

A Spider-Man figure stands in a data center, holding a basket of strawberries. The background is filled with computer monitors displaying various data charts and graphs. A semi-transparent green box is overlaid on the image, containing the main title and speaker information.

Unlocking your SuperPower with data-driven cultivation

ISFC 2025 | Pieterjan Oomen - YieldComputer

YieldComputer
forecasting made easy





YieldComputer
forecasting made easy



Pieterjan Oomen

Managing partner at YieldComputer

Bavel (Breda), The Netherlands
46 years old

YieldComputer

forecasting made easy



founded in 2019 - Based at Brainport Eindhoven, NL – Strijp-T

Agri-Tech company - We are supporting soft fruit growers and their sales organisations with automatic crop scouting, easy to use dashboarding and smart tooling to get better insights in crop, harvests and other factors to improve yield forecasts. So, they can optimise their business.



Automated and quality data collection



Accessible, easy to use data insights and tooling



Smart tooling based on AI to enrich insights and datasets



Consultancy and support



Challenges in the Agri sector

Strawberry growers in Northwest Europe region are surprised by **unexpected lower harvest results** in autumn 2023 harvests.

Data-Driven cultivation

discover and learn things you haven't seen before





Grower's Intuition vs. Data-Driven Precision

Gut feeling
See, feel, remember
In the moment

Sensors
Analyses patterns
Plant growth stages
Historical data

Augmenting intuition
with science

A little test... calculate \bar{A}

$$(14 + 14 + 13 + 13 + 12 + 12 + 11 + 10) / 8 = \bar{A}$$



A little test... calculate B

$$(14 + 14 + 13 + 13 + 12 + 12 + 11 + 10) / 8 = A$$

$$(10 + 9 + 9 + 8 + 9 + 8 + 8 + 7) / 8 = B$$



A little test...

$$(14 + 14 + 13 + 13 + 12 + 12 + 11 + 10) / 8 = A$$

$$(10 + 9 + 9 + 8 + 9 + 8 + 8 + 7) / 8 = B$$

$$(6 + 4 + 4 + 4 + 7 + 9 + 0 + 8) / 8 = C$$

Done by a computer...

$$(14 + 14 + 13 + 13 + 12 + 12 + 11 + 10) / 8 = 12,375$$

$$(10 + 9 + 9 + 8 + 9 + 8 + 8 + 7) / 8 = 8,5$$

$$(6 + 4 + 4 + 4 + 7 + 9 + 8 + 8) / 8 = 6,25$$

Translating to a dataset...

2023-10-27

12,375 °C

2023-10-28

8,5 °C

2023-10-29

6,25 °C

2023-10-30

11.625 °C

2023-10-31

10.875 °C

2023-11-01

11.875 °C

Humans VS Data technology

Humans

Amazing at recognising patterns and making decisions, but with limits:

