



# Guide on use of color sticky traps on Tomato

**The Project for Promotion of Safe and Appropriate Use of Pesticides and Fertilizers in Sri Lanka (SAFE)**





## Purpose:

Tomato is a key vegetable crop in many regions of Sri Lanka. But its production is often threatened by a wide range of insect pests that, if not managed properly, can lead to substantial yield losses. Integrated Pest Management (IPM) strategies emphasize the importance of timely pest monitoring to minimize the use of chemical pesticides and reduce environmental impacts. Sticky traps are commonly used as monitoring and controlling insects.

Sticky traps are increasingly recognized as a sustainable and environmentally friendly technique for managing populations of small flying insect pests in both open fields and protected environments. Beyond their utility for pest management, these traps are widely used for monitoring insect populations in agricultural fields. However, their non-selective nature poses a challenge, as they often capture not only target pests but also beneficial insects along with neutral insects.

The effectiveness of sticky traps is influenced by factors such as trap color and placement height. While the attraction of certain insect species to specific colors—such as the strong attraction of many pests to yellow—is well-documented, the responses of other species to different colors remain less understood. In Sri Lanka, yellow and blue sticky traps are commonly employed to manage whiteflies and thrips in tomato cultivation. However, traps of alternative colors, including red, green, white are used in other regions indicating potential benefits of tailoring trap colors to specific pest species.

This guide introduces how to place and use sticky traps in farmer's fields. This also includes precautions and future issues when introducing color sticky traps for the cultivation of tomato.

**Table 1:** Pest of Tomato attracted to different colors

Color	Attracted Pests
<b>Yellow</b>	<b>White flies, Aphids, Leafhoppers, Leaf miners flies</b>
<b>Blue</b>	<b>Thrips</b>
Green	Aphids (very less number of insects attracted-Badulla trial)
Red	Leafhoppers
White	<b>Thrips</b> , (very less number of insects attracted- Badulla trial)

**Note:** Letters shown in **bold** are based on the result of trial in Badulla district in 2024

# Pest monitoring & control technology using color sticky traps:

## (1) Technology content

Color sticky traps are a physical pest control material that visually attract pests and mechanically capture them and are widely used as a pest control method that meets today's demand for "agricultural crop safety" and "environmental consideration."

Usually color water-proof sheets with extremely sticky glue are used to make the traps. The glue is applied on both sides of the sheet. Commercial ones are available in the market.



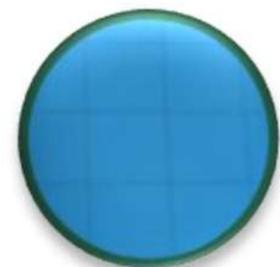
**Double - side adhesive**



**Super strong adhesive**



**Waterproof**



**Full sheet adhesive**

**Figure 1:** Four important features of sticky trap

## (2) Types of color sticky traps and installation methods

### • Color and size

There are mainly 5 colors (yellow, blue, red, green and white) available. Size varies based on necessity. Sometimes, roll type (10 cm width and 100 m length) is also available. Tested ones are 20 cm x 30 cm.

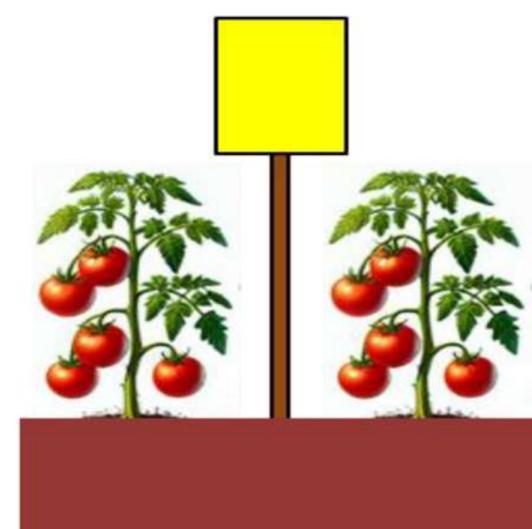


**Figure 2:** 5 colors of sticky trap (20 cm width x 30 cm length)

### • Installation method

#### i. Monitoring of pest outbreaks

After planting, hang about 10 pieces of sticky trap per 1,000 m<sup>2</sup> about 15 cm above the crop canopy. The height of the crop increases as it grows. Therefore, the length of the stick should be more than 150 cm (Crop height 100 cm +above 15 cm +Sticky trap Length 20 cm +inserted part in soil 15cm). It is necessary to change the installation height accordingly.



Set the sticky traps 15 cm above the tomato

**Figure 3:** How to install sticky traps for monitoring purpose

## ii. Control purpose in another countries

After planting, hang 100 to 400 sticky traps per 1000 m<sup>2</sup> approximately 15 cm above the crops. Some chemical pesticides have low insecticidal effects on adult insects, so by using them in combination to capture adult insects by sticky traps, the next generation can be suppressed.

For leaf miners, use a yellow sticky trap and place them horizontally on the ground at a height of about 20 cm. It is effective for capturing adult leafminers that have just emerged from the ground.



**Figure 4:** How to install sticky traps for control purpose

### **(3) Demonstration summary:**

The study was conducted from June 2024 to August 2024 in two tomato fields, Boralanda and Kahaththewela, in Badulla district.

- Results indicate significant differences in pest attraction across trap colours
- Insect pests, natural enemies, and neutral insects that were attracted to each sticky trap were counted.
- Yellow sticky traps attracted the most insect pests and neutral insects.
- Among pest insects, yellow sticky traps were highly effective in capturing Whiteflies, Green Leafhoppers, Aphids and Thrips
- Blue and white sticky traps mostly attracted Thrips
- Red sticky traps attracted fewer pest insects but a higher number of non-pest insects.
- Green traps captured the least number of insects.

#### (4) Points to note when using the sticky traps:

**(1) The presence of beneficial insects and neutral insects**

During the trial period, the study recorded the presence of beneficial insects and neutral insects (Insects that were neither pests nor natural enemies). Each colored sticky trap was first examined for beneficial insects, such as predators and parasitosis, and then neutral insects were identified and recorded up to their “order “level for unfamiliar insects.

**(1) Adjusting of installed height above the canopy**

When using, it is necessary to adjust the position of sticky traps following the growth of crops. The location of the color sticky trap from the crop should always be kept at 15 cm above the canopy.

**(1) How to store and dispose**

Install and store in a place where infants and pets cannot touch it. If dust, dirt, oil, etc. adhere to the adhesive surface, the capture effect will decrease, so please be careful when managing it. Store in a cool, dark place, avoiding direct sunlight and high temperature and humidity. After use, do not leave it in the garden, etc., and dispose of it appropriately.

**Reference:** pictures of pests trapped by color sticky traps under trial



**Whiteflies (yellow)**



**Aphids (yellow)**



**Leafhoppers (yellow)**



**Thrips (blue and white)**



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