

Crop health monitoring and disease detection

This workflow continuously monitors crop health using satellite imagery and field sensors, automatically detecting disease patterns and alerting farmers to take targeted intervention measures. It optimizes treatment timing and reduces crop losses through early detection and precision response recommendations.

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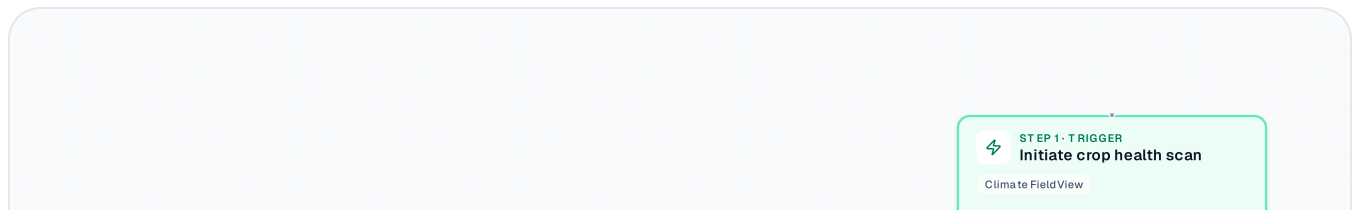


WORKFLOW TRIGGER

Scheduled satellite imagery scan or field sensor anomaly detected

Visual Flow

Each node represents an automated step. Connections show how data and decisions move through the workflow.





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Step-by-Step Breakdown

Detailed explanation of each automated stage in the workflow.

1

⚡ TRIGGER

Initiate crop health scan

Automated daily satellite imagery capture is triggered or field sensors detect moisture, temperature, or chlorophyll anomalies. The system begins

2

 ACTION


Process field imagery data

AI algorithms analyze satellite and drone imagery to identify vegetation stress patterns, discoloration, and growth irregularities. Sensor data is integrated to create comprehensive field health maps.

Climate FieldView

Trimble Ag Software

3

 ACTION

Run disease detection models

Machine learning models compare current crop conditions against disease signature databases to identify potential fungal, bacterial, or pest infestations. Confidence scores are assigned to each detection.

Climate FieldView

Granular (Corteva)

4

 DECISION

Evaluate threat severity level

The system determines if detected anomalies exceed critical thresholds requiring immediate intervention or represent minor variations within normal ranges. Risk assessment considers crop stage, weather patterns, and historical data.

Granular (Corteva)

FarmLogs

5

 ACTION

AI Business OS

Generate treatment recommendations

For high-risk detections, the system calculates optimal treatment protocols including specific pesticide/fungicide applications, dosage rates, and precise field coordinates. Weather windows and equipment availability are factored into timing recommendations.

John Deere Operations Center

Granular (Corteva)

6

 ACTION

Alert farm management team

Automated notifications are sent to farmers and agronomists with detailed reports, treatment maps, and urgency levels. Equipment operators receive work orders with GPS coordinates for targeted applications.

FarmLogs

John Deere Operations Center

7

 OUT PUT

Update crop health records

All detection results, treatment recommendations, and intervention actions are logged in farm management systems. Historical database is updated for future predictive modeling and compliance reporting.

FarmLogs

AgriWebb



Outputs

AI Business OS

- Disease detection alerts with GPS coordinates
- Treatment protocol recommendations
- Updated crop health database records



Key Metrics

- Disease detection accuracy rate
- Time from detection to farmer alert
- Crop loss reduction percentage



Tools & Integrations

- Climate FieldView
- John Deere Operations Center
- Trimble Ag Software
- Granular (Corteva)
- FarmLogs
- AgriWebb

AI Business OS

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