

# Introduction to



# GROWERS HAVE TO MAKE 4-5 CRITICAL DECISIONS ON DAILY BASIS



# BUT THE DECISIONS ARE LARGELY A GAMBLE



Less Visibility  
Of farm  
Operations



Excess  
use of  
everything



High  
investments



Unavailability of  
real-time farm-level  
data



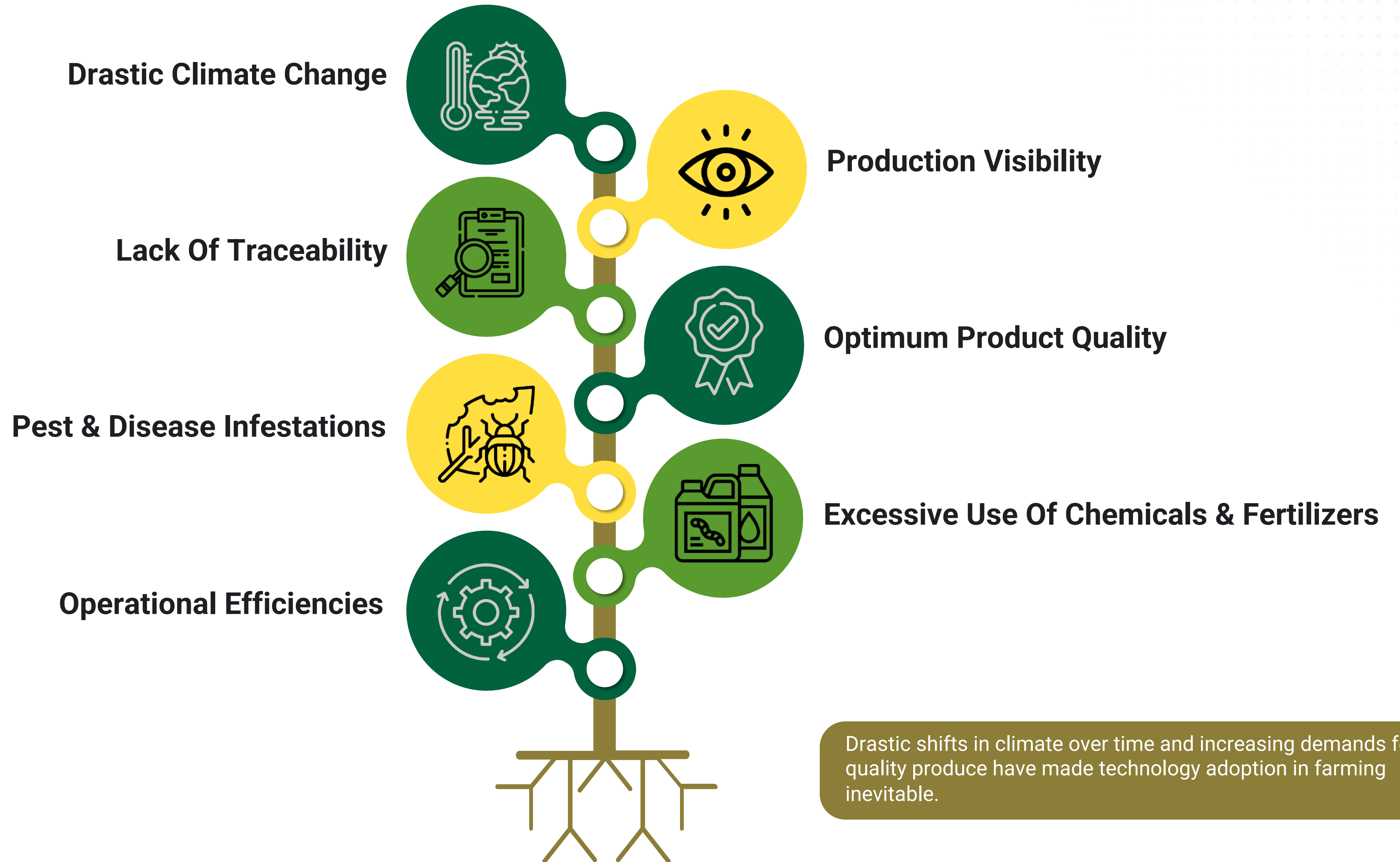
**High levels  
of toxicity**  
in produce

**Quality not  
eligible**  
in for exports/  
certain vendors

**Man-made  
water shortage**

**Low yield**

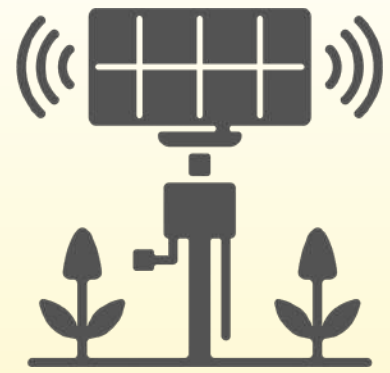
# MAJOR CHALLENGES IDENTIFIED IN AGRICULTURE PRODUCTION



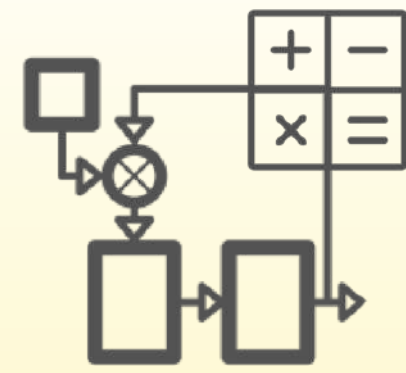


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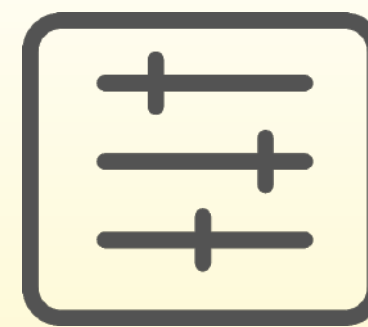
# IS SOLVING THIS MASSIVE PROBLEM HOLISTICALLY



