | Suheta | Alwar | Alwar | unknown hybrid | 1.00 | E.H. | 5.00 | 2.00 | 0.00 | 5.00 | 10.0 | 0.0 | 0.0 | 5.00 | 0.0 | 1 | 0.0 | 0.0 |
| 121 | 6.10.24 | Tatarpur | khairthal | Alwar | Dhanya 7676 | 1.00 | E.H. | 30.00 | 2.00 | 0.00 | 5.00 | 5.0 | 0.0 | 0.0 | 5.00 | 0.0 | 1 | 0.0 | 0.0 |
| 122 | 6.10.24 | Dhalawas | Bansur | Alwar | Unknown hybrid | 1.20 | E.H. | 5.00 | 5.00 | 0.00 | 5.00 | 2.0 | 0.0 | 0.0 | 30.00 | 0.0 | 2 | 0.0 | 0.0 |
| 123 | 6.10.24 | Alanpur | Mundawar | Alwar | Unknown hybrid | 0.80 | E.H. | 2.00 | 2.00 | 0.00 | 5.00 | 10.0 | 0.0 | 0.0 | 10.00 | 0.0 | 1 | 0.0 | 0.0 |
| 124 | 6.10.24 | Jhajarpur | Mundawar | Alwar | Unknown hybrid | 1.00 | E.H. | 5.00 | 20.00 | 0.00 | 5.00 | 5.0 | 0.0 | 0.0 | 5.00 | 0.0 | 2 | 0.0 | 0.0 |
| 125 | 6.10.24 | Karoda | Kotputli-Behror | Kotputli-Behror | Unknown hybrid | 1.40 | E.H. | 2.00 | 10.00 | 0.00 | 5.00 | 5.0 | 0.0 | 0.0 | 5.00 | 0.0 | 1 | 0.0 | 0.0 |
| 126 | 6.10.24 | Narnol | Behror | Kotputli- | Unknown | 0.50 | E.H. | 5.00 | 2.00 | 5.00 | 0.00 | 0.0 | 0.0 | 0.0 | 10.00 | 0.0 | 0 | 0.0 | 0.0 |

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) | Leaf binder damage score (0-10) | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Behror | hybrid | | | | | | | | | | | | | | |
| 127 | 6.10.24 | Behror | Behror | Kotputli-Behror | Unknown hybrid | 2.00 | E.H. | 10.00 | 5.00 | 0.00 | 20.00 | 2.0 | 0.0 | 10.0 | 20.00 | 0.0 | 0 | 0.0 | 0.0 |
| 128 | 6.10.24 | Goonti | Behror | Kotputli-Behror | Unknown hybrid | 1.00 | E.H. | 5.00 | 2.00 | 0.00 | 10.00 | 2.0 | 0.0 | 10.0 | 25.00 | 0.0 | 0 | 0.0 | 0.0 |
| 129 | 6.10.24 | Mordha | Behror | Kotputli-Behror | Unknown hybrid | 1.00 | E.H. | 5.00 | 10.00 | 0.00 | 2.00 | 2.0 | 0.0 | 0.0 | 10.00 | 0.0 | 2 | 0.0 | 0.0 |
| 130 | 6.10.24 | Pragpura | Pavta | Kotputli-Behror | Unknown hybrid | 1.00 | E.H. | 5.00 | 2.00 | 0.00 | 10.00 | 2.0 | 2.0 | 0.0 | 20.00 | 0.0 | 2 | 0.0 | 0.0 |
| | | | | | | | **Mini.** | **2.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| | | | | | | | **Maxi.** | **40.00** | **25.00** | **15.00** | **20.00** | **45.00** | **9.00** | **10.00** | **30.00** | **3.00** | **3.00** | **3.00** | **2.00** |
| | | | | | | | **Mean** | **14.51** | **5.55** | **2.33** | **4.19** | **4.12** | **0.72** | **0.25** | **7.23** | **0.95** | **1.15** | **0.22** | **0.22** |

**Table V.4 d: PMET-3: District-wise insect-pest situation in Jaipur & Fatehpur-Shekhawati pockets of Rajasthan.**

| District | Shoot fly % | Stem borer % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) | Leaf binder damage score (0-10) | Lady bird beetle/ 5 Pl. | Chrysopa/ 5 Pl. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1. Alwar** | 8.14 | **8.29** | 0.00 | 5.29 | 6.29 | 0.00 | 1.43 | 11.43 | 0.00 | 1.29 | 0.00 | 0.00 |
| **2. Bharatpur** | 7.50 | 5.00 | 0.00 | 5.00 | 5.00 | 0.00 | 0.00 | 7.50 | 0.00 | 1.50 | 0.00 | 0.00 |
| **3. Dausa** | 7.50 | 1.00 | 1.00 | **10.00** | 3.50 | 0.00 | 0.00 | 12.50 | 0.00 | 1.50 | 0.00 | 0.00 |
| **4. Gangapur city** | 3.29 | 4.71 | 2.71 | 7.14 | **7.57** | 0.00 | 0.00 | 13.14 | 0.00 | **1.57** | 0.00 | 0.00 |
| **5. Jaipur** | 8.60 | 0.80 | **6.00** | 7.80 | 2.20 | 0.00 | 0.00 | 8.60 | 0.00 | 1.40 | 0.00 | 0.00 |
| **6. Karauli** | 3.50 | 3.50 | 1.00 | 8.50 | 5.00 | **3.50** | 1.00 | 7.50 | 0.00 | 0.50 | 0.00 | 0.00 |
| **7. Kotputli behror** | 5.33 | 5.17 | 0.83 | 7.83 | 2.17 | 0.33 | **3.33** | **15.00** | 0.00 | 0.83 | 0.00 | 0.00 |
| **8. Sikar** | **17.11** | 5.82 | 2.47 | 3.28 | 3.92 | 0.86 | 0.00 | 5.86 | **1.24** | 1.12 | **0.28** | **0.28** |

**Table V.4 e: PMET-3: Survey of insect pests of *kharif* pearl millet crop on farmer's fields (Centre: Aurangabad)**

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly damage % | Stem borer damage % | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Fall Army Worm % damage | Lady bird beetle/ 5 Pl. | If Any other pest observed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21.08.24 | Konewadi | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0.2 | 0.6 | 20.00 | 0 | Nil |
| 2 | 21.08.24 | Chittepimpalgaon | Pachod | Aurangabad | 88-0-36 | 0.4 | EH | 20.0 | 0.0 | 0 | 0 | 0 | 0 | Nil |
| 3 | 21.08.24 | Koli Bodakha | Pachod | Aurangabad | Local | 0.4 | EH | 40.0 | 0.0 | 0 | 0 | 20 | 0 | Nil |
| 4 | 21.08.24 | Wadigodri | Ambad | Jalna | 9285 | 0.2 | EH | 0.0 | 40.0 | 0 | 0 | 0 | 0 | Nil |
| 5 | 21.08.24 | Rohilagad | Ambad | Jalna | 1717 | 0.6 | EH | 20.0 | 0.0 | 0 | 1 | 20 | 0 | Nil |
| 6 | 21.08.24 | Rohilagad | Ambad | Jalna | Local | 0.2 | EH | 20.0 | 0.0 | 0 | 0 | 20 | 0 | 4.0 Hairy Cat |
| 7 | 21.08.24 | Shahagad | Ambad | Jalna | 355 | 0.4 | EH | 0.0 | 0.0 | 0 | 0.6 | 0 | 0 | Nil |
| 8 | 21.08.24 | Kingaon | Ambad | Jalna | Local | 0.8 | EH | 0.0 | 20.0 | 0 | 0 | 40 | 2 | Nil |
| 9 | 30.09.24 | Satara | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 20 | 0 | 4.0 Hairy Cat, 1.0 Pyrilla |
| 10 | 30.09.24 | Chittepimpalgaon | Aurangabad | Aurangabad | 86-M-38 | 0.4 | EH | 20.0 | 0.0 | 0 | 0.2 | 0 | 0 | Nil |
| 11 | 30.09.24 | Chittepimpalgaon | Aurangabad | Aurangabad | 1731 | 4.0 | EH | 0.0 | 0.0 | 0 | 0 | 20 | 0 | Nil |
| 12 | 30.09.24 | Kadrabad | Paithan | Aurangabad | Local | 0.8 | EH | 0.0 | 0.0 | 0.2 | 0.6 | 0 | 0 | Nil |
| 13 | 30.09.24 | Kadrabad | Paithan | Aurangabad | Local | 0.4 | EH | 20.0 | 20.0 | 0 | 0 | 0 | 0 | 5.0 Hairy Cat |
| 14 | 30.09.24 | Kachner Tanda | Paithan | Aurangabad | 7872 | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 40 | 0 | 2.0 Hairy Cat |
| 15 | 30.09.24 | Kachner | Paithan | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0.4 | 0.4 | 0 | 0 | 2.0 Hairy Cat |
| 16 | 30.09.24 | Kachner | Paithan | Aurangabad | Local | 1.6 | EH | 20.0 | 0.0 | 0 | 0 | 0 | 0 | Nil |
| 17 | 30.09.24 | Kachner | Paithan | Aurangabad | 86-M-32 | 0.4 | EH | 0.0 | 0.0 | 0 | 0.6 | 20 | 1 | Nil |
| 18 | 30.09.24 | Dabhrul | Paithan | Aurangabad | Local | 0.4 | EH | 0.0 | 20.0 | 0.4 | 0 | 0 | 0 | Nil |
| 19 | 30.09.24 | Dabhrul | Paithan | Aurangabad | 86-M-84 | 0.6 | EH | 20.0 | 0.0 | 0 | 0 | 0 | 0 | 6.0 Hairy Cat |
| 20 | 30.09.24 | Dabhrul | Paithan | Aurangabad | Nirmal 240 | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 40 | 1 | Nil |
| 21 | 30.09.24 | Dabhrul | Paithan | Aurangabad | Local | 0.4 | EH | 20.0 | 0.0 | 0 | 0 | 0 | 0 | Nil |
| 22 | 30.09.24 | Rajapur | Paithan | Aurangabad | Pioneer | 0.2 | EH | 20.0 | 0.0 | 0 | 0.6 | 20 | 0 | Nil |
| 23 | 30.09.24 | Rajapur | Paithan | Aurangabad | Nirmal 240 | 0.4 | EH | 40.0 | 0.0 | 0.4 | 0 | 20 | 0 | Nil |
| 24 | 30.09.24 | Rajapur | Paithan | Aurangabad | Kaveri Boss | 0.4 | EH | 0.0 | 20.0 | 0 | 1 | 0 | 0 | Nil |
| 25 | 30.09.24 | Rajapur | Paithan | Aurangabad | Pioneer | 0.6 | EH | 20.0 | 0.0 | 0 | 0.4 | 20 | 1 | 1.0 Hairy Cat |
| | | | | | | | **Mini.** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | |
| | | | | | | | **Maxi.** | **40.00** | **40.00** | **0.40** | **1.00** | **40.00** | **2.00** | |
| | | | | | | | **Mean** | **11.20** | **4.80** | **0.06** | **0.24** | **12.80** | **0.20** | |

**Table V.4f: PMET-3: Survey of insect pests of *kharif* pearl millet crop on farmer's fields (Centre: Hisar)**

| S. No. | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly damage % | Stem borer damage % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) / 20 plant | Fall Army Worm % damage | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. | Hairy caterpillar/ 20 plants |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7.9.24 | Jhabua | Bawal | Rewari | Pioneer | 3.0 | VS | 2.00 | 0.00 | 2.00 | 1.00 | 0 | 0 | 0 | 5.00 | 2.0 | 4.00 | 0 | 1 | 6 |
| 2 | 7.9.24 | Raipur | Bawal | Rewari | Pioneer | 2.0 | VS | 4.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 8.00 | 2.0 | 2.00 | 0 | 0 | 5 |
| 3 | 7.9.24 | Shahpur | Bawal | Rewari | Pioneer | 2.0 | VS | 0.00 | 0.00 | 0.00 | 2.00 | 0 | 0 | 0 | 3.00 | 2.0 | 3.00 | 0 | 0 | 5 |
| 4 | 7.9.24 | Ranoli | Bawal | Rewari | Advanta | 3.0 | VS | 3.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 4.00 | 3.0 | 3.00 | 0 | 0 | 8 |
| 5 | 11.7.24 | Mohmadpur | Bawal | Rewari | Advanta | 1.0 | VS | 2.00 | 0.00 | 5.00 | 5.00 | 0 | 0 | 0 | 4.00 | 4.0 | 5.00 | 0 | 0 | 6 |
| 6 | 11.7.24 | Harchandpur | Bawal | Rewari | JK | 1.0 | VS | 3.00 | 0.00 | 2.00 | 2.00 | 0 | 0 | 0 | 5.00 | 1.0 | 0.00 | 0 | 0 | 3 |
| 7 | 18.7.24 | Jhabua | Bawal | Rewari | Pioneer | 5.0 | VS | 0.00 | 0.00 | 3.00 | 2.00 | 0 | 0 | 0 | 8.00 | 5.0 | 8.00 | 0 | 0 | 8 |
| 8 | 18.7.24 | Dulhera kalan | Bawal | Rewari | Pioneer | 2.0 | VS | 2.00 | 0.00 | 3.00 | 1.00 | 0 | 0 | 6 | 5.00 | 5.0 | 8.00 | 0 | 1 | 14 |
| 9 | 18.7.24 | Shekpur | Bawal | Rewari | Pioneer | 4.0 | VS | 1.00 | 1.00 | 2.00 | 0.00 | 0 | 0 | 2 | 6.00 | 0.0 | 10.00 | 0 | 2 | 12 |
| 10 | 19.7.24 | Rata Mouhlra | Narnaul | Mahender Garh | Pioneer | 1.0 | VS | 0.00 | 3.00 | 0.00 | 0.00 | 0 | 0 | 0 | 2.00 | 0.0 | 2.00 | 0 | 0 | 2 |
| 11 | 19.7.24 | Nautana | Kanina | M.Garh | JK | 2.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 1.00 | 2.0 | 3.00 | 0 | 0 | 0 |
| 12 | 23.7.24 | Chapra salimpur | Ateli | M.Garh | ProA 9001 | 1.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 2.00 | 0.0 | 0.00 | 0 | 0 | 2 |
| 13 | 23.7.24 | Neerpur | Narnaul | M.Garh | ProA 9001 | 2.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 3.00 | 0.0 | 0.00 | 0 | 0 | 2 |
| 14 | 24.7.24 | sunderoh | Kanina | M.Garh | Advanta | 1.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 5.00 | 0.0 | 0.00 | 0 | 0 | 1 |
| 15 | 24.7.24 | Palri Panihara | M.garh | M.Garh | ProA 9001 | 1.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 2.00 | 0.0 | 4.00 | 0 | 0 | 2 |
| 16 | 24.7.24 | Kanwali | Dahina | Rewari | JK | 5.0 | VS | 2.00 | 1.00 | 3.00 | 2.00 | 0 | 0 | 0 | 6.00 | 6.0 | 15.00 | 0 | 2 | 15 |
| 17 | 24.7.24 | Budoli | Dahina | Rewari | Pioneer | 2.0 | VS | 0.00 | 1.00 | 4.00 | 1.00 | 0 | 0 | 0 | 7.00 | 5.0 | 5.00 | 0 | 0 | 10 |
| 18 | 27.7.24 | kalanaur | Rohtak | Rohtak | Nandi | 1.0 | VS | 0.00 | 3.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 0.0 | 10.00 | 0 | 0 | 0 |
| 19 | 27.7.24 | Silani | Jhajjar | Jhajjar | Pioneer | 1.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 0.0 | 5.00 | 0 | 0 | 7 |
| 20 | 27.7.24 | Dadan pur | Jhajjar | Jhajjar | Pioneer |  | VS | 0.00 | 0.00 | 2.00 | 2.00 | 0 | 0 | 0 | 0.00 | 5.0 | 10.00 | 0 | 0 | 5 |
| 21 | 27.7.24 | Khakhana | Jhajjar | Jhajjar | Advanta | 1.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 4.0 | 15.00 | 0 | 0 | 2 |
| 22 | 28.7.24 | Machhroli | Jhajjar | Jhajjar | Advanta | 2.0 | VS | 0.00 | 0.00 | 2.00 | 0.00 | 0 | 0 | 0 | 0.00 | 0.0 | 5.00 | 0 | 0 | 0 |
| 23 | 3.8.24 | Jhabua | Bawal | Rewari | Pioneer | 2.0 | VS | 0.00 | 2.00 | 3.00 | 2.00 | 0 | 0 | 2 | 8.00 | 5.0 | 8.00 | 0 | 0 | 8 |
| 24 | 3.8.24 | Dulhera kalan | Bawal | Rewari | Pioneer | 2.0 | VS | 0.00 | 2.00 | 3.00 | 1.00 | 0 | 0 | 6 | 5.00 | 5.0 | 8.00 | 0 | 2 | 6 |
| 25 | 3.8.24 | Nagli parsapur | Bawal | Rewari | Pioneer | 2.0 | VS | 0.00 | 3.00 | 2.00 | 2.00 | 0 | 0 | 2 | 6.00 | 7.0 | 10.00 | 0 | 2 | 6 |
| 26 | 3.8.24 | Jhook | M.garh | M.Garh | Unknown | 1.0 | VS | 0.00 | 1.00 | 2.00 | 0.00 | 0 | 0 | 0 | 0.00 | 2.0 | 0.00 | 0 | 0.0 | 0.0 |
| 27 | 6.8.24 | Rambas | Kanina | M.Garh | Unknown | 1.5 | VS | 0.00 | 2.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 2.0 | 0.00 | 0 | 0.0 | 2.0 |
| 28 | 7.8.24 | Mandola | M.garh | M.Garh | Unknown | 1.0 | VS | 0.00 | 0.00 | 5.00 | 0.00 | 0 | 0 | 0 | 0.00 | 3.0 | 0.00 | 0 | 0.0 | 3.0 |
| 29 | 21.8.24 | Pali | Khol | Rewari | Pioneer | 1.0 | VS | 0.00 | 4.00 | 3.00 | 2.00 | 0 | 0 | 0 | 6.00 | 6.0 | 12.00 | 1 | 3 | 4 |
| 30 | 21.8.24 | Nanda | khol | Rewari | Pioneer | 2.0 | VS | 0.00 | 5.00 | 4.00 | 1.00 | 0 | 0 | 0 | 7.00 | 5.0 | 5.00 | 2 | 3 | 2 |
| 31 | 26.8.24 | kabrel | hisar | Hisar | HHB 67 | 2.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 2 | 1 | 2 | 3.00 | 2.0 | 0.00 | 0 | 0 | 0 |
| 32 | 26.8.24 | Nauli kalan | hisar | Hisar | HHB 67 | 1.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 1 | 3 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 33 | 26.8.24 | Ludas | hisar | Hisar | Pioneer | 1.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 34 | 29.8.24 | satnali | M.garh | M.garh | JK | 2.0 | EH | 0.00 | 0.00 | 5.00 | 2.00 | 1 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 35 | 29.8.24 | Bakhtawarpu | Shiwani | Bhiwani | proagro | 1.0 | EH | 0.00 | 5.00 | 0.00 | 0.00 | 1 | 2 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |

