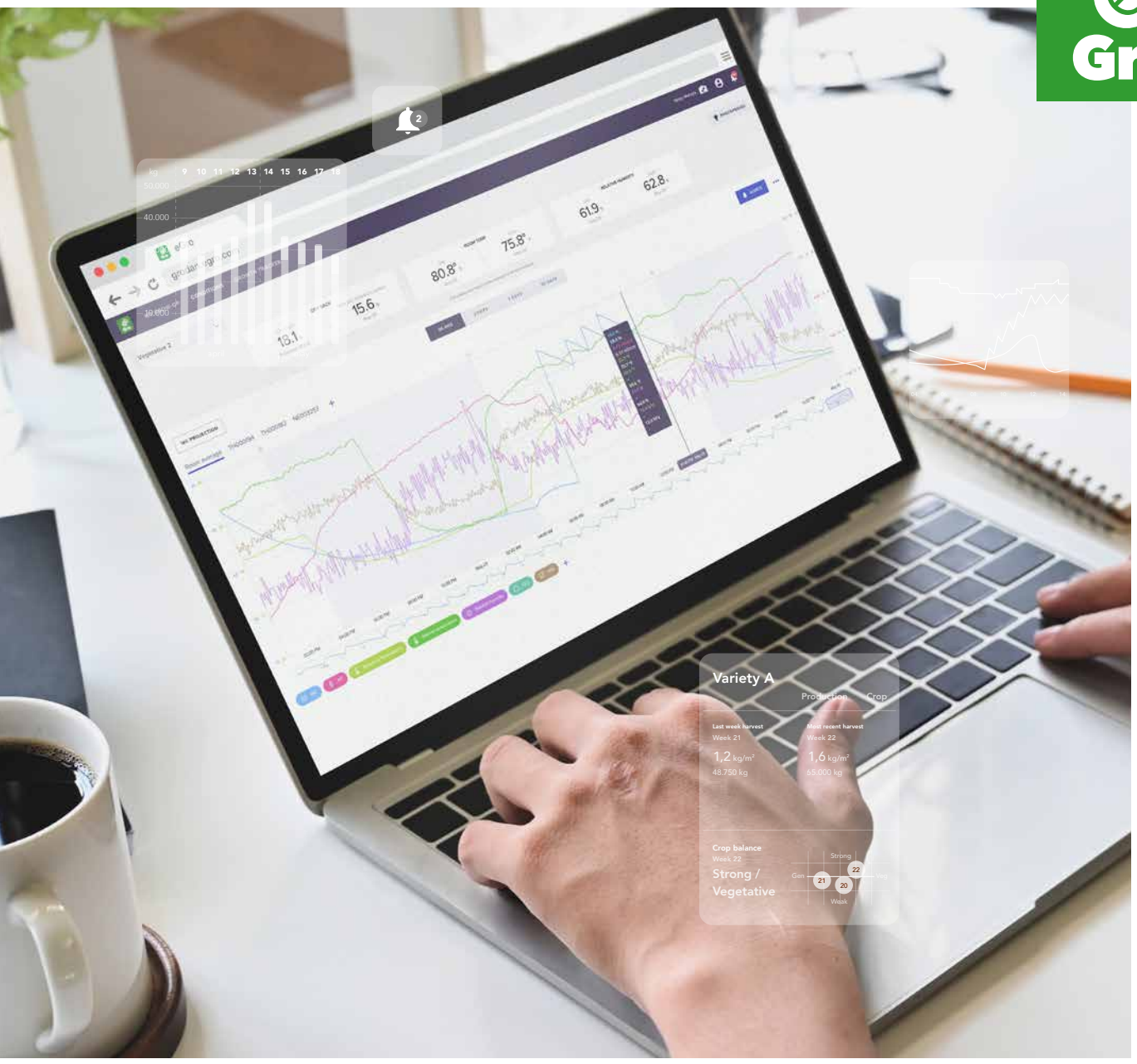
# How to guide
# **e-Gro Conditions Module**

