

WayBeyond™

Why data is important in agriculture



Agenda

- What do growers need data for?
- How can growers use data every day to improve decisions?
- Too much information
- Concept vs Reality
- Areas for improvement
- Conclusions



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Mission

WayBeyond creates digital agronomy solutions protected cropping growers love, for a better world.



Vision

A world where we produce better seeds, grow delicious fruits and vegetables, and have a beneficial impact.



Manifesto

We invest in growers' farm's success, so they can enjoy growing fresh produce and seeds they can be proud of.

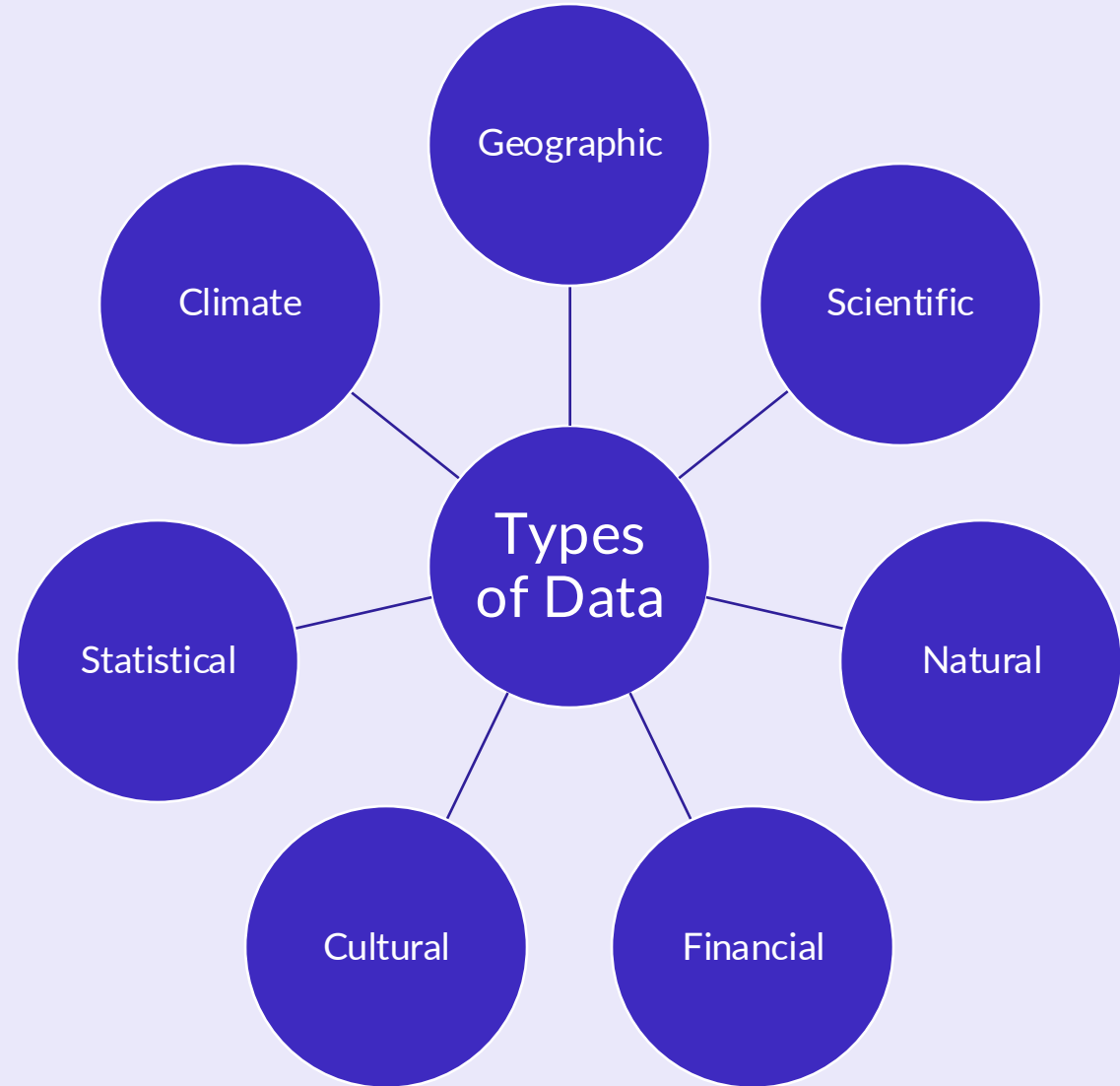


**What do growers
need data for?**



What is data?

