

# The positive impact of APCNF practices on thrips damage in chilli crop

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An overview of the survey  
findings







# Background

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- In south India, a new type of insect is wreaking havoc on the chilli crop. *Thrips Parvispinous*, an invasive pest initially discovered in Indonesia in 2015, has quickly expanded throughout Telangana and Andhra Pradesh, impacting over 9 lakh acres of chilli crop.
- In Andhra Pradesh, as chilli crop is cultivated over an area of 6 to 8 hundred thousand acres, more than 70% of the crop is damaged .
- Farmers complained that the insect has acquired a resistance to pesticides and then was difficult to control.
- RySS conducted a survey to assess the effect of APCNF practices on thrips management versus chemical practices

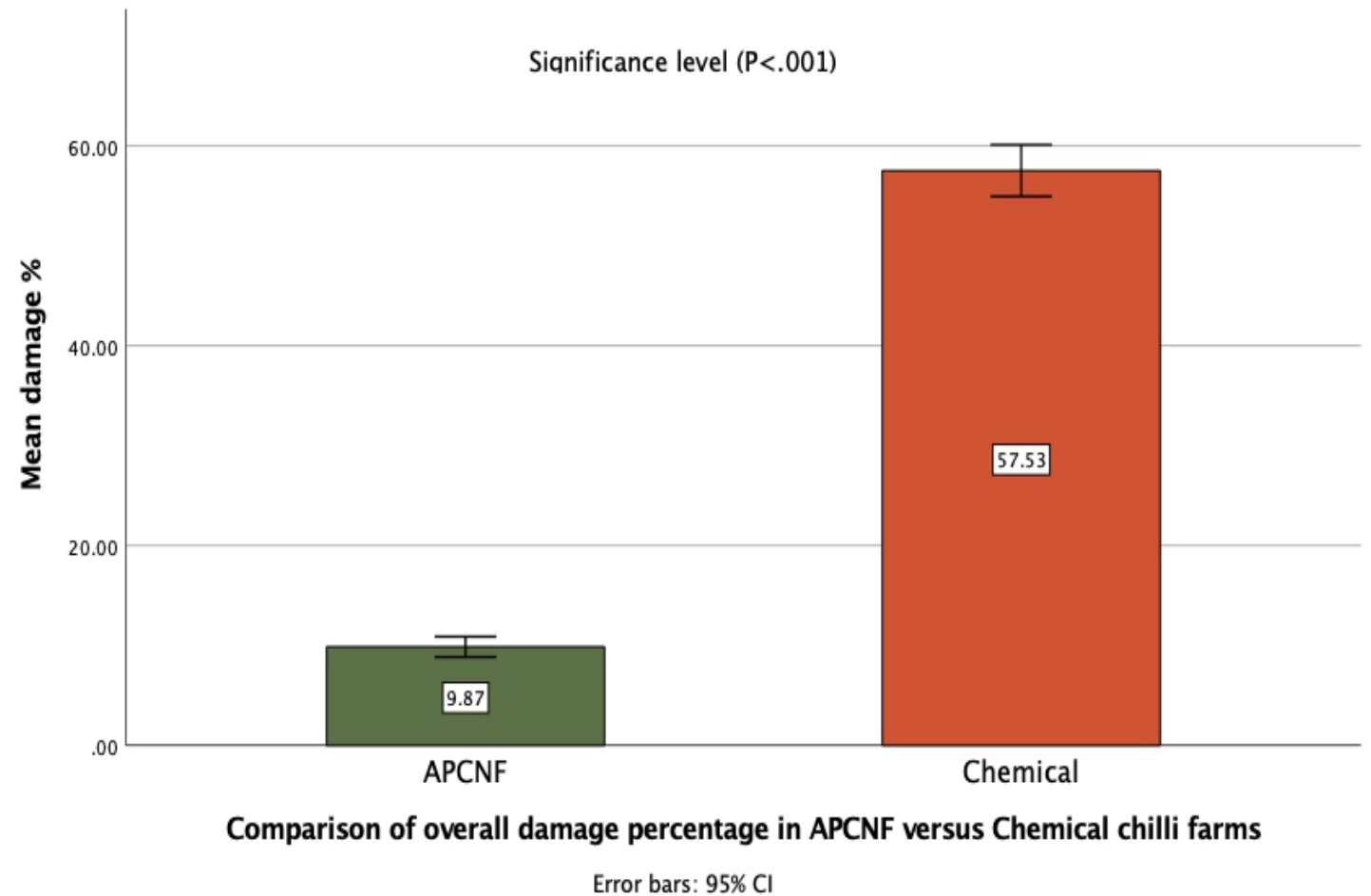


# Survey details

- Objective : To study the impact of APCNF practices in managing the Thrips in Chilli crop
- Hypothesis : APCNF practices may resist the thrips on chilli when compared to Chemical practices
- Number of farmers surveyed : 143
- APCNF farms : 70
- Chemical farms : 73
- Districts surveyed: Krishna, Guntur, Prakasam and Kurnool (The chilli growing districts of Andhra Pradesh)

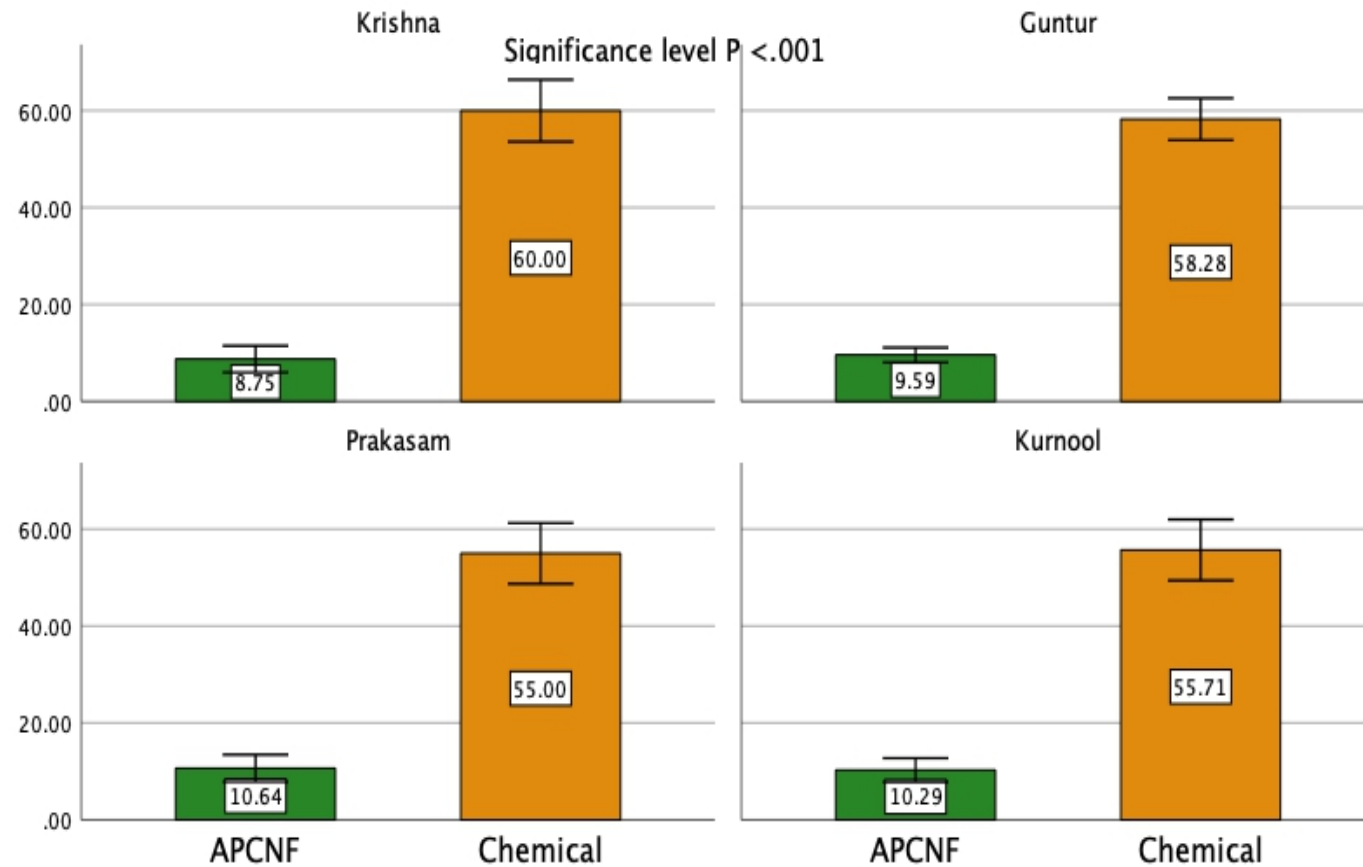
## Percentage damage in chilli crop in APCNF versus Chemical crop : Due to Thrips infestation

