

How to guide e-Gro Production Module

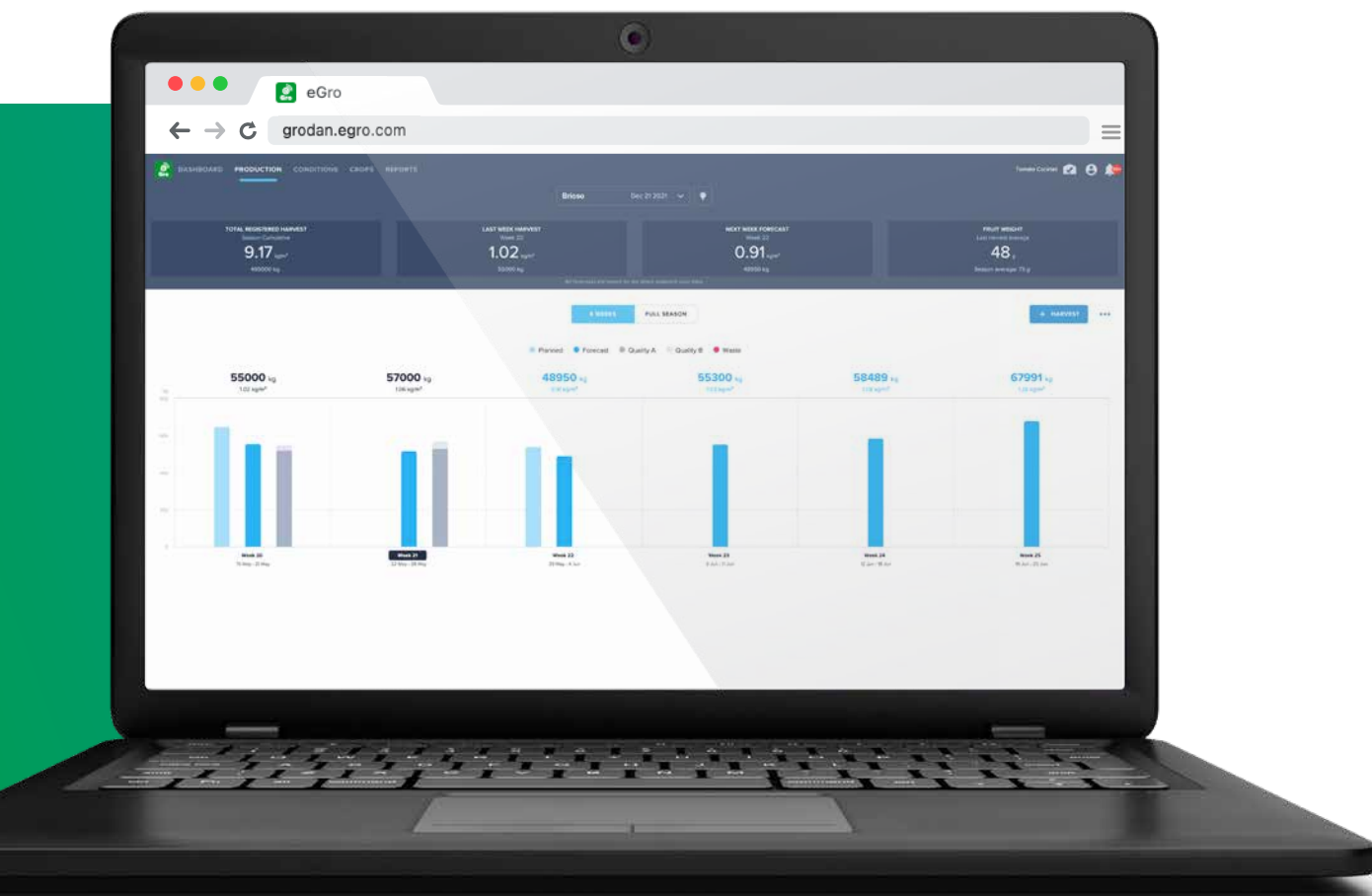
If you have any questions, please contact egro.support@grodan.com



Introduction

What if you could predict the future of your harvest based on data? And what if you could plan ahead and make more data-driven decisions that save time and eliminate the guesswork? Due to the ever-growing demand for this type of technology, Grodan has

developed the Production Module including the Yield Forecaster. Thanks to leveraging the power of artificial intelligence (AI), this module is able to correlate historical data with the actual situation in your greenhouse to generate a yield prediction of unrivaled accuracy.



The Production Module

The Production Module is one of the key modules of the e-Gro platform, providing real-time insights around production and yield forecasts as part of your data-driven precision growing.