- **Data is a collection of measurable values**, whether discrete or continuous, that provide essential insights about key aspects like **quantity, quality, and performance**.
- It helps describe facts, statistics, and trends, giving growers valuable information to make informed decisions.



Data for growers

- While gut feeling and past experiences are valuable for growers, using data can significantly enhance grower decision-making processes and outcomes.
- Data brings objectivity to decisions and gives a common ground for discussion rather than relying purely on opinions...

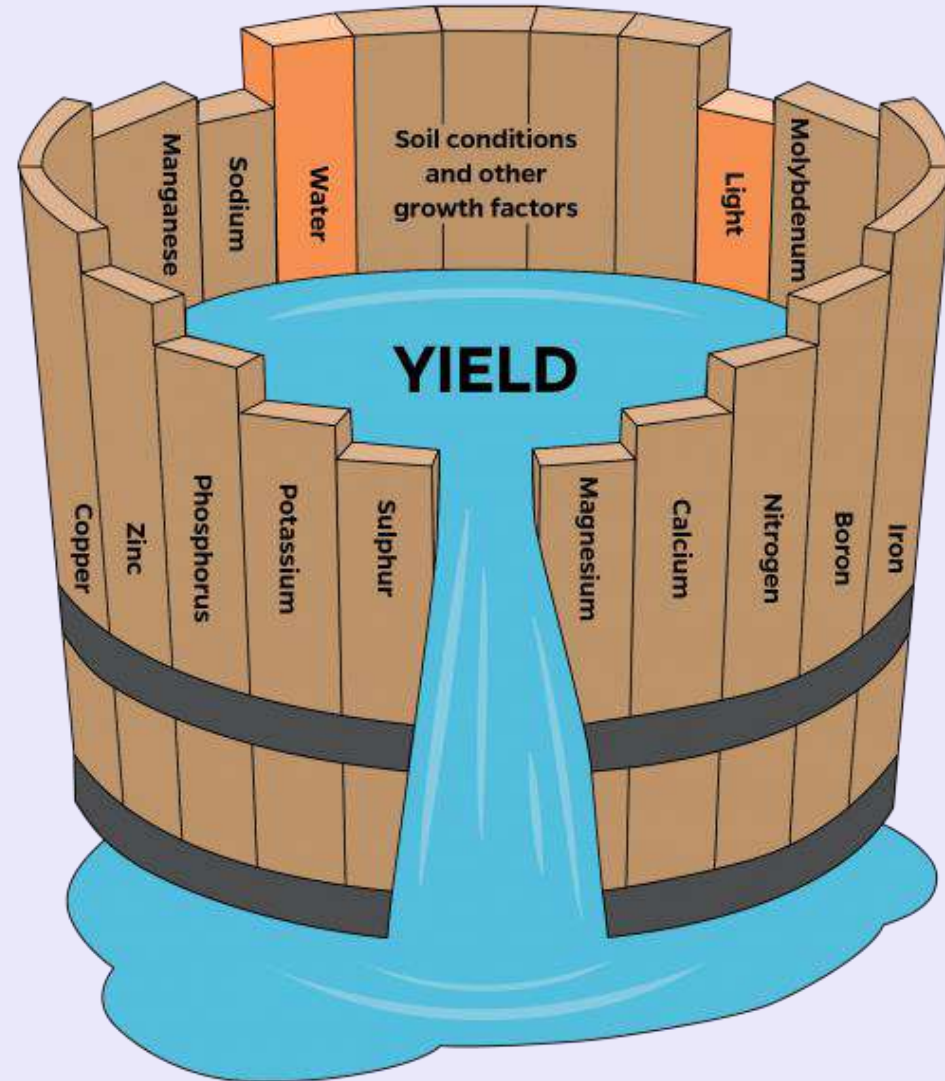


“If we have data, let’s look at data. If all we have are opinions, let’s go with mine.”

— Jim Barksdale.

