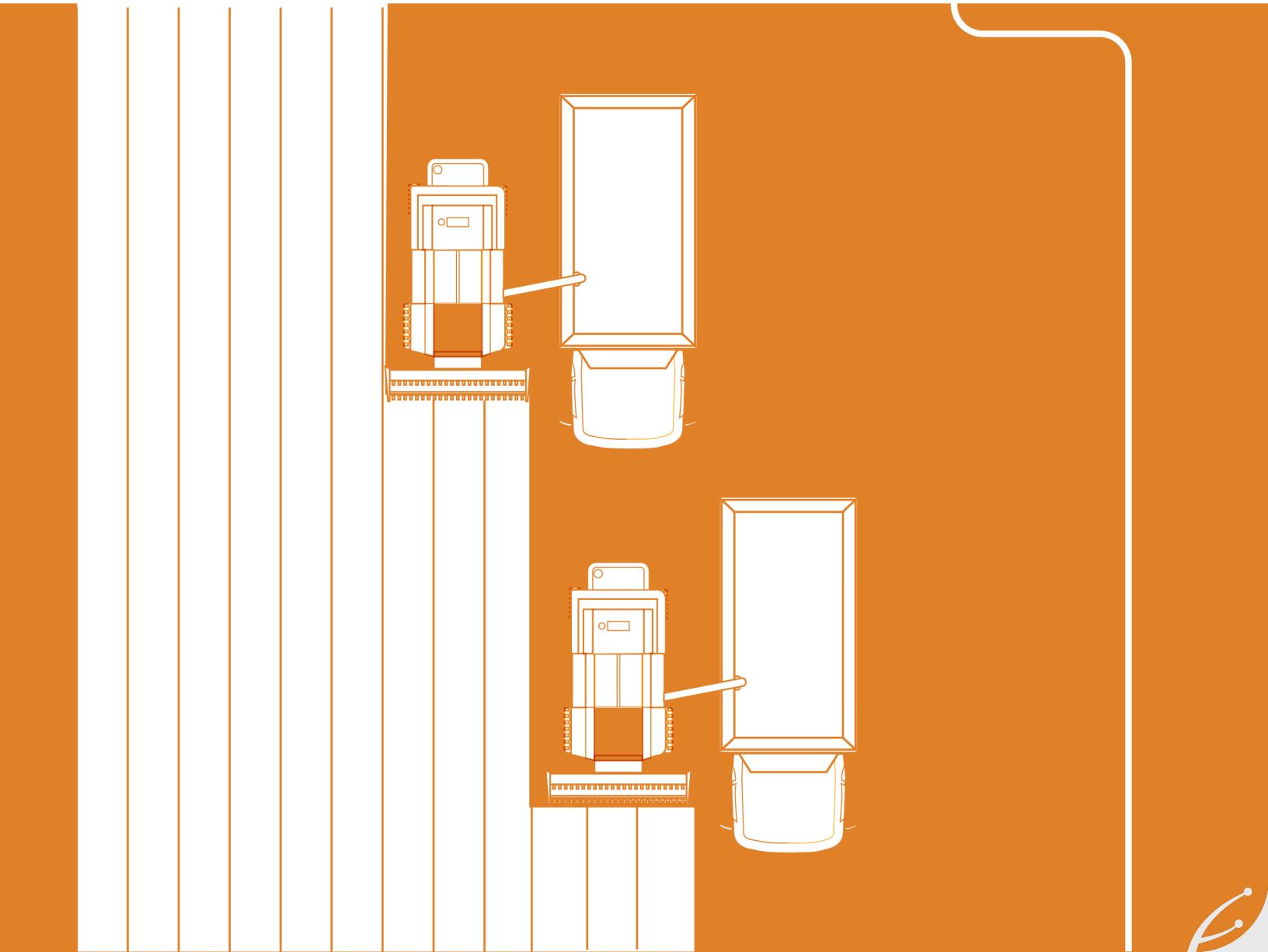
Cropin®

From Seeds to Smiles:

How Cropin Helped a Leading Potato Processor Cultivate Success



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Overview

From golden French fries to countless global dishes, the humble potato reigns as a supreme staple. Have you ever stopped to consider the journey a potato takes from a small seed to that perfectly crisp French fry?

It's a fascinating process, and for one of the world's largest producers of potato specialties, a household name synonymous with delicious potato-based treats, it's a business-critical one. This company's commitment to excellence in the potato industry is unparalleled. Their passion for French fries led them to invest in agricultural R&D, developing the best seeds for their product. Their French fries delight taste buds across fast-food chains, restaurants, and homes worldwide. The secret? Perfect potatoes—high-quality and fresh.