Data  
collection



Crop-specific  
agronomic  
models



Farm-level  
forecasting



Actionable  
intelligence



In language &  
medium that  
farmer  
understands

# SOLUTION / VALUE PROPOSITION



## Loss minimization

1. Early Prediction of Pest and Disease attacks with a recommended action plan to save crop losses.
2. Optimized irrigation practices:
  - Water conservation.
  - Reduced risk of soil-borne diseases.
  - Avoid leaching.
  - Effective water usage by crop.
3. Input cost savings with optimum use of Chemical spray and Fertilizers.



## Better farm management

1. A customized package of practices keeping sustainability in mind.
2. Real-time farm-level data for effective decision-making.



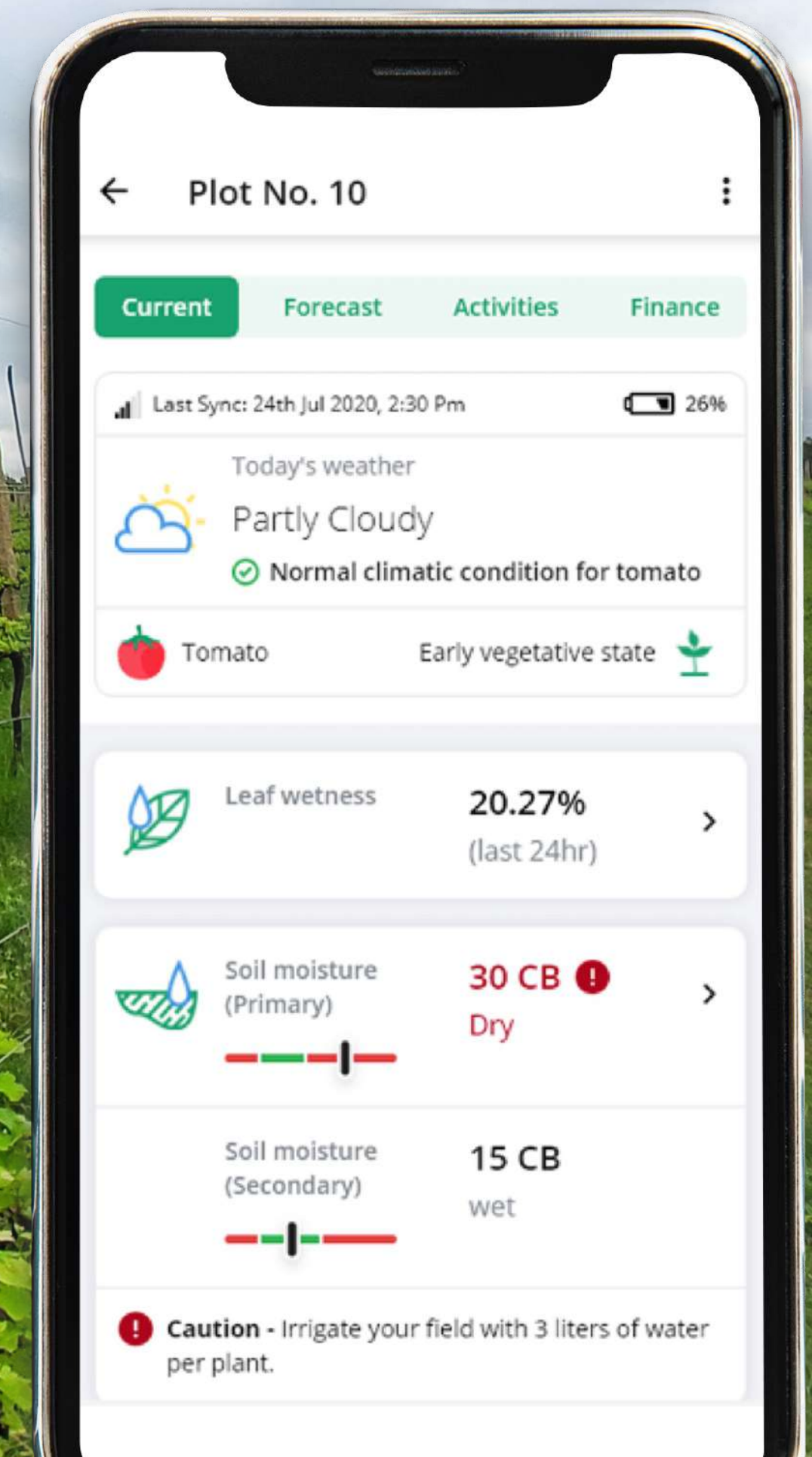
## Quality improvement

1. Maintaining acceptable MRL (Maximum Residue Limits) with regulated chemical usage.
2. Crops free from pest and disease damages.