Crop growth and production?

- A single factor can limit crop growth and production even when ALL the other factors are perfect



Theoretical background



Light



Weather forecast



Humidity



temperature



Water



Nutrients

Grower Challenges

- Pressure to produce more food with fewer resources
- Evolving climates - what growers previously knew is not always true anymore
- Extreme weather events are becoming more frequent
- Bigger risk of pests and disease outbreaks
- Growers need to decide on many aspects: yield, quality, resource use, sustainability and market

2023 was the warmest year on record 'by a huge margin'

**How growers can
use data every day
to improve
decisions**



Data in protected cultivation

Protected cultivation = modification of the areal growth factors:

- Field cultivation = improvement of root- zone environment
- Protection cultivation = improvement also of the aerial environment



Protected cultivation is the path forward for horticulture. Greenhouse growers produce more all year-round, with less resources and less impact from and on the planet.



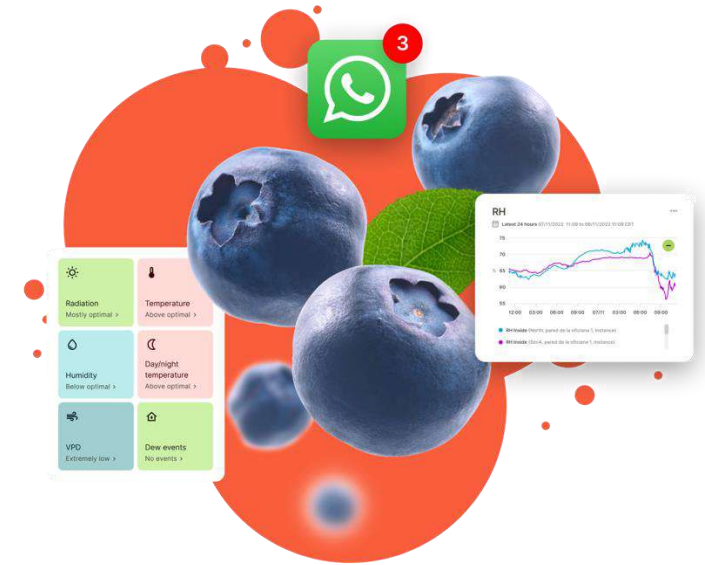
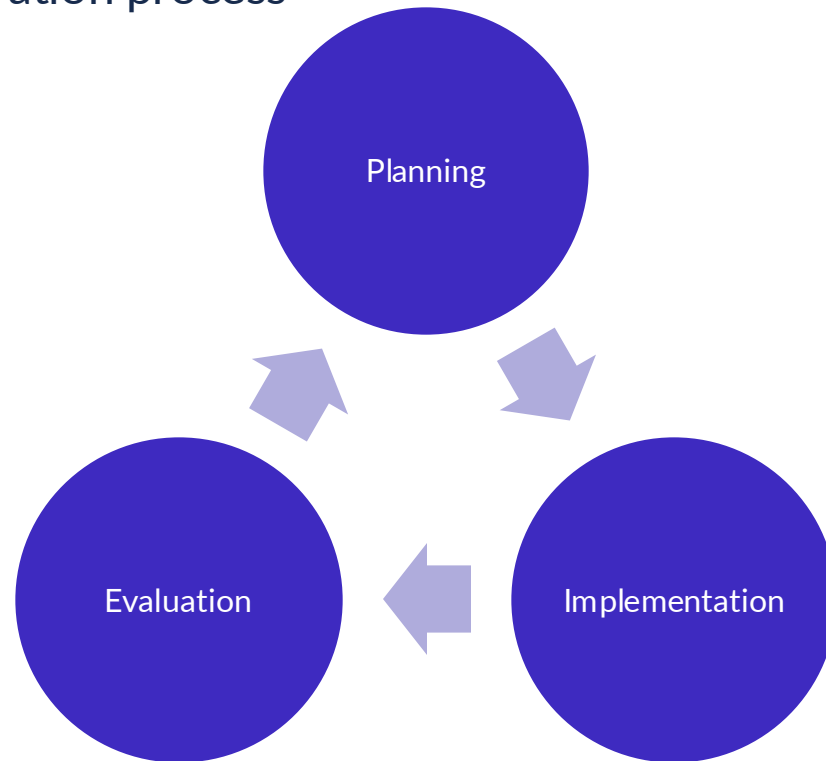
To consistently grow more and better-quality fresh produce, growers are striving to **anticipate yield and manage pest and diseases outbreaks.**



For that, growers need agronomy data that is accessible, timely, actionable and scalable – so they can make **better crop management decisions.**

Why use data?