| S. No. | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly damage % | Stem borer damage % | White grub damage % | Termite damage % | *Helicoverpa* larvae/ 5 E.H. | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Grass hopper % damage | Grey weevil damage score (0-10) / 20 plant | Fall Army Worm % damage | Lady bird beetle/ 5 Pl. | Chrysopa/5 Pl. | Hairy caterpillar/ 20 plants |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ra | | | | | | | | | | | | | | | | | | |
| 36 | 29.8.24 | Bakhtawarpura | Shiwani | Bhiwani | proagro | 0.5 | VS | 0.00 | 2.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 37 | 29.8.24 | Moyela | Shiwani | Bhiwani | Nandi 67 | 1.0 | EH | 0.00 | 2.00 | 0.00 | 2.00 | 0 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 38 | 29.8.24 | Kalod | Shiwani | Bhiwani | Proagro | 1.0 | VS | 0.00 | 3.00 | 0.00 | 0.00 | 0 | 0 | 0 | 5.00 | 2.0 | 5.00 | 0 | 0 | 0 |
| 39 | 29.8.24 | Kalod | Shiwani | Bhiwani | Proagro | 1.0 | EH | 0.00 | 2.00 | 0.00 | 0.00 | 1 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 40 | 29.8.24 | Kalod | Shiwani | Bhiwani | Pioneer | 1.0 | EH | 0.00 | 2.00 | 0.00 | 0.00 | 1 | 2 | 1 | 0.00 | 0.0 | 0.00 | 1 | 1 | 0 |
| 41 | 29.8.24 | Isharwal | Shiwani | Bhiwani | Unknown | 1.0 | EH | 0.00 | 3.00 | 0.00 | 0.00 | 0 | 2 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 42 | 29.8.24 | Isharwal | Shiwani | Bhiwani | Hybrid | 1.0 | EH | 0.00 | 1.00 | 0.00 | 0.00 | 0 | 0 | 2 | 5.00 | 0.0 | 0.00 | 2 | 0 | 0 |
| 43 | 29.8.24 | Saleempur | Shiwani | Bhiwani | Proagro | 2.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 0.5 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 44 | 29.8.24 | Enandawas | Tosham | Bhiwani | Jk | 2.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 1 | 2 | 2 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 45 | 29.8.24 | Babarwas | Tosham | Bhiwani | JK | 2.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 1 | 3 | 1.00 | 0.0 | 0.00 | 1 | 2 | 0 |
| 46 | 29.8.24 | Chandawas | Tosham | Bhiwani | Nandi | 1.5 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 2 | 2 | 0.00 | 0.0 | 0.00 | 1 | 1 | 1 |
| 47 | 29.8.24 | Sungarpur | Tosham | Bhiwani | Proagro | 2.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 48 | 29.8.24 | Shyadwa | Hisar | Hisar | proAgro | 1.0 | EH | 0.00 | 8.00 | 0.00 | 0.00 | 1.0 | 2.0 | 1 | 0.00 | 2.0 | 0.00 | 0 | 0 | 0 |
| 49 | 29.8.24 | Shyadwa | Hisar | Hisar | Nandi | 1.0 | EH | 0.00 | 5.00 | 0.00 | 0.00 | 1.5 | 1.0 | 0 | 0.00 | 0.0 | 0.00 | 0 | 0 | 0 |
| 50 | 29.8.24 | Talwandi rukka | Hisar | Hisar | Pioneer | 2.0 | VS | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 2.0 | 15.00 | 0 | 0 | 3 |
| 51 | 1.9.24 | Jhabua | Bawal | Rewari | Pioneer | 1.0 | EH | 0.00 | 5.00 | 4.00 | 0.00 | 0 | 12 | 8 | 2.00 | 8.0 | 0.00 | 2 | 3 | 0 |
| 52 | 1.9.24 | Raipur | Bawal | Rewari | Pioneer | 2.0 | EH | 0.00 | 5.00 | 6.00 | 0.00 | 0 | 10 | 6 | 6.00 | 7.0 | 0.00 | 1 | 3 | 0 |
| 53 | 6.9.24 | Shahpur | Bawal | Rewari | Pioneer | 2.0 | EH | 0.00 | 6.00 | 4.00 | 0.00 | 0 | 2 | 5 | 4.00 | 6.0 | 0.00 | 2 | 4 | 0 |
| 54 | 8.9.24 | Silani | Jhajjar | Jhajjar | Pioneer | 1.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 2.0 | 0.00 | 0 | 0 | 1 |
| 55 | 8.9.24 | Siilana | Jhajjar | Jhajjar | Proagro | 1.0 | EH | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0.00 | 3.0 | 0.00 | 0 | 0 | 5 |
| 56 | 25.9.24 | Mayan | khol | Rewari | Advanta | 1.0 | EH | 0.00 | 1.00 | 1.00 | 0.00 | 0 | 12 | 5 | 2.00 | 8.0 | 0.00 | 3 | 2 | 0 |
| 57 | 25.9.24 | Khaleta | Khol | Rewari | Advanta | 1.0 | EH | 0.00 | 2.00 | 1.00 | 0.00 | 0 | 6 | 6 | 3.00 | 7.0 | 0.00 | 2 | 5 | 0 |
| 58 | 25.9.24 | Pali | Khol | Rewari | Advanta | 1.0 | EH | 0.00 | 1.00 | 2.00 | 0.00 | 0 | 5 | 6 | 1.00 | 7.0 | 0.00 | 2 | 5 | 1 |
| | | | | | | | **Mini.** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| | | | | | | | **Maxi** | **4.00** | **8.00** | **6.00** | **5.00** | **2.00** | **12.00** | **8.00** | **8.00** | **8.00** | **15.00** | **3.00** | **5.00** | **15.00** |
| | | | | | | | **Mean** | **0.33** | **1.40** | **1.26** | **0.52** | **0.19** | **1.12** | **1.16** | **2.41** | **2.36** | **3.10** | **0.34** | **0.72** | **2.71** |

**Table-V.5a: Statement showing the incidence of various insect- pests and yield in pearl millet (Jamnagar)**

| Treatments | Per cent shoot fly incidence | | Per cent stem borer incidence | | % Grass hopper damage at 45 DAG | *Helicoverpa armigera* larval population per 5 ear heads | | | Yield kg/ha. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Vegetative stage | Ear head stage | Vegetative stage | Ear head stage | | 24 hrs before spray | 3 days after spray | 7 days after spray | Grain | Fodder |
| T1 | **7.06* (1.53)** | 9.40* (2.72) | 7.67* 1.93) | 8.43* (2.16) | 11.90* (4.33) | 6.50# (42.33) | 4.93# (24.00) | 3.39# (11.00) | 2914 | 6005 |
| T2 | 7.42 (1.68) | 10.40 (3.26) | 9.09 (2.52) | 9.57 (2.84) | 12.36 (4.67) | 6.62 (44.33) | 5.09 (25.67) | 3.57 (12.33) | 2558 | 5986 |
| T3 | 7.80 (1.88) | 10.45 (3.32) | 8.16 (2.08) | 10.03 (3.03) | 12.88 (5.00) | 6.52 (42.33) | 5.03 (25.00) | 3.59 (12.67) | 2567 | 6097 |
| T4 | 7.38 (1.66) | 8.71 (2.30) | **7.54 (1.89)** | 8.16 (2.03) | 12.46 (4.67) | 6.59 (43.33) | **4.29 (18.00)** | **3.29 (10.33)** | **3171** | **6852** |
| T5 | 7.47 (1.70) | 10.47 (3.31) | 7.65 (1.94) | 9.54 (2.76) | **11.48 (4.00)** | 6.47 (42.67) | 4.50 (20.00) | 3.47 (11.67) | 3169 | 5884 |
| T6 | 7.78 (1.86) | 10.47 (3.31) | 8.46 (2.27) | 9.31 (2.62) | 12.46 (4.67) | 6.62 (43.67) | 5.21 (26.67) | 3.70 (13.33) | 2979 | 5954 |
| T7 | 7.44 (1.70) | 10.52 (3.33) | 8.69 (2.31) | 9.57 (2.77) | 12.75 (5.00) | 6.77 (45.33) | 5.07 (25.33) | 3.66 (13.00) | 2822 | 5523 |
| T8 | 7.54 (1.74) | **8.27 (2.07)** | 9.07 (2.58) | **7.97 (1.93)** | 17.44 (9.00) | 6.61 (44.00) | 6.84 (47.00) | 7.06 (50.00) | 2910 | 5685 |
| T9 | 17.55 (9.11) | 21.17 (13.07) | 16.53(8.22) | 15.68 (7.34) | 18.38 (10.00) | 6.66 (44.33) | 7.04 (49.33) | 7.32 (53.33) | 2229 | 5157 |
| **SEm ±** | **0.58** | **0.51** | **0.74** | **0.62** | **0.97** | **0.48** | **0.33** | **0.29** | **172.43** | **321.77** |
| **C.D. 5%** | **1.75** | **1.54** | **2.21** | **1.85** | **2.91** | **NS** | **1.00** | **0.87** | **516.98** | **NS** |
| **CV %** | **11.75** | **8.00** | **13.89** | **10.89** | **12.40** | **12.69** | **10.79** | **11.58** | **10.62** | **9.44** |

**N.B.**: **(*) arcsine transformed values, (#) Square root √ X+0.5 values, Figure in parenthesis are original values.**

1. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana*, 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
2. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana*, 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
3. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana*, 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
4. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana*, 1.15 WP, 00.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at ear head stage.
5. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
6. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
7. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem oil 3.0%, 30 ml/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
8. **Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg** seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG (Standard Check)
9. **Untreated control.**

**Table-V.5b: Economics of various treatments for the management of pest complex in pearl millet Jamnagar**

| Sr. No. | Treatments | Yield increase over control kg/ha | | Additional income (Rs.) | Total Expenditure (Rs.) | Net return (Rs.) | I.C.B.R. |
|---|---|---|---|---|---|---|---|
| | | Grain | fodder | | | | |
| 1 | T1 | 685 | 848 | 18821 | 2760 | 16061 | 1:6.82 |
| 2 | T2 | 329 | 829 | 9883 | 2160 | 7723 | 1:4.58 |
| 3 | T3 | 338 | 940 | 10330 | 5660 | 4670 | 1:1.83 |
| 4 | T4 | 942 | 1695 | **26940** | 1610 | **25330** | 1:**16.73** |
| 5 | T5 | 441 | 727 | 12479 | 3910 | 8569 | 1:3.19 |
| 6 | T6 | 1009 | 797 | 26819 | 2710 | 24109 | 1:9.90 |
| 7 | T7 | 593 | 366 | 15557 | 9710 | 5847 | 1:1.60 |
| 8 | T8 | 681 | 528 | 18081 | 960 | 17121 | 1:18.83 |

N.B.:

1. Selling price of Bajra per kg, Rs 25/-
2. Selling price of Fodder per kg Rs. 2.0/-
3. ST of Imida 600 FS 35 ml used for 4.0 kg seed, Rs 210/- ha
4. Cost of Beauveria bassiana 1.15% Rs 150/- per 1.0 kg, 3.0 kg used, total cost 450/- ha.
5. Cost of Azadirachtin 1500 ppm Rs 800 per litre, 2.0 lit used, total cost 1600/- ha
6. Cost of neem oil Rs 300 per litre, 15.0 lit used, total cost 4500/- ha
7. Cost of Neem Seed Kernel Rs 20 per kg, total 25.0 kg required per ha, NSKE 25 kg used + Rs 500 labour charge for preparation total 1000/- ha.
8. Cost of Imidachloprid 17.8 SL, Rs 500/- per 500 ml, Imida 17.8 SL Std Check sp, 250 ml used, Rs 250/- ha.
9. Labour cost per spray per hactare, 500/-

**Table-V.5c: Statement showing the incidence of various insect- pests and yield in pearl millet (Anand)**

| Treatments | Per cent shoot fly incidence | | *Helicoverpa armigera* larval population per 5 ear heads | | | Yield kg/ha. | |
|---|---|---|---|---|---|---|---|
| | Vegetative stage | Ear head stage | 24 hrs before spray | 3 days after spray | 7 days after spray | Grain | Fodder |
| T1 | **16.43 (5.00)** | 18.43 (10.00) | 2.92 (8.00) | 1.68 (2.33) | 1.35 (1.33) | 2075 | 4552 |
| T2 | 18.11 (6.67) | 19.97 (11.67) | 2.86 (7.67) | 1.87 (3.00) | 1.58 (2.00) | 1797 | 4332 |
| T3 | 19.67 (8.33) | 25.35 (18.33) | 2.86 (7.67) | 2.27 (4.67) | 2.04 (3.67) | 1628 | 3988 |
| T4 | 21.13(10.00) | 30.00 (25.00) | 2.92 (8.00) | 2.42 (5.33) | 2.20 (4.33) | 1536 | 4547 |
| T5 | **16.43 (5.00)** | 18.43 (10.00) | 2.80 (7.33) | **1.47 (1.67)** | **1.08 (0.67)** | **2717** | **4990** |
| T6 | **16.43 (5.00)** | 19.97 (11.67) | 2.86 (7.67) | 1.78 (2.67) | 1.47 (1.67) | 2640 | 4833 |
| T7 | 19.67 (8.33) | 28.88 (23.33) | 2.68 (6.67) | 1.96 (3.33) | 1.68 (2.33) | 1808 | 4050 |
| T8 | **16.43 (5.00)** | **16.78 (8.33)** | 2.80 (7.33) | 1.35 (1.33) | **1.08 (0.67)** | 1688 | 4154 |
| T9 | 29.78 (21.67) | 34.24 (31.67) | 2.61 (6.33) | 3.39 (11.00) | 3.39 (11.00) | 1468 | 3659 |
| SEm ± | 1.16 | 1.53 | 0.18 | 0.11 | 0.14 | 138.86 | 167.52 |
| C.D. 5% | 3.47 | 4.59 | NS | 0.34 | 0.41 | 416.31 | 502.23 |
| CV % | 12.36 | 11.29 | 11.38 | 9.62 | 13.53 | 12.47 | 6.68 |

**N.B.: (*) arcsine transformed values, (#) Square root √ X+0.5 values, Figure in parenthesis are original values.**

1. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
2. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
3. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
4. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 00.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at ear head stage.
5. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
6. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
7. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem oil 3.0%, 30 ml/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
8. **Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg** seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG (Standard Check)
9. **Untreated control.**

**Table-V.5d: Economics of various treatments for the management of pest complex in pearl millet (Anand)**

| Sr. No. | Treatments | Yield increase over control kg/ha | | Additional income (Rs.) | Total Expenditure (Rs.) | Net return (Rs.) | I.C.B.R. |
|---|---|---|---|---|---|---|---|
| | | Grain | fodder | | | | |
| 1 | T1 | 607 | 893 | 16953 | 2760 | 14193 | 6.14 |
| 2 | T2 | 329 | 673 | 9571 | 2160 | 7411 | 4.43 |
| 3 | T3 | 160 | 329 | 4658 | 5660 | -1002 | 0.82 |
| 4 | T4 | 68 | 888 | 3485 | 1610 | 1875 | 2.16 |
| 5 | T5 | 1249 | 1331 | **33887** | 3910 | **29977** | 8.67 |
| 6 | T6 | 1172 | 1174 | 31647 | 2710 | 28937 | **11.68** |
| 7 | T7 | 340 | 391 | 9282 | 9710 | -428 | 0.96 |
| 8 | T8 | 220 | 495 | 6498 | 960 | 5538 | 6.77 |

N.B.:

1. Selling price of Bajra per kg, Rs 25/-
2. Selling price of Fodder per kg Rs. 2.0/-
3. ST of Imida 600 FS 35 ml used for 4.0 kg seed, Rs 210/- ha
4. Cost of Beauveria bassiana 1.15% Rs 150/- per 1.0 kg, 3.0 kg used, total cost 450/- ha.
5. Cost of Azadirachtin 1500 ppm Rs 800 per litre, 2.0 lit used, total cost 1600/- ha
6. Cost of neem oil Rs 300 per litre, 15.0 lit used, total cost 4500/- ha
7. Cost of Neem Seed Kernel Rs 20 per kg, total 25.0 kg required per ha, NSKE 25 kg used + Rs 500 labour charge for preparation total 1000/- ha.
8. Cost of Imidachloprid 17.8 SL, Rs 500/- per 500 ml, Imida 17.8 SL Std Check sp, 250 ml used, Rs 250/- ha.
9. Labour cost per spray per hactare, 500/-