Before Cropin	After Cropin	
Manual methods to capture farm data	Digitization of farm data captured crucial details accurately and in a timely manner	Digitization Metrics
Limited to no visibility of field activities	100% transparency in activities of field officers and at farms	Know their farmers better with 3200+ digitally profiled
Need for intelligence to identify new cultivation regions	Data-driven intelligence to identify regions with the highest potential for potato cultivation	Area audited and monitored during a season – 4600+ plots spread across 13700+ acres
Efficiency gaps in managing the production value chain	Effective monitoring and managing driving 98% adoption of PoP by farmers	

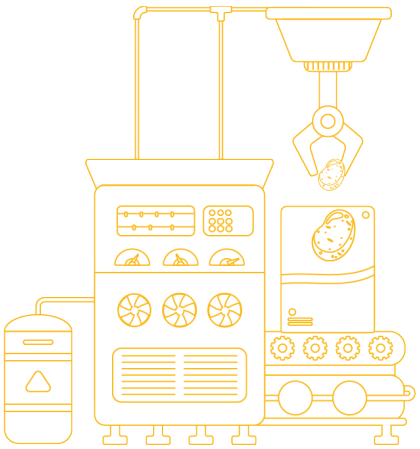
Industry: Food Processing

Location: India

Crop: Potato

Solution Area: Real-time monitoring and management to protect and improve yield

Product Used: Cropin Grow



The Challenge: Scattered Seeds of Data in a Sprawling Landscape

The company adopted contract farming in Punjab and Gujarat, India, to meet their growing demand. Potato farming is complex—water stress during its early stages and unpredictability like late blight during the bulking stage are some of the challenges. Every detail matters, from seed selection to meticulous monitoring and management of the plant.

The company managed these vast potato plots through a manual data collection process that was inconsistent and lacked real-time intelligence. Plots for farmers in India are spread over distances of 20 km, making it challenging to monitor field activities, ensure adherence to the package of practices (PoP), and identify areas for improvement without real-time intelligence.

Imagine – Managing over 4,600 farm plots spread across nearly 14,000 acres without a centralized system!

The result?

- Inconsistencies & discrepancies in data captured and analyzed
- Limited to no visibility of adherence to activity schedules & prescribed PoPs
- Absence of transparency in completed activities by the field team
- Sub-optimal crop yields & resource utilization
- Gaps in responding to disease infestations in a timely manner
- Difficulty in identifying ideal potato-growing regions
- Timely inputs to improve post-harvest activities, including logistics and warehouse capacity

The need of the hour for this multi-national corporation was a comprehensive, user-friendly solution to achieve the following objectives:

- Near real-time monitoring and management with their field team
- Digitization of the area audit, geo-tagging of plots, and farmer KYC
- Timely alerts on PoPs and monitoring adherence
- Control loss of seeds during seed distribution
- Intelligence to identify new regions for expansion
- Need for data-driven intelligence for procurement planning
- Customized dashboards & reports for sharper information and insights

The Cropin Solution: Cultivating Data-Driven Decisions

The client was scouting for a complete digital farm management solution to digitize their farming operations, including farmer engagement and crop health monitoring to obtain reliable, up-to-date yield insights for the timely planning of their procurement activities. Cropin stepped in, offering a platform that could adapt to help them digitize their existing processes with minimal change. It was well appreciated and quickly adopted by their field team.

Let's follow the potato's lifecycle and see how Cropin transformed operations for the company.

As the potato season approaches, excitement fills the air. For our client, it's a crucial time to ensure a steady supply of high-quality potatoes. **The company uses potato cultivars with a crop duration of 120 days. The cultivation cycle starts in September and ends in March**.

June-July: Scouting & Planning - The journey begins with the field team scouting for farmers in June-July. They meet potential farmer partners, negotiate seed and buyback prices, and gather essential know-your-customer (KYC) information like farmer's Aadhar, PAN cards, and farm details.

Previously, this process involved manual data recording and plot assessments, leading to inconsistencies and discrepancies in data capture, storage, and analysis. Cropin Grow's user-friendly mobile app has streamlined this process. Now, shortlisted farmers are registered on the Cropin Grow platform before every season. All plots are audited and geo-tagged digitally, capturing crucial details and ensuring accurate data. This has resulted in:

Meanwhile, agronomists define a customized Package of Practices (PoP) ideally suited for the chosen potato cultivar and local conditions. This PoP is meticulously configured on the Cropin Cloud platform to provide alerts to farmers and guide them in maximizing per-acre yield.

August-September: Seed Selection & Land Preparation - This is the time for meticulous land preparation. Farmers are educated on the adoption of PoP.
Following are some details captured during this period on the Cropin Grow application:

- **Irrigation details under land preparation plans** capture details on access to water sources, including borewells, sprinklers, etc.
- **Seed treatment plans** capture details of chemicals used for seed treatment to improve germination rates.
- **Seed distribution** details capture the seed variety used, grade, details on delivery dates, the number of bags given to each farmer, and the deployment by each farmer.