- Data can be used to:
 - Objectively analyze growing condition and crop performance
 - Improve cultivation process



Using data for climate and risk management

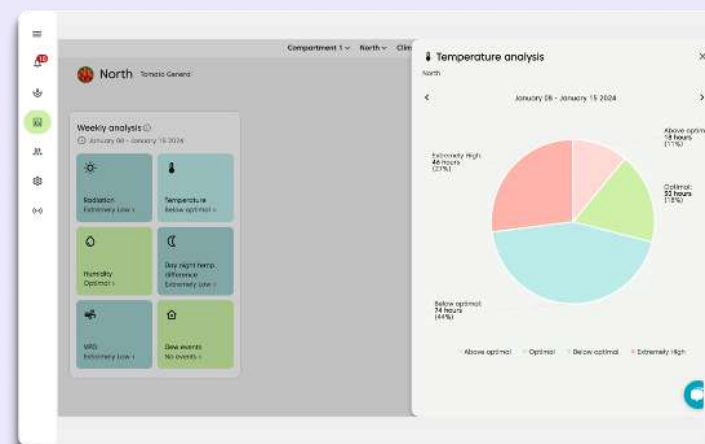
Analyzing climate data helps growers adapt to changing weather patterns, mitigate risks, and improve productivity



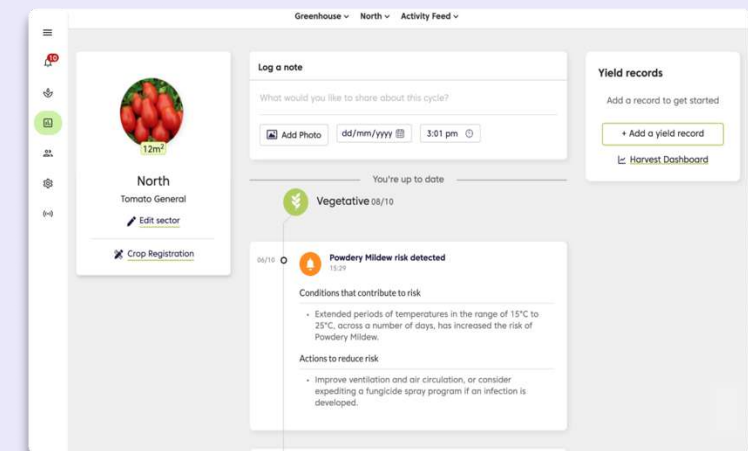
DATA TRENDS



CLIMATE ANALYSIS



REAL-TIME ALERTS

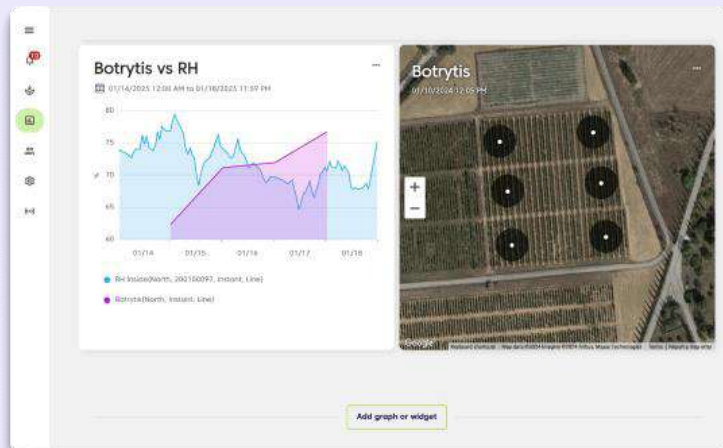


Using data to proactively manage pests and diseases

Predict pest and disease outbreaks, allowing proactive measures rather than reactive pesticide use



