



# PATS-C

## INSECT MONITORING DONE FOR YOU

**We automate the monitoring of pest insects in your crops to help you increase yields while saving time and money on crop protection.**

### ABOUT PATS-C

#### What it does

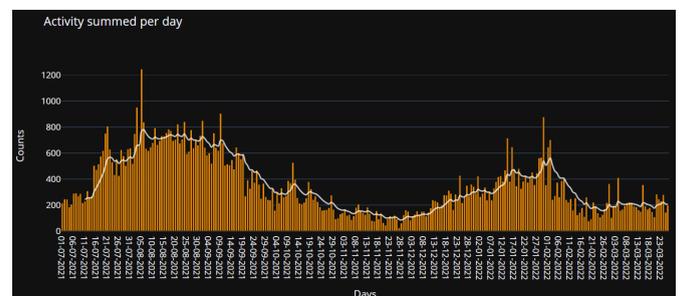
PATS-C tracks 24/7 flying pest insects in your greenhouse. This saves you time on scouting rounds and facilitates adequate action when pest pressure rises. High frequency monitoring helps to tackle pests in an early stage, preventing the further spreading of offspring. This reduces unnecessary crop losses and the use of costly resources. PATS-C keeps an eye out for you. Today the service focuses mainly on moth pests (*Lepidoptera*) of which the caterpillars can wreak havoc in no time.

#### How it works

The PATS-C system is an infrared camera solution that monitors activity of flying insect pests during nighttime. Installation is plug & play. Our software and integrated 4G connectivity take care of the rest. We help you to move from collecting data **in** the field to interpreting data **from** the field via our PATS-C [dashboard](#). This way you can focus on what matters most, staying on top of pests.

#### Crops in scope

Every crop grown in an indoor environment is in scope of the PATS-C system. As we are interested in the airspace rather than the crop itself, we are minimally limited by the lay-out and crop growth process. Any type of environment, from high-tech to low-tech greenhouse or tunnel, has thus far shown that the system is able to adequately monitor pests and provide valuable insights.



## CROPS WE KEEP AN EYE OUT FOR

Today the system is active in over 20 crops, including vegetables, fruits, cut-flowers and ornamentals.



### Vegetables & Fruits

Tomato  
 Strawberry  
 Bell pepper  
 Banana  
 Radish  
 Lettuce  
 Basil

### Cut-flowers & ornamentals

Gerbera  
 Phalaenopsis  
 Chrysanthemum  
 Areca, Kentia  
 Rose  
 Bromelia  
 Matricaria  
 Tropical plants  
 Box tree  
 Kalanchoe



This list is not finite, we regularly provide systems in new crops, which is mainly dependent on the pests the respective grower is battling with.



## PESTS WE SEE TODAY

We currently monitor the following pests in abovementioned crops, which mainly concern moth.

- Tomato looper** (*Chrysodeixis chalcites*)
- European pepper moth** (*Duponchelia fovealis*)
- Banana moth** (*Opogona sacchari*)
- Tomato leafminer** (*Tuta absoluta*)
- Snout moth** (*Sufetula diminutalis*)
- Diamondback moth** (*Plutella xylostella*)
- Cotton Bollworm** (*Helicoverpa armigera*)
- False codling moth** (*Haumatotibia Leucotreta*)
- Lyprauta**



## BENEFITS OF AUTOMATED MONITORING

### Value we bring to our users:

- Monitoring is **automated**, saving on labour and preventing mistakes in data logging.
- Pests are noticed up to **one generation earlier** (~5 weeks), helping them to react timely and adequately, stopping the pest early on.
- High frequency data collection, from day to day and hour to hour, bringing **new insights in insect behaviour**, useful in IPM programs.
- **Following the trend** in the pest population is easy, which helps to determine if pressure is rising or falling.
- Most users find that PATS-C **detects pests much earlier** than alternatives like pheromone and UV-traps do. It helps them to be more alert and treat the crops on time to stop the rapid population development.



## CUSTOMER REVIEWS

*"With PATS-C we were able to detect Duponchelia moth already in April of this year. At that moment I did not yet catch any adult moth in the UV- and pheromone traps I was using at that moment. The pest was present much earlier than I expected. These insights and alerts can help me react more timely and adequately on rising pest levels."*

**W.P. van den Berg - Gerbera United - Gerbera grower**



**Aardbeienkwekerij  
Hoogsewetering**

*"Before the crop rotation last July, we were suffering from high Duponchelia moth pest pressure. Before planting the new crop, we decided to clear the greenhouse and perform rigid hygiene measurements. We expected to not see the pest in the greenhouse for a while. Based on the findings in our conventional traps this assumption was right. But the PATS-C system proved otherwise and registered the flights of adult moths already the first days after the planting."*

**Richard van Dijk - Aardbeienkwekerij Hoogsewetering - Strawberry grower**

## Facts & Figures

*The PATS-C system is already active in more than **20 crops**...*

*monitoring **10 moth pests**...*

*with over **200 systems** servicing more than **200 hectares** in greenhouse horticulture...*

*in over **10 different countries***



# Technical specifications PATS-C

<b>Dimensions camerabox</b>	16 cm L x 14cm W x 16 cm H
<b>Dimension LED module</b>	11 cm L x 12 cm W x 22 cm H
<b>Weight</b>	2.93 kg
<b>Installation material</b>	provided with delivery
<b>Installation time</b>	15-20 minutes
<b>Power cable</b>	2m (included)
<b>Power</b>	1 socket / 100-240v (50/60Hz)
<b>Connectivity mode</b>	4G SIM (provided) (WiFi optional)
<b>Camera</b>	Intel RealSense (stereovision)
<b>Memory</b>	500GB
<b>Transmission interval</b>	1x per day (morning)
<b>Dashboard</b>	<a href="http://www.pats-c.com">www.pats-c.com</a>
<b>Installation manual</b>	<a href="#">video instruction</a>



## FREQUENTLY ASKED QUESTIONS

### ***What is the range of the system?***

One PATS-C system observes roughly 80-100 m<sup>2</sup>. This is sufficient for monitoring moth pests on one hectare (10.000 m<sup>2</sup>), as we need a sample to draw conclusions on moth presence and moth population development.

### ***How many systems should I install?***

1-2 systems per hectare - depending on the crop and lay-out - gives a good picture of pest presence and pest development. We have learned that moth pests, which are mainly in scope today, are very active fliers and cover a lot of distance as they go. Based on the sample we determine if the specific pest has arrived in your crop, and if the pest population development trend is increasing or decreasing.

### ***Can you also monitor other and smaller pests?***

Yes, we can see all active flying insects with sizes of roughly 4mm and larger. However, today we only classify moth pests. We have the intention to further develop the system and step by step classify other insects such that we increase the value of the system for you as a user. This also means that we will move from nighttime monitoring to 24/7 monitoring, and will include beneficial insects such as bumblebees and natural predators. This will be done through updates over the air, making sure that you gain more and more value from already installed hardware.