Recommendations
(Farmers /enterpreneur)

For Farming Community


   For the effective and economical control of chilli thrip, *Scirtothrip dorsalis* Hood on chilli crop, any of the following insecticides is recommended.

<table>
<thead>
<tr>
<th>Insecticide</th>
<th>ICBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethoate 0.03%</td>
<td>1: 26.54</td>
</tr>
<tr>
<td>Monocrotophos 0.04%</td>
<td>1: 21.25</td>
</tr>
<tr>
<td>Phorate 0.7 kg a.i./ha at 20 DATP followed by dimethoate 0.03% at 10 days interval</td>
<td>1: 18.36</td>
</tr>
</tbody>
</table>


   For the effective and economical control of leaf miner, *Liriomyza trifolii* on tomato, spray application of any one of the following insecticides is recommended as and when pest appears in middle Gujarat condition.

<table>
<thead>
<tr>
<th>Insecticide</th>
<th>ICBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethoate 0.03%</td>
<td>1: 35.19</td>
</tr>
<tr>
<td>Endosulfan 0.035%</td>
<td>1: 29.27</td>
</tr>
<tr>
<td>Methyl-o-demeton 0.025%</td>
<td>1: 25.27</td>
</tr>
<tr>
<td>NSKS 5%</td>
<td>1: 20.40</td>
</tr>
</tbody>
</table>


   For the effective and economical control of the insect pests infesting cotton H-6 in middle Gujarat condition, spray of Polytrin C 44 EC 440 g.a.i./ha or Profenfos 50 EC 400 g.a.i./ha is recommended as and when pest crosses the ETL (5% damage to buds and bolls).


   For the effective and economical control of the insect pests infesting bhendi in middle Gujarat condition, spray schedules consisting of two sprays of Endosulfan 0.035% followed by one spray of Neem Seed Kernel Suspension (NSKS) 5% or Azadirachtin based formulation 0.4% should be made of ETL (5 aphid or jassid/leaf and/or 5% fruit damage).

5. Study on bio-efficacy of some of the botanical and synthetic insecticides against brinjal pest complex (1996-97).

   For the effective and economical control of the insect pests infesting brinjal in middle Gujarat condition, spray of Monocrotophos 0.04% or NSKS 3% or Nimbecidine
0.5% is recommended at ETL (5 aphid or jassid or whitefly/leaf and /or 5% fruit damage).

6. **Bio-efficacy of mixture of synthetic and botanical insecticides against *Helicoverpa armigera* infesting cotton H-6 (1996-97).**

   For the effective and economical control of the insect pests infesting cotton H-6 in middle Gujarat condition, any following spray mixture of botanical with synthetic insecticides are recommended at ETL 4 and 5 larvae of *H. armigera* and *E. vittela* per five plants respectively or 5% damage to bud and boll damage by bollworms.

   i) Neem oil 0.5% + Polytrin C 44 EC, 0.088%
   
   ii) Neem Seed Kernel Suspension (NSKS) 5% + Endosulfan 0.07%

7. **Determination of Economic Threshold Level (ETL) for *Helicoverpa armigera* on cotton H-6 (1996-97).**

   For the effective and economical control of the insect pests infesting cotton H-6 in middle Gujarat condition, spray of recommended insecticide (Endosulfan 0.07%) should be made at the Economic Threshold Level (ETL) 6% damage fruiting by bollworms.

8. **Development of Integrated Pest Management strategy for *Helicoverpa armigera* infesting cotton H-6 cultivated in middle Gujarat (1997-98).**

   Effective and eco-friendly approach for the management of pests infesting cotton H-6, following IPM strategy is recommended under middle Gujarat condition.

   i) Interspersing of African yellow flower marigold as a trap crop.
   
   ii) Installation of pheromone traps @ 5 traps/ha
   
   iii) Three releases of *Chrysoperla carnea* larvae @ 1 larva/plant in 3rd and 4th week of August and 1st week of September.
   
   iv) Clipping and destroying of withered shoots.
   
   v) Six releases of *T. Chilonis* @ 1,50000/ha with availability of eggs at weekly interval.
   
   vi) Spray of endosulfan 0.07% in 3rd week of September.
   
   vii) Spray of monocrotophos 0.04% in 2nd week of October.
   
   viii) Spray of Delfin @ 1kg/ha in 4th week of October.
   
   ix) Two sprays of a mixture of neem iol 0.5% with Polytrin C 0.088% during November and December.