- The average proportion of damage in APCNF farms is just 9.87 percent, compared to chemical farms, where the average percentage of damage is substantial (57.53%) among the total farms assessed.





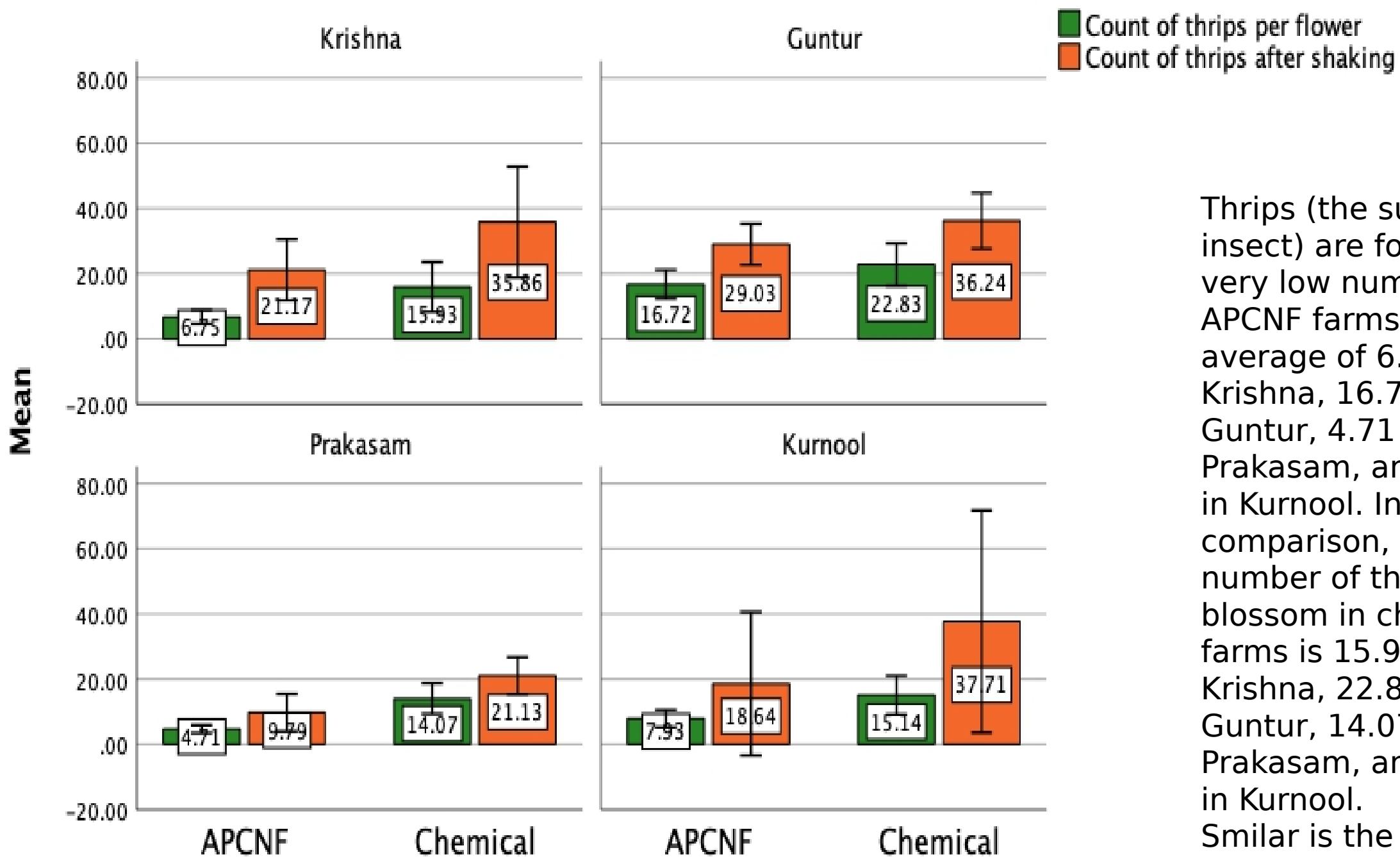
# Damage percentage between APCNF plots and Chemical plots