**Table-V.5e: Statement showing the incidence of various insect- pests and yield in pearl millet (Jodhpur)**

| Treatment | Shoot fly incidence (%) | | Grasshopper damage at 45 DAG | *Helicoverpa* larval population/20 ear heads | | | | Grain yield (kg/ha) | Fodder yield (kg/ha) |
|---|---|---|---|---|---|---|---|---|---|
| | At 28 DAG | At ear head stage | | Before spray | 24 hrs after spray | 3 days after spray | 7 days after spray | | |
| T1 | 2.32 (8.57) | 3.20 (10.25) | 9.33 (17.78) | 45.67 (6.82) | 43.33 (6.65) | 23.33 (4.91) | 4.67 (2.37) | 1528 | 2750 |
| T2 | 2.25 (8.50) | 3.19 (10.29) | 9.00 (17.43) | 44.00 (6.69) | 44.00 (6.68) | 25.67 (5.14) | 5.33 (2.51) | 1500 | 2700 |
| T3 | 2.37 (8.69) | 3.21 (10.29) | 8.67 (17.09) | 43.33 (6.64) | 42.67 (6.60) | 27.67 (5.35) | 5.67 (2.58) | 1444 | 2600 |
| T4 | 2.11 (8.29) | 3.89 (11.05) | 9.33 (17.78) | 43.33 (6.63) | 41.33 (6.51) | 36.67 (6.12) | 29.33 (5.50) | 1222 | 2200 |
| T5 | 2.16 (8.39) | 0.74 (4.90) | 1.67 (7.33) | 44.33 (6.67) | 43.33 (6.63) | 20.00 (4.56) | 6.00 (2.63) | 1806 | 3250 |
| T6 | 2.49 (9.07) | 0.83 (5.21) | 2.33 (8.74) | 43.67 (6.66) | 42.33 (6.57) | 23.67 (4.97) | 6.33 (2.70) | 1764 | 3175 |
| T7 | 2.54 (9.12) | 0.85 (5.29) | 3.67 (11.01) | 45.33 (6.80) | 43.33 (6.65) | 25.33 (5.12) | 6.67 (2.76) | 1681 | 3025 |
| T8 | 2.39 (8.89) | 0.30 (3.08) | 9.33 (17.76) | 44.00 (6.65) | 45.00 (6.73) | 46.67 (6.85) | 47.33 (6.95) | 1167 | 2100 |
| T9 | 16.98 (24.32) | 4.76 (12.60) | 10.00 (18.37) | 46.33 (6.86) | 47.00 (6.91) | 47.33 (6.93) | 48.67 (7.05) | 1056 | 1900 |
| C.D. | 2.42 | 2.36 | 2.03 | NS | NS | 1.05 | 0.45 | 352 | 633 |
| SE m± | 0.80 | 0.78 | 0.67 | 0.39 | 0.34 | 0.35 | 0.15 | 116.41 | 209.54 |

**N.B.: Figure in parenthesis is transformed values**

1. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
2. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
3. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
4. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 00.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at ear head stage.
5. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
6. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
7. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem oil 3.0%, 30 ml/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
8. **Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg** seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG (Standard Check)
9. **Untreated control**

**Table-V.5f: Economics of various treatments for the management of pest complex in pearl millet (Jodhpur)**

| Treatment | Net Grain yield | Net Fodder yield | Additional Income | Total cost | Net return | ICBR |
|---|---|---|---|---|---|---|
| T1 | 472 | 850 | 13500 | 2760 | 10740 | 1:4.89 |
| T2 | 444 | 800 | 12700 | 2160 | 10540 | 1:5.88 |
| T3 | 388 | 700 | 11100 | 5660 | 5440 | 1:1.96 |
| T4 | 166 | 300 | 4750 | 1610 | 3140 | 1:2.95 |
| T5 | 750 | 1350 | **21450** | 3910 | **17540** | 1:5.49 |
| T6 | 708 | 1275 | 20250 | 2710 | **17540** | **1:7.47** |
| T7 | 625 | 1125 | 17875 | 9710 | 8165 | 1:1.84 |
| T8 | 111 | 200 | 3175 | 960 | 2215 | 1:3.31 |

N.B.:

1. Selling price of Bajra per kg, Rs 25/-
2. Selling price of Fodder per kg Rs. 2.0/-
3. ST of Imida 600 FS 35 ml used for 4.0 kg seed, Rs 210/- ha
4. Cost of Beauveria bassiana 1.15% Rs 150/- per 1.0 kg, 3.0 kg used, total cost 450/- ha.
5. Cost of Azadirachtin 1500 ppm Rs 800 per litre, 2.0 lit used, total cost 1600/- ha
6. Cost of neem oil Rs 300 per litre, 15.0 lit used, total cost 4500/- ha
7. Cost of Neem Seed Kernel Rs 20 per kg, total 25.0 kg required per ha, NSKE 25 kg used + Rs 500 labour charge for preparation total 1000/- ha.
8. Cost of Imidachloprid 17.8 SL, Rs 500/- per 500 ml, Imida 17.8 SL Std Check sp, 250 ml used, Rs 250/- ha.
9. Labour cost per spray per hactare, 500/-

**Table-V.5g: Statement showing the incidence of various insect- pests and yield in pearl millet (Fatehpur-Shekhawati)**

| Treatment No. | Shoot fly incidence at 28 DAG (%) | Stem borer incidence at 28 DAG (%) | Shoot fly incidence at ear head | Stem borer incidence at ear head | White grub and termite damage % at ear head stage |
|---|---|---|---|---|---|
| T1 | 3.15 (10.23) | 1.80 (7.71) | 9.34 (17.79) | 1.76 (7.63) | 1.18 (6.23) |
| T2 | 3.39 (10.62) | 1.36 (6.69) | 9.81 (18.26) | 2.45 (9.01) | 1.15 (6.17) |
| T3 | 3.37 (10.58) | 1.80 (7.71) | 9.83 (18.27) | 2.66 (9.39) | 1.12 (6.09) |
| T4 | 3.36 (10.57) | 1.34 (6.65) | 8.51 (16.96) | 1.65 (7.38) | 1.10 (6.02) |
| T5 | 3.40 (10.63) | 1.37 (6.71) | 9.68 (18.13) | 2.39 (8.89) | 1.12 (6.08) |
| T6 | 3.45 (10.70) | 1.84 (7.79) | 9.68 (18.13) | 2.24 (8.61) | 1.12 (6.07) |
| T7 | 3.19 (10.29) | 1.59 (7.25) | 9.77 (18.21) | 2.40 (8.90) | 1.13 (6.10) |
| T8 | 3.12 (10.18) | 1.56 (7.18) | 7.15 (15.51) | 1.12 (6.08) | 1.12 (6.08) |
| T9 | 15.19 (22.94) | 5.36 (13.39) | 20.70 (27.06) | 7.65 (16.06) | 1.24 (6.40) |
| SEm ± | 0.56 | 0.57 | 0.72 | 0.11 | 98.47 |
| C.D. 5% | 1.66 | 1.70 | 2.16 | 0.31 | 292.56 |
| CV % | 8.13 | 12.52 | 6.68 | 8.01 | 7.08 |

**N.B.**: **Figures in parenthesis is arcsine values.**

1. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
2. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
3. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
4. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 00.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.007%, 60g/10 litres of water spray at ear head stage.
5. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
6. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
7. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem oil 3.0%, 30 ml/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
8. **Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg** seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG (Standard Check)
9. **Untreated control**

**Table-V.5h: Statement showing the incidence of various insect- pests and yield in pearl millet (Fatehpur-Shekhawati)**

| Treatment No. | *Helicoverpaarmigera* larval population per 20 ear heads | | | |
|---|---|---|---|---|
| | 24 hrs before spray | 24 hrs after spray | 3 days after spray | 7 days after spray |
| T1 | 47.33 (6.50) | 36.00 (6.32) | 21.00 (4.93) | 8.00 (3.39) |
| T2 | 49.33 (6.62) | 37.00 (6.37) | 22.67 (5.09) | 9.33 (3.57) |
| T3 | 47.33 (6.52) | 36.33 (6.37) | 22.00 (5.03) | 9.67 (3.59) |
| T4 | 48.33 (6.59) | 35.33 (6.28) | 15.00 (4.29) | 7.33 (3.29) |
| T5 | 47.67 (6.47) | 35.33 (6.22) | 17.00 (4.50) | 8.67 (3.47) |
| T6 | 48.67 (6.62) | 37.67 (6.47) | 23.67 (5.21) | 10.33 (3.70) |
| T7 | 50.33 (6.77) | 39.00 (6.59) | 22.33 (5.07) | 10.00 (3.66) |
| T8 | 49.00 (6.61) | 41.00 (6.69) | 44.00 (6.84) | 47.00 (7.06) |
| T9 | 52.00 (6.66) | 42.00 (6.79) | 46.33 (7.04) | 50.33 (7.32) |
| SEm ± | 0.51 | 0.58 | 0.38 | |
| C.D. 5% | NS | 1.73 | 1.13 | |
| CV % | 12.64 | 16.26 | 13.01 | |

**N.B.: Square root √ X+0.5 values, Figure in parenthesis are square root values.**

**Table-V.5i: Economics of various treatments for the management of pest complex in pearl millet (Fatehpur-Shekhawati)**

| Sr. No. | Yield kg/ha | | Yield increase over control | | Additional income (Rs.) | Total Expenditure (Rs.) | Net Returns (Rs.) | I.C.B.R. |
|---|---|---|---|---|---|---|---|---|
| | Grain | fodder | Grain | fodder | | | | |
| $T_1$ | 2522.69 | 4591.29 | 389 | 708 | 11138 | 2760 | 8378 | 4.04 |
| $T_2$ | 2212.50 | 4077.56 | 79 | 194 | 2356 | 2160 | 196 | 1.09 |
| $T_3$ | 2311.58 | 4207.07 | 178 | 324 | 5092 | 5660 | -568 | 0.90 |
| $T_4$ | 2918.52 | 5311.71 | 785 | 1428 | **22474** | 1610 | **20864** | **13.96** |
| $T_5$ | 2463.43 | 4483.44 | 330 | 600 | 9441 | 3910 | 5531 | 2.41 |
| $T_6$ | 2704.63 | 4922.43 | 571 | 1039 | 16349 | 2710 | 13639 | 6.03 |
| $T_7$ | 2430.09 | 4422.77 | 296 | 539 | 8486 | 9710 | -1224 | 0.87 |
| $T_8$ | 2981.02 | 5425.46 | 847 | 1542 | **24264** | 960 | **23304** | **25.28** |
| $T_9$ | 2133.80 | 3883.51 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| SEm ± | 127.09 | 202.38 | - | - | - | - | - | - |
| C.D. 5% | 381.01 | 606.73 | - | - | - | - | - | - |
| CV % | 8.74 | 7.63 | - | - | - | - | - | - |

**N.B.:**

1. Selling price of Bajra per kg, Rs 25/-
2. Selling price of Fodder per kg Rs. 2.0/-
3. ST of Imida 600 FS 35 ml used for 4.0 kg seed, Rs 210/- ha
4. Cost of Beauveria bassiana 1.15% Rs 150/- per 1.0 kg, 3.0 kg used, total cost 450/- ha.
5. Cost of Azadirachtin 1500 ppm Rs 800 per litre, 2.0 lit used, total cost 1600/- ha
6. Cost of neem oil Rs 300 per litre, 15.0 lit used, total cost 4500/- ha
7. Cost of Neem Seed Kernel Rs 20 per kg, total 25.0 kg required per ha, NSKE 25 kg used + Rs 500 labour charge for preparation total 1000/- ha.
8. Cost of Imidachloprid 17.8 SL, Rs 500/- per 500 ml, Imida 17.8 SL Std Check sp, 250 ml used, Rs 250/- ha.
9. Labour cost per spray per hactare, 500/-

**Table-V.5j: Statement showing the incidence of various insect- pests and yield in pearl millet (Jaipur)**

| Treatment | Shoot fly incidence (%) | | Termite and white grub % incidence at ear head stage |
|---|---|---|---|
| | At 28 DAG | At ear head stage | |
| T1 | 12.32 (4.60) | 10.86 (3.60) | 6.86 (1.45) |
| T2 | 12.82 (5.02) | 11.05 (3.70) | 13.35 (5.35) |
| T3 | 12.25 (4.61) | 9.77 (2.96) | 13.80 (5.79) |
| T4 | 12.62 (4.79) | 13.16 (5.25) | 12.03 (4.39) |
| T5 | 12.09 (4.56) | 11.77 (4.20) | 12.97 (5.23) |
| T6 | 12.76 (5.06) | 11.37 (4.00) | 17.63 (9.24) |
| T7 | 12.87 (5.00) | 12.79 (4.92) | 14.33 (6.20) |
| T8 | 13.99 (5.86) | 13.01 (5.07) | 17.20 (8.75) |
| T9 | 25.07 (17.98) | 23.03 (15.43) | 26.04 (19.28) |
| C.D. at 5% | 0.84 | 0.86 | 1.04 |
| SE m± | 2.53 | 2.59 | 3.12 |
| C.V.% | 10.39 | 11.51 | 12.08 |

**N.B.: Figure in brackets is original values, whereas outside figures are arcsine transformed values. Yield data was not recorded due to heavy lodging at ear head stage.**

**Table-V.5k: Statement showing the incidence of various insect- pests and yield in pearl millet (Aurangabad)**

| Treatments | Per cent shoot fly incidence | | Per cent stem borer incidence | | % Fall Army Worm damage at 45 DAG | Yield kg/ha. | |
|---|---|---|---|---|---|---|---|
| | Vegetative stage | Ear head stage | Vegetative stage | Ear head stage | | Grain | Fodder |
| T1 | 18.05* (10.00) | 22.60* (15.00) | 22.60* (15.00) | 26.45* (20.00) | 18.05* (10.00) | 2100 | 3800 |
| T2 | 18.05 (10.00) | 22.60 (15.00) | 12.92 (5.00) | 18.05 (10.00) | 12.92 (5.00) | 2000 | 3700 |
| T3 | 12.92 (5.00) | 12.92 (5.00) | 12.92 (5.00) | 12.92 (5.00) | 12.92 (5.00) | 2300 | 4000 |
| T4 | 22.60 (15.00) | 26.45 (20.00) | 22.60 (15.00) | 22.60 (15.00) | 22.60 (15.00) | 1900 | 3800 |
| T5 | 18.05 (10.00) | 22.60 (15.00) | 22.60 (15.00) | 26.57 (20.00) | 18.05 (10.00) | 2000 | 3700 |
| T6 | 18.05 (10.00) | 22.60 (15.00) | 18.05 (10.00) | 18.05 (10.00) | 18.05 (10.00) | 2000 | 3700 |
| T7 | 18.05 (10.00) | 26.45 (20.00) | 18.05 (10.00) | 18.05 (10.00) | 21.90 (15.00) | 2100 | 3800 |
| T8 | 18.05 (10.00) | 22.60 (15.00) | 22.60 (15.00) | 26.45 (20.00) | 18.43 (10.00) | 1900 | 3700 |
| T9 | 26.45 (20.00) | 29.93 (25.00) | 26.45 (20.00) | 29.93 (25.00) | 29.93 (25.00) | 1800 | 3600 |
| SEm ± | 2.31 | 2.23 | 2.25 | 2.26 | 2.57 | 67.36 | 64.19 |
| C.D. 5% | 6.93 | 6.70 | 6.75 | 6.78 | 7.72 | 201.95 | 192.45 |
| CV % | 21.16 | 16.69 | 19.65 | 17.71 | 23.21 | 5.80 | 2.96 |

**N.B.**: **(*) arcsine transformed values, Figure in parenthesis are original values.**

Treatment details:

1. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
2. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
3. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
4. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at 30 DAG + *Beauveria bassiana* , 1.15 WP, 0.07%, 60g/10 litres of water spray at ear head stage.
5. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at 30 DAG + Azadirachtin 1500 ppm, 0.0006%, 40 ml/10 litres of water spray at ear head stage.
6. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at 30 DAG + Neem Seed Kernel Extract, 5%, 500 g/10 litres of water spray at ear head stage.
7. **Seed treatment of imidachloprid 600 FS @ 8.75 ml/kg seed +** Neem oil 3.0%, 30 ml/10 litres of water spray at 30 DAG + Neem oil 3.0%, 30 ml/10 litres of water spray at ear head stage.
8. **Seed treatment of imidacloprid 600 FS @ 8.75 ml/kg** seed + spray of imidacloprid 17.8 SL 0.009% at 35 DAG (Standard Check)
9. **Untreated control.**

**Table-V.5l: Economics of various treatments for the management of pest complex in pearl millet (Aurnagabad)**

| Sr. No. | Treatments | Yield increase over control kg/ha | | Additional income (Rs.) | Total Expenditure (Rs.) | Net return (Rs.) | I.C.B.R. |
|---|---|---|---|---|---|---|---|
| | | Grain | fodder | | | | |
| 1 | T1 | 300 | 200 | 10000 | 3490 | 6510 | **2.87** |
| 2 | T2 | 200 | 100 | 6500 | 2690 | 3810 | 2.42 |
| 3 | T3 | 500 | 400 | **17000** | 6190 | **10810** | 2.75 |
| 4 | T4 | 100 | 200 | 4000 | 2740 | 1260 | 1.46 |
| 5 | T5 | 200 | 100 | 6500 | 4240 | 2260 | 1.53 |
| 6 | T6 | 200 | 100 | 6500 | 2640 | 3860 | 2.46 |
| 7 | T7 | 300 | 200 | 10000 | 9640 | 360 | 1.04 |
| 8 | T8 | 100 | 100 | 3500 | 2040 | 1460 | 1.72 |

N.B.:

**Cost of treatments**

1. Selling price of Bajra per kg, Rs 30/-
2. Selling price of Fodder per kg Rs. 5.0/-
3. ST of Imida 600 FS 35 ml used for 4.0 kg seed, Rs 210/- ha
4. Cost of Beauveria bassiana 1.15% Rs 150/- per 1.0 kg, 3.0 kg used, total cost 450/- ha.
5. Cost of Azadirachtin 1500 ppm Rs 800 per litre, 2.0 lit used, total cost 1600/- ha
6. Cost of neem oil Rs 300 per litre, 15.0 lit used, total cost 4500/- ha
7. Cost of Neem Seed Kernel Rs 20 per kg, total 25.0 kg required per ha, NSKE 25 kg used + Rs 500 labour charge for preparation total 1000/- ha.
8. Cost of Imidachloprid 17.8 SL, Rs 500/- per 500 ml, Imida 17.8 SL Std Check sp, 250 ml used, Rs 250/- ha.
9. Labour cost per spray per hactare, 500/-