If you have any questions, please contact **egro.support@grodan.com**




Grodan®

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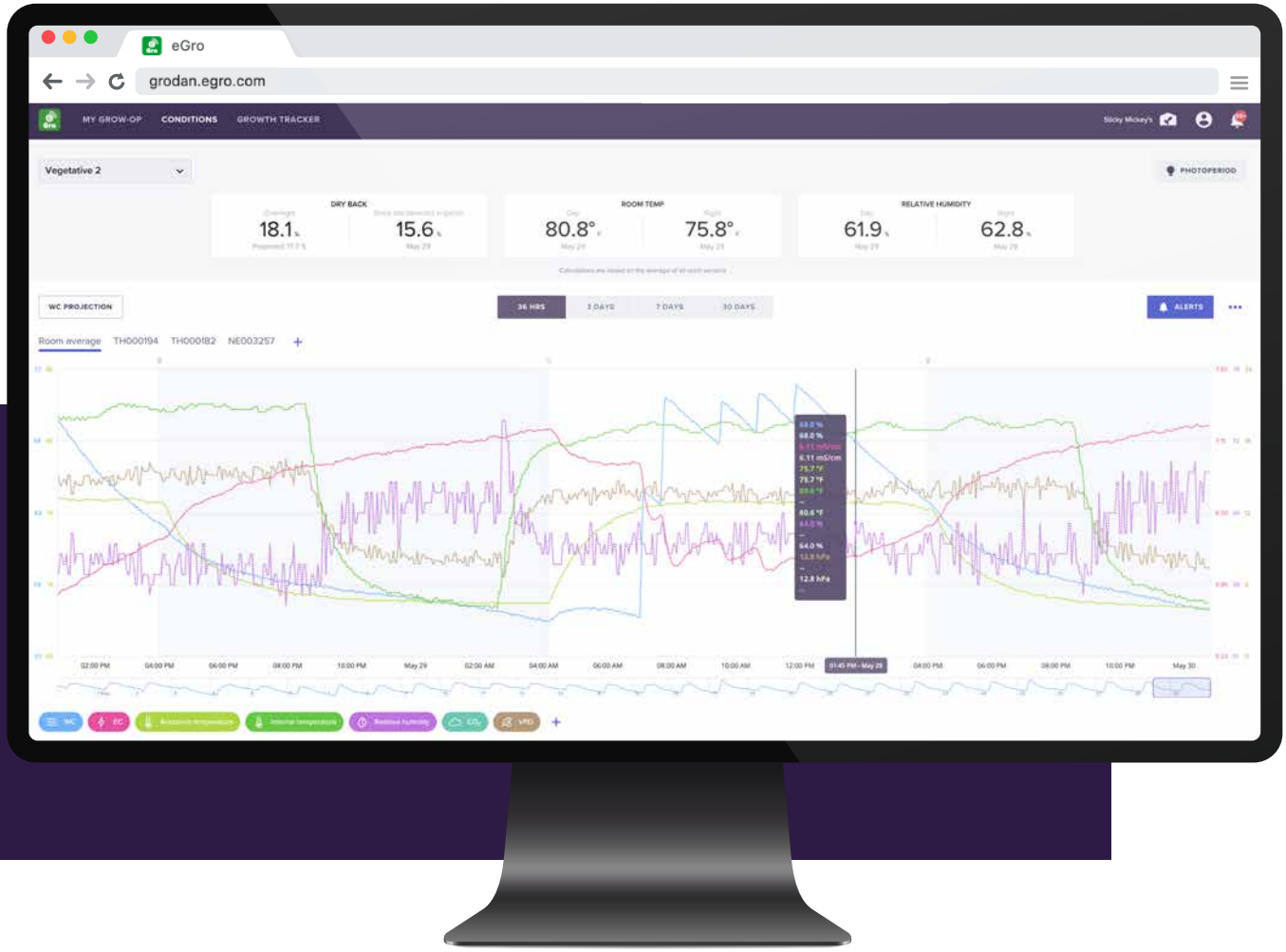
# Introduction

What if you could analyze and compare the rootzone conditions and climate conditions both at the same time? And what if you could use that real-time, accurate data to maximize your yield and crop performance while saving costs on inputs? Due to the ever-growing demand for this type of functionality, Grodan has developed the Conditions Module. This module gives you the power to optimize your irrigation and crop steering strategies to improve your quality, your production levels and your sustainability.




## The Conditions Module

The Conditions Module is arguably the most important and frequently used module in e-Gro. It puts essential data at your fingertips, displaying readings and trends from multiple sensors simultaneously in a simple and user-friendly way. As a result, you can make comparisons and fine-tune your irrigation and crop steering strategies. In your MJ growing facility, the decisions you make today have a major impact on your results tomorrow. Every action you take – from the adjustment of day/night temperature, humidity, light intensity, irrigation volume and frequency, to the timing and the way you defoliate your plants – steers the plant's physical growth response.