Comparison of percentage of damage in Chilli crop between APCNF and Chemical farms in four districts

Error bars: 95% CI

- The mean APCNF damage levels are quite low in four chilli growing districts (Krishna 8.75 percent, Guntur 9.59 percent, Prakasam-10.64 percent, and Kurnool 10.29 percent).
- Whereas thrips infestation caused substantial damage in Chemical plots of all four districts (60 percent in Krishna, 58.28 percent in Guntur, 55 percent in Prakasam, and 55.71 percent in Kurnool),

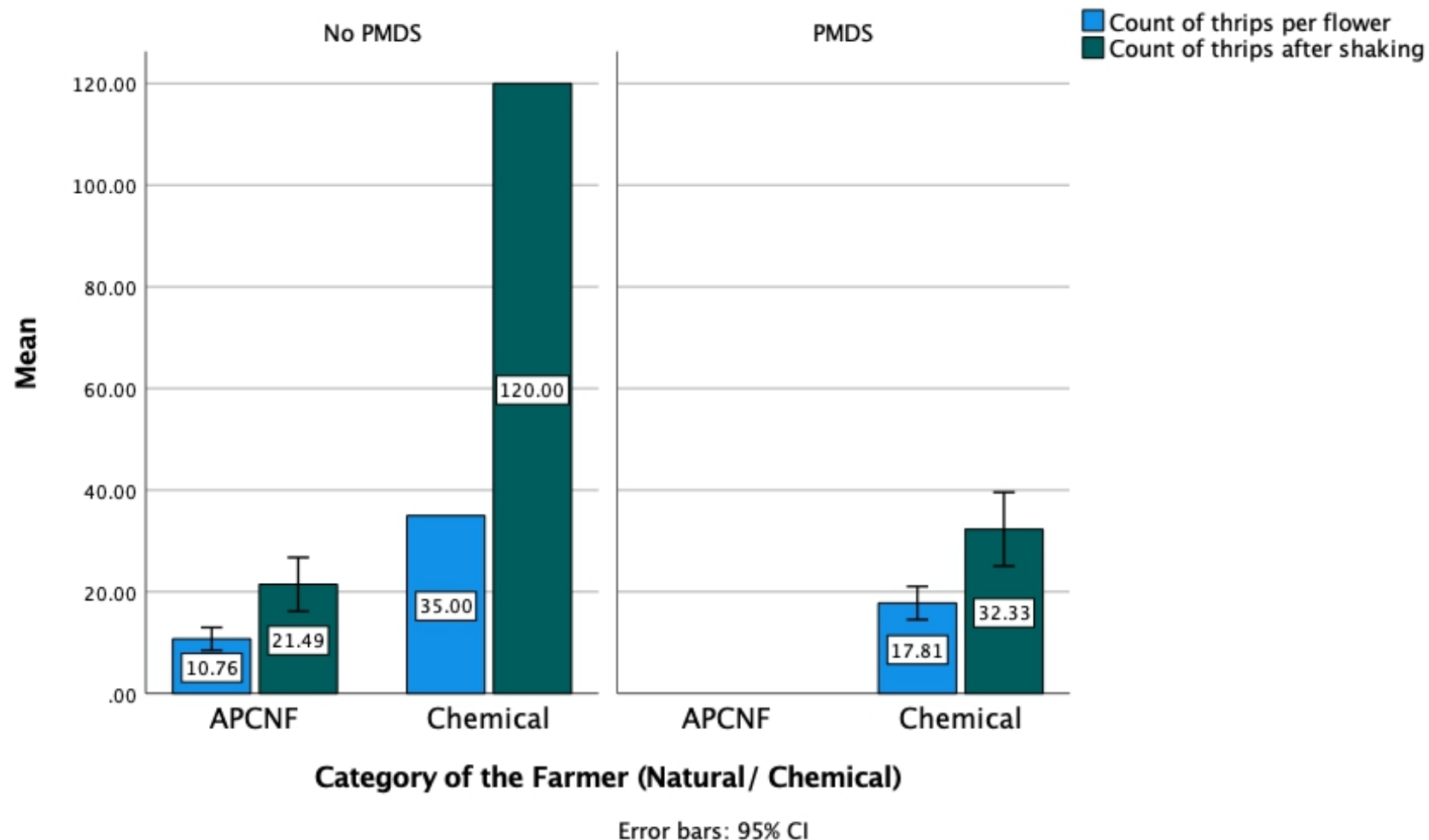


Thrips (the sucking insect) are found in very low numbers in APCNF farms, with an average of 6.75 in Krishna, 16.72 in Guntur, 4.71 in Prakasam, and 7.93 in Kurnool. In comparison, the number of thrips per blossom in chemical farms is 15.93 in Krishna, 22.83 in Guntur, 14.07 in Prakasam, and 15.14 in Kurnool. Similar is the case with the count of