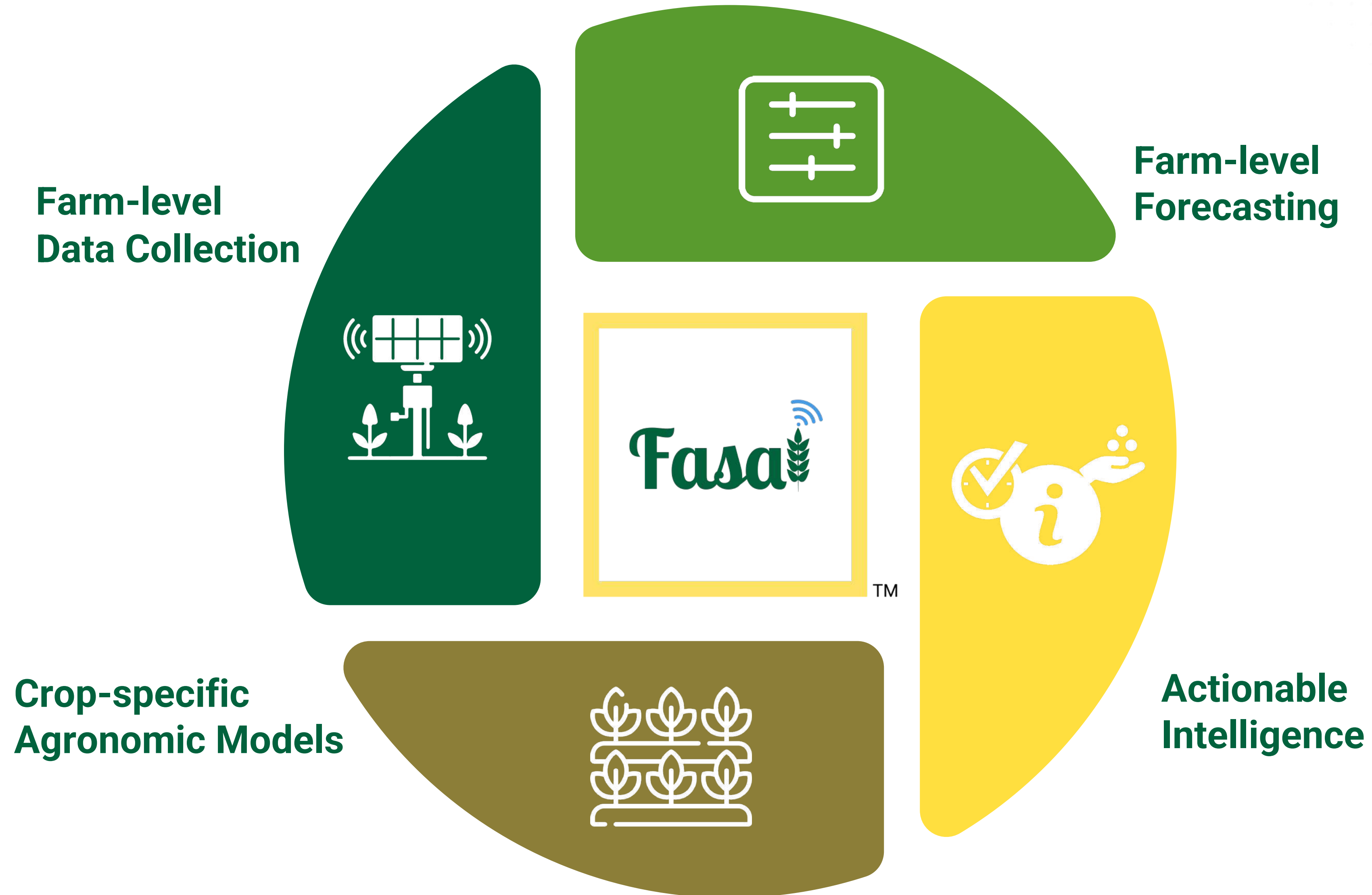
# About



TM

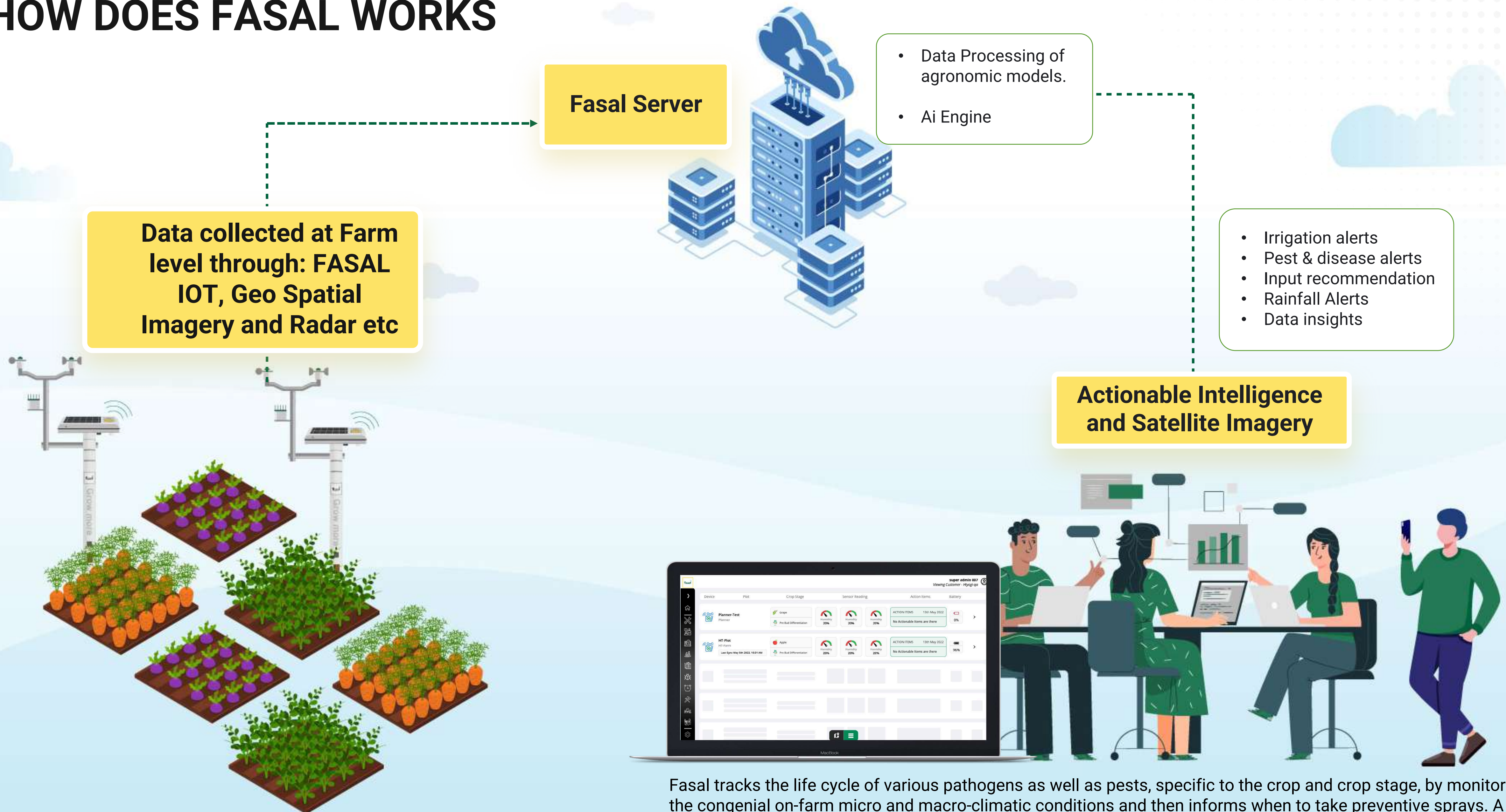


FASAL aims to reduce guesswork from farming and lead the actions via intelligence backed by real-time farm-specific and crop Specific Data. Fasal is a full-stack platform providing precision solutions and solving these problems holistically through.





# HOW DOES FASAL WORKS



Fasal tracks the life cycle of various pathogens as well as pests, specific to the crop and crop stage, by monitoring the congenial on-farm micro and macro-climatic conditions and then informs when to take preventive sprays. A typical Fasal advisory looks like: "High Risk of Downy Mildew on Block 1."

