Innovative Farming
-An International Journal of Agriculture

Success Story

MANAGEMENT OF CITRUS TRUNK BORER IN TINSUKIA DISTRICT OF ASSAM – A SUCCESS STORY

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KEY WORDS:
Khasi mandarin, Citrus trunk borer, Rejuvenation, FLD

ARTICLE INFO
Received on: 21.11.16
Revised on: 23.01.17
Accepted on: 25.01.17

ABSTRACT

Citrus trunk borer is one of the major pests of *Khasi* mandarin in Tinsukia district of Assam. About 15 – 60 per cent damage was observed due to the insect infestation. FLDs conducted by KVK, Tinsukia from 2012-13 to 2015-16 in few declining Khasi mandarin orchards on "Management of citrus trunk borer" using improved protection measures for trunk borer developed by Citrus Research Station, Assam Agricultural University; Tinsukia. Results of the FLDs showed that the increased average yield in the rejuvenated orchards were recorded about 23 per cent during the period of intervention with a B: C ratio of 4.33:1 compared to B: C ratio of 2.31:1 before intervention.

Introduction

North East India is well known for production of *Khasi* mandarin. Tinsukia district, situated in a prime zone for production of *Khasi* mandarin and produces the highest quantity of *Khasi* mandarin with an area and production of 1390 ha and 19760 MT, respectively (Annon. 2015). *Khasi* mandarin produced in Tinsukia district is of superior quality. However, it was observed that sharp decline in production and area under *Khasi* mandarin has become a major concern in the district during the last few years. Scientists from KVK, Tinsukia surveyed the *Khasi* mandarin orchards of Margherita and Kakopothar block and the problems of *Khasi* mandarin cultivation were screened. The major problems identified were unscientific management practices, heavy infestation of pest and diseases mainly citrus trunk borer, poor nutrition etc. It was observed that among the pests the trunk borer is the major pest. The grubs bore into the pith of the plant, generally at the base of the trunk and kill the tree within 3 to 6 years of growth. About 15- 60% damage caused in citrus and even as high as 68% damage in *Khasi* mandarin was observed due to trunk borer infestation.

KVK intervention

Training and demonstration programme were carried out in the farmers field of *Khasi* mandarin growing areas of Margherita and Kakopothar block of the district. Few declining orchards in strategic locations were adopted where in improved crop protection measures for the management of citrus trunk borer developed by Citrus Research Station, AAU, Tinsukia were applied. The improved technologies were

- During the months of May-June (when the insects emerge in large numbers) the adult trunk borers are collected by shaking the trees and then killed.
- Prophylactic smearing of 50 ml Monocrotophos + 2 kg lime in 10 liters water along with gum on the tree trunk up to 1 metre height from the ground level during March –April which prevents early infestation of trunk borer.
- Cleaning of infected holes and insertion of cotton soaked in Dichlorovos @ 0.05% followed by mud plastering done where and when the trunk borer attack was noticed.
- By hooking with curved wire cleaning of grubs tunnel made inside the stem

Fig. 1. Citrus trunk borer adult

Fig. 2. Citrus trunk borer adult in *Khasi* mandarin

Fig. 3. Damaged symptoms of citrus trunk borer

Fig. 4. FLD on citrus trunk borer management

Fig. 5. Application of lime in *Khasi* Mandarin

Impact

By adopting improved plant protection measures, the problems of citrus trunk borer were being able to manage. It improved the health of the plants and also the yield of the orchards resulting in increased income of the farmers. In the rejuvenated orchards of Margherita and Kakopothar block, an increased average yield of about 23 per cent was recorded during the period of intervention i.e. 2012-13 to 2015-16. This has resulted in increase of income of the *Khasi* mandarin growers with a net return of Rs 2, 60,000/ ha and B: C ratio of 4.33:1 during the period of intervention. It was also observed that before intervention the farmer's income was Rs. 80,000/ha with a B: C ratio of 2.31: 1.

The rejuvenated orchards were demonstrated to the farmers and trainings were organized on the spot regarding improved methods of plant protection. Efforts of KVK, Tinsukia have motivated the farmers to adopt the scientific methods of cultivation of *Khasi* mandarin to get higher economic return from the crop. As a result, both production and area under *Khasi* mandarin in Tinsukia district has started improving.

Conclusion

From the above study, it can be concluded that by adopting improved methods of plant protection, Citrus trunk borer problems can be managed. Moreover KVK of the district need to provide proper technical support to the farmers through different educational and extension methods to motivate the farmers for adoption of improved methods of cultivation.

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How to cite this article?

Nath, R.K., P. Ahmed and A.C. Sarmah. 2017. Management of citrus trunk borer in Tinsukia district of Assam – a success story. *Innovative Farming*, **2**(1): 19-21.