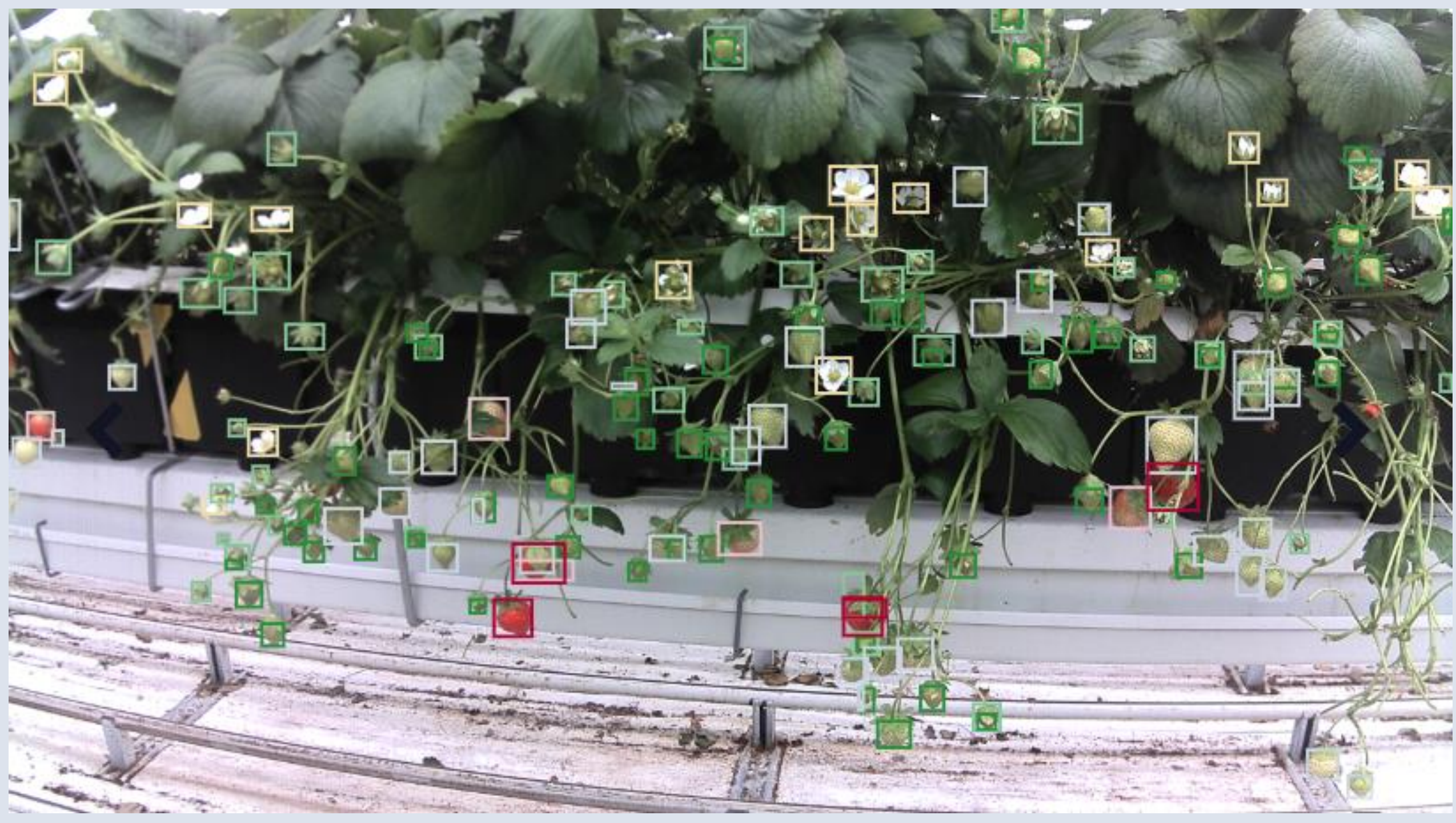
1. Focus on a **few pieces of information** at a time
2. Our **memory is imperfect**
3. Can **not analyse massive amounts of data**
4. Highly **emotional influenced**.

Data technology

How data tech works differently:

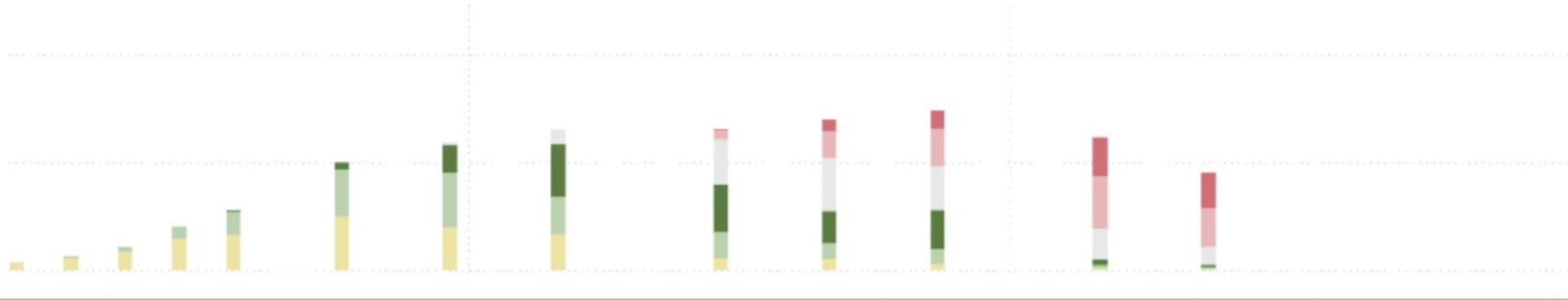
1. **Multitasking**, analyses hundreds of datasets at once
2. **Speed**, process millions of data points in seconds
3. **Precision and consistent**, don't get tired nor make emotional decisions. They follow the data exactly, which means
4. **NO GUESSWORK**