# FARM LEVEL FORECASTING - PREVENTIVE IN NATURE

## Dependant factors that help in preventive measures



Crop



Crop stage



Soil temperature



Cloud cover



Wind speed



Soil texture



Farm elevation



Soil moisture

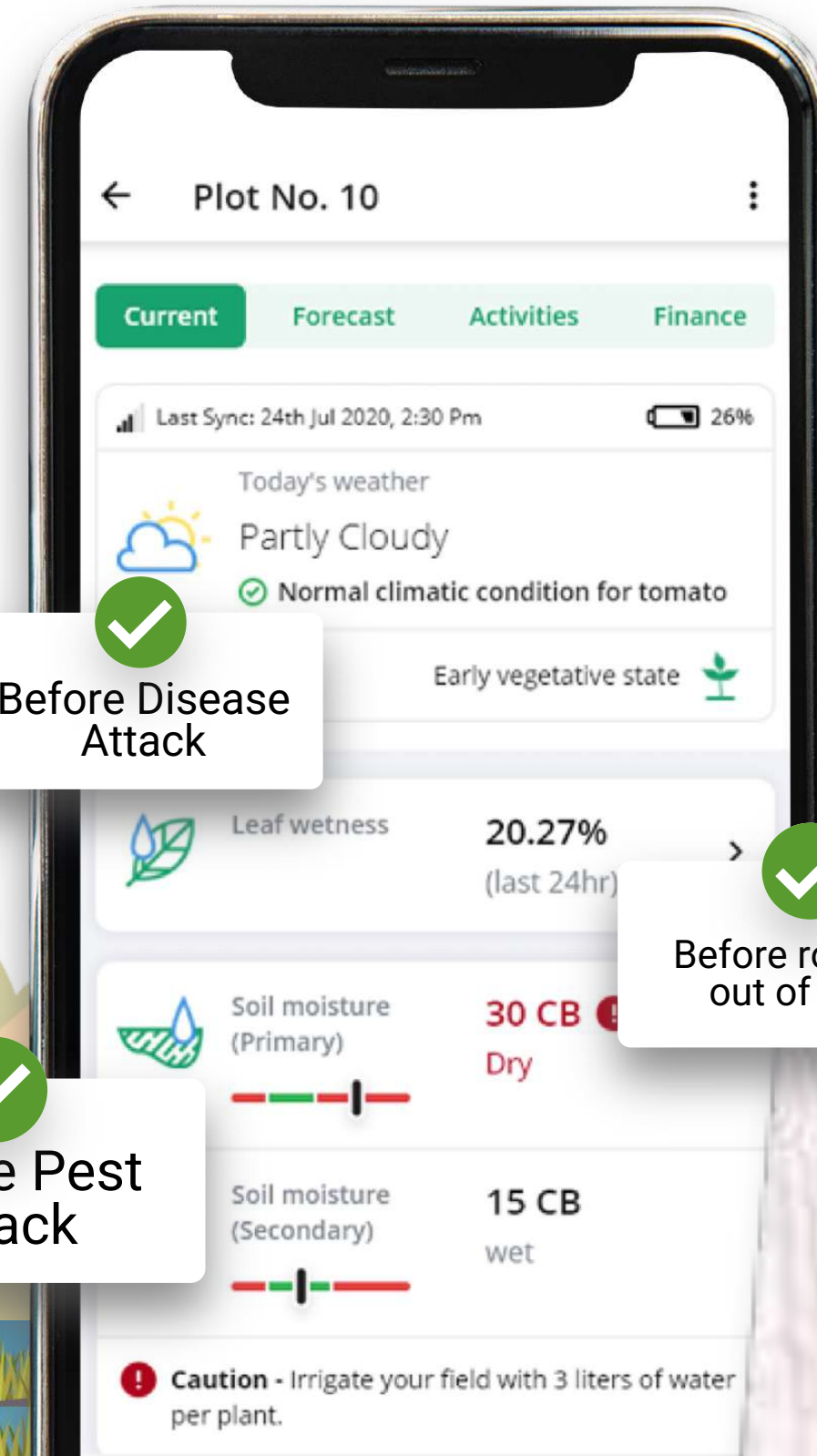


Rainfall

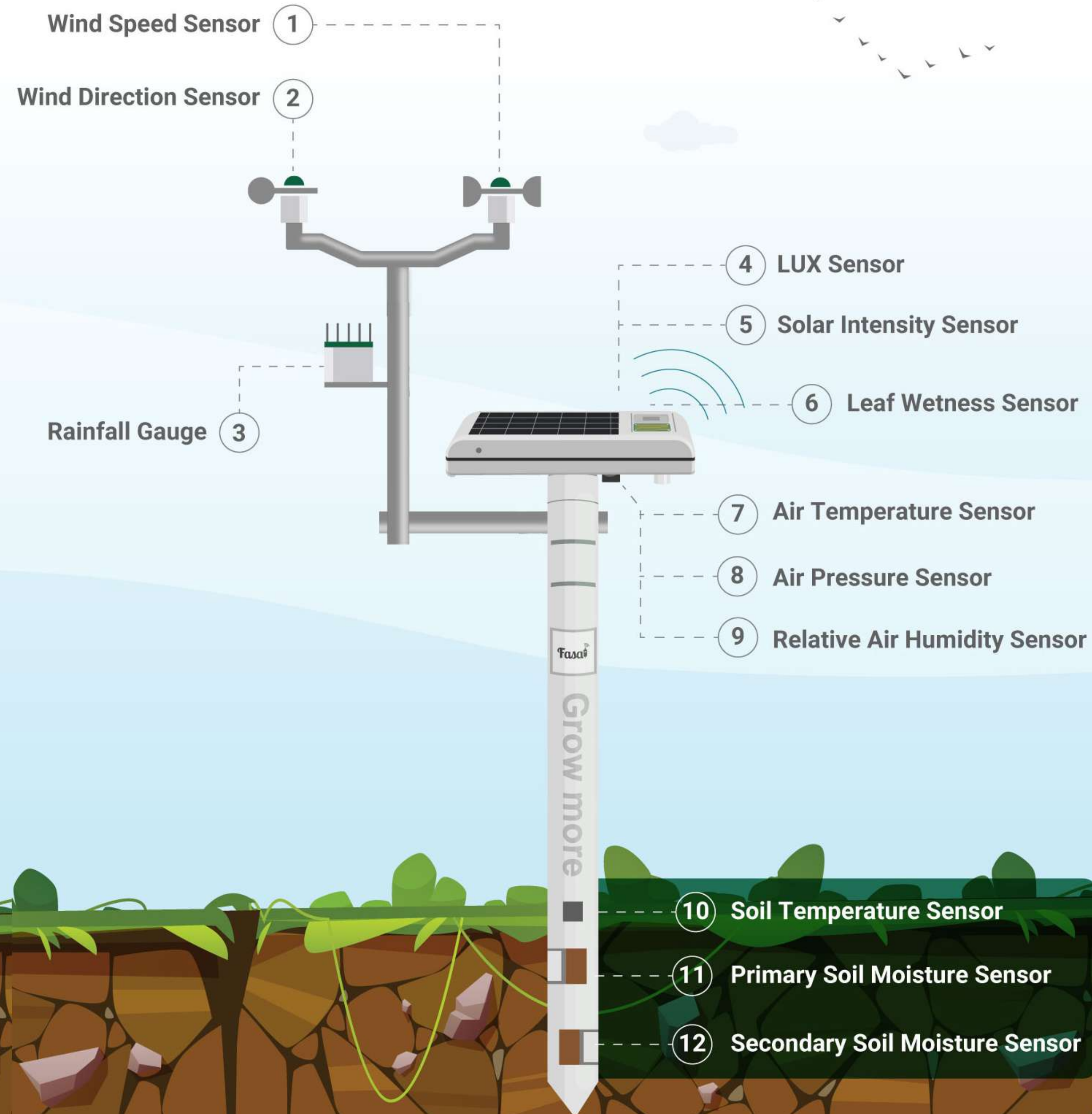


Wind direction

Helps in deciding right actions



