

Survey report of ICAR – NIBSM, Raipur

(as a follow up of the following mail from ICAR on 01.06.2017)

Contents of a mail from Crop Science division of ICAR:

Recent (2016) outbreaks of plant pests in India:

Please confirm/ add/ modify if the following information is not correct and please provide approximate area affected/ crop losses for each of the following pests:

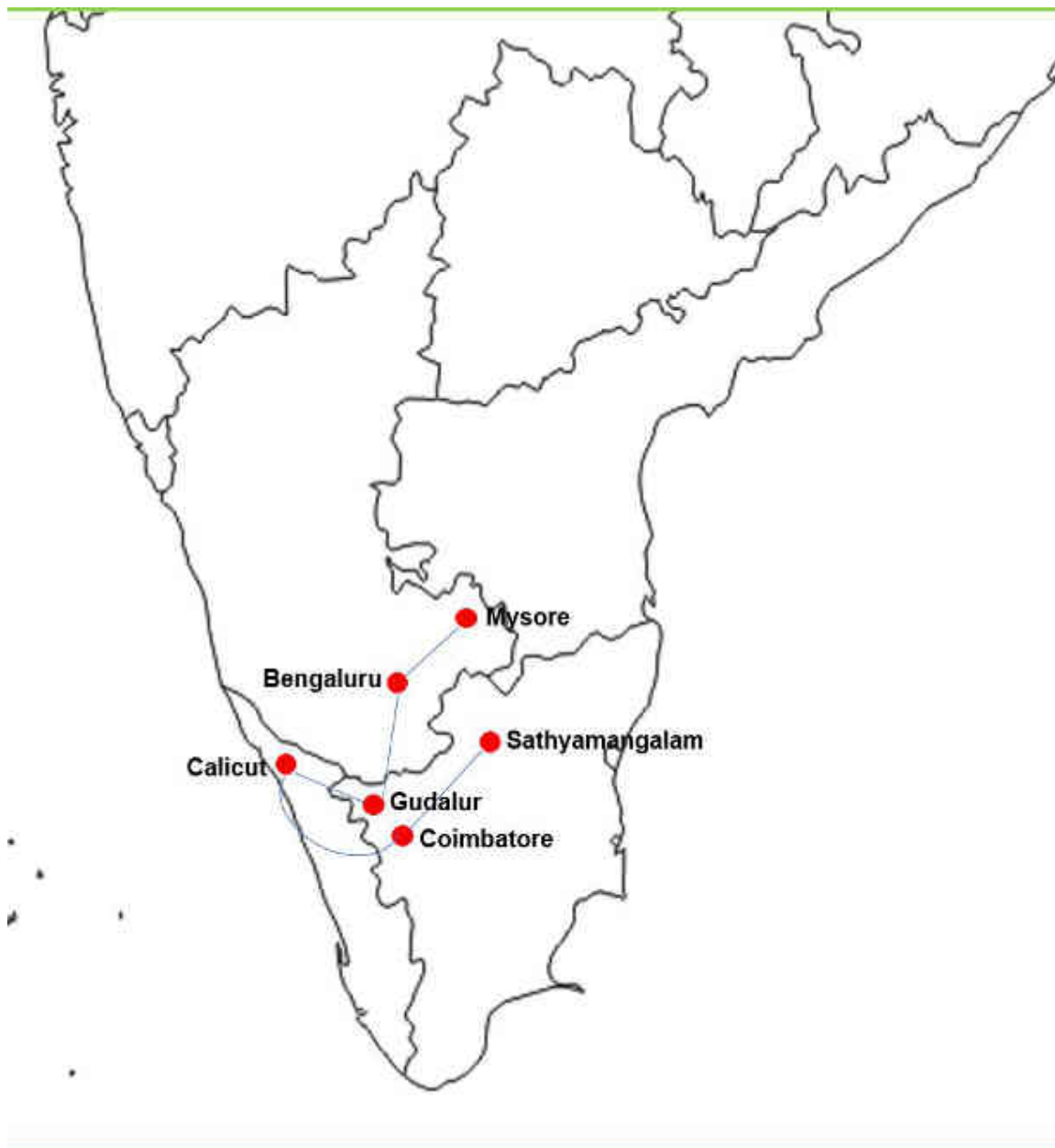
- a. Wheat blast like disease reported in 1000 hectares area bordering Bangladesh in West Bengal
- b. Black headed caterpillar in coconut growing areas of Arsikere & Kadur taluks of Hassan and Chikkamangaluru, Karnataka
- c. Rugose spiraling white fly, *Aleurodicus rigioperculatus* in coconut palm in Pollachi, Coimbatore, Tamil Nadu, Andhra Pradesh and Kerala; likely to damage banana, mango, avocado, custard apple, sapota, other palms and ornamentals
- d. Rice Armyworm (*Mythimna separate* & *Spodoptera mauritia*) recorded in a large area in Kuttanad, Kerala and Darrang and Udalguri Districts of Assam.
- e. *Tomato spotted wilt virus* on Chrysanthemum in Nilgiris, Tamil Nadu
- f. *Puccinia horiana* causing white rust of chrysanthemum reported from glass houses near Bangalore, Karnataka