The innovative technology in the Production Module captures and analyzes all the available data in your greenhouse, including historical data from all the modules in e-Gro, in order to provide insight into your yield strategy. This enables you to assess whether your yield

strategy is having the desired effect. It also takes the guesswork out of your own yield predictions. By applying artificial intelligence (AI) to the data, it analyzes how your crop is growing so far, finds patterns and unlocks critical factors that influence yield to generate a **yield prediction**. Simply put, it predicts your weekly harvest (kg/m²) into the future: 1, 2, 3 and 4 weeks out. And best of all? The module starts making predictions from the very first moment you input data. As a result, you can see your current progress and future yield at a glance.

Harvest planning

To allow for the fact that growers sometimes change their harvest strategies throughout the season, the e-Gro Production Module also offers you the option to rework your harvest planning. You can continually compare the predicted yield against your harvest plans,

enabling you to identify any gaps as the basis for making further improvements. This puts you firmly in control – not only of your harvest strategy, but also of your pricing, packing, shipping and labor planning.

Next steps

This 'How to' guide shows you how to get the best out of all the information and graphs within the Production Module. The first step is to enter your harvest plans and actual harvests into e-Gro. Tips for data entry in e-Gro:

1 Be consistent

Try to make your data entry as regular and standard as possible. For example, input your production and crop data at the same time, on the same day, every week. And when it comes to entering the stem length, always use a ruler to measure it rather than estimating the length. The model is robust, but inconsistent input can have a negative impact on the accuracy.



Scan QR code to view the Production Module video

2 Gather good-quality data

The quality of data is just as important as the quantity, and incorrect data can be worse than no data at all. Therefore, record everything as correctly as possible. For example, double-check that you have the right connections and readings from sensors. Be sure to enter the right data and don't let the input reflect event-driven decisions (such as harvesting more or less due to the market situation). Enter the amount that should normally be harvested. The model does not yet use any speculation-related external variables like prices; however, since it takes fluctuations in previous weeks into consideration, speculative or even pest/disease-related changes in the harvest are captured and compensated for, to a certain extent.

How to leverage the Production Module

The Production Module solves a number of common production challenges to improve your efficiency and financial performance, including:

■ Better planning accuracy:

The 4-week-out harvest forecast provides a dependable basis for planning your labor, packing and shipping requirement. This reduces the planning complexity, enabling you to save costs and work more efficiently.

■ Improved pricing position for Sales and Marketing:

The accurate AI-based yield forecast helps you to maintain constant volumes, which strengthens your pricing position with third parties in the market such as the trade organization. Based on data-driven insights, you no longer need to purchase extra crops at inflated prices to cover possible shortfalls in trade agreements.

■ Time savings:

This module makes use of an algorithm that examines an extensive set of climate, crop and rootzone parameters which can have an impact on