# FASAL HARDWARE



# PLUG & PLAY PRODUCT



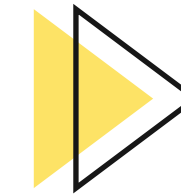
**UNBOX**



**ROLL**

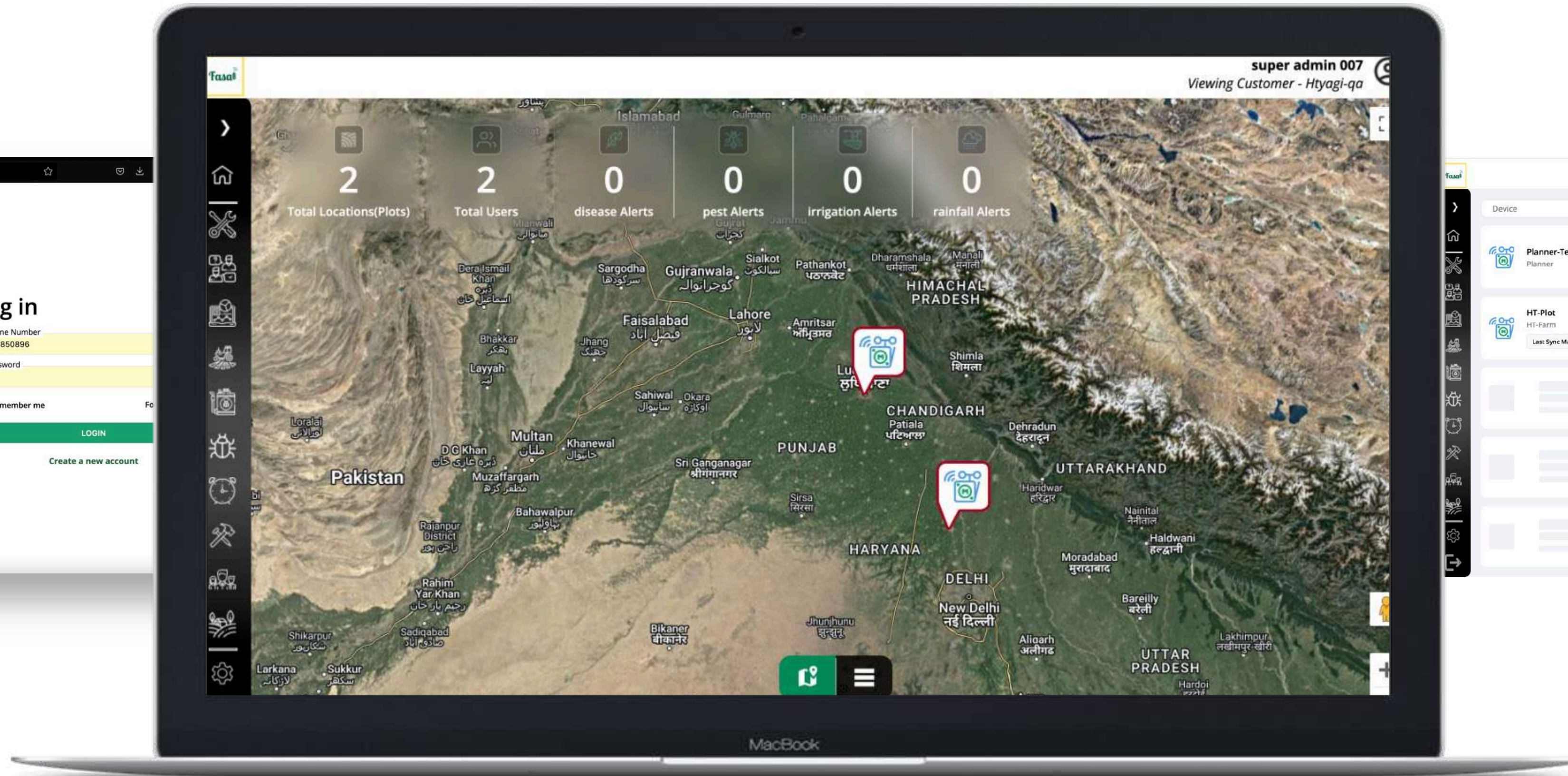
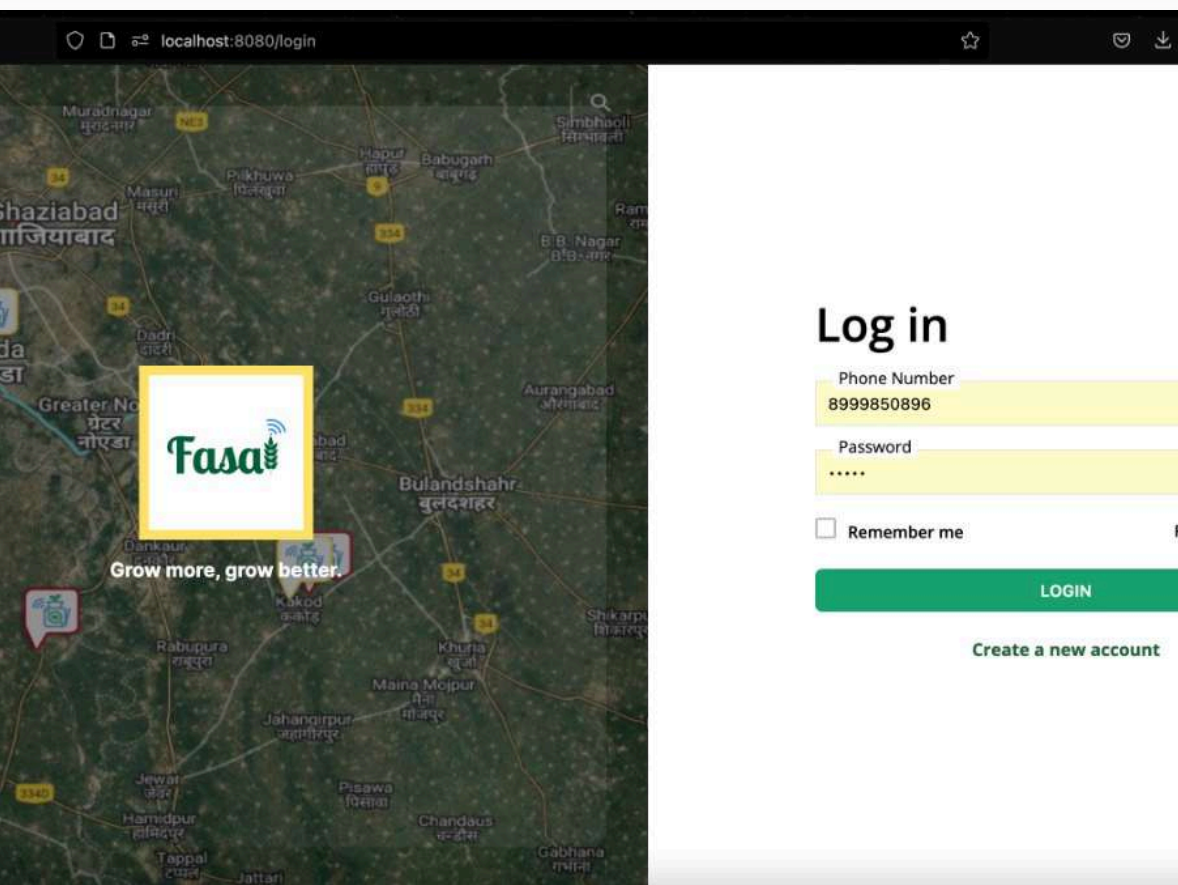