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A survey was conducted between 03.06.2017 to 06.06.2017 in south India (Figure 1) for incidence of spiraling white fly on coconut, Tomato spotted wilt virus on *Chrysanthemum* and *Puccinia horiana* causing white rust of *Chrysanthemum* . The survey route has been shown in the figure below:

Figure 1. Survey route



Results

Coconut and banana:

- All the 36 coconut orchards observed enroute Bangalore (rural) – Mysore – Gudalur – Calicut – Coimbatore - Sathyamangalam (20 kms interval) were found infected with rugose spiraling white fly. Invariably in all the orchards, more than 50 % trees showed infection of this pest with more than 10 % trees showing complete coverage (100%) of white fly in the areas between Bangalore and Mysore. In other areas, however, complete coverage was not noticed and pest infestation appeared as partial coverage in the range of 5 – 40 %.
- Young banana orchards were also noticed severely defoliated adjacent to white fly infested coconut trees at two locations in Mysore area.

Recommendation

- Urgent need to employ predator/parasitoids therapy not known to 90% of the farmers interviewed during the survey.
- Aerial sprays of effective insecticides
- An expert entomologist to be deputed for an immediate survey to verify the expected defoliation of banana trees due to spiraling white fly.

Chrysanthemum

- Flower Nurseries and polyhouses cultivating *Chrysanthemum* were visited in nine locations in Nilgiri hills.
- Tomato spotted wilt virus as reported in Dr. Rajan's mail above could not be noticed in all the locations. Farmers and polyhouse owners interviewed on surveyed spots and otherwise also reported not to have seen symptoms of this virus on *Chrysanthemum*.
- Infection of *Puccinia horiana* was observed only in traces at all the locations without having caused any economic loss to *Chrysanthemum* entrepreneurs in Nilgiris as a result of 24 interviews conducted with farmers and market dealers.
- In some nurseries, infestation of leaf miners on *Chrysanthemem* bothered growers since pest was reported to be uncontrolled despite spray of effective insecticides.

Recommendations

- Triazole fungicides can be effectively applied to control *P. horiana*.
- Some of the affluent polyhouse growers reported import of propagation stocks from Netherlands without having replied satisfactorily while asked about the quarantine procedures followed during import. Government must ensure strict quarantine measures on import of foreign propagational stocks to avoid invasion of exotic dreadly virulent biotypes of *P. horiana* which may hamper *Chrasanthemem* entrepreneurship in the country.
- Insecticides sprayed for control of leaf miners are feared to have become ineffective due to resistance development in the pest. It needs further studies.

Photo gallery

Figure 2: A severely infested coconut orchard

(Location: between Bangalore and Mysore)



Figure 3. Silvery appearance of white fly infested coconut trees



Figure 4 : Defoliated banana orchard near white fly infested coconut orchard



Figure 5. A healthy *Chrysanthemum* nursery in polyhouse in Nilgiris



Figure 6. Trace infection of rust caused by *Puccinia horiana* on *Chrysanthemum* in a polyhouse in Nilgiris



Figure 6. Leaf miner infestation on *Chrysanthemum* in a polyhouse in Nilgiris



Figure 7. A close view of leaf miner symptoms on *Chrysanthemum* in a polyhouse in Nilgiris