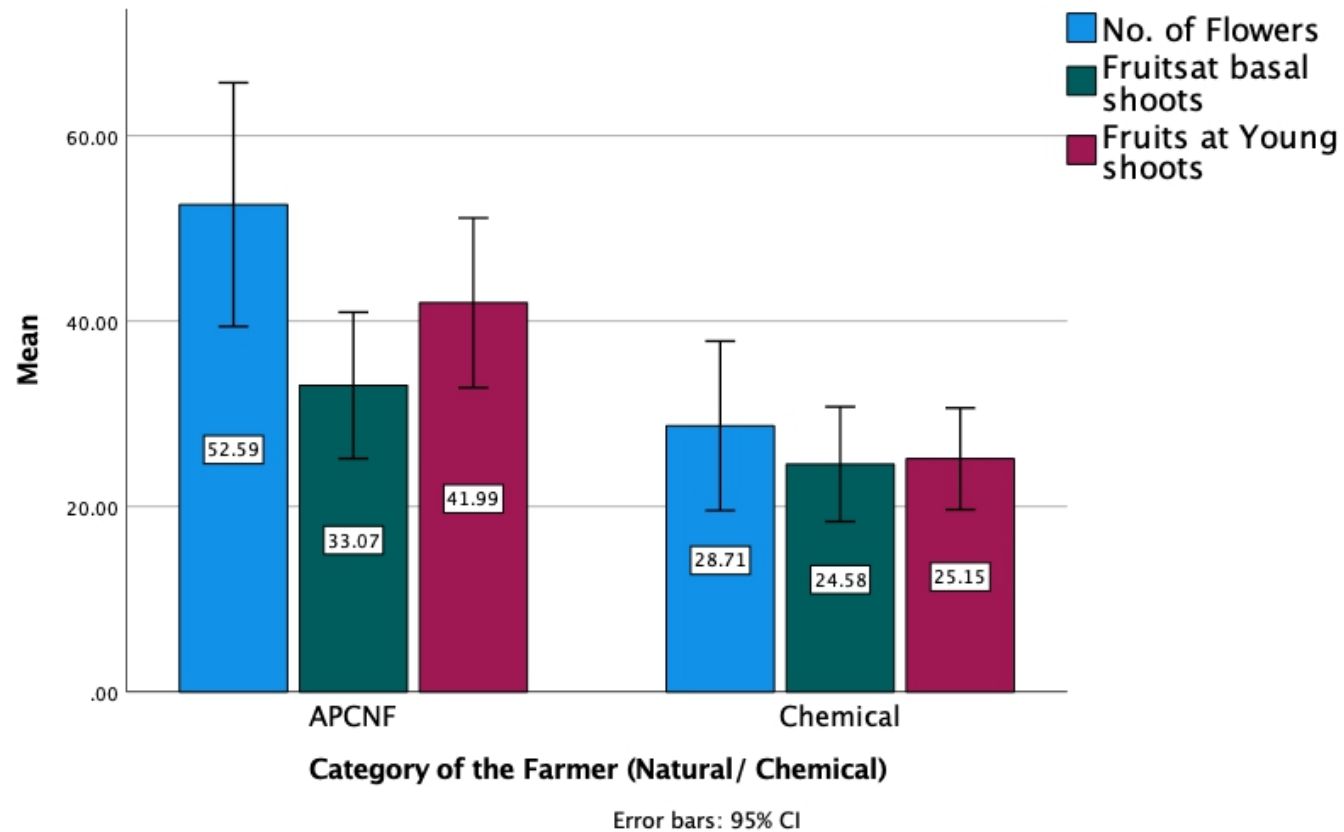


## Count of thrips in PMDS crops before chilli versus No PMDS before chilli

- The data shows that the count of thrips per flower is high in No PMDS before chilli crop but there