   For effective and economical control of thrips, *S. dorsalis* on chilli grown for vegetable purpose, spray of any one of the following insecticides at 10/15 days interval is recommended in middle Gujarat condition. The first application should be given at 30 DATP.

<table>
<thead>
<tr>
<th>Insecticide</th>
<th>Interval</th>
<th>ICBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Triazophos 0.04%</td>
<td>10 days</td>
<td>1 : 5.09</td>
</tr>
<tr>
<td>ii) Monocrotophos 0.04%</td>
<td>10 days</td>
<td>1 : 4.64</td>
</tr>
<tr>
<td>iii) Acephate 0.075%</td>
<td>15 days</td>
<td>1 : 2.54</td>
</tr>
</tbody>
</table>

For effective and economical management of pod borer, *Helicoverpa armigera* and pod fly, *Melanagromyza obtusa* in pigeonpea, following IPM module is recommended under middle Gujarat condition.

i) Installation of pheromone trap for *Helicoverpa armigera* @ 10 traps/ha during 3rd week of November to 3rd week of January.

ii) Spray of HNPV @ 250 LE/ha on appearance of *H. Armigera* larvae during 3rd week of November.

iii) Spray of NSKE @ 5% with initiation of flowering to 50% plants during 4th week of November.

iv) Spray of monocrotophos 0.04% on pod setting to 50% plants during 2nd week of December followed by endosulfan 0.07% during 4th week of December.

11. Integration of tolerant variety and chemicals for the management of pests of okra (2000-01)

Considering efficacy and economics of insecticides, one spray of monocrotophos 0.04% at 20 days after sowing followed by three sprays of endosulfan 0.07% at 30, 45 and 60 days after sowing is recommended for control of different pests viz., fruit borer, aphid, jassid and whitefly (ICBR 1 : 8.09) infesting okra under middle Gujarat Agroclimatic zone.

12. Integration of tolerant variety and chemicals for the management of pests of brinjal (2000-01)

For effective and economical management of different pests (fruit borer, jassid and whitefly) infesting brinjal, insecticidal spray schedules consisting of monocrotophos 0.04% at 9 weeks after transplanting followed by three sprays of Spark 36 EC (deltamethrin + triazophos) 0.036% at 11,13 and 15 weeks after transplanting (ICBR 1 : 7.75) is recommended to the farmers of middle Gujarat Agroclimatic zone.


Alternate spray of triazophos 0.04% and monocrotophos 0.04% at 10 days interval starting from 30 days after transplanting is recommended (ICBR 1 : 6.72) for effective and economical control of thrips infesting chilli.

14. IPM for brinjal pest complex (2004-05)

For effective and economical management of pest complex in brinjal, five sprays of NSKE 4 % at 45, 60, 75, 90 and 105 DATP (ICBR 1:8.11) or application of Neem cake @ 250 kg / ha at 30 DATP + Shoot clipping at weekly intervals + NSKE (4%) sprays at 60, 75, 90 and 105 DATP is recommended for farmers of Middle Gujarat growing brinjal.

15. Evaluation of different spray schedules of insecticides and botanicals against pests of chilli (2005-06)

For effective and economical management of chilli thrips and fruit borer, the schedule based spray of Triazophos 0.04 % - Imidacloprid 0.005 % - Acephate 0.075...
% (ICBR: 1:8.51) is recommended for farmers of Middle Gujarat. Spray should be given on need basis at ETL 1 thrips per leaf.

16. Evaluation of different insecticides against mites infesting okra (2005-06)

For effective and economical control of mite infesting okra, along with the older recommended insecticides, wettable sulphur 0.125% and dicofox 0.03%, two sprays of any one of the following new insecticides is recommended for farmers of middle Gujarat, where the mite infestation is high. The first spray should be given on appearance of mite and second spray should be given after 10 days of first spray.

<table>
<thead>
<tr>
<th>Insecticide</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Fenazaquin 10 EC 0.01 %</td>
<td>1:3.67</td>
</tr>
<tr>
<td>Difenthiuron 50 EC, 0.05 %</td>
<td>1:3.98</td>
</tr>
</tbody>
</table>

17. Evaluation of different insecticides against mites infesting brinjal (2006-07)

For the effective and economical management of mites (*Tetranychus urticae*) in brinjal, two sprays of fenazaquin @ 0.01% (ICBR 1:16.17), first at the appearance of the mites and second after 15 days of first spray are recommended for the farmers of middle Gujarat.