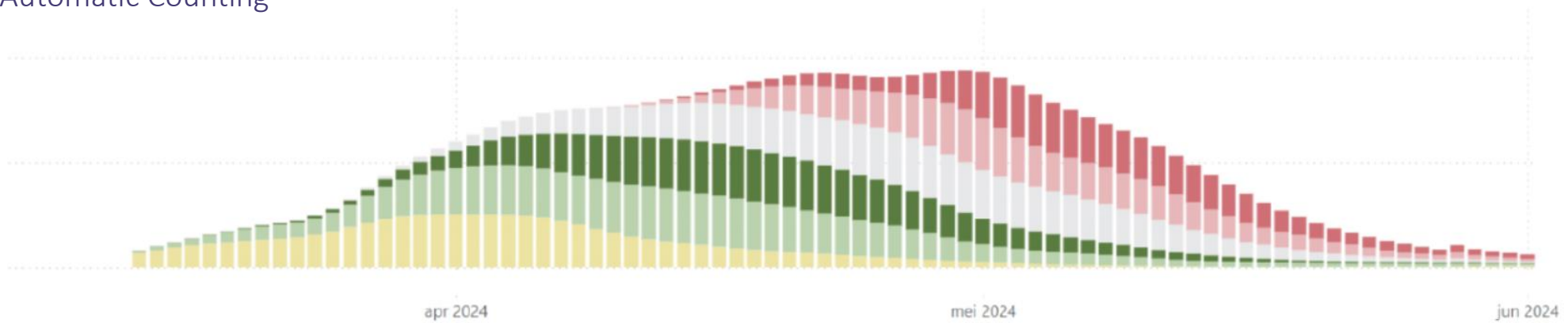


Fruit counts and segmentation...

