

Technical Bulletin #85:

## Integrated Pest Management – Sampling or Scouting for Home Gardens

### Why should I sample?

The Cambodia HARVEST Project does not recommend the use of insecticides, fungicides or any other chemical in home gardens because these plots are too close to homes, and if not properly applied they can be harmful to humans and animals.

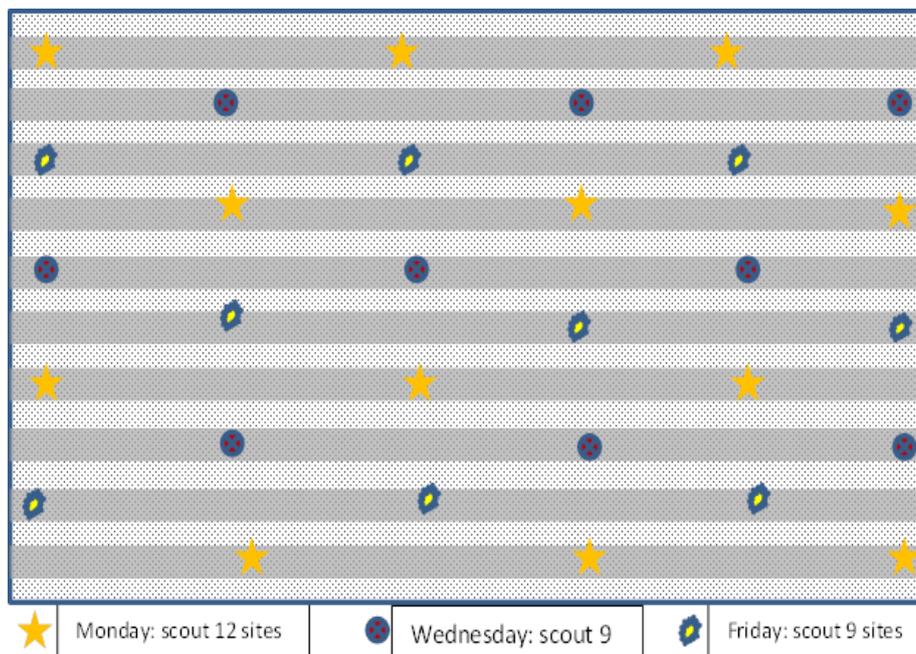
In order to have successful crops, farmers must know what insects and diseases are present in their crops and to what degree (population or degree of damage) they exist. The term pest is directly related to the extent of the numbers of insects and the number of plants affected or damaged. One armyworm in 100 plants is not a pest; 80 armyworms in 100 plants are pests.

Sampling and early detection are the best ways to prevent any possible pest or disease problem.



### How do I sample?

For home garden plots we recommend the farmer walk through their whole plot on a daily basis to check for abnormalities such as abnormal plant growth, abnormal foliar color, foliar damage, and plants wilting. If you see any of these signs, you should also sample the plants on each side of the abnormal plant.



In order to thoroughly check the field conditions we recommend the farmer scout the garden plot at least three times per week. The farmer can follow the pattern shown above. Every Monday begin scouting in a different corner of the plot, and scout three stations per every three rows. To keep track of where you have

scouted, mark the rows with a stake. Then, on Wednesday, begin your scouting in the second row but from the opposite end, and scout three stations per every three rows. On Friday, scout the remaining rows.

When scouting, it is good to have a magnifying glass to be able to see small pests, white paper sheets to tap open flowers to look for thrips, and a notebook to write down your findings.

A sampling station consists of three continuous plants. The place where sampling is started must be one of the four corners of the plot. It is always advisable to draw and mark sampling stations and the starting corner on a map of the plot.

### **How is sampling done once you are at the sampling station?**

First, mark the station, count the number of plants in the station, and then observe what can be seen on the surface (e.g. whiteflies, beneficial insects, downy mildew, virus, etc.). Then turn the leaves over to detect and record pests, diseases and beneficial insects. An entire plant can be sampled when the plants are small, and the number of plants checked can be increased to more than three because the work can be done quickly. When plants are big they must be sampled proportionally focusing on the damaged parts of the plant. Old leaves, medium sized leaves, growing tips, flowers and fruits can all be sampled.

### **Control**

At the end of the sampling exercise, make a summary of what was found, where in the plot it was found, and take decisions to manage what was found in case the densities are high enough to merit some kind of control. Beneficial insects are also taken into account because their presence may help keep pests to a level where no economic damage will be incurred. The selection of any chemical or botanical pesticide application should take into account the densities of beneficial insects.

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