is less thrips in APCNF - No PMDS crop as well
- The is minimum count of thrips in PMDS followed by APCNF chilli crop



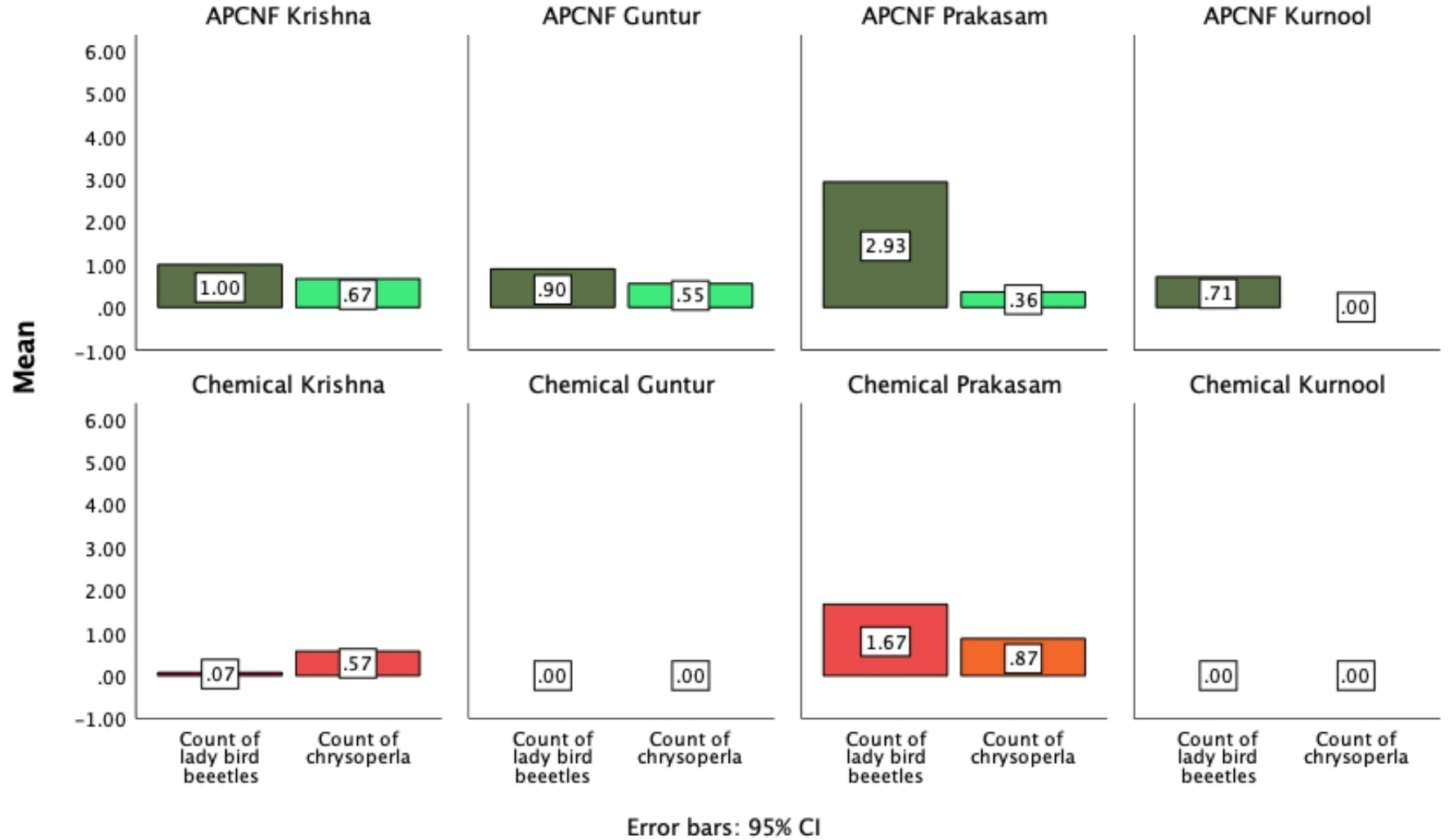
# The number of flowers, fruits at basal and young shoots