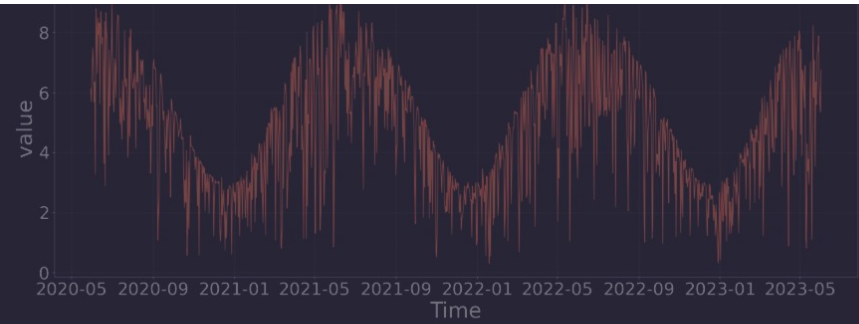
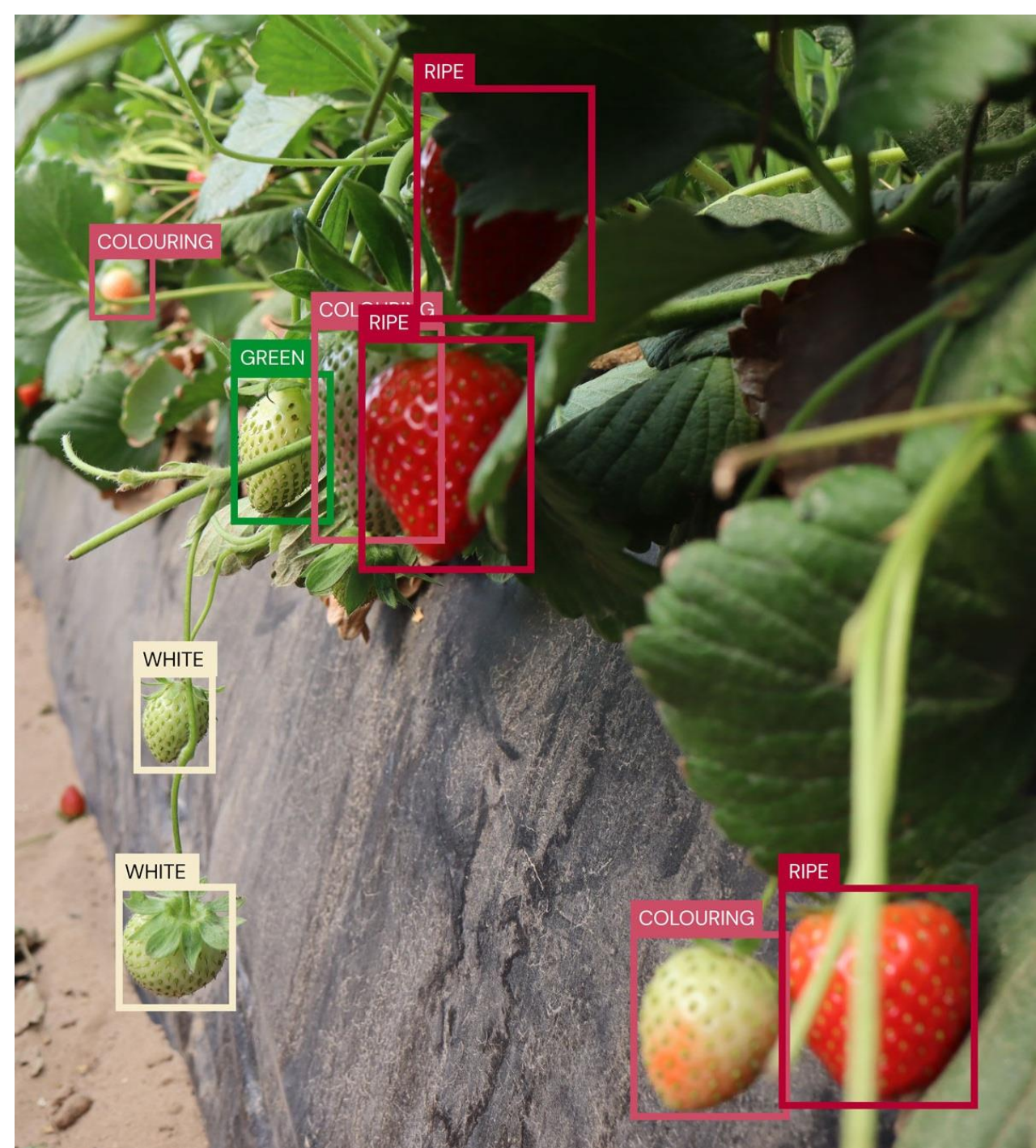
Manual Counting