18. Effect of different dates of transplanting on incidence of pests and little leaf disease of brinjal (2006-07)

To minimize the occurrence of little leaf disease, fruit and shoot borer and to get the higher fruit yield, the farmers of middle Gujarat are advised to transplant the brinjal crop in the first week of September.

19. Evaluation of different newer insecticides against chilli thrips (2006-07)

For the effective and economical management of thrips, *Scirtothrip dorsalis* in chilli crop, farmers of middle Gujarat are advised to spray mix formulation of ethion 40% + cypermethrin 5% @ 0.045% (ICBR 1:22.10) or difenthiuron @ 0.05% (ICBR 1:15.60) in addition to earlier recommendation viz., imidachloprid @ 0.005% (ICBR 1:17.20) and triazophos @ 0.04% (ICBR 1:26.60) following ETL of 1 thrip per leaf.


For effective and economical management of leaf miner and fruit fly in cucumber (Kakdi) following IPM module is recommended to the farmers of middle Gujarat (ICBR 1:41.40).

(i) Installation of yellow sticky trap @ 1/10 hills after germination.
(ii) Clipping of infested leaves in the initial stage of the crop.
(iii) Application of neem soap @ 10 g/lit of water at two leaf (cotyledonary) stage.
(iv) Application of deltamethrin @ 0.0014% + 20 g jaggery per liter of water at initiation of flowering.

21. Effect of various insecticides as seed treatment against okra pests (2007-08)

The farmers of Middle Gujarat growing okra crop are advised to treat the seeds with Imidacloroprid @ 5g/kg seed (ICBR 1:125.21) or Thiamethoxam @ 5g/kg seed (ICBR 1: 52.24) for effective and economical management of pest complex.
22. **Sex pheromone based IPM technology for brinjal shoot and fruit borer management (2008-09)**

   For effective management of shoot and fruit borer, *Leucinodes orbonalis* in brinjal, the farmers of middle Gujarat are advised to adopt following module (ICBR – 1 : 19.95).
   (i) Installation of pheromone traps @ 40 traps/ha
   (ii) Clipping of terminal infested shoots at weekly interval 20 days after transplanting
   (iii) Need based spray of neem seed kernel suspension 4% at 15 days interval during flowering and fruit setting.

23. **Standardization of number of pheromone traps for mass trapping *Earias vittella* Fabricius in okra (2008-09)**

   The farmers of middle Gujarat growing okra are advised to install pheromone traps with *Earias vittella* lures @ 60 traps/ha for effective and economical management of shoot and fruit borer, *E. vittella* (CBR – 1: 3.12). The traps should be installed 3 weeks after germination and at one foot height above the crop canopy covering the whole field uniformly.


   Farmers of Middle Gujarat, agroclimatic zone-III planting chilli crop for vegetable fruit production purpose are advised to apply the 50% artificial defoliation at 30 DATP (ICBR 1: 7.16) or apply the 25% artificial defoliation at 30 DATP (ICBR 1: 7.37) for getting higher fruit yield.

25. **Evaluation of different insecticides as seed treatments against leaf miner (*Liriomyza trifolii* Burgess) and red pumpkin beetle (*Aulocophora foveicollis* Lucas) in cucurbiteaceous vegetable crops (2012)**

   For effective management of leaf miner and red pumpkin beetle in cucumber, bottle gourd, ridge gourd and smooth gourd, the farmers of middle Gujarat are advised to treat the seeds with imidacloprid 70 WS @7.5 g or thiamethoxam 70 WS @ 4 g/kg seed before sowing.


   Farmers of middle Gujarat growing cowpea are advised to spray any one of the following insecticides for the control of pod borer, *Maruca vitrata* at the initiation of flowering and subsequent two sprays at 15 days interval.
   1. Flubendiamide 480 SC @ 0.014 % (3.0 ml/ 10 litre water)
   2. Chlorantraniliprole 18.5 SC @ 0.006 % (3.0 ml/ 10 litre water)

27. **Evaluation of different insecticides as root dipping treatments against sucking pests of chilli (2013)**

   For the control of thrips in chilli up to 45 days after transplanting, the farmers of middle Gujarat are advised to treat the seeds with imidacloprid 70 WS @ 7.5 g /kg (5.25 g a.i. /kg seed) before seeding in nursery and dipping roots of the seedlings in imidacloprid 17.8 SL @ 10 ml /10 litre water (1.78 g a.i /10 litre water) or thiamethoxam 25 WG @ 10 g /10 litre water (2.5 g a.i. /10 litre water) for two hours before transplanting.

