

Grow. Smarter.



e-Gro

Replace your tedious spreadsheets with the power of e-Gro, the automated, powerful platform, based on Grodan's 50+ years of precision growing and cannabis cultivation knowledge. e-Gro helps you optimize your entire growing facility from propagation through to harvest and processing, including the mother plants.

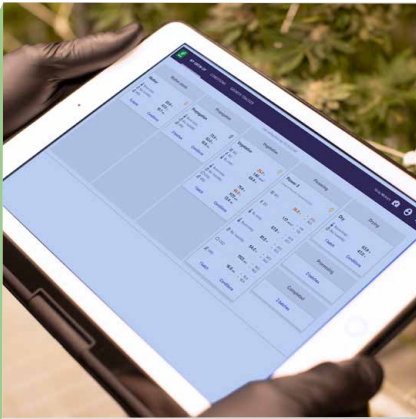
e-Gro gives you the power to view sensor data from all grow rooms in your facility as well as key KPIs such as overnight dryback, time since last irrigation, room temperatures and relative humidity. You can track every batch from mother plants through to harvest. You can even create custom alerts, so you are notified the second something goes outside your preferred range.

Powerful algorithms analyze all data sources



e-Gro collects data and uses powerful algorithms based on Grodan's 50+ years of cultivation knowledge to deliver a complete overview of the cultivation process, allowing growers to view and compare batch performance, perform automatic calculations, set alerts, compare key growing info, tagging colleagues, and share data by adding notes and pictures.

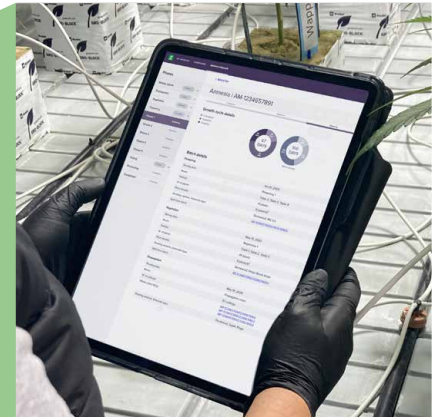
My Grow Op



Conditions Module












Growth Tracker



My Grow Op

My Grow Op module provides a complete high-level dashboard where you can check the status of your entire growing facility from mother plants through to processing that you can access 24/7. In My Grow Op, you can view important details about your facility's climate and rootzone information per room:

- | | |
|---|---|
|  WC |  CO2 |
|  EC |  VPD |
|  Temperature |  Number of Batches |
|  Room Temperature |  Lights on /off |
|  Relative Humidity | |

Instant alerts notify you of any parameters going out of range so you can better control your growing strategy.

Benefits of My Grow Op

Integrating the feedback from both rootzone and climate sensors allows you to identify potential issues and better steer your crops based on the needs of the plants.





MY GROW-UP
 CONDITIONS
 GROWTH TRACKER

Mother

Room temp:
 Rel. humidity:
 VPD:

63.9 °F
 47.0 %
 10.7 in

6 plants
 Conditions

Mother plants

Propagation

Room temp:
 Rel. humidity:
 VPD:

73.9 °F
 62.0 %
 10.9 in

3 batches
 Conditions

Propagation

Vegetative

WC:
 EC:
 Rt. temp:

35.0 °C
 1.40
 69.4 °F

Room temp:
 Rel. humidity:
 CO2:
 VPD:

71.4 °F
 49.0 %
 1173 ppm
 13.4 in

1 batch
 Conditions

Last reading from Apr 29, 05:23 AM

Vegetative

Flower 3

Average of 3 Rooms: 1 Humidity/Temps/CO2

WC:
 EC:
 Rt. temp:

36.8 °C
 1.17
 67.9 °F

Room temp:
 Rel. humidity:
 CO2:
 VPD:

67.8 °F
 81.5 %
 54.0 ppm
 16.9 in

1 batch
 Conditions

Flowering

Dry

Room temp:
 Rel. humidity:

63.9 °F
 47.0 %

1 batch
 Conditions

Drying

Processing

0 batches

Completed

2 batches

Slicky Mickey's





xd.adobe.com

Yahoo Mail

6 PM Wed Nov 25

Yahoo Mail

CONDITIONAL GROWTH TRACKER

8.2
0.9

ROOM TEMP
80.0°
72.5°

RELATIVE HUMIDITY
38.0
58.2

30 DAYS 7 DAYS 30 DAYS



Conditions Module

The Conditions Module gives you the power to analyze the rootzone and climate together so you can optimize your irrigation and crop steering strategies. It helps you to maximize input cost savings while maximizing your yield and crop performance.