Automatic Counting

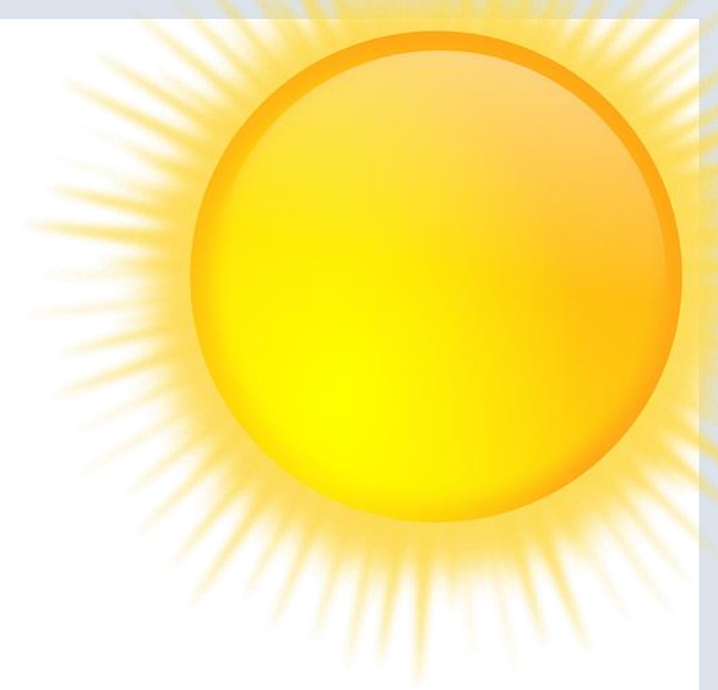
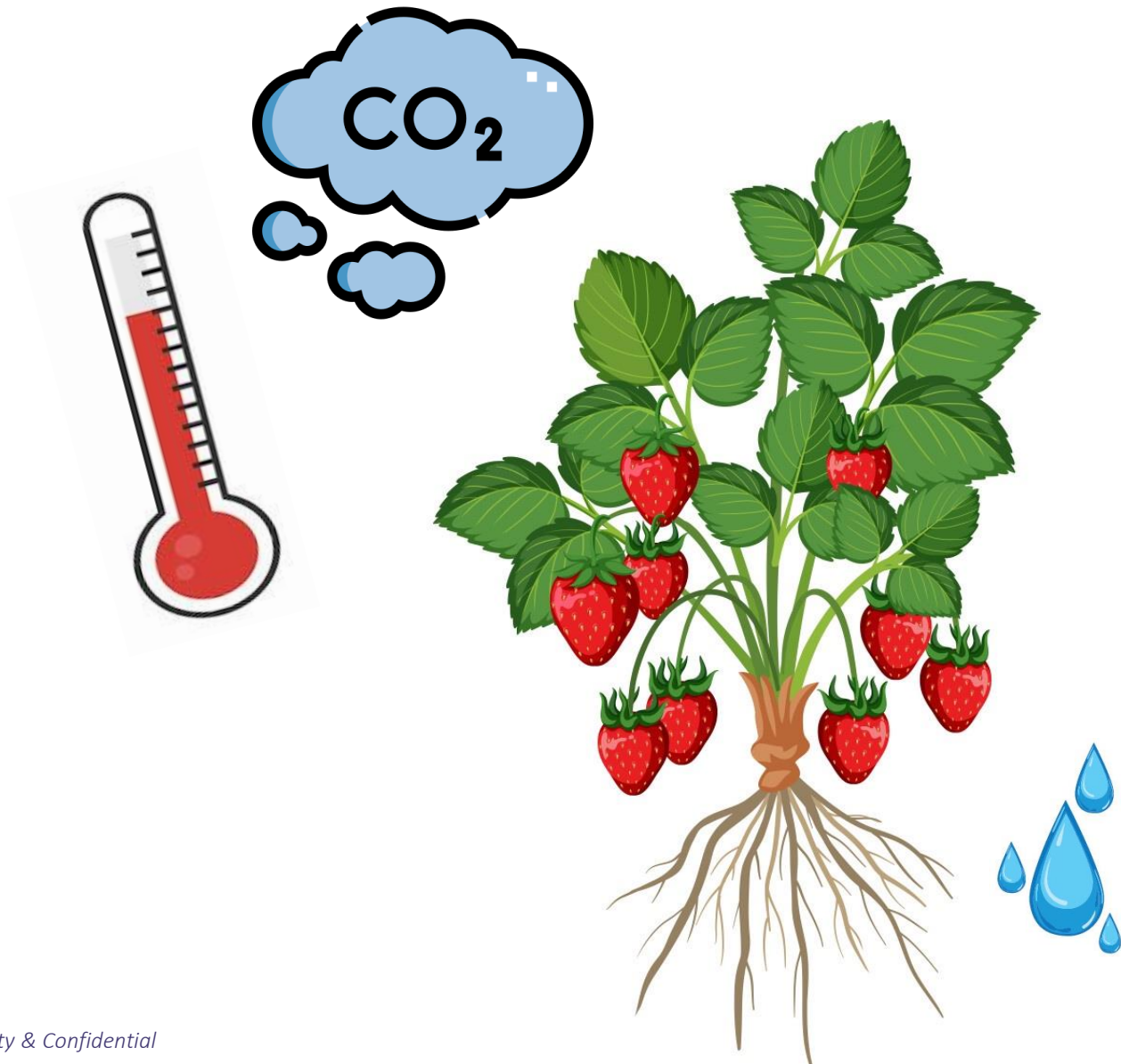