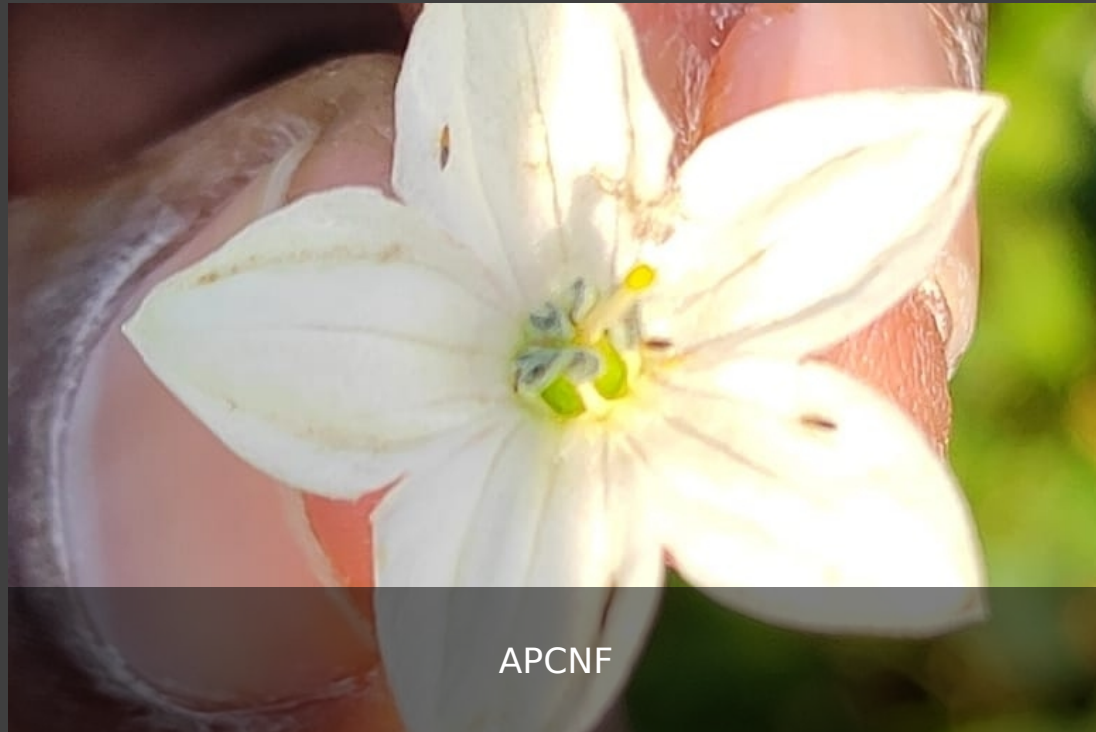
- The number of flowers, fruits in basal shoots, and young shoots are all higher in APCNF chilli farms (mean 52.59 flowers, average number of fruits in basal shoots is 33.67, and higher number of fruits at younger shoots (that represents crop recovery when compared to chemical farms).