**Table V.6a: Statement showing the incidence of *Helicoverpa armigera* and yield in pearl millet (Centre: Jamnagar)**

| No | Treatments | *Helicoverpa armigera* larval population per 20 ear heads | | | | Yield kg/ha. | |
|---|---|---|---|---|---|---|---|
| | | 24 hrs before spray | 24 hrs after spray | 3 days after spray | 7 days after spray | Grain | Fodder |
| $T_1$ | Profenophos 50 EC, 0.05% | 7.89# (62.00) | 6.72# (45.00) | 3.89# (14.67) | 3.23# (10.00) | 2813 | 5732 |
| $T_2$ | Quinalphos 25 EC, 0.05% | 7.94 (62.67) | 6.88 (47.00) | 4.02 (15.67) | 3.29 (10.33) | 2602 | 5833 |
| $T_3$ | Spinosad 45% ,0.009% | 7.92 (62.33) | 6.13 (37.33) | 3.38 (11.00) | 2.04 (3.67) | 3037 | 5796 |
| $T_4$ | Indoxacarb 14.5 SC, 0.006% | 7.86 (61.33) | 5.58 (30.67) | 3.29 (10.33) | 1.95 (3.33) | 3042 | 6287 |
| $T_5$ | Emamectin benzoate 5 SG, 0.002% | 7.92 (62.33) | 5.42 (29.00) | 3.24 (10.00) | 1.86 (3.00) | 3088 | 6352 |
| $T_6$ | Chlorantraniprole 18.5 SC,0.006% | 7.88 (61.67) | 5.58 (30.67) | 3.29 (10.33) | 2.04 (3.67) | 3006 | 6111 |
| $T_7$ | Lambda cyhalothrin 5 EC,0.003% | 7.77 (60.00) | 5.60 (31.00) | 3.33 (10.67) | 2.04 (3.67) | 2606 | 5852 |
| $T_8$ | Chlorfenapyre 10 SC, 0.015% | 7.89 (62.00) | 7.00 (48.67) | 4.97 (24.33) | 4.33 (18.33) | 2595 | 5736 |
| $T_9$ | Malathion 50 EC,0.05% | 7.88 (62.00) | 7.21 (52.00) | 5.09 (25.67) | 4.26 (17.67) | 2647 | 5574 |
| $T_{10}$ | Un-treated control | 7.90 (62.33) | 8.06 (65.00) | 8.13 (66.00) | 8.24 (67.67) | 2481 | 5176 |
| | SEm ± | 0.32 | 0.28 | 0.17 | 0.16 | 93.67 | 394.97 |
| | C.D. 5% | NS | 0.84 | 0.52 | 0.48 | 278.31 | NS |
| | CV % | 6.92 | 7.65 | 7.06 | 8.36 | 5.81 | 11.70 |

**N.B.**: (*) **Square root √ X+0.5 values, Figure in parenthesis are original values.**

**Table-V.6b: Economics of various treatments for the management of *H. armigera* in pearl millet (Centre: Jamnagar)**

| Sr. No | Treatments | Yield increase over control kg/ha | | Additional income (Rs.) | Total Expenditure (Rs.) | Net return (Rs.) | I.C.B.R. |
|---|---|---|---|---|---|---|---|
| | | Grain | fodder | | | | |
| $T_1$ | Profenophos 50 EC, 0.05% | 332 | 5302 | 7712 | 900 | 6812 | 1:8.57 |
| $T_2$ | Quinalphos 25 EC, 0.05% | 121 | 5290 | 3046 | 1100 | 1946 | 1:2.77 |
| $T_3$ | Spinosad 45% ,0.009% | 556 | 5375 | 12786 | 2900 | 9886 | 1:4.41 |
| $T_4$ | Indoxacarb 14.5 SC, 0.006% | 561 | 5508 | 13162 | 1150 | 12012 | 1:11.45 |
| $T_5$ | Emamectin benzoate 5 SG, 0.002% | 607 | 5783 | **14724** | 1000 | **13724** | **1:14.72** |
| $T_6$ | Chlorantraniprole 18.5 SC,0.006% | 525 | 5703 | 12760 | 2350 | 10410 | 1:5.43 |
| $T_7$ | Lambda cyhalothrin 5 EC,0.003% | 126 | 5460 | 3496 | 700 | 2796 | 1:4.99 |
| $T_8$ | Chlorfenapyre 10 SC, 0.015% | 114 | 5444 | 3200 | 1000 | 2200 | 1:3.20 |
| $T_9$ | Malathion 50 EC,0.05% | 166 | 5306 | 4068 | 950 | 3118 | 1:4.28 |

| No. | Inputs | Cost Rs. |
|---|---|---|
| 1 | Cost of Bajra per kg | 22.00 |
| 2 | Cost of Fodder per kg | 2.00 |
| 3 | Profenophos 50 EC, 500 ml | 400.00 |
| 4 | Quinalphos 25 EC, 1000 ml | 600.00 |
| 5 | Spinosad 45%, 100 ml | 2400.00 |
| 6 | Indoxacarb 14.5 SC, 200 ml | 650.00 |
| 7 | Emamectin benzoate 5 SG, 200g | 500.00 |
| 8 | Chlorantraniprole 18.5 SC, 150 ml | 1850.00 |
| 9 | Lambda cyhalothrin 5 EC, 300ml | 200.00 |
| 10 | Chlorfenapyre 10 SC, 750 ml | 500.00 |
| 11 | Malathion 50 EC, 500 ml | 450.00 |
| 12 | Labour cost for one spray per hactare | 500.00 |

**Table V.6c: Statement showing the incidence of *Helicoverpa armigera* and yield in pearl millet (Centre: Jodhpur)**

| No | Treatment | *Helicoverpa* larval population/20 ear heads | | | | | |
|---|---|---|---|---|---|---|---|
| | | Before spray | 24 hrs after spray | 3 days after spray | 7 days after spray | Grain yield (kg/ha) | Fodder yield (kg/ha) |
| $T_1$ | Profenophos 50 EC, 0.05% | 54.00 (7.41) | 47.67 (6.96) | 14.67 (3.95) | 8.67 (3.10) | 1514 | 2725 |
| $T_2$ | Quinalphos 25 EC, 0.05% | 55.33 (7.50) | 47.00 (6.92) | 13.00 (3.74) | 8.00 (3.00) | 1556 | 2800 |
| $T_3$ | Spinosad 45%, 0.009% | 50.33 (7.15) | 46.00 (6.83) | 11.00 (3.46) | 3.33 (2.08) | 1708 | 3075 |
| $T_4$ | Indoxacarb 14.5 SC, 0.006% | 50.67 (7.18) | 46.67 (6.90) | 12.67 (3.69) | 3.67 (2.16) | 1639 | 2950 |
| $T_5$ | Emamectin benzoate 5 SG, 0.002% | 53.00 (7.34) | 39.33 (6.29) | 8.00 (3.00) | 1.67 (1.63) | 1833 | 3300 |
| $T_6$ | Chlorantraniprole 18.5 SC, 0.006% | 51.33 (7.23) | 41.67 (6.51) | 8.67 (3.08) | 2.67 (1.91) | 1819 | 3275 |
| $T_7$ | Lambda cyhalothrin 5 EC, 0.003% | 50.33 (7.14) | 44.67 (6.74) | 10.67 (3.40) | 3.33 (2.08) | 1764 | 3175 |
| $T_8$ | Chlorfenapyre 10 SC, 0.015% | 53.33 (7.34) | 47.00 (6.91) | 11.67 (3.54) | 5.33 (2.58) | 1611 | 2900 |
| $T_9$ | Malathion 50 EC, 0.05% | 50.00 (7.12) | 49.67 (7.10) | 25.33 (5.04) | 15.00 (4.00) | 1333 | 2400 |
| $T_{10}$ | Un-treated control | 52.00 (7.27) | 53.33 (7.35) | 55.67 (7.50) | 57.67 (7.65) | 1194 | 2150 |
| | C.D. | NS | NS | 0.89 | 0.35 | 206 | 372 |
| | SE m± | 0.32 | 0.35 | 0.30 | 0.12 | 69 | 124 |

**N.B: Figure in brackets is transformed values, whereas those outside are original values**

**Table-V.6d: Economics of various treatments for the management of *H. armigera* in pearl millet (Centre: Jodhpur)**

| Sr. No. | Treatment | Net Grain yield | Net Fodder yield | Additional Income | Total cost | Net return | ICBR |
|---|---|---|---|---|---|---|---|
| $T_1$ | Profenophos 50 EC, 0.05% | 320 | 575 | 8188 | 900 | 7288 | 1:9.10 |
| $T_2$ | Quinalphos 25 EC, 0.05% | 362 | 650 | 9254 | 1100 | 8154 | 1:8.41 |
| $T_3$ | Spinosad 45%, 0.009% | 514 | 925 | 13165 | 2900 | 10265 | 1:4.54 |
| $T_4$ | Indoxacarb 14.5 SC, 0.006% | 445 | 800 | 11388 | 1150 | 10238 | 1:9.90 |
| $T_5$ | Emamectin benzoate 5 SG, 0.002% | 639 | 1150 | **16365** | 1000 | **15365** | 1:16.37 |
| $T_6$ | Chlorantraniprole 18.5 SC, 0.006% | 625 | 1125 | 16010 | 2350 | 13660 | 1:6.81 |
| $T_7$ | Lambda cyhalothrin 5 EC, 0.003% | 570 | 1025 | 14588 | 700 | 13888 | **1:20.84** |
| $T_8$ | Chlorfenapyre 10 SC, 0.015% | 417 | 750 | 10676 | 1000 | 9676 | 1:10.68 |
| $T_9$ | Malathion 50 EC, 0.05% | 139 | 250 | 3565 | 950 | 2615 | 1:3.75 |

| No. | Inputs | Cost Rs. |
|---|---|---|
| 1 | Cost of Bajra per kg | 22.00 |
| 2 | Cost of Fodder per kg | 2.00 |
| 3 | Profenophos 50 EC, 500 ml | 400.00 |
| 4 | Quinalphos 25 EC, 1000 ml | 600.00 |
| 5 | Spinosad 45%, 100 ml | 2400.00 |
| 6 | Indoxacarb 14.5 SC, 200 ml | 650.00 |
| 7 | Emamectin benzoate 5 SG, 200g | 500.00 |
| 8 | Chlorantraniprole 18.5 SC, 150 ml | 1850.00 |
| 9 | Lambda cyhalothrin 5 EC, 300ml | 200.00 |
| 10 | Chlorfenapyre 10 SC, 750 ml | 500.00 |
| 11 | Malathion 50 EC, 500 ml | 450.00 |
| 12 | Labour cost for one spray per hactare | 500.00 |

**Table V.e: Statement showing the incidence of *Helicoverpa armigera* and yield in pearl millet (Centre: Fatehpur-Shekhawati)**

| Treatment No. | Treatments | *Helicoverpaarmigera* larval population per 20 ear heads | | | | Yield kg/ha. | |
|---|---|---|---|---|---|---|---|
| | | 24 hrs before spray | 24 hrs after spray | 3 days after spray | 7 days after spray | Grain | Fodder |
| T1 | Profenophos 50 EC, 0.05% | 45.33 (6.76) | 28.33 (5.36) | 13.6 (3.74) | 3.67 (2.04) | 2403 | 5556 |
| T2 | Quinalphos 25 EC, 0.05% | 47.00 (6.88) | 30.00 (5.51) | 18.67 (4.37) | 5.33 (2.41) | 2367 | 5528 |
| T3 | Spinosad 45%, 0.009% | 46.00 (6.81) | 18.67 (4.37) | 3.67 (2.03) | 0.33 (0.88) | 2500 | 5567 |
| T4 | Indoxacarb 14.5 SC, 0.006% | 48.00 (6.96) | 19.33 (4.43) | 4.00 (2.11) | 0.67 (1.05) | 2472 | 5539 |
| T5 | Emamectin benzoate 5 SG, 0.002% | 47.00 (6.87) | 16.33 (4.10) | 1.67 (1.46) | 0.00 (0.71) | 2667 | 5569 |
| T6 | Chlorantraniprole 18.5 SC, 0.006% | 48.00 (6.96) | 19.33 (4.44) | 4.33 (2.20) | 1.00 (1.22) | 2417 | 5533 |
| T7 | Lambda cyhalothrin 5 EC, 0.003% | 47.00 (6.89) | 21.33 (4.66) | 4.67 (2.27) | 3.00 (1.87) | 2408 | 5519 |
| T8 | Chlorfenapyre 10 SC, 0.015% | 46.67 (6.86) | 28.67 (5.39) | 18.33 (4.34) | 5.00 (2.35) | 2389 | 5542 |
| T9 | Malathion 50 EC, 0.05% | 45.33 (6.75) | 30.00 (5.52) | 20.00 (4.51) | 5.67 (2.48) | 2361 | 5564 |
| T10 | Un-treated control | 46.33 (6.83) | 51.67 (7.22) | 54.00 (7.38) | 61.67 (7.88) | 2111 | 5506 |
| | SEm ± | 0.24 | 0.21 | 0.18 | 0.11 | 98.47 | 109 |
| | C.D. 5% | 0.72 | 0.63 | 0.54 | 0.31 | 292.56 | NS |
| | CV % | 6.10 | 6.84 | 9.21 | 8.01 | 7.08 | - |

**N.B.: Square root √ X+0.5 values, Figure in parenthesis are original values.**

**Table-V.6f: Economics of various treatments for the management of *H. armigera* in pearl millet (Centre: Fatehpur-Shekhawati)**

| Sr. No | Treatments | Yield increase over control kg/ha | | Additional income Rs. | Total Expenditure Rs. | Net return Rs. | I.C.B.R. |
|---|---|---|---|---|---|---|---|
| | | Grain | fodder | | | | |
| $T_1$ | Profenophos 50 EC, 0.05% | 291 | 50 | 6502 | 1000 | 5502 | 6.50 |
| $T_2$ | Quinalphos 25 EC, 0.05% | 255 | 22 | 5654 | 1200 | 4454 | 4.71 |
| $T_3$ | Spinosad 45% ,0.009% | 388 | 61 | 8658 | 3000 | 5658 | 2.89 |
| $T_4$ | Indoxacarb 14.5 SC, 0.006% | 361 | 33 | 8008 | 1250 | 6758 | 6.41 |
| $T_5$ | Emamectin benzoate 5 SG, 0.002% | 555 | 64 | **12338** | 1100 | **11238** | **11.22** |
| $T_6$ | Chlorantraniprole 18.5 SC,0.006% | 305 | 28 | 6766 | 2450 | 4316 | 2.76 |
| $T_7$ | Lambda cyhalothrin 5 EC,0.003% | 297 | 14 | 6562 | 800 | 5762 | 8.20 |
| $T_8$ | Chlorfenapyre 10 SC, 0.015% | 277 | 36 | 6166 | 1100 | 5066 | 5.61 |
| $T_9$ | Malathion 50 EC,0.05% | 250 | 58 | 5616 | 1050 | 4566 | 5.35 |

| No. | Inputs | Cost Rs. |
|---|---|---|
| 1 | Cost of Bajra per kg | 22.00 |
| 2 | Cost of Fodder per kg | 2.00 |
| 3 | Profenophos 50 EC, 500 ml | 400.00 |
| 4 | Quinalphos 25 EC, 1000 ml | 600.00 |
| 5 | Spinosad 45%, 100 ml | 2400.00 |
| 6 | Indoxacarb 14.5 SC, 200 ml | 650.00 |
| 7 | Emamectin benzoate 5 SG, 200g | 500.00 |
| 8 | Chlorantraniprole 18.5 SC, 150 ml | 1850.00 |
| 9 | Lambda cyhalothrin 5 EC, 300ml | 200.00 |
| 10 | Chlorfenapyre 10 SC, 750 ml | 500.00 |
| 11 | Malathion 50 EC, 500 ml | 450.00 |
| 12 | Labour cost for one spray per hactare | 600.00 |