Rootzone data – get real-time data from the GroSens Rootzone Sensor including WC, EC, temperature



Climate data – get real-time data from the GroSens Climate Sensor including humidity, Temperature, VPD and CO2

Personalized viewing

e-Gro lets each user see the graphs and data that are the most important to them and in the format they prefer so decisions are made quickly.



View Multiple Sensors at One Time - you choose the sensors and zones you want to see. Data Cards let you see up to 7 data sources to analyze together



Time Slider – Easily see your crop's full history in 30-day intervals



Compare Performance in Different Rooms – You have the flexibility to add a second graph and compare data from other rooms to better understand performance between the two grow rooms

Benefits of Conditions Module

Optimize irrigation strategy, realize input savings and maximize yield

Optimize your climate strategy based on real-time accurate data



MY GROWUP CONDITIONS GROWTH TRACKER

Phases

- Mother plants: 1 from
- Propagation: 1 from
- Vegetative: 2 from
- Flowering: 8 from

Flowering

- Flower 1: 8 batches
- Flower 2: 8 batches
- Flower 3: 8 batches
- Flower 4: 8 batches
- Flower 5: 8 batches

Drying

- 1 from

Processing

- 8 batches

Completed

- 8 batches

< Batch list

Amnesia | AM-1234657891

Phases: Propagation, Vegetative, Flowering

Growth cycle details

73.6% 57 DAYS 31 min 100 DAYS 85 min 35.8% 20% 12 min

Batch details

Flowering

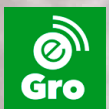
Moving date: Jun 12, 2020
Room: Flowering 1
Table(s): Table 2, Table 3, Table 4
N° of plants: 41 plants
Plant density: 8 plants/ft²
Growing medium, Substrate type: Stonewool, NG 2.0
Split from batch: AB-123465789012345678900

Vegetative

Moving date: May 13, 2020
Room: Vegetation 1
Table(s): Table 1, Table 2, Table 3
N° of plants: 49 plants
Plant density: 6 plants/ft²
Growing medium, Substrate type: Stonewool, Fargo Quick Drain
Split from batch: AB-123465789012345678900

Propagation

Planting date: May 01, 2020
Room: Propagation room
N° of cuttings: 57 cuttings
Mother plant ID(s): MP-123465789012345678901, MP-123465789012345678902, MP-123465789012345678903
Growing medium, Substrate type: Stonewool, Super Plugs





Growth Tracker

Process efficiency is increasingly important to realize optimal steering and quality of your crops. The Growth Tracker module allows you to easily input and track key parameters throughout the various stages of a batch's lifecycle, from propagation, veg, harvest and mothers culminating in cultivar specific insights. In Growth Tracker, you can view historical climate and rootzone information on each batch to further optimize crop steering and genetics.

Benefits of Growth Tracker

With the Growth Tracker module you can optimize:



Strain-specific strategies

Gather and analyze all crucial strain-specific information throughout the entire growing cycle, by batch



Crop steering

Compare the performance of individual batches to desired average performance to really dial in your irrigation and crop steering strategy



Crop data

Get a comprehensive view of your data and plants with the option to add pictures and notes



SOPs

Use captured data to improve SOPs and train all team members on the operational parameters

Alerts

Proactively address suboptimal growing conditions with immediate notifications in the app and via SMS when your crop's climate or rootzone settings go out of your customized range.

Set It

Set your alert choices for each stage of the crop's growth cycle. You can set the alert range for specific rooms or phases. You can even be notified when the Grodan GroSens sensors have a low battery or weak signal.