## Real-time sensor data

The Conditions Module gives you the power to view the sensor data from all the grow rooms in your facility. You can even create custom alerts so that you will be notified the second any of the readings exceed your preferred parameters. By enabling you to compare and analyze climate data in combination with rootzone data, the Conditions Module helps you to get the right cultivation strategy for your crops.

## The power of data

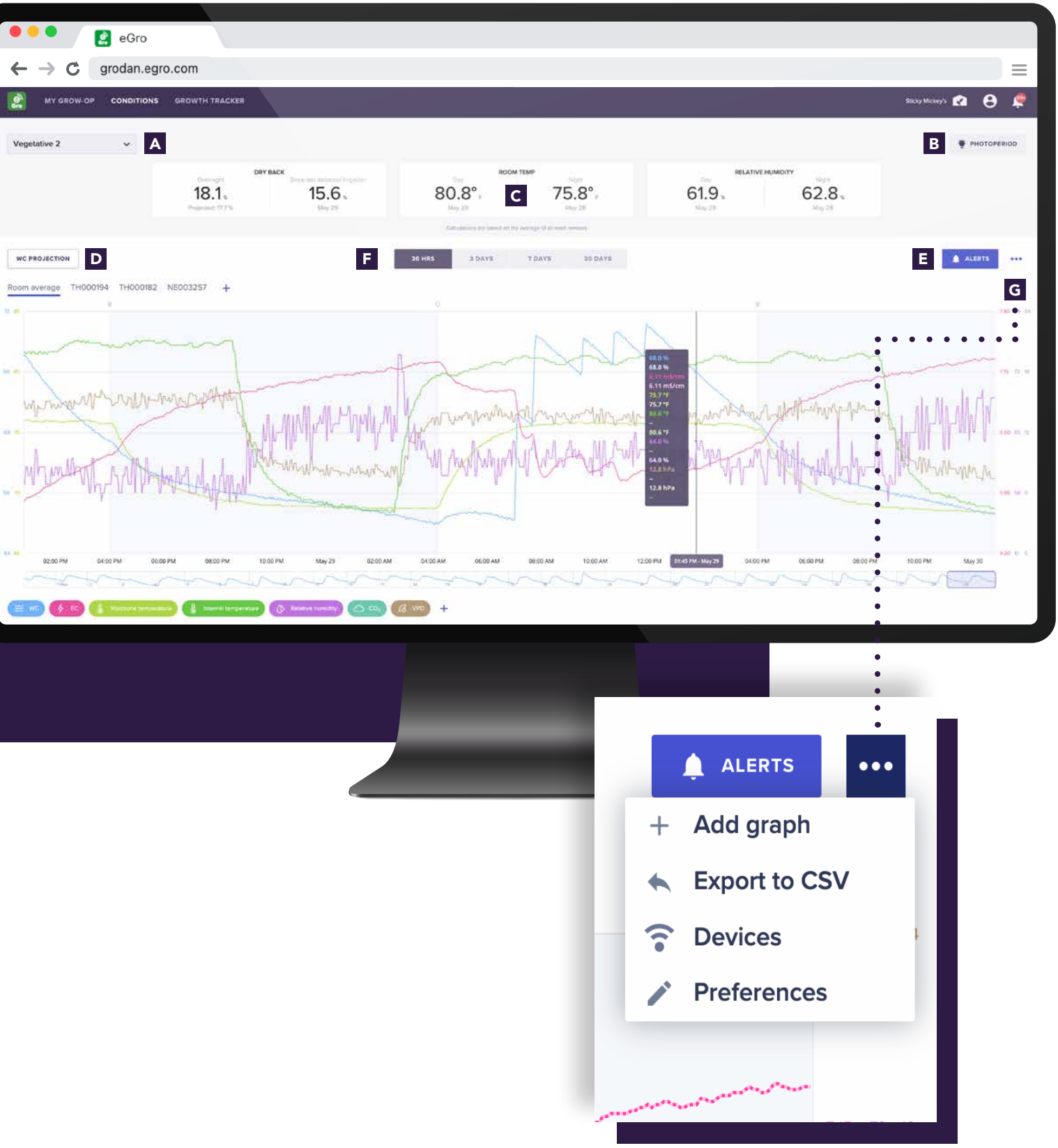
This 'How to' guide shows you how to get the best out of all the information and graphs within the Conditions Module. The Conditions Module solves a number of common production challenges to improve the efficiency and financial performance of your facility, including:

- **Cost savings:**
  Optimizing your climate strategy and irrigation strategy based on accurate real-time data enables you to reduce the amount of inputs without compromising on yield. Besides generating cost savings, this also contributes to a more sustainable approach to growing.