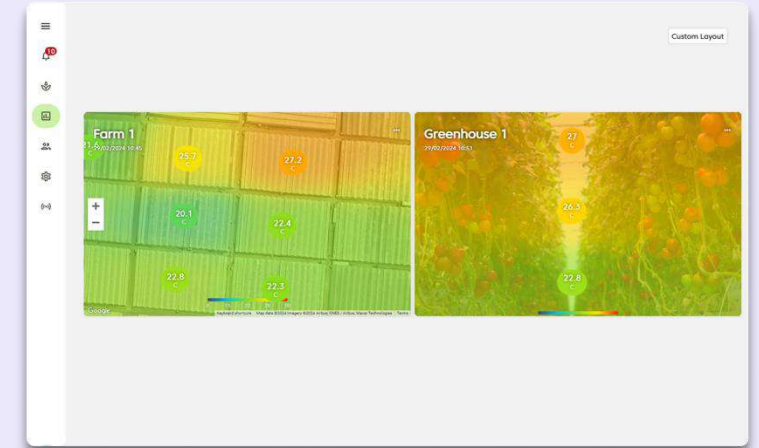
DATA VISUALIZATION



INSIGHT ALERTS

The dashboard shows a "Log a note" section with a photo of tomatoes and a "Yield records" section with an "Add a yield record" button. A "Vegetative 08/10" status is displayed. A "Powdery Mildew risk detected" alert is shown with a risk level of 100%. The alert includes conditions that contribute to risk (extended periods of temperatures in the range of 15°C to 25°C) and actions to reduce risk (improve ventilation and air circulation, or expedite a fungicide spray program).

FARM HEATMAPS

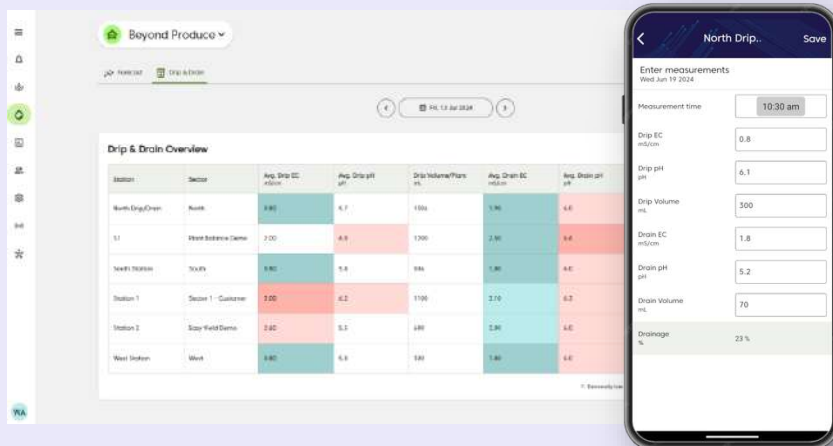


Maximize yield and quality with better insights



Tracking irrigation data helps growers identify potential issues early, leading to higher yields and optimized resource use

