

Smart Pest Traps

Agri-Technology Team

This month, we'll look at another way that machine learning is being applied to agriculture with the use of Artificially Intelligent pest traps. With traditional pest monitoring, you need to go out to the field to check the traps yourself and identify which types of insects were caught. While you will still need to occasionally change sticky paper and lures, these smart traps will do the identification and counting for you, saving you time and labor and giving you real-time data to help you decide when to most efficiently start pest management practices.

In general, these traps are similar to traditional varieties. They use pheromone lures to attract specific pests which are then trapped on sticky paper upon entry. What sets them apart is the camera system paired with machine learning. The pictures taken by the cameras are sent to the providers system where machine learning models will identify the target pests. Before investing in a trap, be sure to contact the company and check that they have a model supporting the identification of the pests you are interested in. The traps typically include a solar panel to power the camera and data trackers.

There are several companies selling these types of traps. The first example we'll look at is the iScout from Metos. These traps use a 10 MP camera to capture images of the trapped pests. The images are sent via the cellular network to the FieldClimate platform. The target insects are identified and counted and the information is available from a dashboard which is accessible from a mobile device or computer. This will include both the pictures taken by the cameras with the target pests marked as well as summary data. Currently, there are models for 19 common varieties of pests, with new models being added as time goes on. This summer, Perennia will be running a trial to see how these traps compare to traditional methods when looking for Western Bean Cutworm in corn fields. Results will be released once the trial is complete. At the time this article was written, the cost for this model with all necessary fees is roughly \$2700. For more information on the iScout, visit the [Metos website](#).



Figure 1: iScout trap from [Metos](#) (by [Pessl Instruments](#)).

Another smart trap option is the [T-Trap by Topraq](#). Costing roughly \$1550, these traps are similar to the iScout. They are solar powered and use pheromone lures to attract the pests. While there was no list of available insect models on their website, there is a contact form at the bottom of the page if you would like information on which pests the trap can monitor.

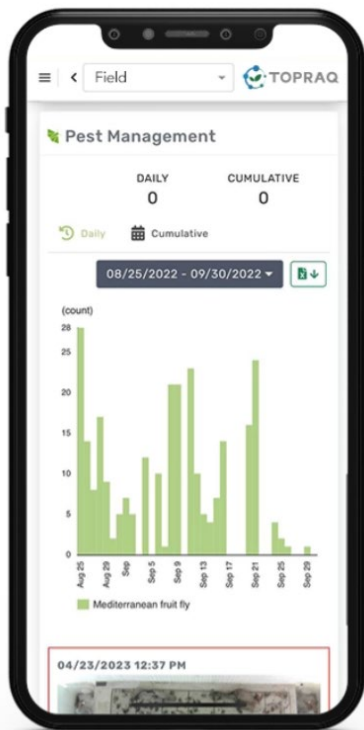


Figure 2: Real time data in the [Topraq T-Trap](#) application.

A third option comes from [TrapView](#). They currently have models for identifying over 60 species of pests. They work the same way as the previous examples but they also have options for pairing your traps with virtual weather stations. A unit and subscription through this company is roughly \$2400. They also offer a 10-day free trial so you can explore their application and see if it is a good fit.

If you would like to take a closer look at how these traps are put together, TrapView offers a short assembly and installation video on their [YouTube channel](#).

Sources:

[iScout by Metos](#)

[T-Trap by Topraq](#)

[TrapView](#)