**Table V.7a: (PMET-7) Survey of insect- pests of summer pearl millet on farmers' fields in Gujarat (Centres: Jamnagar & Anand).**

| No. | Date of survey | Location | Taluka | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | Heli./5 EH | GWDS | FAW% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15.05.24 | Jodiya | Jodiya | Jamnagar | Sagar 222 | 1.0 | EH | 1.00 | 2.00 | 1.00 | 1.00 | 0.00 |
| 2 | 15.05.24 | Keshiya | Jodiya | Jamnagar | Sagar 222 | 1.0 | EH | 2.00 | 5.00 | 1.00 | 1.00 | 0.00 |
| 3 | 15.05.24 | Hajamchora | Jodiya | Jamnagar | Sagar 222 | 1.0 | EH | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| 4 | 15.05.24 | Morana | Jodiya | Jamnagar | Sagar 222 | 0.5 | EH | 1.00 | 2.00 | 1.00 | 1.00 | 0.00 |
| 5 | 15.05.24 | Balambha | Jodiya | Jamnagar | Sagar 222 | 1.0 | EH | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| 6 | 15.05.24 | Meghpar | Jodiya | Jamnagar | Sagar 222 | 0.5 | EH | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 15.05.24 | Pipalia | Jodiya | Jamnagar | Mahyco | 0.5 | EH | 1.00 | 5.00 | 1.00 | 2.00 | 0.00 |
| 8 | 15.05.24 | Bodka | Jodiya | Jamnagar | Pioneer | 0.5 | EH | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| 9 | 15.05.24 | Maangadh | Jodiya | Jamnagar | Pioneer | 0.5 | EH | 1.00 | 2.00 | 1.00 | 1.00 | 0.00 |
| 10 | 15.05.24 | Palasva | Rapar | Kutch | 86M11 | 1.0 | EH | 5.00 | 1.00 | 2.00 | 2.00 | 0.00 |
| 11 | 15.05.24 | Radhanpur | Radhanpur | Patan | 86M11 | 1.0 | EH | 1.00 | 5.00 | 5.00 | 2.00 | 0.00 |
| 12 | 15.05.24 | Ranakpur | Kankrej | B.Kantha | 86M11 | 2.0 | EH | 2.00 | 5.00 | 10.00 | 2.00 | 0.00 |
| 13 | 15.05.24 | Tharra | Kankrej | B.Kantha | 86M22 | 1.0 | EH | 1.00 | 5.00 | 12.00 | 1.00 | 0.00 |
| 14 | 15.05.24 | Dungrasan | Kankrej | B.Kantha | 86M22 | 1.0 | EH | 5.00 | 5.00 | 10.00 | 1.00 | 0.00 |
| 15 | 15.05.24 | Manpura | Vadgam | B.Kantha | 86M11 | 1.0 | EH | 1.00 | 1.00 | 5.00 | 0.00 | 0.00 |
| 16 | 15.05.24 | Shihori | Kankrej | B.Kantha | 85M36 | 1.0 | EH | 1.00 | 1.00 | 15.00 | 1.00 | 0.00 |
| 17 | 15.05.24 | Chekhla | Palanpur | B.Kantha | 85M36 | 1.0 | EH | 1.00 | 1.00 | 10.00 | 1.00 | 0.00 |
| 18 | 15.05.24 | Khodla | Palanpur | B.Kantha | 86M11 | 2.0 | EH | 2.00 | 5.00 | 20.00 | 1.00 | 0.00 |
| 19 | 15.05.24 | Bhiladi | Deesa | B.Kantha | 86M11 | 1.0 | EH | 5.00 | 2.00 | 10.00 | 1.00 | 0.00 |
| 20 | 15.05.24 | Mudetha | Deesa | B.Kantha | 86M22 | 2.0 | EH | 10.00 | 5.00 | 25.00 | 1.00 | 0.00 |
| 21 | 15.05.24 | Khetwa | Deesa | B.Kantha | 86M22 | 1.0 | EH | 1.00 | 2.00 | 10.00 | 1.00 | 0.00 |
| 22 | 15.05.24 | Dedol | Deesa | B.Kantha | 86M11 | 1.0 | EH | 5.00 | 5.00 | 12.00 | 1.00 | 0.00 |
| 23 | 15.05.24 | Lorvada | Deesa | B.Kantha | 85M36 | 1.0 | EH | 2.00 | 1.00 | 10.00 | 1.00 | 0.00 |
| 24 | 15.05.24 | Vadaval | Deesa | B.Kantha | 85M36 | 1.0 | EH | 5.00 | 5.00 | 5.00 | 1.00 | 0.00 |
| 25 | 15.05.24 | Kumpat | Deesa | B.Kantha | 86M11 | 2.0 | EH | 2.00 | 5.00 | 10.00 | 0.00 | 0.00 |
| 26 | 15.05.24 | Maalgadh | Deesa | B.Kantha | Advanta 936 | 1.0 | EH | 5.00 | 2.00 | 7.00 | 0.00 | 0.00 |
| 27 | 15.05.24 | Deesa | Deesa | B.Kantha | KPH 6311 | 2.0 | EH | 5.00 | 5.00 | 10.00 | 0.00 | 0.00 |
| 28 | 15.05.24 | Kant | Deesa | B.Kantha | 86M11 | 1.0 | EH | 1.00 | 1.00 | 5.00 | 0.00 | 0.00 |
| 29 | 15.05.24 | Bhakhar moti | Dantivada | B.Kantha | Sagar 222 | 1.0 | EH | 5.00 | 5.00 | 15.00 | 1.00 | 0.00 |
| 30 | 15.05.24 | Bhakhar nani | Dantivada | B.Kantha | Avani | 1.0 | EH | 2.00 | 3.00 | 10.00 | 1.00 | 0.00 |
| 31 | 15.05.24 | Vaghrol | Dantivada | B.Kantha | 86M11 | 1.0 | EH | 1.00 | 1.00 | 12.00 | 1.00 | 0.00 |
| 32 | 15.05.24 | Lodpa | Dantivada | B.Kantha | New genes | 1.0 | EH | 5.00 | 5.00 | 10.00 | 1.00 | 0.00 |
| 33 | 16.05.24 | Bhoyan | Deesa | B.Kantha | US 7306 | 1.0 | EH | 1.00 | 2.00 | 12.00 | 1.00 | 0.00 |
| 34 | 16.05.24 | Kushkal | Palanpur | B.Kantha | 86M11 | 1.0 | EH | 5.00 | 5.00 | 5.00 | 1.00 | 0.00 |
| 35 | 16.05.24 | Jodnapura | Palanpur | B.Kantha | 86M11 | 1.0 | EH | 5.00 | 10.00 | 5.00 | 0.00 | 0.00 |
| 36 | 16.05.24 | Chandisar | Palanpur | B.Kantha | 86M11 | 1.0 | EH | 5.00 | 5.00 | 10.00 | 0.00 | 0.00 |
| 37 | 16.05.24 | Chadotar | Palanpur | B.Kantha | 86M11 | 1.5 | EH | 1.00 | 5.00 | 8.00 | 1.00 | 0.00 |
| 38 | 16.05.24 | Devrasan | Mahesana | Mahesana | 86M11 | 0.5 | EH | 5.00 | 5.00 | 2.00 | 0.00 | 0.00 |
| 39 | 16.05.24 | Gunjala | Visnagar | Mahesana | 86M11 | 1.0 | EH | 5.00 | 5.00 | 1.00 | 0.00 | 0.00 |
| 40 | 16.05.24 | Dabhla | Vijapur | Mahesana | Sagar 222 | 1.0 | EH | 1.00 | 1.00 | 5.00 | 0.00 | 0.00 |
| 41 | 16.05.24 | Devda | Vijapur | Mahesana | Sagar 222 | 1.0 | EH | 2.00 | 5.00 | 7.00 | 0.00 | 0.00 |

| No. | Date of survey | Location | Taluka | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | Heli./5 EH | GWDS | FAW% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42 | 16.05.24 | Kukarwada | Vijapur | Mahesana | Advanta 936 | 0.5 | EH | 5.00 | 5.00 | 1.00 | 0.00 | 0.00 |
| 43 | 16.05.24 | Chadasna | Kadi | Mahesana | KPH 6311 | 1.0 | EH | 1.00 | 2.00 | 1.00 | 0.00 | 0.00 |
| 44 | 16.05.24 | Pilvai | Vijapur | Mahesana | 86M11 | 1.0 | EH | 2.00 | 2.00 | 1.00 | 0.00 | 0.00 |
| 45 | 16.05.24 | Vijapur | Vijapur | Mahesana | Sagar 222 | 1.0 | EH | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| 46 | 16.05.24 | Motipura | Dehgam | Gandhinagar | Avani | 1.0 | EH | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| 47 | 16.05.24 | Pundra | Mansa | Gandhinagar | 86M11 | 1.0 | EH | 2.00 | 1.00 | 2.00 | 0.00 | 0.00 |
| 48 | 16.05.24 | Vihar | Mansa | Gandhinagar | New genes | 1.0 | EH | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| 49 | 16.05.24 | Lodra | Mansa | Gandhinagar | US 7306 | 1.0 | EH | 5.00 | 2.00 | 5.00 | 2.00 | 0.00 |
| 50 | 16.05.24 | Anand | Anand | Anand | 86M11 | 1.5 | EH | 1.00 | 3.00 | 1.00 | 1.00 | 1.00 |
| 51 | 16.05.24 | Valasan | Anand | Anand | 86M22 | 0.5 | EH | 2.00 | 4.00 | 0.00 | 0.00 | 0.00 |
| 52 | 16.05.24 | Ravipura | Petlad | Anand | 86M22 | 1.0 | EH | 1.00 | 5.00 | 1.00 | 1.00 | 1.00 |
| 53 | 16.05.24 | Dhebakuva | Petlad | Anand | 86M11 | 0.5 | EH | 1.00 | 2.00 | 0.00 | 2.00 | 1.00 |
| 54 | 16.05.24 | Bandhani | Petlad | Anand | 85M36 | 1.0 | EH | 2.00 | 10.00 | 2.00 | 1.00 | 2.00 |
| 55 | 16.05.24 | Porda | Petlad | Anand | 85M36 | 2.0 | EH | 2.00 | 2.00 | 0.00 | 1.00 | 1.00 |
| 56 | 16.05.24 | Piplav | Sojitra | Anand | 86M11 | 1.0 | EH | 1.00 | 5.00 | 3.00 | 2.00 | 1.00 |
| 57 | 16.05.24 | Petlad | Petlad | Anand | Advanta 936 | 0.5 | EH | 1.00 | 4.00 | 0.00 | 2.00 | 1.00 |
| 58 | 16.05.24 | Sunav | Petlad | Anand | KPH 6311 | 1.0 | EH | 2.00 | 3.00 | 1.00 | 2.00 | 1.00 |
| 59 | 16.05.24 | Palaj | Petlad | Anand | 86M11 | 2.0 | EH | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| 60 | 16.05.24 | Isanav | Sojitra | Anand | Sagar 222 | 0.5 | EH | 2.00 | 5.00 | 2.00 | 1.00 | 0.00 |
| 61 | 16.05.24 | Sojitra | Sojitra | Anand | Avani | 0.5 | EH | 3.00 | 2.00 | 1.00 | 3.00 | 0.00 |
| 62 | 16.05.24 | Harmanpura | Petlad | Anand | 86M11 | 1.0 | EH | 2.00 | 5.00 | 1.00 | 2.00 | 1.00 |
| 63 | 16.05.24 | Gada | Sojitra | Anand | New genes | 1.0 | EH | 1.00 | 2.00 | 1.00 | 2.00 | 1.00 |
| 64 | 16.05.24 | Dali | Borsad | Anand | US 7306 | 1.0 | EH | 2.00 | 3.00 | 1.00 | 1.00 | 5.00 |
| 65 | 23.05.24 | Pipaliya | Khambalia | Dwarka | GHB 1129 | 0.5 | EH | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 66 | 23.05.24 | Rupamora | Bhanvad | Jamnagar | GHB 1129 | 0.5 | EH | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| 67 | 23.05.24 | Verad | Bhanvad | Jamnagar | GHB 1129 | 0.5 | EH | 5.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| 68 | 23.05.24 | Arikhana | Lalpur | Jamnagar | Sagar 222 | 0.5 | EH | 2.00 | 0.00 | 2.00 | 1.00 | 0.00 |
| 69 | 23.05.24 | Dhichada | Jamnagar | Jamnagar | GHB 1129 | 0.5 | EH | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| 70 | 28.05.24 | Hadiana | Jodiya | Jamnagar | GHB 1129 | 1.0 | EH | 2.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| 71 | 28.05.24 | Chavda | Jamnagar | Jamnagar | GHB 1129 | 0.5 | EH | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 72 | 28.05.24 | Jivapar | Kalavad | Jamnagar | GHB 1129 | 1.0 | EH | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 73 | 28.05.24 | Khilos | Jamnagar | Jamnagar | GHB 1129 | 0.5 | EH | 2.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 74 | 28.05.24 | Rampar | Jamnagar | Jamnagar | Sagar 222 | 1.0 | EH | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 75 | 5/7/2024 | Navali | Anand | Anand | Advanta 5151 | 0.8 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 76 | 5/7/2024 | Navali | Anand | Anand | Advanta | 0.6 | E.H. | 15.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 77 | 5/7/2024 | Navali | Anand | Anand | Balram 222 | 0.9 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 78 | 5/7/2024 | Khandhali | Anand | Anand | Advanta 555 | 0.6 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 79 | 5/7/2024 | Khandhali | Anand | Anand | Dhany 555 | 0.7 | E.H. | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 80 | 5/7/2024 | Napa | Anand | Anand | 86M84 | 0.6 | E.H. | 5.00 | 15.00 | 1.00 | 0.00 | 0.00 |
| 81 | 5/7/2024 | Napa | Anand | Anand | Dhany 555 | 0.3 | E.H. | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 82 | 5/7/2024 | Napa | Anand | Anand | Sagar 555 | 0.7 | E.H. | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 83 | 5/7/2024 | Dedarda | Borsad | Anand | Desi | 0.5 | E.H. | 20.00 | 20.00 | 4.00 | 0.00 | 5.00 |

| No. | Date of survey | Location | Taluka | District | Variety | Area (ha.) | Crop stage | Shoot fly % | Stem borer % | Heli./5 EH | GWDS | FAW% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84 | 5/7/2024 | Dedarda | Borsad | Anand | 86M84 | 1.2 | E.H. | 5.00 | 10.00 | 1.00 | 0.00 | 0.00 |
| 85 | 5/7/2024 | Dedarda | Borsad | Anand | 86M84 | 0.9 | E.H. | 5.00 | 10.00 | 1.00 | 0.00 | 0.00 |
| 86 | 5/7/2024 | Kavitha | Borsad | Anand | Desi | 0.5 | E.H. | 15.00 | 20.00 | 3.00 | 0.00 | 0.00 |
| 87 | 5/7/2024 | Kavitha | Borsad | Anand | Desi | 0.7 | E.H. | 15.00 | 20.00 | 3.00 | 0.00 | 0.00 |
| 88 | 5/7/2024 | Santokpura | Borsad | Anand | Sagar 222 | 0.7 | E.H. | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 89 | 5/7/2024 | Virol | Sojitra | Anand | Sagar 222 | 1.1 | E.H. | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 90 | 5/7/2024 | Virol | Sojitra | Anand | Advanta 5151 | 0.9 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 91 | 5/7/2024 | Davalpura | Petlad | Anand | Advanta | 1.2 | E.H. | 15.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 92 | 5/7/2024 | Palaj | Anand | Anand | Pionear | 0.4 | E.H. | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 93 | 5/7/2024 | Piplav | Sojitra | Anand | Balram 222 | 0.3 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 94 | 5/7/2024 | Bandhani | Petlad | Anand | 86M84 | 0.2 | E.H. | 5.00 | 10.00 | 1.00 | 0.00 | 0.00 |
| 95 | 5/13/2024 | Dalapura | Umreth | Anand | Sagar 222 | 0.1 | E.H. | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 96 | 5/13/2024 | Rahtalav | Anand | Anand | Sagar 222 | 0.5 | E.H. | 5.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| 97 | 5/13/2024 | Jakhala | Umreth | Anand | Advanta | 0.9 | E.H. | 15.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 98 | 5/13/2024 | Pansora | Umreth | Anand | Balram 222 | 0.8 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 99 | 5/13/2024 | Pansora | Umreth | Anand | Desi | 0.5 | E.H. | 15.00 | 20.00 | 3.00 | 0.00 | 0.00 |
| 100 | 5/13/2024 | Pansora | Umreth | Anand | 86M11 | 0.2 | E.H. | 5.00 | 15.00 | 1.00 | 0.00 | 0.00 |
| 101 | 5/13/2024 | Lingada | Umreth | Anand | Desi | 0.4 | E.H. | 15.00 | 15.00 | 3.00 | 0.00 | 0.00 |
| 102 | 5/13/2024 | Bharoda | Umreth | Anand | Desi | 0.4 | E.H. | 15.00 | 15.00 | 3.00 | 0.00 | 0.00 |
| 103 | 5/13/2024 | bharoda | Umreth | Anand | Balram 222 | 0.6 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 104 | 5/13/2024 | Bhandhipur | Umreth | Anand | Advanta 555 | 0.4 | E.H. | 10.00 | 15.00 | 2.00 | 0.00 | 0.00 |
| 105 | 5/13/2024 | Bandhipur | Umreth | Anand | Dhany 555 | 0.7 | E.H. | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 |
| 106 | 5/13/2024 | ode | Anand | Anand | 86M84 | 0.1 | E.H. | 5.00 | 10.00 | 0.00 | 0.00 | 0.00 |
| | | | | | | | **Mini.** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| | | | | | | | **Maxi.** | **20.00** | **20.00** | **25.00** | **3.00** | **5.00** |
| | | | | | | | **Mean** | **4.37** | **5.58** | **3.66** | **0.58** | **0.21** |

**Table V.7b: (PMET-7) District-wise insect- pest situation of summer pearl millet on farmers' fields in Gujarat (Centres: Jamnagar & Anand).**

| No | Districts | Shoot fly % Incidence | Stem borer % Incidence | Helicoverpa Larval population /5 Ear heads | Grey Weevil Damage Score | FAW% |
|---|---|---|---|---|---|---|
| 1 | **Anand** | **5.82** | **7.70** | 1.28 | 0.46 | **0.39** |
| 2 | **Banaskantha** | 3.23 | 3.73 | **10.50** | 0.77 | 0.00 |
| 3 | **Dev.Dwarka** | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| 4 | **Gandhinagar** | 2.25 | 1.25 | 2.25 | 0.75 | 0.00 |
| 5 | **Jamnagar** | 1.50 | 1.06 | 1.00 | 0.72 | 0.00 |
| 6 | **Kutch** | 5.00 | 1.00 | 2.00 | **2.00** | 0.00 |
| 7 | **Mahesana** | 2.75 | 3.25 | 2.38 | 0.00 | 0.00 |
| 8 | **Patan** | 1.00 | 5.00 | 5.00 | **2.00** | 0.00 |
| | **Mean** | **2.34** | **2.84** | **4.62** | **0.84** | **0.23** |