Benefits of the Alert Module

Reduce the chance of errors or problems from issues such as irrigation line damage with custom, timely alerts

Ability to customize the alert for each grow room, crop, variety and growth stage





MY GROW-UP GROWTH TRACKER CONDITIONS

Mother plants

Room	Temp	Humidity	Light	CO2	VPD	Water	Other
Mother room	42.0°	5.64%	80.0'				
Propagation	42.5°	48.0%	1100mm	8.0mm		8 batches	
Propagation room	42.5°	48.0%	1100mm	8.0mm		8 batches	
Propagation room...	80.5°	42.0%	8.0mm			8 batches	
Vegetative 1	42.0°	5.64%	80.0'				
Vegetative 2	80.5°	42.0%	8.0mm			8 batches	
Vegetative 3	80.5°	42.0%	8.0mm			8 batches	No sensors
Flowering 1	42.0°	5.64%	80.0'				
Flowering 2	80.0°	3.57%	8.0mm			8 batches	
Flowering 3	42.0°	5.37%	80.0'				
Drying	80.5°	42.0%				8 batches	No sensors
Dry room	80.5°	42.0%				8 batches	
Dry room 2						8 batches	No sensors
Processing						8 batches	
Completed						24 batches	

GroSens Sensors

The Grodan GroSens Rootzone sensor is one of the most widely used and trusted sensors in the cannabis industry for both indoor and greenhouse crops. Based on our more than 50 years of Precision Growing expertise, we have expanded the system to include GroSens Rootzone and GroSens Climate Sensors. The GroSens Sensor family integrates with the e-Gro software to provide precision data for analysis. If you want good actionable output, the data source must be highly accurate and precise. All of our GroSens Sensors are built to the highest standards and are rigorously tested at scientific institutes, including the world-renowned Wageningen University in Holland.

Accuracy

All GroSens Sensors have been proven in comparative trials to provide precise measurements of all parameters. The more accurate the measurements, the better you can dial in your crops and achieve optimal crop steering.

Custom configurations

GroSens Sensors are modular, so you can scale it to meet your operational needs.





GroSens Rootzone Sensor

GroSens rootzone sensors have pinpoint accuracy and give you 24/7 access to real-time accurate measurements of water content (WC), electrical conductivity (EC) and temperature levels in the stone wool substrate.



Data logging – easy access to all previous measurements, up to 2,300 historical data points to be precise.

GroSens Climate Sensor

Climate is a key aspect for crop optimization. Measure Humidity, Temperature, VPD and CO₂ with high degree of accuracy and a wide range.