- **More control:**
  Knowledge is power, as the saying goes. You certainly have a lot of knowledge at your fingertips thanks to the information presented in the Conditions Module. The graphs are customizable, so you can select precisely which data you want to see at a glance for comparison purposes based on seven different parameters and up to 10 different data sources. And for optimal control, you can add alerts so that you are notified immediately if any of the conditions are deviating out of your preferred range.
  As a result, you are empowered to make fast and informed decisions to maximize your harvests – in terms of both volume and quality – with as few inputs as possible.

- **Single source of truth:**
  The Conditions Module brings together all the relevant data in one place. This means that not only you, but also external specialists and/or your colleagues are working with the same source of accurate data as the basis for decisions and business commitments.
  Moreover, the customizable room preferences are saved per user. This allows different users and specialists within the same facility to set different preferences, and their last set preferences are saved automatically.
  All this essential information is presented in a user-friendly way for an optimum user experience.

Scan QR code to view the Conditions Module video


eGro
grodan.egro.com
MY GROW-OP
CONDITIONS
GROWTH TRACKER
Vegetative 2
A
B
PHOTOPERIOD
DRY BACK
18.1
15.6
ROOM TEMP
80.8°
C
75.8°
RELATIVE HUMIDITY
61.9
62.8
WC PROJECTION
D
F
36 HRS
3 DAYS
7 DAYS
30 DAYS
E
ALERTS
Room average
TH000194
TH000182
NE003257
G
ALERTS
Add graph
Export to CSV
Devices
Preferences

# How to leverage the Conditions Module

The Conditions Module offers the following functionalities:

- **A - Room selector:** The room selector at the top-left of the screen enables you to switch between all the rooms in your facility that are fitted with Grodan sensors: Mother, Propagation, Vegetative, Flower, and Dry.
- **B - Setting your photoperiod:** The Photoperiod button (featuring a lightbulb icon) on the top-right of the screen enables you to set and adjust the lights-on time and photoperiod per room. Any photoperiod change will be tracked on the batch detail pages of all active batches in that specific room. It's important to set your photoperiod for all the other modules in e-Gro too because it pushes the information for batch tracking and total room overview in My Grow-Op.
- **C - KPIs:** based on sensor readings to provide you with optimal control, including:
  - Dryback: Overnight and since last detected irrigation
  - Room Temperature: average day and night
  - Relative Humidity: average day and night
- **D - WC Projection option:** This option gives you more insight into whether you need to continue or stop irrigating during your photoperiod. The projection helps you to make more data-driven decisions about irrigation actions. The graph is updated every 3 minutes and the projection is visible after a total of 24 minutes of continuous decrease. There are a maximum of three projection lines for the current day.
- **E - Alerts:** see below for how to create alerts.
- **F - Graph analysis:**
  - Time period selection above the graph: Per room, you can choose to view the data over 4 time periods: 36 hours, 3 days, 7 days or 30 days. Simply click on the relevant button in the top-center of the screen.
  - Sensor selection via data sources: Each graph shows the room average. The names of the individual sensors are shown above the graph if selected using the '+' icon.
    - To see the data from a certain sensor, simply click on its name. The sensor name will be underlined.
    - You can view up to 10 data sources simultaneously. The '+' icon enables you to select and deselect sensors.
  - Parameter selection via color-coded parameters: Beneath each graph, you will see a list of climate and rootzone parameters (if allocated to the room). To view the parameters:
    - You can highlight the parameters that matter most to you at that moment by clicking on the parameter name to turn it on (color) or off (gray).
    - The graph shows the color-coded trends. Hover your mouse over the graph and move it from side to side to see the specific sensor readings over time.
    - You can select and deselect parameters by clicking on the '+' icon to reveal a menu on the right-hand side of your screen. Simply click elsewhere on the screen to close the menu again. Your last-viewed data sources and parameters are saved automatically rather than being reset to a default setting.
  - Historical information: Click and drag the time slider below the graph to your chosen dates to view and analyze historical information.
- **G - Extra options via the 3-dots:** Click on the 3-dots icon for extra options such as:
  - Graph management: If you want to compare performance in different grow rooms, simply add an extra graph by clicking on the 3-dots icon at the top-right of the screen. You can also adjust your graph preferences here.
  - Exporting data to a CSV file for use in Excel
  - Viewing your sensor devices