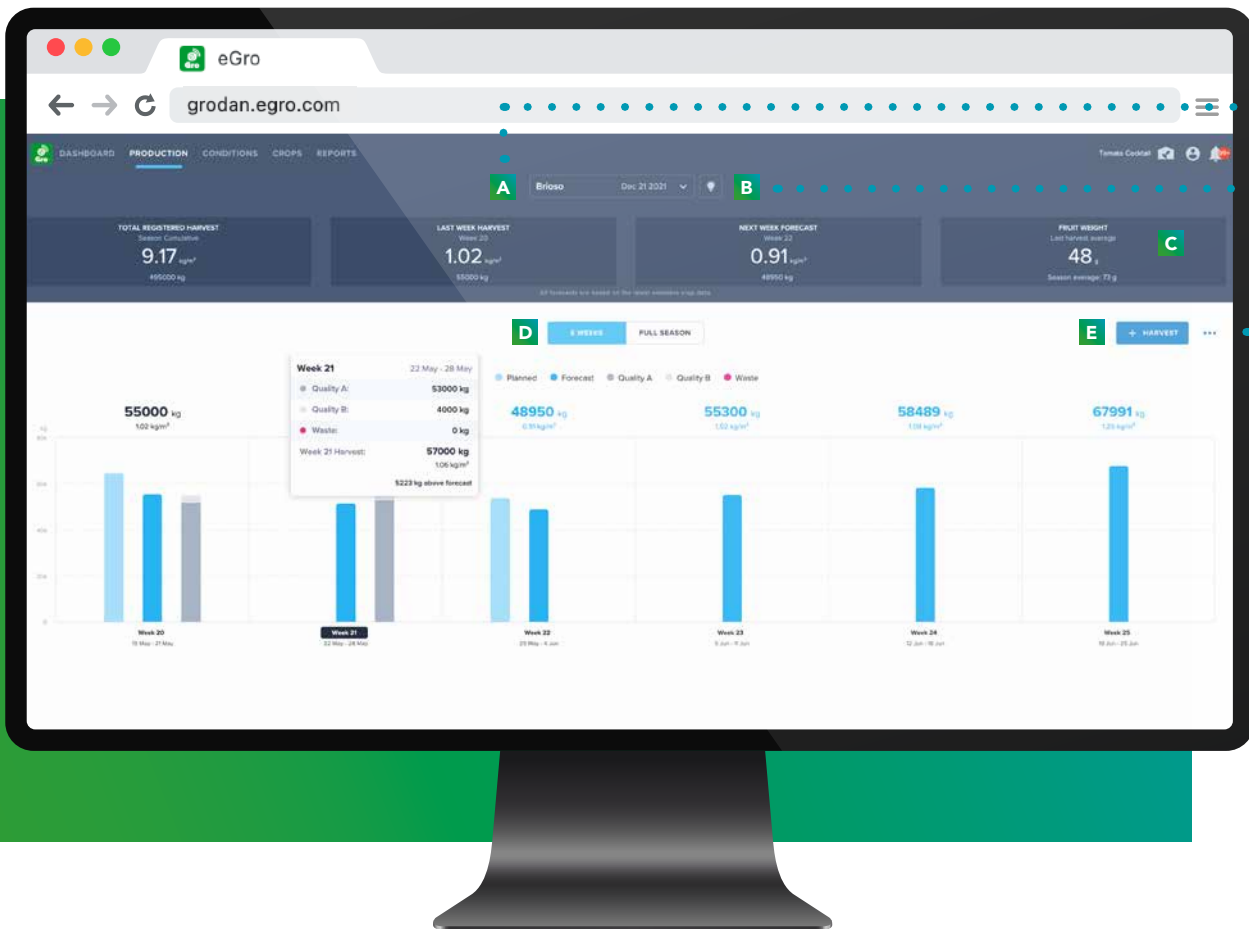
yield. While this data would usually require a lot of time and effort for growers to gather and interpret manually, e-Gro's Yield Forecaster provides users with fast, accurate and detailed insights into yield and greenhouse data. This frees up more time to do what you do best: growing.

■ More insight into quality:

A low fruit weight is an important indication of your set plant balance. The 'Fruit Weight' KPI in the Production Module gives you a better understanding of the harvest quality of your crops at a glance.

■ Single source of truth:

The Production Module brings together all the relevant data in one place. This means that not only you, but also your external crop advisors and/or your colleagues – such as Sales & Marketing – are working with the same source of accurate data as the basis for decisions and business commitments.



How to work with the Production Module

The Production Module can be used for multiple crop types and multiple varieties. Before you start working with this module, you must add at least one crop using the crop selector at the top. After that step, you can start entering your harvest details such as actual harvest figures and your harvest plans for at least the next week. The Production Module offers the following functionalities:

- **A** - The crop selector at the top enables you to switch between multiple crops to view the specific production details. The production information and yield forecasts are tied to each individual crop.
- **B** - The lightbulb icon next to the crop selector enables you to set and adjust your lighting schedule.
- **C** - KPIs: The Production Module shows the four main KPIs that are essential when monitoring your production levels. All figures are automatically calculated based on the latest data entry.
 - The cumulative season total, last week's harvest and next week's forecast are all shown as both kg/m² and total kg.
 - The 'Fruit Weight' KPI shows the last harvest average and the season average. This is an important indication of your set plant balance and gives you a better understanding of the harvest quality of your crop.
- **D** - A color-coded bar chart is visible below the KPIs. You can choose between a 6-Week View and a Full Season View.
 - The 6-Week View shows the current week's actual yield and your planned harvest for the next week plus the AI-based forecast for the following four weeks.
- The Full Season View shows the weekly yields over time, broken down into Planned, Forecast, Quality A, Quality B and Waste. Hover your mouse over the bars to see the forecast and the actual volumes in each week. You can left-click and drag the slider underneath the chart to scroll through the whole year.
- **E** - Towards the top-right of the screen, just below the KPIs, is the Harvest button and a 3-dots icon.
 - Use the Harvest button to enter your weekly yield data and to input or adjust your harvest planning. To get the best out of your harvest registration, try to input your actual harvest data on the same day each week, adding your harvest plan for the next week at the same time.
 - Click on the 3-dots icon to export the data as a CSV file for use in Excel.

Getting started

The Production Module delivers data-driven insights into current harvest performance and future yields. It improves your efficiency by supporting better planning reliability, plus it saves you valuable time by automatically analyzing historical harvest data and applying AI to arrive at the most accurate prediction possible. Moreover, this module supports effective decision-making for you and

your colleagues. 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 Production Module in your greenhouse or how to take your current harvest analysis process to a next level. Visit www.grodan.com/e-Gro for more information.

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