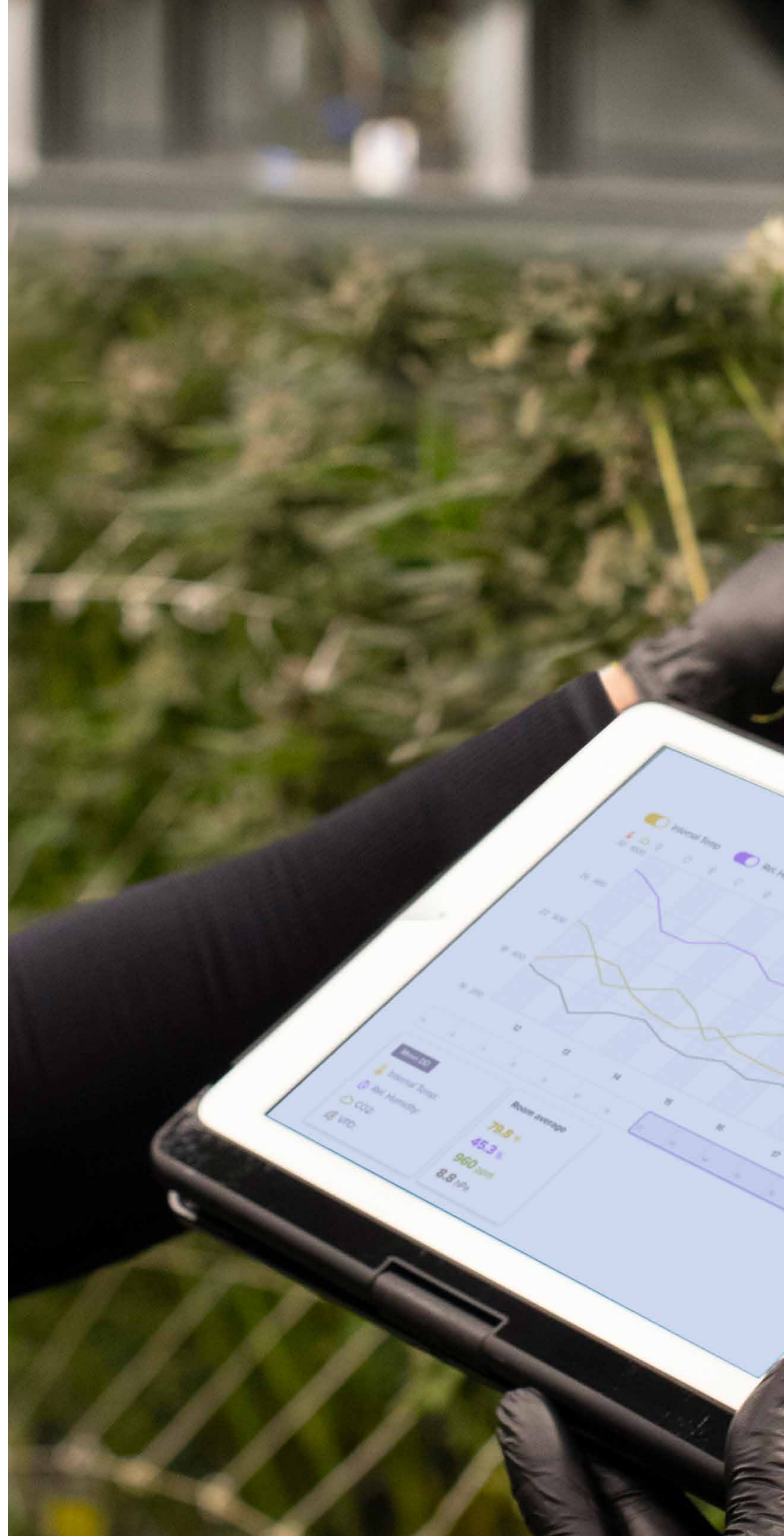
Support and Service

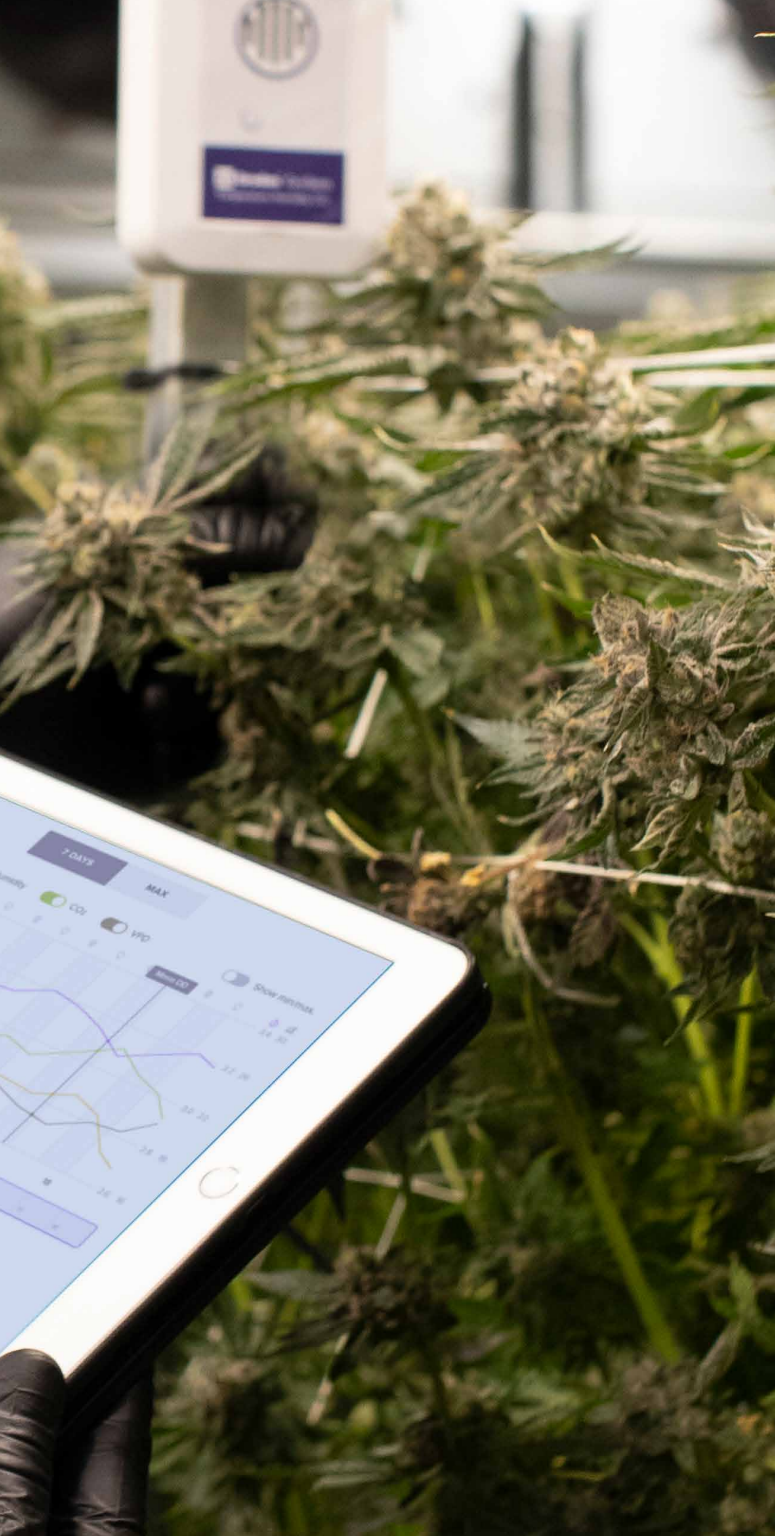
Grodan Crop Advisors

When you invest in your cultivation business with e-Gro, you get priority access to Grodan's expert Crop Advisors. They help you get the maximum benefit from e-Gro's powerful platform and support you to optimize your crop steering and irrigation strategies with our proven Precision Growing methods. You can leverage Grodan's 50+ years of crop steering expertise.

Dedicated e-Gro Support Team

They are like your own personal e-Gro concierge who will personally set you up on the platform, so there is no guesswork or fumbling around on your own; you are guided so you can quickly get value from your investment. You can always contact the e-Gro support team by email or phone for any questions or to help solve technical issues.





Continuous Development

When you invest in e-Gro, your product doesn't end there. It grows. We have an entire e-Gro Development Team of industry-leading Data Scientists, Software Engineers, UX Designers and Technical Experts who are committed to improving and expanding e-Gro. So your return on investment grows too.

Data Security

Your data security is of paramount importance. We use state-of-the-art encryption and security protocols that meet and exceed all North American, European and local laws and regulations.

The GRODAN Group is the preferred supplier of innovative, sustainable stone wool substrate solutions for the licenced cannabis industry. Based on expert Precision Growing principles, these advanced substrate solutions help growers achieve greater yields and crop quality. In addition to its stone wool substrates, the GRODAN Group also provides tailor-made advice and tools to support Precision Growing and thus facilitate the sustainable production of crops.

Check out the power of e-Gro today, contact your local Grodan rep or visit

www.grodan101.com

Disclaimer: Neither Grodan nor its employees are cultivators or manufacturers of cannabis. Neither Grodan nor its employees advocate for or encourage the cultivation of marijuana. Grodan and its employees shall only engage with those state-licensed or state-approved marijuana business who maintain active licenses and constant compliance with the respective state and local licensing authorities.

Grodan is a division of ROCKWOOL
8024 Esquesing Line, Milton ON L9T 6W3 Canada
www.grodan101.com | info@grodan101.com