# Setting Alerts

Alerts are a very important and useful feature of the Conditions Module. Setting alerts ensures that you receive immediate automatic notifications – anytime, anywhere and on any device – if the sensor readings fall out of a predefined range. The alerts are split into two types:

**'Rootzone' alerts (such as EC, WC or Rootzone Temperature)**

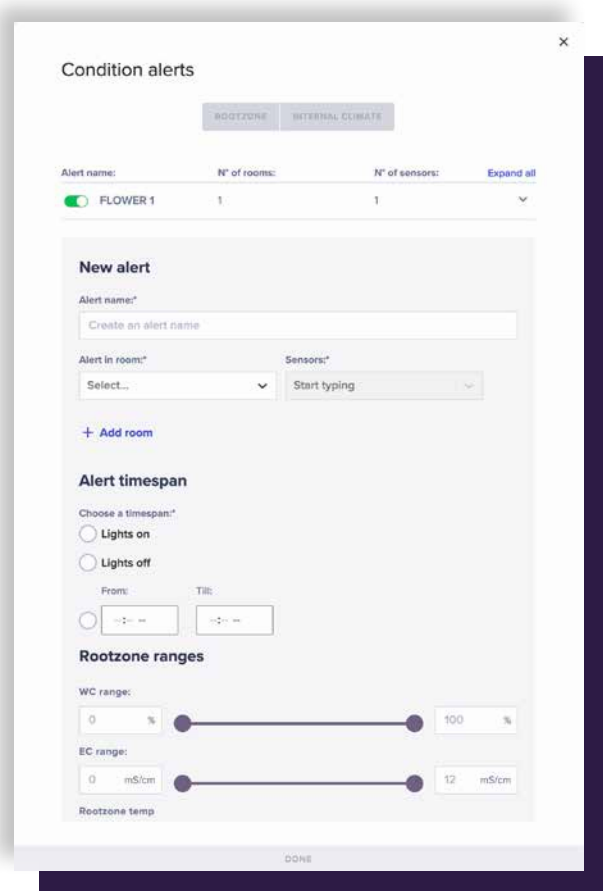
**'Internal Climate' alerts (including Humidity, Temperature, VPD and $CO_2$)**

You can customize alerts for any specific room and phase of the crop growth cycle. You can also receive an alert if a Grodan GroSens sensor has a low battery or weak signal. To set an alert, click on the blue Alerts button above the graph:

- First choose which type of alert you wish to create by clicking either on the 'Rootzone' or 'Internal Climate' toggle at the top of the screen.
- Then simply click on the blue '+ create alert' button. After creating an alert, you can see it in a list in the alerts window.

When alerts are added, you'll see that every alert in the list contains:

- A toggle switch enabling you to turn an alert on or off
- No. of rooms
- No. of sensors
- Expand' functionality that gives a summary/ quick view of each alert