Flower Small Green Green White Colouring Ripe

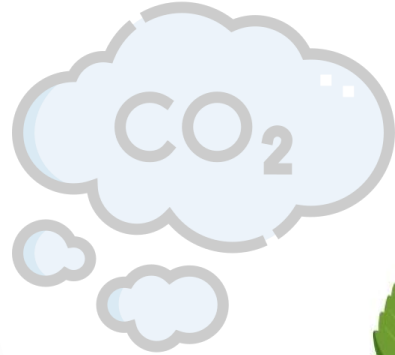


The importance of different datasets

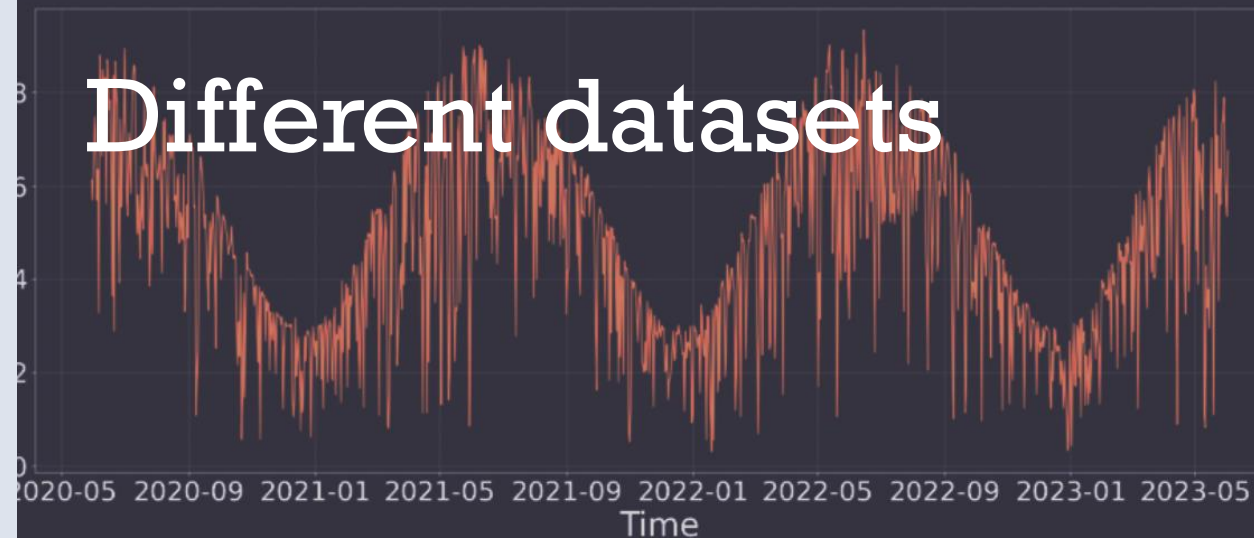
Different factors influencing growth



Different factors influencing growth



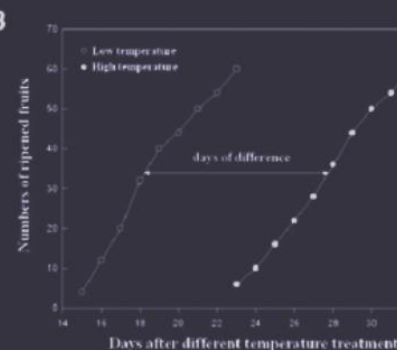
Different datasets