**Table V.7c: (PMET-7) Survey of insect- pests of summer pearl millet on farmers' fields in Maharashtra (Centre: Aurangabad).**

| No. of farmer | Date of survey | Location | Taluka/ Tehsil | District | Variety | Area (ha.) | Crop stage | Shoot fly damage % | Stem borer damage % | Blister beetles/ 5 E.H. | Chaffer beetle/ 5 E.H. | Fall Army Worm % damage | Lady bird beetle / 5 Pl. | Chrysopa/ 5 Pl. | If Any other pest observed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20.05.24 | Satara | Aurangabad | Aurangabad | 86-M-32 | 0.4 | EH | 20.0 | 0.0 | 0 | 0 | 40.00 | 0 | 0 | Nil |
| 2 | 20.05.24 | Satara | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 20.0 | 0 | 0.4 | 20 | 0 | 0 | Nil |
| 3 | 20.05.24 | Aadul | Paithan | Aurangabad | 86-M-32 | 0.4 | EH | 20.0 | 0.0 | 0 | 0 | 0 | 1 | 0 | Nil |
| 4 | 20.05.24 | Gandheli | Aurangabad | Aurangabad | 88-0-36 | 0.4 | EH | 20.0 | 0.0 | 0.4 | 0 | 20 | 0 | 0 | Nil |
| 5 | 20.05.24 | Pimpri raja | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0 | 0.6 | 0 | 1 | 0 | Nil |
| 6 | 21.05.24 | Dhakalgaon | Ambad | Jalna | Local | 0.4 | EH | 0.0 | 20.0 | 0.4 | 0 | 0 | 0 | 0 | Nil |
| 7 | 21.05.24 | Mardi | Ambad | Jalna | 355 | 0.4 | EH | 20.0 | 0.0 | 0 | 1 | 0 | 0 | 0 | 2.0 Hairy Cat |
| 8 | 21.05.24 | Shiradhon | Ambad | Jalna | 86-M-38 | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | Nil |
| 9 | 21.05.24 | Kingaonwadi | Ambad | Jalna | 7872 | 0.8 | EH | 0.0 | 0.0 | 0 | 0.6 | 0 | 1 | 0 | Nil |
| 10 | 21.05.24 | Rohilagad | Badnapur | Jalna | Local | 0.4 | EH | 0.0 | 20.0 | 0 | 0.4 | 20 | 1 | 0 | Nil |
| 11 | 21.05.24 | Nihalsing wadi | Badnapur | Jalna | Tata 739 | 0.8 | EH | 20.0 | 0.0 | 0.4 | 0 | 0 | 0 | 0 | Nil |
| 12 | 21.05.24 | Badnapur | Badnapur | Jalna | Nirmal 240 | 0.2 | EH | 0.0 | 0.0 | 0 | 0.6 | 0 | 0 | 1 | Nil |
| 13 | 21.05.24 | Badnapur | Badnapur | Jalna | 9285 | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 20 | 0 | 0 | Nil |
| 14 | 21.05.24 | Badnapur | Badnapur | Jalna | US 7711 | 0.2 | EH | 0.0 | 20.0 | 0 | 1 | 0 | 0 | 0 | 2.0 Hairy Cat |
| 15 | 22.05.24 | Kumbhefal | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | Nil |
| 16 | 22.05.24 | Kumbhefal | Aurangabad | Aurangabad | Nirmal 240 | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 3.0 Hairy Cat |
| 17 | 22.05.24 | Kumbhefal | Aurangabad | Aurangabad | 204 | 0.4 | EH | 20.0 | 0.0 | 0 | 1 | 0 | 0 | 0 | 2.0 Hairy Cat |
| 18 | 22.05.24 | Bidkin | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0.4 | 0.6 | 20 | 1 | 0 | Nil |
| 19 | 22.05.24 | Karkin | Aurangabad | Aurangabad | 7872 | 0.4 | EH | 20.0 | 20.0 | 0 | 0 | 0 | 0 | 0 | Nil |
| 20 | 22.05.24 | Chittegaon | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | Nil |
| 21 | 22.05.24 | Chitegaon | Aurangabad | Aurangabad | 86-M-84 | 0.4 | EH | 20.0 | 0.0 | 0 | 1 | 0 | 0 | 0 | Nil |
| 22 | 22.05.24 | Harsul | Aurangabad | Aurangabad | Local | 0.8 | EH | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0 | Nil |
| 23 | 22.05.24 | Murumkheda | Aurangabad | Aurangabad | Local | 0.6 | EH | 20.0 | 0.0 | 0 | 1 | 0 | 0 | 0 | Nil |
| 24 | 22.05.24 | Sultanpur | Aurangabad | Aurangabad | Local | 0.4 | EH | 0.0 | 0.0 | 0 | 0.4 | 0 | 0 | 0 | 3.0 Hairy Cat |
| 25 | 22.05.24 | Hirapur | Aurangabad | Aurangabad | 7872 | 0.4 | EH | 0.0 | 0.0 | 0.2 | 0 | 20 | 0 | 0 | Nil |
| | | | | | | | **Mini.** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | |
| | | | | | | | **Maxi.** | **20.00** | **20.00** | **0.40** | **1.00** | **40.00** | **1.00** | **1.00** | |
| | | | | | | | **Mean** | **7.20** | **4.00** | **0.07** | **0.34** | **6.40** | **0.20** | **0.04** | |

**Table V.8a: Relative susceptibility of pearl millet advanced entries to storage insect pests (*Tribolium castaneum*) at Jamnagar, *Kharif* 2023-24**

| Entry code | Entry name | Decoding | Adult *Tribolum* population/100g | | Per cent grain damage | | Per cent weight loss | | Germination % |
|---|---|---|---|---|---|---|---|---|---|
| | | | At 3 months | At 6 months | At 3 months | At 6 months | At 3 months | At 6 months | At 6 months |
| PET 201 | MH 2672 | CZH 267 | 3.94# (14.50) | 11.77# (137.50) | 6.72* (1.38) | 22.07* (14.13) | 9.33* (3.00) | 21.07* (13.00) | 85.50 |
| PET 202 | MH 2673 | RHB-273 | 4.18 (16.50) | 12.98 (167.50) | 7.86 (1.88) | 23.27 (15.63) | 13.54 (5.50) | 23.17 (15.50) | 83.50 |
| PET 203 | MH 2675 | GHB 1305 | 2.34 (4.50) | 6.40 (40.00) | 2.87 (0.25) | 11.89 (4.25) | 5.74 (1.00) | 13.54 (5.50) | 95.50 |
| PET 204 | MH 2678 | HHB 344 | 4.95 (23.50) | 14.94 (222.50) | 8.38 (2.13) | 27.00 (20.63) | 19.34 (11.00) | 27.26 (21.00) | 79.50 |
| PET 205 | MH 2682 | APHB-126 | 2.12 (3.50) | 6.39 (40.00) | 2.87 (0.25) | 11.35 (3.88) | 4.90 (0.75) | 10.75 (3.50) | 95.50 |
| PET 206 | MH 2705 | IIMRPH2 | 4.36 (18.00) | 13.54 (182.50) | 7.86 (1.88) | 24.71 (17.50) | 15.18 (7.00) | 24.30 (17.00) | 82.50 |
| PET 207 | MH 2626 | MP7214 | 2.34 (4.50) | 6.44 (40.50) | 2.87 (0.25) | 11.71 (4.13) | 5.74 (1.00) | 11.44 (4.00) | 96.00 |
| PET 208 | MH 2631 | PB1939 | 2.34 (4.50) | 6.40 (40.00) | 3.46 (0.38) | 11.35 (3.88) | 5.74 (1.00) | 10.75 (3.50) | 95.50 |
| PET 209 | MH 2709 | MP7173 | 2.12 (3.50) | 6.29 (38.50) | 3.46 (0.38) | 10.97 (3.63) | 5.74 (1.00) | 9.83 (3.00) | 96.00 |
| PET 210 | MH 2710 | MP7179 | 2.34 (4.50) | 6.44 (40.50) | 4.05 (0.50) | 11.16 (3.75) | 5.74 (1.00) | 11.15 (4.00) | 96.00 |
| PET 211 | MH 2711 | DHBH-21003 | 3.60 (12.00) | 10.88 (117.50) | 6.08 (1.13) | 19.01 (10.63) | 6.93 (1.50) | 18.90 (10.50) | 88.50 |
| PET 212 | MH 2712 | VNR-106 | 4.12 (16.00) | 12.59 (157.50) | 6.72 (1.38) | 23.27 (15.63) | 12.22 (4.50) | 22.37 (14.50) | 84.50 |
| PET 213 | MH 2713 | VNR-107 | 4.35 (18.00) | 13.45 (180.00) | 7.86 (1.88) | 24.24 (16.88) | 15.30 (7.00) | 24.33 (17.00) | 80.50 |
| PET 214 | MH 2715 | NBH 5992 | 1.87 (2.50) | 6.20 (37.50) | 2.87 (0.25) | 10.37 (3.25) | 4.90 (0.75) | 9.05 (2.50) | 97.00 |
| PET 215 | MH 2717 | US7773 | 2.34 (4.50) | 6.40 (40.00) | 3.46 (0.38) | 11.35 (3.88) | 5.74 (1.00) | 10.75 (3.50) | 95.50 |
| PET 216 | MH 2723 | BLPMH 112 | 4.06 (15.50) | 12.29 (150.00) | 7.86 (1.88) | 23.27 (15.63) | 12.22 (4.50) | 22.37 (14.50) | 84.50 |
| PET 217 | MH 2729 | KPH6277 | 3.60 (12.00) | 10.88 (117.50) | 6.08 (1.13) | 19.48 (11.13) | 6.93 (1.50) | 19.34 (11.00) | 86.50 |
| PET 218 | MH 2730 | JKBH1870 | 2.12 (3.50) | 6.04 (35.50) | 2.87 (0.25) | 10.57 (3.38) | 6.38 (1.25) | 10.52 (3.50) | 96.50 |
| PET 219 | MH 2733 | GHB 1337 | 2.34 (4.50) | 6.48 (41.00) | 2.87 (0.25) | 11.35 (3.88) | 6.93 (1.50) | 11.44 (4.00) | 96.00 |
| PET 220 | HHB 67 Imp. | HHB 67 Imp. | 3.07 (8.50) | 9.41 (87.50) | 2.87 (0.25) | 16.81 (8.38) | 9.05 (2.50) | 16.39 (8.00) | 91.50 |
| PET 221 | PB 1756 | PB 1756 | 3.79 (13.50) | 11.34 (127.50) | 7.01 (1.50) | 20.69 (12.50) | 7.85 (2.00) | 20.24 (12.00) | 86.50 |
| PET 222 | MPMH 21 | MPMH 21 | 4.35 (18.00) | 13.36 (177.50) | 7.83 (1.88) | 26.10 (19.38) | 15.30 (7.00) | 24.33 (17.00) | 80.50 |
| PET 223 | RHB 223 | RHB 223 | 3.99 (15.00) | 12.29 (150.00) | 7.01 (1.50) | 23.27 (15.63) | 9.96 (3.50) | 21.47 (13.50) | 84.50 |
| PET 224 | Pratap | Pratap | 3.15 (9.00) | 9.41 (87.50) | 3.46 (0.38) | 16.81 (8.38) | 9.05 (2.50) | 16.94 (8.50) | 91.00 |
| PET 225 | AHB 1269 | AHB 1269 | 4.06 (15.50) | 12.48 (155.00) | 6.08 (1.13) | 22.27 (14.38) | 12.85 (5.00) | 22.77 (15.00) | 85.50 |
| PET 226 | 86M01 | 86M01 | 2.23 (4.00) | 6.24 (38.00) | 2.87 (0.25) | 10.57 (3.38) | 6.09 (1.25) | 10.52 (3.50) | 96.50 |
| PET 227 | KBH 108 | KBH 108 | 3.79 (13.50) | 11.66 (135.00) | 5.35 (0.88) | 21.44 (13.38) | 7.85 (2.00) | 20.24 (12.00) | 87.50 |
| PET 228 | 86M86 | 86M86 | 4.41 (18.50) | 13.64 (185.00) | 7.86 (1.88) | 25.37 (18.38) | 15.30 (7.00) | 24.33 (17.00) | 82.50 |
| PET 229 | MP 7878 | MP 7878 | 4.12 (16.00) | 12.59 (157.50) | 6.08 (1.13) | 23.27 (15.63) | 11.44 (4.00) | 21.95 (14.00) | 84.50 |
| PET 230 | Kaveri Super Boss | Kaveri Super Boss | 4.74 (21.50) | 14.78 (217.50) | 8.11 (2.00) | 28.73 (23.13) | 17.94 (9.50) | 26.19 (19.50) | 77.50 |
| PET 231 | NBH 4903 | NBH 4903 | 4.00 (15.00) | 12.49 (155.00) | 6.72 (1.38) | 23.27 (15.63) | 12.22 (4.50) | 22.37 (14.50) | 84.50 |
| PET 232 | AHB 1200 | AHB 1200 | 3.99 (15.00) | 12.48 (155.00) | 6.72 (1.38) | 23.27 (15.63) | 12.22 (4.50) | 22.37 (14.50) | 84.50 |
| | | **SE.m +/-** | 0.19 | 0.22 | 0.37 | 0.43 | 1.46 | 1.24 | 2.17 |
| | | **C.D. 5%** | 0.56 | 0.63 | 1.07 | 1.25 | 4.21 | 3.59 | 6.28 |
| | | **C.V. %** | 7.98 | 3.00 | 9.60 | 3.26 | 10.88 | 9.62 | 3.47 |

**N.B.: (#) indicates square root transformed values, (*) indicates arcsine transformed values, figure in brackets are original values.**

**Table V.8b: Relative susceptibility of pearl millet advanced entries to storage insect pests (*Rhyzopertha dominica*) at Anand, *Kharif* 2023-24**

| Entry code | Entry name | Decoding | Adult *Rhizopertha dominica*/100g | | Per cent grain damage | | Per cent weight loss | | Germination % |
|---|---|---|---|---|---|---|---|---|---|
| | | | At 3 months | At 6 months | At 3 months | At 6 months | At 3 months | At 6 months | At 6 months |
| PET 201 | MH 2672 | CZH 267 | 4.5 (2.24) | 11.5 (3.46) | 8.0 (16.43) | 12.5 (20.7) | 4.5 (12.25) | 6.5 (14.77) | 80.00 |
| PET 202 | MH 2673 | RHB-273 | 4.0 (2.12) | 4.5 (2.24) | 2.0 (8.13) | 24.0 (18.91) | 3.5 (10.78) | 9.5 (17.95) | 83.00 |
| PET 203 | MH 2675 | GHB 1305 | 1.0 (1.22) | 6.0 (2.55) | 2.5 (9.10) | 8.0 (12.92) | 1.5 (7.03) | 10.5 (18.91) | 90.00 |
| PET 204 | MH 2678 | HHB 344 | 4.0 (2.12) | 4.0 (2.12) | 1.5 (7.03) | 24.0 (18.91) | 3.5 (10.78) | 9.5 (17.95) | 83.00 |
| PET 205 | MH 2682 | APHB-126 | 1.5 (1.41) | 6.5 (2.65) | 2.5 (9.10) | 8.0 (14.18) | 1.5 (7.03) | 3.5 (10.78) | 90.00 |
| PET 206 | MH 2705 | IIMRPH2 | 1.5 (1.41) | 4.5 (2.24) | 2.5 (9.10) | 8.0 (14.18) | 1.5 (7.03) | 6.5 (14.77) | 90.00 |
| PET 207 | MH 2626 | MP7214 | 4.5 (2.24) | 7.5 (2.83) | 3.0 (9.97) | 24.0 (18.91) | 4 (11.54) | 7.0 (15.34) | 82.00 |
| PET 208 | MH 2631 | PB1939 | 4.5 (2.24) | 8.0 (2.92) | 4.5 (12.25) | 24.0 (19.82) | 4.5 (12.25) | 6.5 (14.77) | 81.00 |
| PET 209 | MH 2709 | MP7173 | 1.5 (1.41) | 5.5 (2.45) | 3.5 (10.78) | 8.0 (14.77) | 1.5 (7.03) | 3.5 (10.78) | 90.00 |
| PET 210 | MH 2710 | MP7179 | 2.0 (1.58) | 4.5 (2.24) | 3.0 (9.97) | 16.0 (16.43) | 2.5 (9.10) | 6.0 (14.18) | 87.50 |
| PET 211 | MH 2711 | DHBH-21003 | 4.5 (2.24) | 8.5 (3.00) | 6.5 (14.77) | 24.0 (19.37) | 4.0 (11.54) | 7.5 (15.89) | 82.00 |
| PET 212 | MH 2712 | VNR-106 | 1.5 (1.41) | 3.5 (2.00) | 2.0 (8.13) | 12.0 (14.77) | 1.5 (7.03) | 6.0 (14.18) | 88.00 |
| PET 213 | MH 2713 | VNR-107 | 2.0 (1.58) | 7.5 (2.83) | 6.5 (14.77) | 12.0 (15.34) | 1.5 (7.03) | 4.5 (12.25) | 88.00 |
| PET 214 | MH 2715 | NBH 5992 | 2.0 (1.58) | 8.5 (3.00) | 5.5 (13.56) | 12.0 (15.34) | 1.5 (7.03) | 7.5 (15.89) | 88.00 |
| PET 215 | MH 2717 | US7773 | 2.0 (1.58) | 3.0 (1.87) | 2.5 (9.10) | 12.0 (15.89) | 2.0 (8.13) | 9.5 (17.95) | 87.50 |
| PET 216 | MH 2723 | BLPMH 112 | 2.0 (1.58) | 8.0 (2.92) | 4.0 (11.54) | 16.0 (16.43) | 2.5 (9.10) | 5.0 (12.92) | 87.00 |
| PET 217 | MH 2729 | KPH6277 | 2.5 (1.73) | 10.5 (3.32) | 6.0 (14.18) | 16.0 (16.95) | 2.5 (9.10) | 9.0 (17.46) | 87.00 |
| PET 218 | MH 2730 | JKBH1870 | 3.0 (1.87) | 8.0 (2.92) | 5.5 (13.56) | 16.0 (16.95) | 2.5 (9.10) | 4.0 (11.54) | 87.00 |
| PET 219 | MH 2733 | GHB 1337 | 3.0 (1.87) | 7.0 (2.74) | 4.5 (12.25) | 16.0 (16.95) | 2.5 (9.10) | 7.5 (15.89) | 87.00 |
| PET 220 | HHB 67 Imp. | HHB 67 Imp. | 4.5 (2.24) | 8.5 (3.00) | 6.0 (14.18) | 24.0 (19.82) | 4.5 (12.25) | 7.0 (15.34) | 81.00 |
| PET 221 | PB 1756 | PB 1756 | 3.0 (1.87) | 9.5 (3.16) | 6.5 (14.77) | 16.0 (17.46) | 2.5 (9.10) | 8.5 (16.95) | 85.00 |
| PET 222 | MPMH 21 | MPMH 21 | 3.0 (1.87) | 7.0 (2.74) | 5.0 (12.92) | 20.0 (17.95) | 2.5 (9.10) | 4.5 (12.25) | 85.00 |
| PET 223 | RHB 223 | RHB 223 | 3.0 (1.87) | 7.0 (2.74) | 4.5 (12.25) | 20.0 (17.95) | 3.5 (10.78) | 8.0 (16.43) | 85.00 |
| PET 224 | Pratap | Pratap | 3.5 (2.00) | 5.0 (2.35) | 3.5 (10.78) | 20.0 (17.95) | 3.5 (10.78) | 11.0 (19.37) | 84.00 |
| PET 225 | AHB 1269 | AHB 1269 | 3.5 (2.00) | 6.5 (2.65) | 5.0 (12.92) | 20.0 (17.95) | 3.5 (10.78) | 9.0 (17.46) | 84.00 |
| PET 226 | 86M01 | 86M01 | 5.5 (2.45) | 4.5 (2.24) | 3.0 (9.97) | 24.0 (20.70) | 4.5 (12.25) | 10.5 (18.91) | 80.00 |
| PET 227 | KBH 108 | KBH 108 | 4.0 (2.12) | 10.5 (3.32) | 8.0 (16.43) | 20.0 (18.43) | 3.5 (10.78) | 7.5 (15.89) | 83.00 |
| PET 228 | 86M86 | 86M86 | 5.5 (2.45) | 12.0 (3.54) | 7.5 (15.89) | 28.0 (21.97) | 4.5 (12.25) | 7.5 (15.89) | 79.00 |
| PET 229 | MP 7878 | MP 7878 | 8.5 (3.00) | 7.5 (2.83) | 5.5 (13.56) | 36.0 (24.16) | 7.0 (15.34) | 7.0 (15.34) | 76.00 |
| PET 230 | Kaveri S Boss | Kaveri S Boss | 7.5 (2.83) | 7.5 (2.83) | 6.5 (14.77) | 32.0 (22.38) | 6.5 (14.77) | 8.0 (16.43) | 77.00 |
| PET 231 | NBH 4903 | NBH 4903 | 5.5 (2.45) | 6.0 (2.55) | 4.0 (11.54) | 28.0 (21.13) | 4.5 (12.25) | 12.5 (20.7) | 79.00 |
| PET 232 | AHB 1200 | AHB 1200 | 6.0 (2.55) | 3.5 (2.00) | 3.0 (9.97) | 32.0 (21.97) | 5.5 (13.56) | 7.0 (15.34) | 79.00 |
| | | **SE.m +/-** | 0.09 | 0.07 | 0.71 | 1.59 | 0.85 | 0.89 | 1.81 |
| | | **C.D. 5%** | 0.27 | 0.20 | 2.06 | 4.57 | 2.45 | 2.56 | 5.21 |
| | | **C.V. %** | 6.81 | 3.67 | 8.46 | 12.47 | 11.87 | 8.06 | 3.03 |