**FIX**

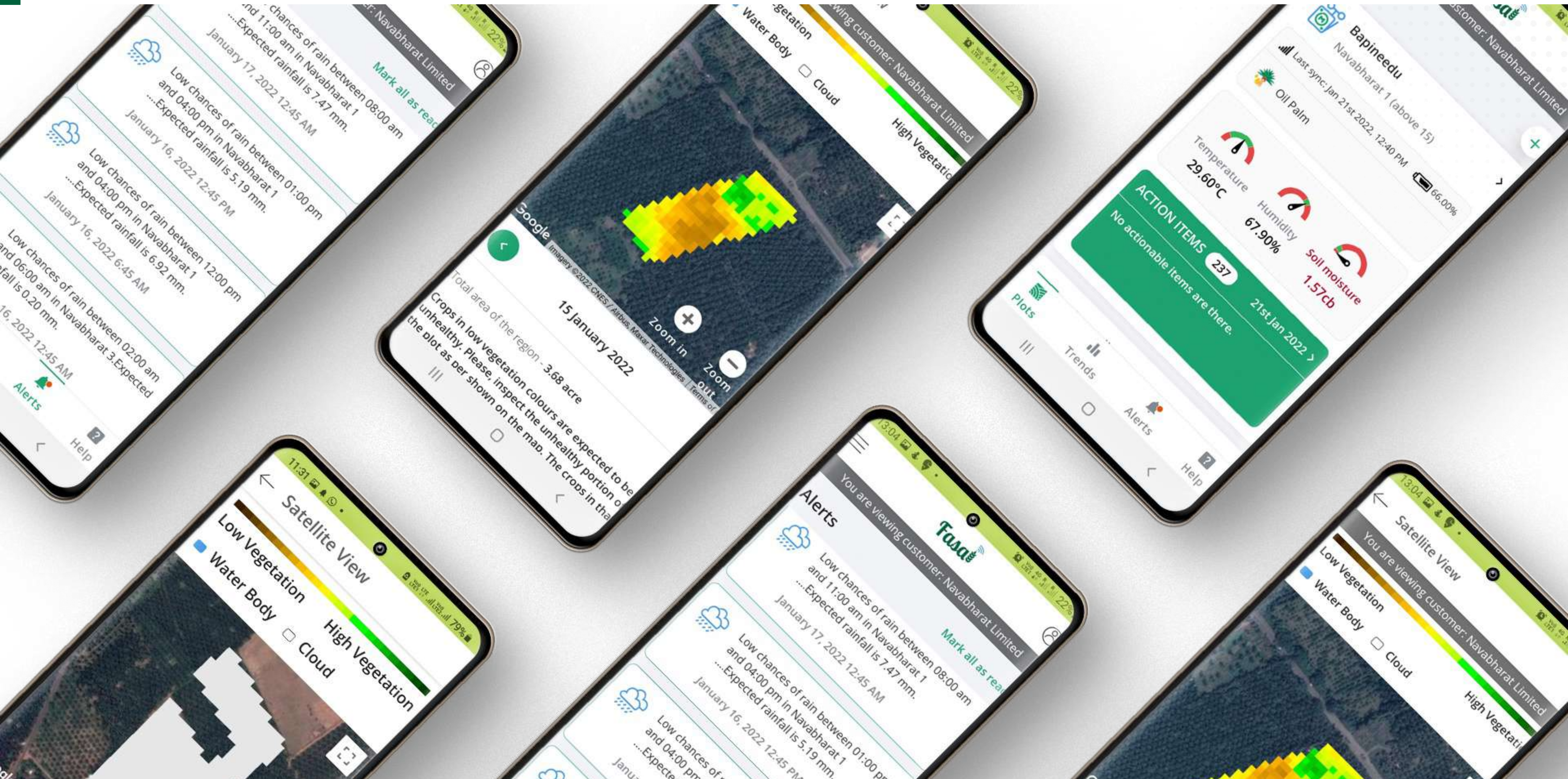


**Scan QR**  
&  
one will get  
connected to Fasal

# WEB DASHBOARD



# MOBILE APP



# FASAL KRANTI - IOT DEVICE + SOFTWARE PRODUCT

## IoT Device

Most competitive farm hardware ever made

### Farm IOT

#### Robust



Can handle  
harsh temperature  
wind rain

**Runs 24\*7**

### Patents & Awards

#### Functional patent 1

No wiring, easiest  
to deploy

#### Functional patent 2

Easiest parts service-  
removal & fitting

#### Design patent

Recognised by



## Proprietary Software

Improving models from 4 years



Apple



Arecanut



Banana



Cardamom



Chilli/  
Capsicum



Citrus



Coffee



Cumin



Grape



Guava



Mango



Palm



Pomegranate



Tea



Tomato



Started with Grapes | Took 2.5 years

**Created a playbook to scale the process such that  
it takes less than 3 months to launch a new crop**

# Fasal Impact

**WATER**

40-60%



**YIELD**



15%-30%

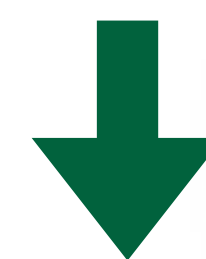
**RETENTION RATIO**

100%



**COST**

Upto 15%



**CROP PORTFOLIO**

20+

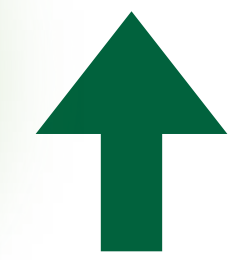


**PESTICIDE**

Upto 15-30%



**TOTAL COVERAGE AREA**



60,000 Acres +

**QUALITY**

Eligible for exports





# CORPORATE CLIENTS



# SNAPSHOT OF THE SITUATION

(EAST-WEST SEED CASE STUDY)

East-West Seed is one of the leading seed manufacturers in India. With a progressive outlook, the company kept on exploring newer & cutting-edge technologies to optimize its operations.

Despite introducing technological interventions on multiple fronts, it was still a challenge for them to receive and harbor actionable data that could help them better manage irrigation practices, fight unpredictable pest & disease attacks, or strategically plan the sowing of hybrid seeds. They relied on human intelligence to assess critical variables which led to a lot of guesswork and hit-and-try methods.



# MAJOR CHALLENGES

(EAST-WEST SEED CASE STUDY)

Unpredicted rainfall delayed the land preparation schedule which impacted the overall crop cycle.

1

Due to climate change, the field area became prone to new disease outbreaks, which could not be managed on time. This led to substantial crop loss.

2

Despite using smart irrigation systems, excessive water was consumed in tomato plantations which resulted in soil leaching.

3

Lack of precise knowledge on pollination cycles lead to increased guesswork, leaving more room for errors.

4

Gauging the most suitable time for hybrid crop plantation & deciding on variables like crop patterns & micro-climatic conditions was a huge challenge.

5

The unpredictability and uncertainties of the crop cycle made anticipating adverse crop-growing conditions a tricky process for the entire team of experts.

6

# HOW DID FASAL HELP?

(EAST-WEST SEED CASE STUDY)