Based on the results of three years experiment it was concluded that the highest green pod yield and maximum net return can be obtained by sowing the cow pea (AVCP – 1) at 45 x 45 cm or 60 x 30 cm spacing by applying seed treatment of Rhizobium and PSB culture (each at 5ml/kg seed) with basal application of fertilizer 10+20+0 kg NPK/ha.

26 (B) (ii) **Information generated for Scientists**

1. **Study of effectiveness of various trap crops for Helicoverpa armigera infesting cotton H-6 (2004)**

   Raising of African yellow flower marigold as a trap crop for *H. armigera* around the cotton crop is reducing the *H. armigera* infestation and gave higher seed cotton yield.

2. **Bio-efficacy of some of the newer insecticides against pests of tomato (2004)**

   For the effective control of leaf miner, *Liriomyza trifolii* and fruit borer, *H. armigera* on tomato spray of Cyromazine (225g. A.i./ha or 150 g.a.i./ha) or Endosulfan 140 g.a.i./ha or Diemthoate 120 g.a.i./ha is suggested as and when pest appeared on tomato crop.

3. **Bio-efficacy of some of the newer insecticides against chilli thrip, Scirtothrip dorsalis Hood (2004)**

   For the effective control of chilli thrip, *Scirtothrip dorsalis* spray of Difenthiuron 225 g.a.i./ha or Monocrotophos 144 g.a.i./ha is suggested as and when thrip appeared on chilli crop.

4. **Residue studies of emmamectin benzoate in/on okra (2008-09)**

   Two sprays of emmamectin benzoate in kharif okra @ 11 g a.i./ha at 10-day interval starting from fruiting stage do not pose residue problem in okra fruits harvested after second application.

5. **Helicoverpa armigera moth catches in pigeonpea through sex pheromones**

   The peak activity of moths and larvae of *Helicoverpa armigera* in pigeonpea were showed during mid of November to March and end of October to December, respectively. Seasonal & yearly moth and seasonal larval activities of *H. armigera* were significantly negatively correlated with minimum temperature, morning & evening relative humidity, rainfall and rainy days, while it was significantly positive correlated with sun shine hours. *H. armigera* moths were significantly negatively correlated with maximum temperature and wind speed during crop season and year, respectively. Seasonal larval incidence and moth catches of *H. armigera* were showed significantly positive correlation.

(Approved in 10th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Junagadh Agricultural University, Junagadh during 09-11 April, 2014.)
6. Population dynamics of major insect pests of sapota

Chiku moth, bud borer, leaf miner, mid rib folder and fruit fly remain active round the year under Agro climatic zone-II, AES-V indicating their peak in 1st fortnight of September, 2nd fortnight of September, 1st fortnight of December, 1st fortnight of November and 2nd fortnight of July, respectively.

(Approved in 12th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Navsari Agricultural University, Navsari during 11-13 April, 2016.)

7. Monitoring of fruit fly in mango orchard

The fruit flies remain active round the year under Agro climatic zone – II, AES-V in mango orchard with peak population during the 2nd week of July (28th SMW).

(Approved in 12th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Navsari Agricultural University, Navsari during 11-13 April, 2016.)

8. Evaluation of insecticides against chiku moth, Nephopteryx eugraphella R.

For effective management of chiku moth in sapota, apply three sprays of either flubendiamide 39.35 SC @ 0.0096% (2.4 ml/10 litre) or emamectin benzoate 5 SG @ 0.0022% (4.4 gm/10 litre) at one month interval during fruiting stage for higher yield and better return. The residues of these insecticides remain below determination level in sapota fruits.

(Approved in 12th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Navsari Agricultural University, Navsari during 11-13 April, 2016.)

9. Evaluation of insecticides against pod bug, Clavigralla gibbosa Spinola in pigeon pea cv. Vaishali

Two sprays of any of the following insecticide at an interval of 15 days commencing at pod formation stage are effective to control pod bug, Clavigralla gibbosa Spinola in pigeon pea.