**N.B.: (#) indicates square root transformed values, (*) indicates arcsine transformed values, figure in brackets are original values.**

**Table V.8b: Relative susceptibility of pearl millet advanced entries to storage insect pests (*Rhyzopertha dominica*) at Jodhpur, *Kharif* 2023-24**

| Entry code | Entry name | Decoding | Adult *Rhizopertha* population/100g | | Per cent grain damage | | Per cent weight loss | | Germination % |
|---|---|---|---|---|---|---|---|---|---|
| | | | At 3 months | At 6 months | At 3 months | At 6 months | At 3 months | At 6 months | At 6 months |
| PET 201 | MH 2672 | CZH 267 | 5.33# (27.50) | 9.29# (85.50) | 23.75*(16.25) | 50.88*(58.00) | 18.02* (9.70) | 56.66*(68.50) | 61.00 |
| PET 202 | MH 2673 | RHB-273 | 5.19 (26.00) | 8.51 (71.50) | 21.97 (14.13) | 48.12 (55.00) | 17.44 (9.25) | 51.49 (62.25) | 63.50 |
| PET 203 | MH 2675 | GHB 1305 | 5.16 (26.00) | 8.46 (71.00) | 21.64 (13.75) | 47.74 (54.25) | 17.51 (9.25) | 50.62 (59.75) | 64.50 |
| PET 204 | MH 2678 | HHB 344 | 5.09 (25.00) | 8.41 (70.00) | 21.33 (13.38) | 46.06 (51.75) | 17.02 (9.00) | 49.51 (57.88) | 64.00 |
| PET 205 | MH 2682 | APHB-126 | 5.32 (27.50) | 9.08 (81.50) | 23.37 (16.25) | 49.51 (57.50) | 17.94 (9.50) | 56.70 (68.25) | 61.50 |
| PET 206 | MH 2705 | IIMRPH2 | 5.55 (30.00) | 9.59 (91.00) | 25.34 (18.38) | 52.58 (62.63) | 18.65 (10.50) | 56.67 (69.50) | 59.00 |
| PET 207 | MH 2626 | MP7214 | 5.73 (32.00) | 10.46 (110.50) | 27.24 (21.25) | 54.91 (66.25) | 19.40 (11.25) | 56.97 (70.25) | 55.00 |
| PET 208 | MH 2631 | PB1939 | 6.40 (40.00) | 10.72 (114.00) | 27.68 (21.75) | 56.06 (68.25) | 19.40 (11.25) | 57.42 (71.00) | 54.00 |
| PET 209 | MH 2709 | MP7173 | 5.55 (30.50) | 9.70 (93.50) | 25.79 (19.00) | 53.32 (63.75) | 18.56 (10.25) | 56.46 (69.50) | 58.50 |
| PET 210 | MH 2710 | MP7179 | 5.29 (27.00) | 9.06 (81.00) | 23.17 (15.88) | 49.78 (57.50) | 17.65 (9.20) | 55.53 (67.75) | 61.50 |
| PET 211 | MH 2711 | DHBH-21003 | 4.64 (20.50) | 7.48 (55.00) | 18.78 (10.50) | 39.02 (40.00) | 15.61 (7.25) | 43.61 (47.63) | 69.00 |
| PET 212 | MH 2712 | VNR-106 | 4.73 (21.50) | 7.80 (60.00) | 19.16 (10.88) | 39.80 (41.25) | 15.88 (7.50) | 44.11 (48.50) | 68.50 |
| PET 213 | MH 2713 | VNR-107 | 4.93 (23.50) | 8.15 (65.50) | 20.64 (12.50) | 43.53 (47.50) | 16.30 (8.00) | 44.69 (49.50) | 67.50 |
| PET 214 | MH 2715 | NBH 5992 | 5.08 (25.00) | 8.21 (67.00) | 21.05 (13.13) | 45.27 (50.50) | 16.91 (8.75) | 47.91 (55.00) | 66.00 |
| PET 215 | MH 2717 | US7773 | 5.24 (26.50) | 8.72 (75.00) | 22.62 (15.00) | 49.35 (57.50) | 17.66 (9.25) | 54.85 (66.50) | 62.00 |
| PET 216 | MH 2723 | BLPMH 112 | 5.46 (29.00) | 9.44 (88.50) | 24.98 (17.88) | 52.38 (62.50) | 18.34 (10.00) | 55.92 (68.00) | 60.00 |
| PET 217 | MH 2729 | KPH6277 | 6.24 (38.00) | 10.70 (113.50) | 27.08 (21.25) | 55.77 (67.75) | 19.78 (11.50) | 57.13 (70.50) | 55.00 |
| PET 218 | MH 2730 | JKBH1870 | 6.93 (47.00) | 11.63 (134.50) | 29.40 (24.25) | 57.68 (71.25) | 21.76 (13.75) | 57.91 (71.75) | 52.50 |
| PET 219 | MH 2733 | GHB 1337 | 8.10 (65.00) | 12.53 (156.00) | 31.58 (27.75) | 61.27 (76.88) | 22.87 (15.13) | 58.84 (73.25) | 47.50 |
| PET 220 | HHB 67 Imp. | HHB 67 Imp. | 5.62 (31.00) | 9.97 (98.50) | 26.37 (20.25) | 54.20 (65.00) | 19.19 (11.00) | 56.77 (70.00) | 57.00 |
| PET 221 | PB 1756 | PB 1756 | 5.73 (32.00) | 10.42 (108.00) | 26.85 (20.88) | 55.37 (66.25) | 19.81 (11.50) | 56.93 (70.25) | 55.00 |
| PET 222 | MPMH 21 | MPMH 21 | 5.39 (28.00) | 9.33 (86.00) | 24.80 (17.63) | 52.38 (62.25) | 18.41 (10.00) | 57.03 (69.25) | 60.50 |
| PET 223 | RHB 223 | RHB 223 | 5.24 (26.50) | 8.68 (74.50) | 22.58 (14.88) | 48.58 (56.25) | 17.46 (9.10) | 53.88 (65.13) | 62.50 |
| PET 224 | Pratap | Pratap | 4.80 (22.00) | 8.12 (65.00) | 19.46 (11.13) | 43.24 (47.00) | 16.14 (8.00) | 44.68 (49.50) | 68.00 |
| PET 225 | AHB 1269 | AHB 1269 | 4.74 (21.50) | 7.96 (64.00) | 17.81 (10.88) | 42.39 (45.50) | 16.16 (7.75) | 44.47 (49.13) | 68.00 |
| PET 226 | 86M01 | 86M01 | 4.84 (24.00) | 8.07 (66.00) | 21.07 (13.00) | 44.26 (48.75) | 16.18 (7.85) | 47.04 (53.50) | 67.00 |
| PET 227 | KBH 108 | KBH 108 | 4.89 (24.50) | 8.13 (66.00) | 21.34 (13.25) | 44.92 (49.88) | 16.11 (8.25) | 47.64 (54.50) | 66.50 |
| PET 228 | 86M86 | 86M86 | 5.23 (26.50) | 8.54 (72.00) | 22.28 (14.50) | 48.41 (55.13) | 17.80 (9.50) | 53.65 (64.75) | 63.00 |
| PET 229 | MP 7878 | MP 7878 | 6.77 (45.50) | 10.88 (118.00) | 28.60 (23.00) | 59.33 (70.88) | 20.66 (12.50) | 57.87 (71.75) | 53.50 |
| PET 230 | Kaveri S Boss | Kaveri S Boss | 6.89 (46.50) | 11.00 (120.00) | 28.98 (23.50) | 58.98 (71.25) | 21.32 (13.25) | 57.72 (71.50) | 53.00 |
| PET 231 | NBH 4903 | NBH 4903 | 6.63 (43.00) | 10.88 (117.50) | 28.39 (22.75) | 57.52 (70.00) | 19.69 (11.40) | 57.86 (71.50) | 54.00 |
| PET 232 | AHB 1200 | AHB 1200 | 7.61 (57.00) | 11.92 (141.00) | 30.88 (26.38) | 59.17 (72.75) | 22.17 (14.25) | 58.54 (72.75) | 48.00 |
| | | **SE.m +/-** | 0.50 | 0.59 | 3.19 | 9.23 | 2.20 | 5.24 | 5.66 |
| | | **C.D. 5%** | 1.44 | 1.70 | N/A | N/A | N/A | N/A | N/A |
| | | **C.V. %** | 12.50 | 8.78 | 18.62 | 25.75 | 16.92 | 13.88 | 13.29 |

**N.B.: (#) indicates square root transformed values, (*) indicates arcsine transformed values, figure in brackets are original values.**

**Table V.8d: Relative susceptibility of pearl millet advanced entries to storage insect pests (*Rhyzopertha dominica*) at Anantapur, *Kharif* 2023-24.**

| Sr. No. | Adults emerged | | % damage | | % weight loss | | Germination % at 6 months |
|---|---|---|---|---|---|---|---|
| | 3 months | 6 months | 3 months | 6 months | 3 months | 6 months | |
| 1 | 11.04 # (122) | 21.14 # (447) | 36.5 *(35.5) | 54.02 *(65.5) | 16.11 *(7.7) | 22.07* (14.12) | 39.5 |
| 2 | 11 (121) | 22.21 (493.5) | 55.5(68) | 57.49(71.1) | 18.38 (9.95) | 24.27 (16.9) | 30 |
| 3 | 10.77 (116) | 22.46 (504.5) | 43.8 (48) | 64.8 (81.8) | 19.55 (11.2) | 25.40 (18.4) | 31.5 |
| 4 | 9.64 (93) | 14.6 (214) | 42.1 (45) | 58.13 (72.1) | 16.95 (8.5) | 23.77 (16.25) | 28.5 |
| 5 | 7.68 (59) | 16.12 (260) | 32.8 (29.5) | 43.56 (47.5) | 6.28 (1.2) | 10.30 (3.2) | 44.5 |
| 6 | 9.64 (93) | 22.44 (504) | 43.5 (47.5) | 54.40 (66.1) | 15.22 (6.9) | 20.79 (12.6) | 33.5 |
| 7 | 8.63 (74.5) | 19.79 (392) | 36.8 (36) | 56.47 (69.5) | 15.28 (6.95) | 22.38 (14.5) | 22 |
| 8 | 8.66 (75) | 16.91 (286) | 33.8 (31) | 50.40 (59.3) | 6.41 (1.25) | 13.11 (5.15) | 50.5 |
| 9 | 5.65 (32) | 12.52 (157) | 27.9 (22) | 32.89 (29.5) | 3.84 (0.45) | 13.11 (2.9) | 26.5 |
| 10 | 55 (7.41) | 16.62 (276.5) | 34.1 (31.5) | 39.66 (40.7) | 8.23 (2.05) | 13.18 (5.2) | 30 |
| 11 | 10.17 (103.5) | 20.71 (429) | 34.1 (31.5) | 49.38 (57.6) | 10.70 (3.45) | 16.11 (7.7) | 32 |
| 12 | 12.22 (149.5) | 22.32 (498.5) | 61.51 (77.25) | 62.37 (78.5) | 17.35 (8.9) | 23.38 (15.75) | 31 |
| 13 | 13.15 (173) | 21.11 (446) | 51.35 (61) | 65.74 (83.1) | 15.83 (7.45) | 25.06 (17.95) | 32.5 |
| 14 | 8.95 (80.5) | 10.51 (110.5) | 26.9 (20.5) | 39.96 (41.2) | 11.60 (4.05) | 15.83 (7.45) | 40.5 |
| 15 | 9 (81) | 16.58 (275) | 31.3 (27) | 45.78 (51.3) | 11.82 (4.2) | 18.4 (10.05) | 41.5 |
| 16 | 8.68 (75.5) | 18.41 (339) | 34.7 (32.5) | 48.5 (56.1) | 7.49 (1.7) | 11.16 (3.75) | 63.5 |
| 17 | 12.90 (166.5) | 22.79 (519.5) | 42.7 (46) | 62.63 (78.8) | 20.5 (12.3) | 30.4 (25.75) | 21.5 |
| 18 | 8.48 (72) | 13.61 (185.5) | 27.27 (21) | 40.90 (42.8) | 2.56 (0.2) | 7.49 (1.7) | 32.5 |
| 19 | 7.21 (52) | 7.21 (218.5) | 33.52 (30.5) | 50.91 (60.2) | 7.90 (1.89) | 10.7 (3.5) | 21.5 |
| 20 | 8.45 (71.5) | 17.90 (320.5) | 30.24 (25.375) | 47.29 (54) | 8.23 (2.05) | 13.18 (5.2) | 44.5 |
| 21 | 11.93 (142.5) | 21 (441) | 40.10 (41.5) | 58.37 (72.5) | 17.05 (8.6) | 24.80 (17.6) | 22 |
| 22 | 11.61 (135) | 19.45 (378.5) | 30.3 (25.5) | 40.17 (41.6) | 10.05 (3.05) | 15.17 (6.85) | 33 |
| 23 | 12.49 (156) | 24.66 (608.5) | 58(72) | 64.98 (82.1) | 21.68 (13.65) | 30.09 (25.15) | 34 |
| 24 | 11.44 (131) | 18.90 (357.5) | 47(53.5) | 65.45 (82.7) | 16.00 (7.6) | 23.69 (16.15) | 20.5 |
| 25 | 12.44 (155) | 20.42 (417) | 49.31 (57.5) | 55.39 (67.7) | 10.86 (3.55) | 18.09 (9.65) | 15 |
| 26 | 10.60 (112.5) | 21.45 (460.5) | 34.44 (32) | 52.83 (63.5) | 15.00 (6.7) | 21.68 (13.65) | 20 |
| 27 | 11.93 (142.5) | 20.78 (432) | 36.5 (35.5) | 55.5 (68) | 10.93 (3.6) | 17.60 (9.15) | 37 |
| 28 | 13.20 (174.5) | 19.67 (387) | 51.06 (60.5) | 60.08 (75.1) | 11.68 (4.1) | 16.79 (8.35) | 25.5 |
| 29 | 11.87 (141) | 20.35 (414.5) | 49.96 (58.6) | 54.09 (65.5) | 15.22 (6.9) | 20.35 (12.1) | 20 |
| 30 | 12.46 (155.5) | 20.63 (426) | 34.44 (32) | 41.04 (43.1) | 9.80 (2.9) | 15.11 (6.8) | 7.5 |
| 31 | 11.93 (142.5) | 20.57 (423.5) | 29.66 (24.5) | 55.47 (67.8) | 12.78 (4.9) | 18.62 (10.2) | 27.5 |
| 32 | 11.26 (127) | 20.85 (435) | 40.10 (41.5) | 47.29 (54) | 12.52 (4.7) | 17.95 (9.5) | 64.5 |

N.B.: (#) indicates square root transformed values, (*) indicates arcsine transformed values, figure in brackets are original values.