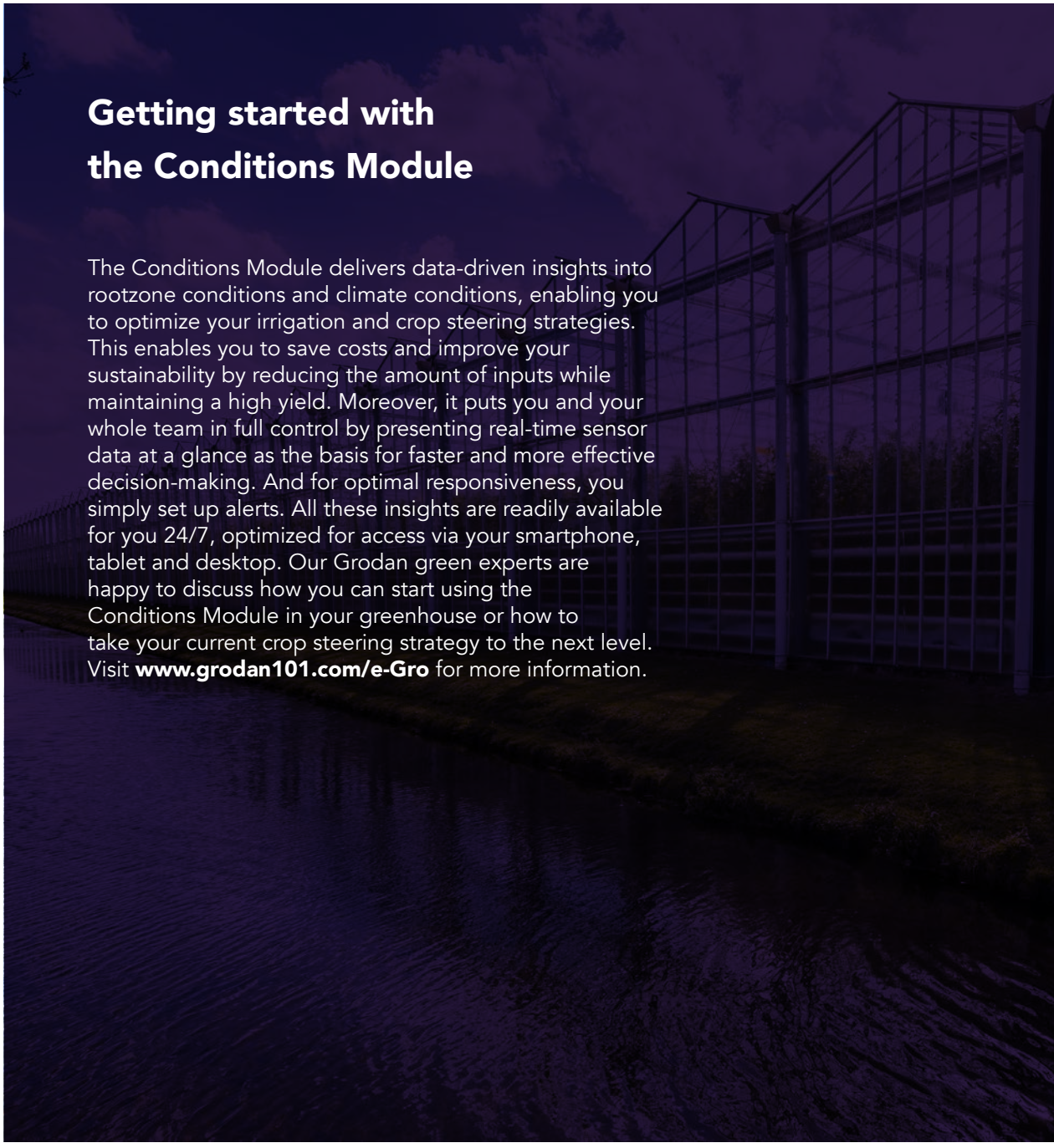



If a selected sensor gives a reading outside your set ranges, the relevant alert will be triggered.
All triggered alerts are visible in 3 places:

- **1. Notification section visible in all modules:**
  Here you can see all your triggered alerts. Simply click on the bell icon at the top-right of the header to expand the list of notifications. This will display the sensor name(s), parameters and which threshold triggered the alert. Click on the bell icon again to hide the list.
- **2. My Grow-Op module:** All parameters that are out of your set range will turn orange in the My Grow-Op Module so you can quickly see them and react accordingly. If you click on the room box you can see per parameter which value has triggered the alert
- **3. SMS/text messages on your mobile phone/smartwatch (if activated):**
  To enable SMS/text message notifications, enter your mobile phone number in your Account settings (via your profile at the top-right of the header) and then click the SMS notifications toggle switch to 'On'.

## The benefits of alerts

Immediate alerts improve your crop quality by enabling you to take swift action to avoid potentially negative impacts of irrigation or climate issues. Alerts also support remote crop management, serving as a useful early warning system even if you are away from the greenhouse. The Conditions Module offers you optimum flexibility and precise control by allowing you to customize your alerts for one or more sensors for each unique room environment.



## Getting started with the Conditions Module

The Conditions Module delivers data-driven insights into rootzone conditions and climate conditions, enabling you to optimize your irrigation and crop steering strategies. This enables you to save costs and improve your sustainability by reducing the amount of inputs while maintaining a high yield. Moreover, it puts you and your whole team in full control by presenting real-time sensor data at a glance as the basis for faster and more effective decision-making. And for optimal responsiveness, you simply set up alerts. All these insights are readily available for you 24/7, optimized for access via your smartphone, tablet and desktop. Our Grodan green experts are happy to discuss how you can start using the Conditions Module in your greenhouse or how to take your current crop steering strategy to the next level. Visit **www.grodan101.com/e-Gro** for more information.

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