- The count of beneficial insects per square meter (*Lady bird beetles* and *Chrysoperla*) in various districts
- These insects feed on thrips and are more visible in APCNF farms in different districts when compared to chemical Chilli farms



# Comparison infested flowers in APCNF and Chemical







Comparison of  
crop damage in  
APCNF vs  
Chemical

APCNF

Chemical



# PHOTOS

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APCNF



CHEMICAL FARMING



# PHOTOS

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APCNF



CHEMICAL FARMING

# Package of Practices in APCNF

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## Protocols adopted:-

1. PMDS with 18 types of varieties
2. Seed and seedling treatment with Beejarutha
3. GJM Type-2 1500 kg (during last ploughing)
4. GJM- Type -1 400 kg (2 Split doses)
5. DJM – 200 Lts/ Acre (20 days interval)
6. Border crops:- Marigold, Radish, bajra

## Remedy for controlling measures of Chilli thrips and red mite

1. 3 liters of Brahmastram sprayed on 2/12/2021
2. 10 liters of Datura leaf extract sprayed on 4/12/2021
3. 15 liters of Trisul botanical extract sprayed on 7/12/2021
4. 10 liters of Curd, Cloves and Cinnamon botanical extract sprayed on 10/12/2021
5. 20 liters of Acorus Calamus (Vasakomma) and Asfoetida (hinge) solution sprayed on 12/12/2021
6. Foliar spray of Vitex Negundo (Vavili) extract sprayed on 14/12/2021
7. Soapnut asfoetida (hinge) solution was prepared again.
8. This way, the chilli thrips and red mite was controlled in their field.



# Some common package of practices followed in APCNF

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## **Protocols adopted:-**

1. PMDS with 18 types of varieties
2. Seed and seedling treatment with Beejarutha
3. GJM Type-2 1500 kg (during last ploughing)
4. GJM- Type -1 250 kg (1 time)
5. DJM – 200 Lts/ Acre (20 days interval)
6. Border crops:- Marigold, Radish, bajra

## **For controlling Thrips:-**

1. Yellow sticky plates – 50 /Acre
2. Blue sticky plates – 10 /Acre
3. Pheromone traps – 8 / Acre
4. Light trap – 1/ Acre
5. Vavilaku kashayam – 2 times, 10 lts/Acre
6. Umettha kashayam – 2 times, 10 lts/Acre
7. Cow dung, urine, asafetida solution – 1 time
8. Agnastram – 2 times, 23 lts/ Acre



# Conclusions

- The findings show that the APCNF chilli crop could withstand thrips infection and that damage levels in APCNF are just 9 to 10% as compared to Chemical chilli crop where damage levels are as high as 50-60%.
- Infestation is minimal in PMDS-treated Chilli crops compared to non-treated Chilli crops.
- There is considerable variance in infection levels and damage percentages across districts.
- Beneficial insect populations (*Lady bird beetle, Chrysoperla*) that predate these thrips are found in APCNF chilli farms.

Latitude: 16.058226  
Longitude: 79.243508  
Elevation: 293.72±21 m  
Accuracy: 1.9 m  
Time: 12-18-2021 14:18  
Note: D.Saheb pera NF field