**Table V.8e: Relative susceptibility of pearl millet advanced entries to storage insect pests (*Rhyzopertha dominica*) at Jaipur, *Kharif* 2023-24.**

| Entry code | Entry name | Decoding | Adult *Rhizopertha* population/250g | | Per cent grain damage | | Per cent weight loss | | Germination % |
|---|---|---|---|---|---|---|---|---|---|
| | | | At 3 months | At 6 months | At 3 months | At 6 months | At 3 months | At 6 months | At 6 months |
| PET 201 | MH 2672 | CZH 267 | 4.69# (21.00) | 9.37# (87.00) | 6.93*(1.50) | 14.75 (6.50) | 5.23* (0.85) | 12.97* (5.05) | 84.00 |
| PET 202 | MH 2673 | RHB-273 | 4.05 (15.50) | 7.91 (62.00) | 6.93 (1.50) | 13.54 (5.50) | 5.36 (0.90) | 11.74 (4.20) | 86.50 |
| PET 203 | MH 2675 | GHB 1305 | 4.89 (23.00) | 9.75 (94.50) | 9.05 (2.50) | 17.43 (9.00) | 6.91 (1.45) | 16.21 (7.85) | 81.50 |
| PET 204 | MH 2678 | HHB 344 | 5.43 (28.50) | 11.66 (135.0) | 9.97 (3.00) | 20.24 (12.00) | 8.43 (2.15) | 18.41 (10.00) | 80.00 |
| PET 205 | MH 2682 | APHB-126 | 4.67 (21.00) | 9.26 (85.50) | 8.13 (2.00) | 15.81 (7.50) | 7.15 (1.55) | 19.37 (11.10) | 80.00 |
| PET 206 | MH 2705 | IIMRPH2 | 6.50 (42.00) | 12.03 (144.50) | 10.75 (3.50) | 21.47 (13.50) | 9.80 (2.90) | 19.65 (11.35) | 79.00 |
| PET 207 | MH 2626 | MP7214 | 6.35 (39.50) | 13.50 (181.50) | 10.75 (3.50) | 25.09 (18.00) | 9.96 (3.00) | 24.78 (17.65) | 72.00 |
| PET 208 | MH 2631 | PB1939 | 8.90 (78.50) | 17.17 (294.50) | 14.75 (6.50) | 32.23 (28.50) | 13.93 (5.80) | 30.43 (25.70) | 66.50 |
| PET 209 | MH 2709 | MP7173 | 6.03 (35.50) | 11.98 (143.00) | 9.83 (3.00) | 21.95 (14.00) | 7.94 (2.05) | 19.22 (10.85) | 79.50 |
| PET 210 | MH 2710 | MP7179 | 7.65 (58.00) | 15.43 (238.50) | 12.92 (5.00) | 28.56 (23.00) | 11.96 (4.30) | 26.39 (19.80) | 77.50 |
| PET 211 | MH 2711 | DHBH-21003 | 5.44 (29.50) | 9.25 (85.50) | 9.05 (2.50) | 16.30 (8.00) | 7.68 (1.80) | 14.43 (6.40) | 86.00 |
| PET 212 | MH 2712 | VNR-106 | 5.37 (28.00) | 10.76 (115.50) | 7.85 (2.00) | 19.29 (11.00) | 6.29 (1.35) | 18.21 (9.90) | 83.00 |
| PET 213 | MH 2713 | VNR-107 | 4.68 (21.00) | 7.87 (61.00) | 6.93 (1.50) | 13.54 (5.50) | 5.99 (1.10) | 12.58 (4.75) | 87.50 |
| PET 214 | MH 2715 | NBH 5992 | 7.24 (51.50) | 14.25 (202.00) | 11.53 (4.00) | 27.26 (21.00) | 8.81 (2.35) | 25.09 (18.00) | 74.50 |
| PET 215 | MH 2717 | US7773 | 7.30 (53.50) | 14.63 (217.50) | 12.85 (5.00) | 27.67 (22.00) | 11.82 (4.25) | 27.12 (20.95) | 72.00 |
| PET 216 | MH 2723 | BLPMH 112 | 6.04 (35.50) | 12.26 (149.50) | 9.97 (3.00) | 22.35 (14.50) | 8.71 (2.30) | 22.21 (14.30) | 72.50 |
| PET 217 | MH 2729 | KPH6277 | 8.60 (73.50) | 17.33 (302.00) | 14.13 (6.00) | 34.05 (31.50) | 13.20 (5.25) | 31.13 (26.90) | 68.50 |
| PET 218 | MH 2730 | JKBH1870 | 6.66 (43.50) | 13.42 (179.50) | 11.44 (4.00) | 24.70 (17.50) | 11.05 (3.70) | 22.41 (14.55) | 83.00 |
| PET 219 | MH 2733 | GHB 1337 | 6.00 (35.00) | 11.75 (137.50) | 9.97 (3.00) | 21.52 (13.50) | 10.13 (3.10) | 18.78 (10.45) | 83.00 |

| Entry code | Entry name | Decoding | Adult *Rhizopertha* population/250g | | Per cent grain damage | | Per cent weight loss | | Germination % |
|---|---|---|---|---|---|---|---|---|---|
| | | | At 3 months | At 6 months | At 3 months | At 6 months | At 3 months | At 6 months | At 6 months |
| PET 220 | HHB 67 Imp. | HHB 67 Imp. | 7.39 (54.00) | 13.38 (178.00) | 12.22 (4.50) | 25.09 (18.00) | 11.75 (4.20) | 24.16 (16.85) | 77.00 |
| PET 221 | PB 1756 | PB 1756 | 6.12 (36.50) | 12.55 (158.50) | 9.05 (2.50) | 24.20 (17.00) | 7.13 (1.60) | 22.23 (14.90) | 78.00 |
| PET 222 | MPMH 21 | MPMH 21 | 4.74 (21.50) | 7.06 (49.00) | 6.93 (1.50) | 12.22 (4.50) | 6.66 (1.35) | 12.65 (4.80) | 86.00 |
| PET 223 | RHB 223 | RHB 223 | 7.45 (54.50) | 14.39 (206.00) | 12.22 (4.50) | 26.55 (20.00) | 10.39 (3.30) | 25.86 (19.05) | 73.00 |
| PET 224 | Pratap | Pratap | 6.23 (38.00) | 13.40 (179.00) | 9.97 (3.00) | 25.42 (18.50) | 9.00 (2.45) | 22.41 (14.55) | 77.00 |
| PET 225 | AHB 1269 | AHB 1269 | 7.03 (48.50) | 14.52 (210.00) | 11.53 (4.00) | 27.96 (22.00) | 10.86 (3.55) | 29.69 (24.55) | 68.50 |
| PET 226 | 86M01 | 86M01 | 8.72 (76.50) | 20.14 (404.50) | 13.98 (6.00) | 39.51 (40.50) | 12.20 (4.55) | 34.22 (31.65) | 60.50 |
| PET 227 | KBH 108 | KBH 108 | 7.38 (53.50) | 15.33 (234.50) | 11.53 (4.00) | 28.63 (23.00) | 10.62 (3.40) | 26.13 (19.45) | 77.00 |
| PET 228 | 86M86 | 86M86 | 5.93 (35.00) | 12.66 (161.50) | 11.44 (4.00) | 23.76 (16.50) | 10.22 (3.25) | 21.21 (13.45) | 79.00 |
| PET 229 | MP 7878 | MP 7878 | 7.77 (59.50) | 17.76 (315.00) | 12.92 (5.00) | 34.11 (31.50) | 13.47 (5.45) | 31.21 (27.05) | 64.00 |
| PET 230 | Kaveri Super Boss | Kaveri Super Boss | 7.34 (53.00) | 17.39 (301.50) | 12.85 (5.00) | 31.90 (28.00) | 12.01 (4.40) | 30.22 (25.35) | 69.00 |
| PET 231 | NBH 4903 | NBH 4903 | 6.18 (37.50) | 11.42 (129.50) | 10.75 (3.50) | 21.11 (13.00) | 11.28 (3.85) | 19.61 (11.30) | 79.50 |
| PET 232 | AHB 1200 | AHB 1200 | 5.17 (26.00) | 9.24 (87.50) | 9.05 (2.50) | 16.59 (8.50) | 8.24 (2.20) | 16.46 (4.10) | 84.00 |
| | | **SE.m +/-** | 0.54 | 0.89 | 1.04 | 1.92 | 1.08 | 1.93 | 3.68 |
| | | **C.D. 5%** | 1.58 | 2.56 | 3.02 | 5.54 | 3.13 | 5.59 | 10.66 |
| | | **C.V. %** | 12.08 | 9.80 | 13.97 | 11.48 | 16.10 | 12.35 | 6.75 |

**Table V.9a: PMET-9: Statement showing adult moth catches of FAW along with weather parameters during *kharif*-2023 (Centre: Jamnagar)**

| No. | S M W | Date of Observation | Days After Germination | Fall army worm adult catches per trap | Fall army worm % damage | Temp. O Maxi. | Temp. O Mini. | R.H. Morn. | R.H. Even. | Wind speed km/hr | BSS (hrs) | Eo (mm) | Rainfall (mm) | Rainy Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | 29.07.24 | 7 DAG | 0 | 0.00 | 31.1 | 27.1 | 92 | 80 | 9.7 | 1.6 | 3.0 | 122.0 | 2 |
| 2 | 31 | 05.08.24 | 14 DAG | 5.40 | 0.00 | 30.9 | 26.5 | 93 | 83 | 8.9 | 1.4 | 3.7 | 49.0 | 4 |
| 3 | 32 | 12.08.24 | 21 DAG | 0 | 0.00 | 30.8 | 26.4 | 90 | 81 | 7.9 | 1.7 | 3.1 | 18.0 | 3 |
| 4 | 33 | 19.08.24 | 28 DAG | 0 | 0.00 | 31.6 | 26.1 | 91 | 79 | 6.5 | 3.7 | 3.3 | 14.5 | 3 |
| 5 | 34 | 26.08.24 | 35 DAG | 0 | 0.00 | 33.3 | 26.7 | 87 | 69 | 8.8 | 6.8 | 4.1 | 27.5 | 1 |
| 6 | 35 | 02.09.24 | 42 DAG | 0 | 0.00 | 29.6 | 25.2 | 96 | 79 | 13.1 | 2.8 | 1.8 | 604.0 | 4 |
| 7 | 36 | 09.09.24 | 49 DAG | 0 | 0.00 | 32.0 | 26.0 | 94 | 70 | 6.9 | 6.1 | 3.7 | 1.5 | 0 |
| 8 | 37 | 16.09.24 | 56 DAG | 0 | 0.00 | 32.7 | 25.1 | 86 | 60 | 8.1 | 7.8 | 4.6 | 0.0 | 0 |
| 9 | 38 | 23.09.24 | 63 DAG | 0 | 0.00 | 32.9 | 25.1 | 88 | 62 | 7.1 | 8.7 | 4.8 | 0.0 | 0 |
| 10 | 39 | 30.09.24 | 70 DAG | 0 | 0.00 | 33.2 | 25.6 | 89 | 66 | 8.4 | 6.2 | 4.5 | 28.0 | 2 |
| 11 | 40 | 07.10.24 | 77 DAG | 0 | 0.00 | 33.4 | 25.5 | 87 | 62 | 6.6 | 8.1 | 4.5 | 0.0 | 0 |
| 12 | 41 | 14.10.24 | 84 DAG | 0 | 0.00 | 34.5 | 26.2 | 81 | 55 | 4.8 | 5.8 | 4.9 | 9.0 | 1 |

**N.B.: Date of sowing: 18.07.2024, Harvesting: 20.10.2024, Variety: General pearl millet crop**

**Table V.9b: PMET-9: Statement showing adult moth catches of FAW along with weather parameters during *kharif*-2023 (Centre: Aurangabad)**

| No. | SWW | Period of observations | Days after Germi. | FAW adult catches per trap | FAW larval counts per 20 plants | FAW % damaged Plants | Temp $^{o}$C Maxi. | Temp $^{o}$C Mini. | RH Morning | RH Evening | Ranfall mm | Rainy days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31 | 30/7-05/8 | 7 DAG | 0.00 | 0.00 | 0.00 | 29.14 | 23.41 | 86.43 | 97.00 | 18.50 | 3.00 |
| 2 | 32 | 06/8-12/8 | 14 DAG | 0.00 | 0.00 | 0.00 | 29.27 | 23.07 | 78.86 | 96.14 | 4.50 | 1.00 |
| 3 | 33 | 13/8-19/8 | 21 DAG | 0.00 | 0.00 | 0.00 | 31.50 | 23.61 | 70.14 | 87.57 | 54.50 | 4.00 |
| 4 | 34 | 20/8-26/8 | 28 DAG | 0.80 | 1.00 | 10.00 | 30.30 | 22.77 | 83.14 | 94.29 | 85.00 | 4.00 |
| 5 | 35 | 27/8-02/9 | 35 DAG | 0.00 | 0.00 | 10.00 | 29.63 | 22.76 | 70.71 | 82.71 | 72.00 | 2.00 |
| 6 | 36 | 03/9-09/9 | 42 DAG | 1.00 | 1.00 | 15.00 | 28.30 | 22.50 | 80.71 | 95.57 | 14.50 | 3.00 |
| 7 | 37 | 10/9-16/9 | 49 DAG | 0.80 | 0.00 | 20.00 | 29.59 | 21.39 | 72.43 | 88.43 | 4.50 | 1.00 |
| 8 | 38 | 17/9-23/9 | 56 DAG | 1.40 | 1.00 | 20.00 | 31.27 | 22.36 | 58.57 | 85.00 | 0.00 | 0.00 |
| 9 | 39 | 24/9-30/9 | 63 DAG | 0.00 | 0.00 | 20.00 | 29.88 | 22.73 | 75.13 | 90.84 | 62.50 | 3.00 |

**N.B.: Date of sowing: 24.07.2024, Variety: AHB-1200, Date of Harvesting: 04.10.2024**

**Table V.9c: PMET-9: Statement showing adult moth catches of FAW along with weather parameters during *kharif*-2023 (Centre: Hisar)**

| No. | SWW | Date of Obs. | Days after Germi. | FAW adult catches per trap | FAW larval counts per 20 plants | FAW % damaged Plants | Temp °C Maxi. | Temp °C Mini. | RH Morning | RH Evening | Ranfall mm | Rainy days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 29 | 7/20/2024 | 7 DAG | 0 | 0 | 0 | 37.8 | 28.7 | 85 | 60 | 1.20 | 0 |
| 2 | 30 | 7/27/2024 | 14 DAG | 0 | 0 | 0 | 37.6 | 28.8 | 83 | 56 | 8.00 | 1 |
| 3 | 31 | 8/3/2024 | 21 DAG | 3.8 | 3 | 2 | 35.5 | 28.0 | 87 | 68 | 71.00 | 2 |
| 4 | 32 | 8/10/2024 | 28 DAG | 7.2 | 5 | 6 | 33.4 | 26.7 | 93 | 75 | 143.80 | 4 |
| 5 | 33 | 8/17/2024 | 35 DAG | 0 | 7 | 10 | 33.5 | 27.3 | 93 | 70 | 23.40 | 1 |
| 6 | 34 | 8/24/2024 | 42 DAG | 0 | 0 | 0 | 34.5 | 27.2 | 87 | 66 | 9.00 | 2 |
| 7 | 35 | 8/31/2024 | 49 DAG | 0 | 0 | 0 | 33.0 | 26.2 | 94 | 72 | 29.20 | 2 |
| 8 | 36 | 7-09.2024 | 56 DAG | 1.2 | 0 | 0 | 31.7 | 25.7 | 93 | 83 | 46.10 | 2 |
| 9 | 37 | 9/14/2024 | 63 DAG | 1 | 0 | 0 | 33.9 | 25.0 | 92 | 63 | 19.60 | 1 |
| 10 | 38 | 9/21/2024 | 70 DAG | 0 | 0 | 0 | 34.1 | 24.4 | 92 | 60 | 0.00 | 0 |
| | | | **Mean** | **1.32** | **1.5** | **1.8** | -- | -- | -- | -- | -- | -- |

**N.B.: Date of sowing: 10.07.2024, Date of Harvesting: 29.09.2024, Variety: HB 299, Total rainfall= 351.3 mm, Rainy days= 15**

**Table V.9d: PMET-9: Statement showing adult moth catches of FAW along with weather parameters during *kharif*-2023 (Centre: Jodhpur)**

| No. | SMW | Date of Obs. | Days after Germi. | FAW adult catches per trap | FAW larval counts per 20 plants | FAW % damaged Plants |
|---|---|---|---|---|---|---|
| 1 | 30 | 29.07.24 | 7 DAG | 0 | 0 | 0 |
| 2 | 31 | 5.08.24 | 14 DAG | 0 | 0 | 0 |
| 3 | 32 | 12.08.24 | 21 DAG | 0 | 0 | 0 |
| 4 | 33 | 19.08.24 | 28 DAG | 0 | 0 | 0 |
| 5 | 34 | 26.08.24 | 35 DAG | 0 | 2 | 5 |
| 6 | 35 | 2.09.24 | 42 DAG | 0 | 5 | 10 |
| 7 | 36 | 9.09.24 | 49 DAG | 0 | 7 | 10 |
| 8 | 37 | 16.09.24 | 56 DAG | 0 | 1 | 0 |
| 9 | 38 | 23.09.24 | 63 DAG | 0 | 0 | 0 |
| 10 | 39 | 30.09.24 | 70 DAG | 0 | 0 | 0 |
| 11 | 40 | 7.10.24 | 77 DAG | 0 | 0 | 0 |
| 12 | 41 | 14.10.24 | 84 DAG | 0 | 0 | 0 |
| 13 | 42 | 21.10.24 | 91 DAG | 0 | 0 | 0 |
| | | | **Mean** | 0 | 1.15 | 0 |