A



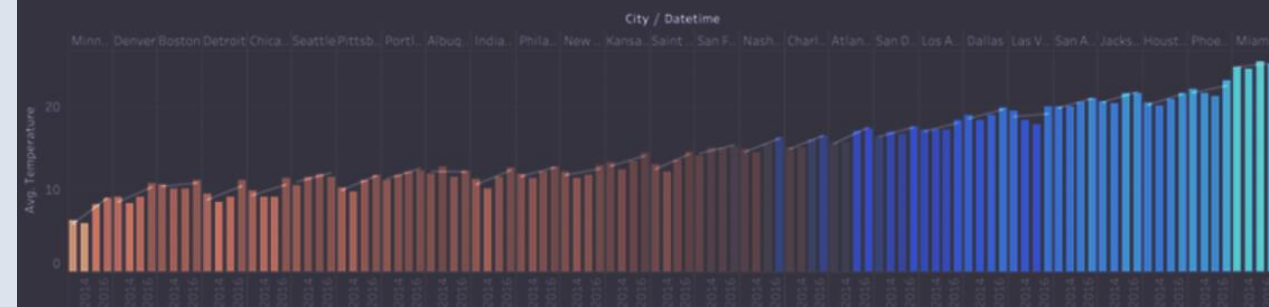
B



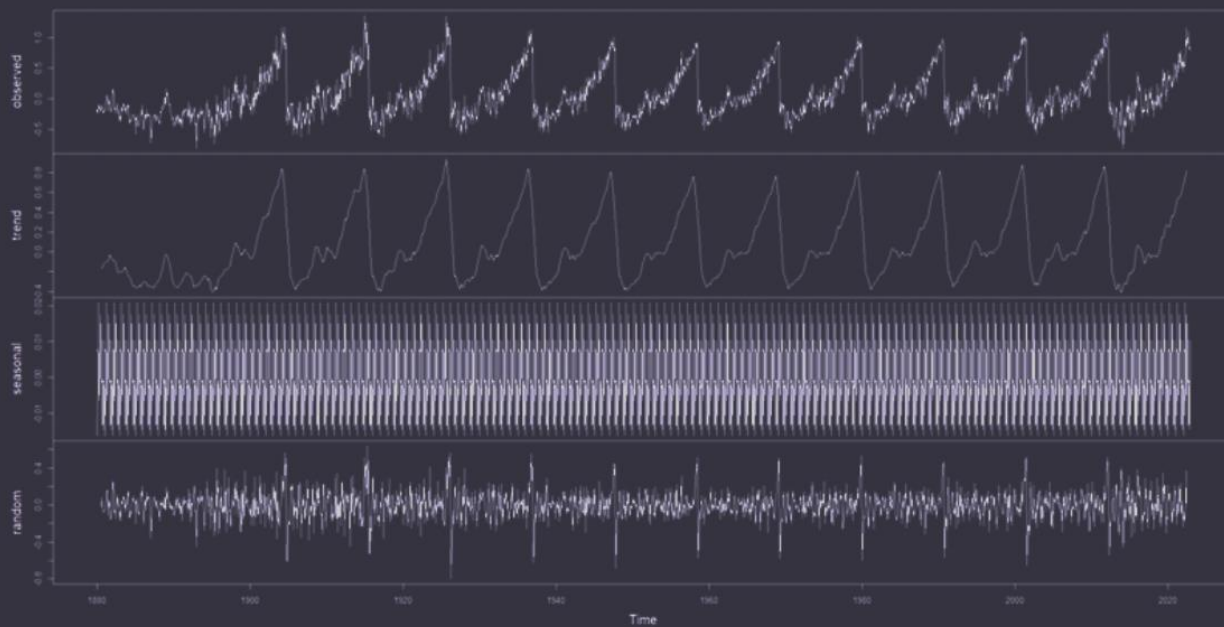
U.S. Monthly Temperature Trend 2013-16



U.S. Yearly Average Temperature 2013-16




Decomposition of additive time series





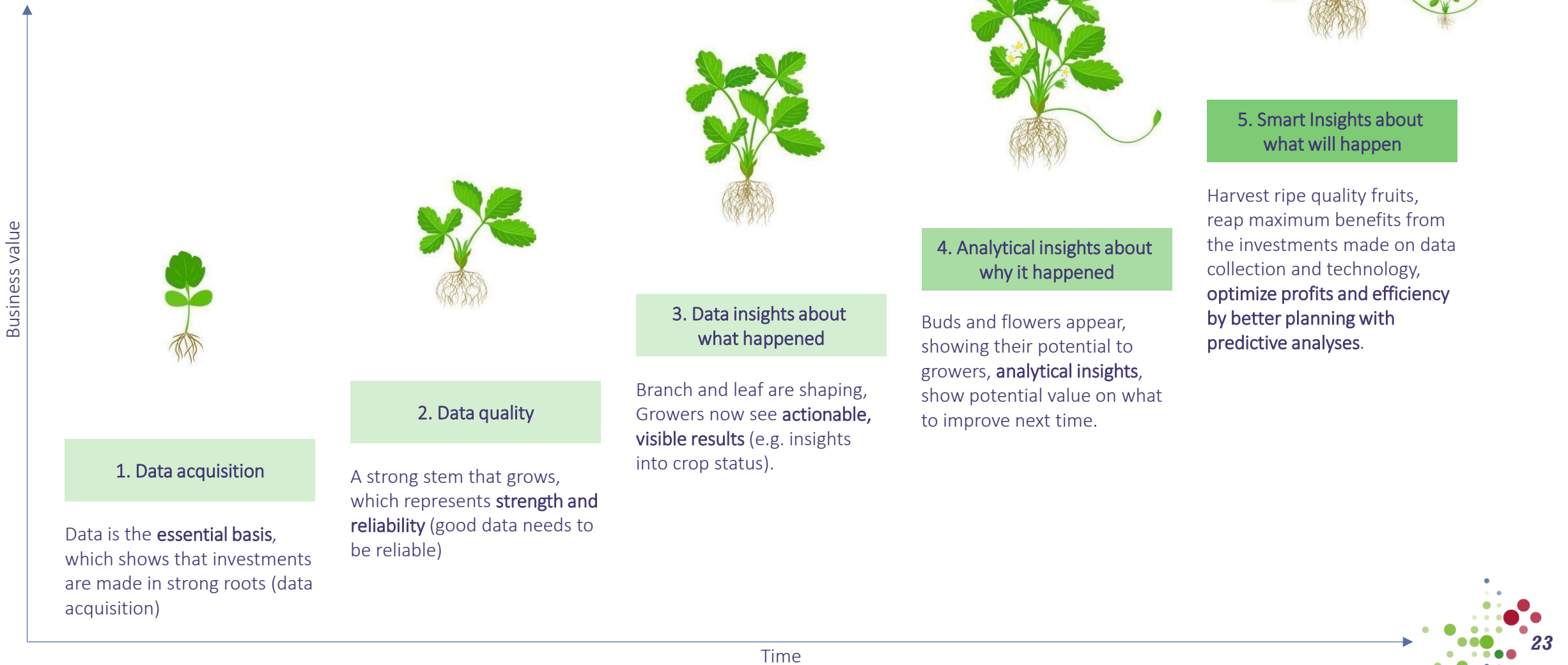
**Data-Tech (e.g. AI) is
Not magic!
Its math!**