- Imidacloprid 17.8 SL @ 0.005%
- Acetamiprid 20 SP @ 0.004%
- Thiacloprid 24 SC @ 0.024%

(Approved in 13th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at S.D. Agricultural University, Sardarkrushinagar during 05-07 April, 2017.)

10. Survey and surveillance of major insect pests of pigeon pea at College Farm, Bharuch as well as Narmada district

The pigeon pea pests were active round the year under Agro climatic zone II, AES V with higher activity period mentioned as under with standard meteorological week (SMW).

<table>
<thead>
<tr>
<th>Pest</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Aphid</td>
<td>36, 38, 39, 45 and 46th SMW</td>
</tr>
<tr>
<td>Jassid</td>
<td>37, 38, 39, 43, 47 and 48th SMW</td>
</tr>
<tr>
<td>PSB</td>
<td>49th to 2nd SMW</td>
</tr>
<tr>
<td>MBDR</td>
<td>45th SMW</td>
</tr>
<tr>
<td>Helicoverpa sp.</td>
<td>47th to 50th SMW</td>
</tr>
</tbody>
</table>
11. **Evaluation of acaricides against pigeonpea eriophyid mite, Aceria cajani**

Three sprays of spiromesifen 22.9 SC @ 0.005% (2 ml/10 lit) or fenazaquin 10 EC (10 ml/10 lit) @ 0.01% at 25, 40 and 55 days after sowing which effectively control pigeonpea eriophyid mite, *Aceria cajani* and give higher seed yield and net return. Further, the residues of these acaricides were found below determination level in pigeonpea seeds and plant residue.

1. **Management of serpentine leaf miner on cucumber (2006-07)**

For effective and economical management of leaf miner in cucumber, erection of yellow sticky trap @ 1/ hill, clipping of lower 2-3 infested leaves followed by application of neem soap @ 10 g/lit or NSKE (4%) at cotyledonary leaf stage and two foliar sprays of deltamethrin @ 0.005% alongwith jaggery 2% at 50% flowering stage is recommended.

2. **Effect of seed treatment against pest complex of okra (2007-08)**

The farmers of Middle Gujarat growing okra crop are advised to give the seed treatments before sowing with Thiamethoxam 70 Ws @ 3g/kg seed was found most effective for management of jassid and favourable plant growth as well as yield attribute characters with highest net additional benefit.

3. **Sex pheromone based IPM technology for brinjal shoot and fruit borer (Leucinodes orbonalis) management (2009-10)**

Looking to the effectiveness and economics, the treatment of mass trapping with pheromone traps found effective for management of shoot and fruit borer in brinjal and gave higher net return. Among the different schedules, ST1 Schedule consisting of Shoot clipping + 4 sprays of NSKE 4% found effective and gave higher net return.

4. **Management of red pumpkin beetle and leaf miner in bottle gourd (2010-11)**

Seed treatment with thiamethoxam 70 WS @ 3 g/kg seed prior to sowing followed by 3 sprays of NSKE 4% at 10 days interval from 20 DAS was effective and recommended for the control of red pumpkin beetle and leaf miner infesting bottle gourd.

5. **Pest management with mineral and botanical oils in chilli (2010-11)**

Seed treatment with thiamethoxam 70 WS @ 5 g/kg seed prior to sowing and 4 to 5 round of foliar sprays with neem oil @ 1% mixed with sticker/tepol @ 0.5 ml/lit at 10 days interval starting from 35 days after transplanting was proved effective and recommended fot controlling thrips and mites in chilli.

   Integrated module consisting of seed treatment with thiamethoxam 70 WS @ 3 g/kg seed and foliar spray of neem formulation @ 3 ml/lit at 40 DAS, endosulfan (1 ml/lit) + neem formulation @ 3 ml/lit at 50 DAS, spinosad 45 Sc @ 0.3 ml/lit at 60 DAS, Bt formulation @ 2 ml/lit at 75 DAS and neem formulation @ 3 ml/lit at 85 DAS was effective for management of jassid and shoot and fruit borer in okra and registered higher okra fruit yield.