This allows for precise water management, improved germination rates, efficient seed allocation and deployment, and plug the loss of proprietary seed varieties.

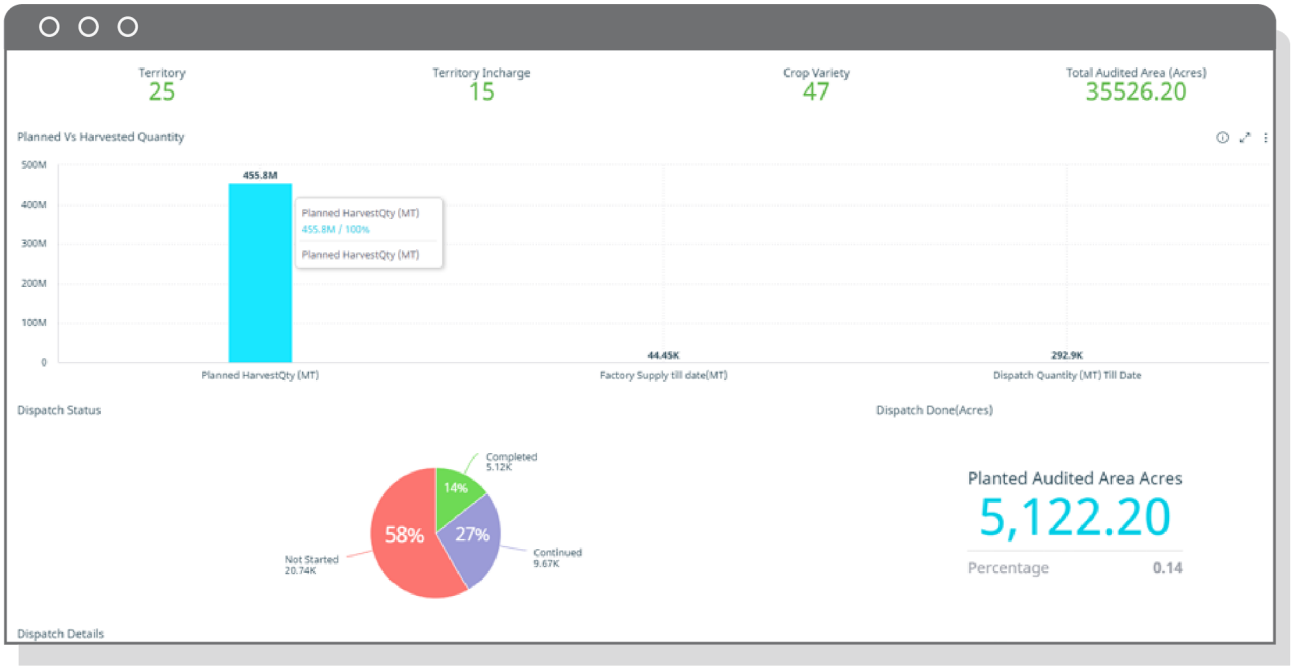


Figure 1: Screenshot depicting details of seed distribution

Late October—Early November Marks the Exciting Sowing Season! Farmers plant the seeds, and within 20 days, the first green shoots emerge. Farmers receive timely alerts on PoP, and the adoption of PoP is monitored and recorded by the field team during their farmer visits to ensure adherence.

Some details captured on the platform include:

- **Germination Rate:** Provides clear visibility on the percentage of seeds that germinated.
- **Fertilization:** Adherence to fertilization schedules and quantity are monitored.
- **Pesticide:** Clear visibility of pesticide usage during the crop cycle.
- **Fungicide Treatments:** Potatoes are a cool-weather crop susceptible to fungal infections, so fungicide treatment is crucial in the blight battleground.