DRIP AND DRAIN MONITORING



IRRIGATION FORECASTING



Too much information – how to manage



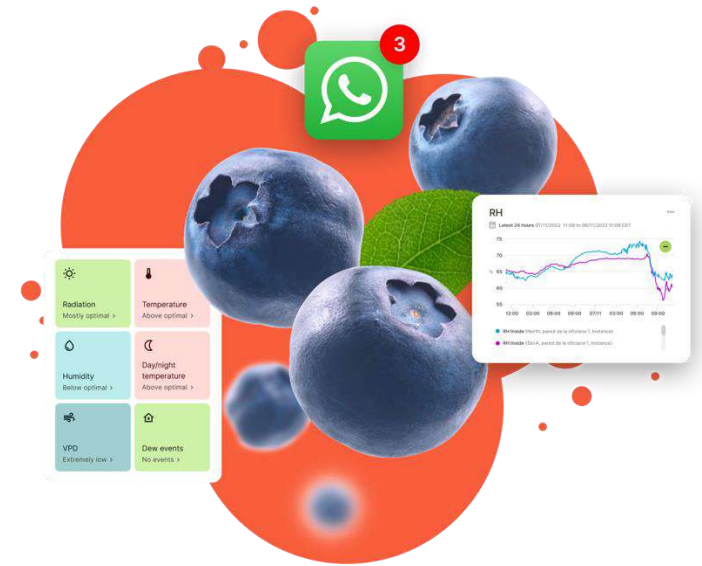
Managing information overload

- The danger with so many data collection tools available is that growers will be overwhelmed with information.
- To counter this, growers can:
 - **Set clear objectives** on what **outcomes** they want to achieve and the decisions that need to be made to reach these.
 - **Identify ways to filter out irrelevant data**, such as building a main information dashboard showing only the relevant data points needed to make decisions.
 - **Decide how often data needs to be collected and analysed** for decisions to avoid excess.



Data Management

- **Data Quality:**
 - invest in reliable data sources and establish quality controls to ensure accuracy and completeness.
- **Data Integration:**
 - Unify your farm data and combine it from various sources into a cohesive dataset.



Concept vs Reality



Data-driven vs data-informed

- Being data-driven means relying solely on data for decisions
- In reality, it's important for growers to also consider context, experience, and other inputs.
- This makes data use more powerful and effective.

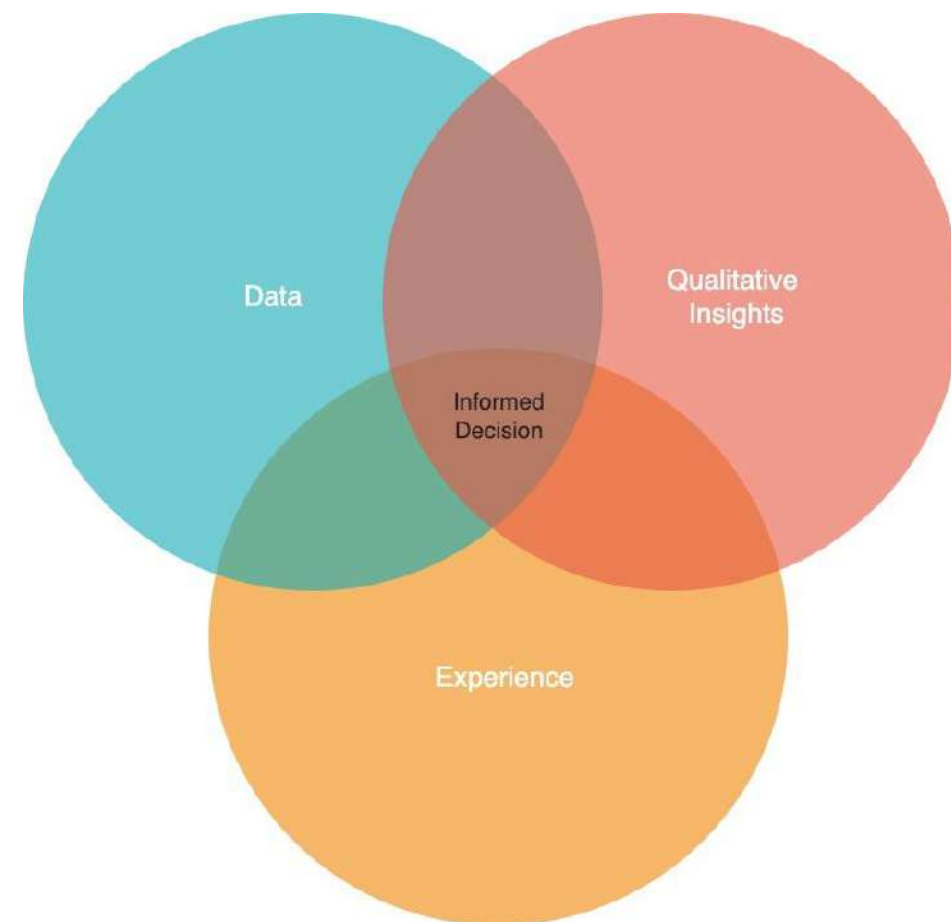


“Data is a tool for enhancing intuition.”