7. **Integrated management of fruit fly in bitter gourd under different trailing system (2010-11)**

   IPM module comprising of crop sanitation by removal of early infested fruits, installation of cue lure baited bottle trap at the middle of two sub plots in the central row and bait spray at molasses 10% + malathion 50 EC (0.2%) at 6 spots in two border rows in four corners at 5 days interval from flowering in bower system was effective in controlling fruitfly in bitter gourd and gave higher income.
Recommendations
(Farmers / entrepreneur)

Information for Scientific community

1. *Helicoverpa armigera* moth catches in pigeonpea through sex pheromones

The peak activity of moths and larvae of *Helicoverpa armigera* in pigeonpea were showed during mid of November to March and end of October to December, respectively. Seasonal & yearly moth and seasonal larval activities of *H. armigera* were significantly negatively correlated with minimum temperature, morning & evening relative humidity, rainfall and rainy days, while it was significantly positive correlated with sun shine hours. *H. armigera* moths were significantly negatively correlated with maximum temperature and wind speed during crop season and year, respectively. Seasonal larval incidence and moth catches of *H. armigera* were showed significantly positive correlation.

(Approved in 10th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Junagadh Agricultural University, Junagadh during 09-11 April, 2014.)

2. Population dynamics of major insect pests of sapota

Chiku moth, bud borer, leaf miner, mid rib folder and fruit fly remain active round the year under Agro climatic zone- II, AES- V indicating their peak in 1st fortnight of September, 2nd fortnight of September, 1st fortnight of December, 1st fortnight of November and 2nd fortnight of July, respectively.

(Approved in 12th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Navsari Agricultural University, Navsari during 11-13 April, 2016.)

3. Monitoring of fruit fly in mango orchard

The fruit flies remain active round the year under Agro climatic zone – II, AES- V in mango orchard with peak population during the 2nd week of July (28th SMW).

(Approved in 12th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Navsari Agricultural University, Navsari during 11-13 April, 2016.)

4. Evaluation of insecticides against chiku moth, *Nephopteryx eugraphella* R.

For effective management of chiku moth in 10sapota, apply three sprays of either flubendiamide 39.35 SC @ 0.0096% (2.4 ml/10 litre) or emamectin benzoate 5 SG @ 0.0022% (4.4 gm/10 litre) at one month interval during fruiting stage for higher yield and better return. The residues of these insecticides remain below determination level in sapota fruits.

(Approved in 12th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Navsari Agricultural University, Navsari during 11-13 April, 2016.)
5. Evaluation of insecticides against pod bug, *Clavigralla gibbosa* Spinola in pigeon pea cv. Vaishali

Two sprays of any of the following insecticide at an interval of 15 days commencing at pod formation stage are effective to control pod bug, *Clavigralla gibbosa* Spinola in pigeon pea.

- Imidacloprid 17.8 SL @ 0.005 %
- Acetamiprid 20 SP @ 0.004%
- Thiacloprid 24 SC @ 0.024%

(Approved in 13th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at S.D. Agricultural University, Sardarkrushinagar during 05-07 April, 2017.)

6. Survey and surveillance of major insect pests of pigeon pea at College Farm, Bharuch as well as Narmada district

The pigeon pea pests were active round the year under Agro climatic zone II, AES V with higher activity period mentioned as under with standard meteorological week (SMW).

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</tr>
<tr>
<td><em>Helicoverpa</em> sp.</td>
<td>47th to 50th SMW</td>
</tr>
<tr>
<td><em>Maruca</em> sp.</td>
<td>48 and 49th SMW</td>
</tr>
<tr>
<td>Leaf Roller</td>
<td>41st to 43rd SMW</td>
</tr>
</tbody>
</table>

(Approved in 13th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at S.D. Agricultural University, Sardarkrushinagar during 05-07 April, 2017.)

7. Evaluation of acaricides against pigeonpea eriophyid mite, *Aceria cajani*

Three sprays of spiromesifen 22.9 SC @ 0.005% (2 ml/10 lit) or fenazaquin 10 EC (10 ml/10 lit) @ 0.01% at 25, 40 and 55 days after sowing which effectively control pigeonpea eriophyid mite, *Aceria cajani* and give higher seed yield and net return. Further, the residues of these acaricides were found below determination level in pigeonpea seeds and plant residue.

(Approved in 14th Combined Joint AGRESCO Meeting of State Agricultural Universities of Gujarat held at Junagadh Agricultural University, Junagadh during 03-05 April, 2018.)