East-West Seed has been able to manage its Agri resources and time effectively since they installed Fasal in 3 of their major geographical locations including Bangalore and Maharashtra.

Right from knowing the ins and outs of hybrid seed plantation, to their seeds' precise irrigation needs, with Fasal they have got it all covered.



# IMPACT GENERATED

(EAST-WEST SEED CASE STUDY)



Accurate forewarns related to climate, moisture, irrigation schedule, and disease outbreak helped save time, resources, and expenditure.



Severe damage due to TOSPOW & late blight was prevented with a timely advisory about infestation and preventative sprays.



Precise irrigation advisory helped save 4 to 5 rounds of irrigation and regulated moisture stress, thus preventing unforeseen disease outbreaks & crop damage.




Micro-climatic weather forecast helped minimize the errors and schedule the land preparation accordingly and in time.



Each step from choosing the seed quality to pollination to harvesting was monitored precisely.



Placement of hybrid plantation, suitable conditions, analysis of seed health, and growth was forecasted throughout with actionable alerts.

						
<b>Crop Specific</b> Uses crop- specific models to enable decision-making	✓	✓	✗	✗	✗	✗
<b>Hardware Agnostic</b> Fasal software can be integrated with any other similar hardware	✓	✗	✗	✗	✗	✓
<b>Pricing</b> Most cost competitive solution available in market	\$	\$\$\$	\$\$	\$\$	\$\$\$	\$\$\$
<b>Comprehensive Data</b> Leverages all relevant data-points for precise intelligence	✓	✗	✗	✗	✓	✗
<b>Full-stack Offering</b> Only full- stack offering providing market linkages, Insurance, etc	✓	✗	✗	✗	✗	✗

**MOST COMPETITIVELY PRICED, COMPREHENSIVE, FULL-STACK, GLOBAL SOLUTION**

# BUILT BY AN EXPERIENCED TEAM OF BUSINESS LEADERS WITH FARMING FAMILY HISTORY AND ABLE TEAM OF TECHNOLOGISTS



**Ananda Verma**  
Founder

M.Tech- IIIT Bangalore, Forbes 30U30 Asia. Built highly scalable platforms for MDM, EdTech, and HR Tech.



**Shailendra Tiwari**  
Founder

B. Tech (Production)-NIFT, Forbes 30U30 Asia. Product manager, built products



**J. Singhal**  
Head-Sales & Marketing

MBA, 14+ years of Ag business exp. Managed \$60 mil business in past role.



**Dr. Nilesh Zende**  
Head – Research

M.Sc. PhD. (Agronomy & Crop Science) 16+ years of experience Ex-Leader, Digital Farming Charter for Bayer (APAC)



**Ravi Kumar**  
Head – Hardware

B.E (Mechanical) P.U.C, P.C.M.B 16+ years of experience. Responsible for building and managing production facility for Ather Energy



**Luna Dubey**  
Head-Product delivery

B.Tech-CSE, NIT - Warangal, 14+ years of exp. Ex-Cerner, USA





**Join us in this journey to make horticulture certain, profitable and sustainable.**

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