Hilary Mason, data scientist and founder of Fast Forward Labs

Growers should aim to be data-informed

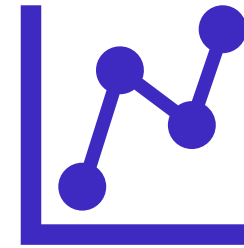
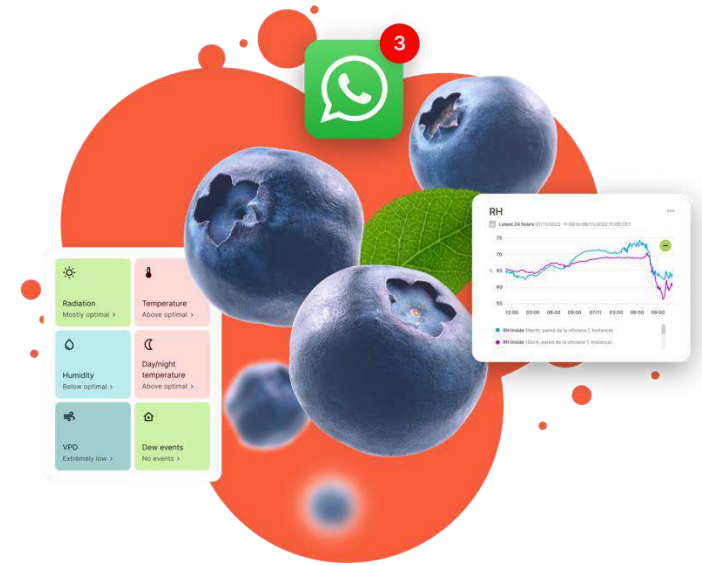
- **Data-Driven:** decisions are based solely on data.
- **Data-Informed:** where data is one of several inputs used in decision-making:
 - Quantitative data- eg. microclimate data
 - Insights- e.g., feedback from farm workers
 - Intuition- using the knowledge and experience that the grower has gained.
 - Context- factors from the specific growing environment context.



Areas for improvement



Growers need to embrace a shift towards modern farming

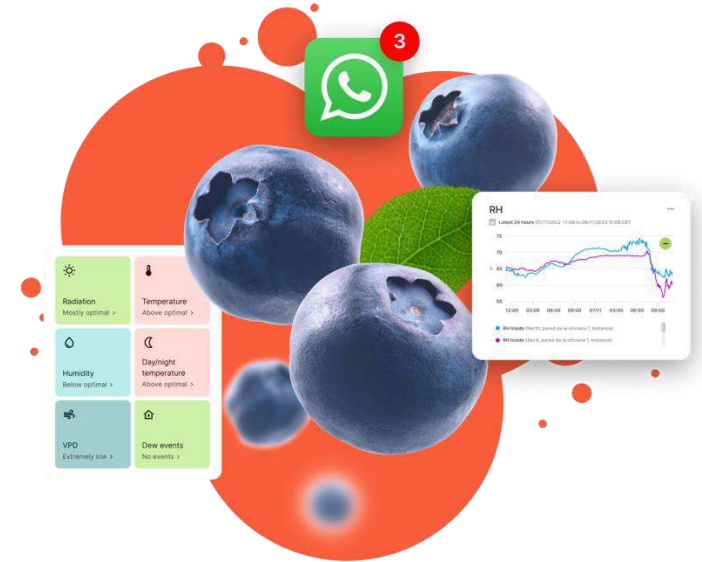


TRADITIONAL GROWER
Acts based on intuition and experience. Qualitative approach

MODERN GROWER
Acts also using data to support decision making. Quantitative and Qualitative approach

Improvements through data-informed agronomy decisions

- **Growers can improve their decision-making by:**
 - Embracing change
 - Turning insights into proactive action
 - Moving from manual data capture to digital
- **We recommend that growers follow a structured approach to collecting and using data:**
 1. Collect & Analyze the Data
 2. Combine data with experience and qualitative analysis.
 3. Apply decisions to farming practices.
 4. Monitor outcomes and adjust strategies as needed.



Conclusions

Every decision made holds the power to shape the future of your growing environment.

1. **Know your objectives.** Let specific business goals guide your plans.
2. **Embrace a data-informed approach.** Implement measurement tools in your growing practices and use the data to enhance areas that require improvement.
3. **Unlock your production goals.** The ability to derive actionable insights from data can be a game-changer for your growing practices.



Thank You!

Come talk to us at Stand 32



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