Data tech is a DATA

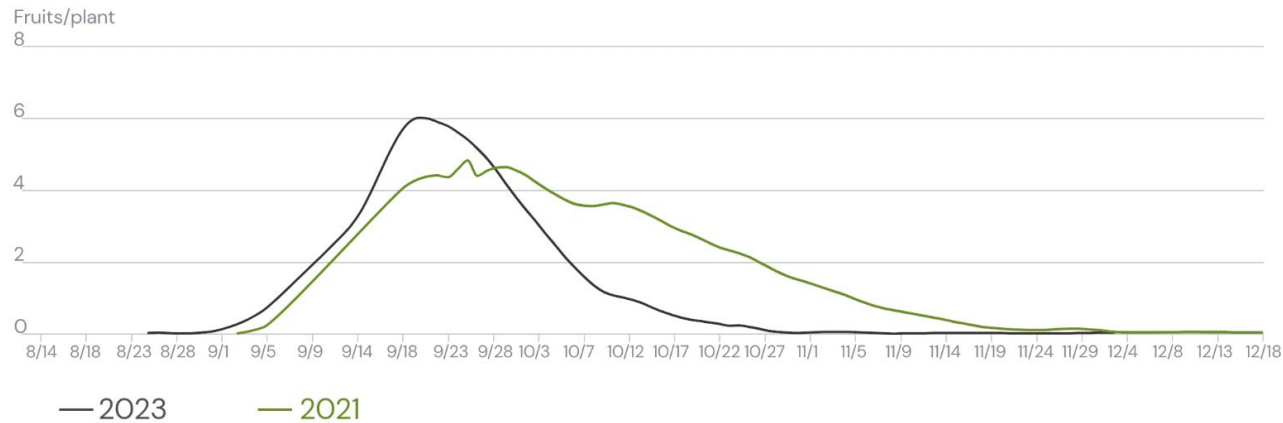


1. Acquisition
 2. Quality
 3. Engineering
 4. Adoption
- CHALLENGE!**

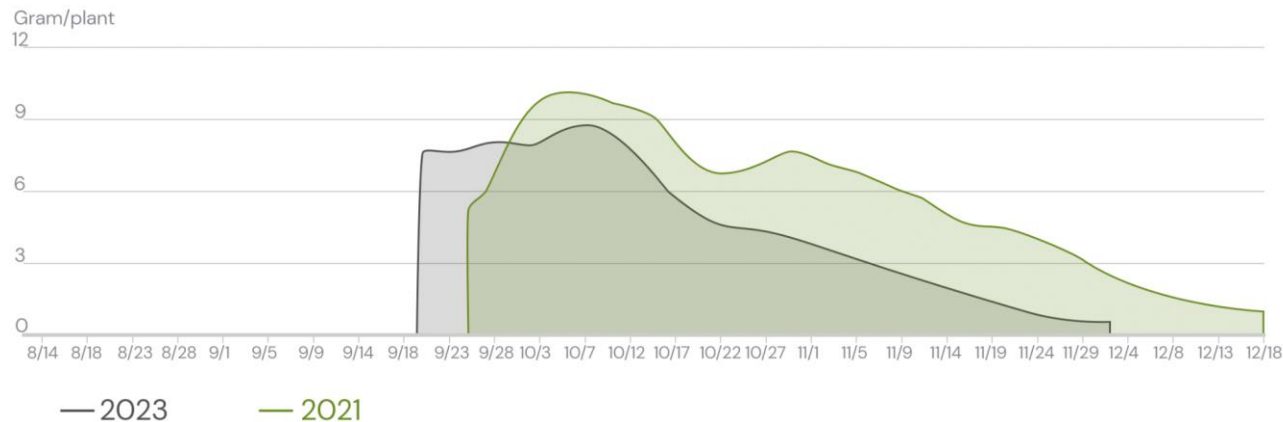
5 steps to unlock your super power with data tech



Small Green counts



Yield Curves



○ Autumn 2023, Elsanta - 3,9 kg/m²

○ Autumn 2021, Elsanta - 5,7 kg/m²

25%

less yield in some
Autumn 2023 harvests
compared to previous years

Conclusion

- **Data driven cultivation will give you superpowers,** to optimize your business and cope the challenges, you are facing
- Data driven cultivation is **a process driven by the grower, supported by technology**
- **Data acquisition and quality is the foundation,** worth the investment, since with every well collected dataset the business value is increasing.
- **Smart tooling and technology is here to help,** apply when you and your datasets are ready for it.
- **Start NOW,** take it step by step, be open to learn, and improve yourself and your business

A Spider-Man figure stands in a data center filled with computer monitors displaying various charts and graphs. In the foreground, there are several ripe strawberries. A green semi-transparent banner is overlaid on the image, containing text and a QR code.

Let's unlock your SuperPower!



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