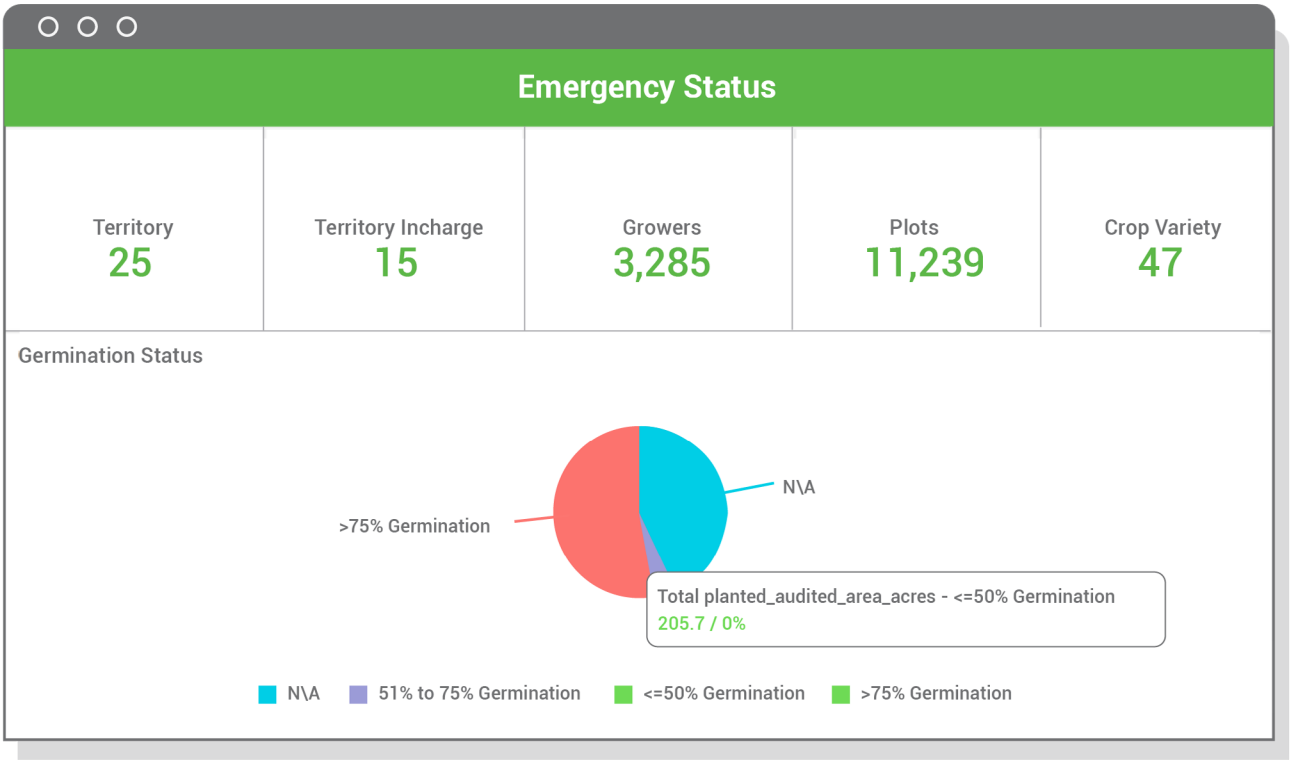


Figure 2: A screenshot depicting the germination rate

November-December: Monitoring & Guidance (Growth & Protection) - Cropin's platform provides real-time insights into field activities, crop health, and crop growth via dashboards and reports, enabling timely interventions and informed decision-making. Farmers receive planned activity alerts, and the platform captures their adherence. This ensures the right farm practices are applied at the right time to improve yield per acre.

Based on insights gathered, the Cropin platform generates concise reports, which enables the client to take pre-emptive risk mitigation actions at each crop growth stage. Our alert resolution system ensures farmers receive quick agronomic advisories to mitigate risks.

Late December-January: Strip Test - It is time for the crucial strip test, which determines the sugar levels in potatoes and indicates harvest readiness. Details of strip tests are captured on the Cropin Grow platform, and MS Excel reports are shared. This information helps refine yield estimates and accurately predict harvest windows.

January-February: Harvest & Planning (Reaping Rewards) - Dehaulming, the process of detaching the vegetative part of the potato plant, is done 10-15 days before harvest to harden the tubers and minimize post-harvest damage. Remote Sensing and Weather Advisory solutions from Cropin help address some challenges related to dehaulming by providing insights on the dew point, frost, rainfall, and blight. The platform also predicts harvest dates, empowering the client to plan harvest-related activities efficiently. Some details captured on the platform include dehaulming, plot-wise harvest tonnage, dispatch trip details, etc. The client gets access to MS Excel reports on these parameters along with offline access for their teams.

March-May: Consolidation & Planning (Rest & Renewal) - Finally, March-May is dedicated to consolidation and planning. Reports generated by Cropin Grow are used to plan post-harvest activities in advance. Data from the previous season is analyzed to identify areas for improvement in the next cultivation cycle. This continuous feedback loop ensures the company's potato supply remains predictable and of high quality.

Intelligence Powered Expansion: Finding the Perfect Potato Patch

The quest for potato perfection wasn't just about farm management; it was about finding the ideal landscape. The company needed to identify regions with the highest potential for potato cultivation, places where the diurnal temperature swings and overall climate would nurture the perfect bulbs for French fries. This meant pinpointing areas that could deliver not just high yields but potatoes with the specific flavor profiles they desired. However, their information was patchy and unreliable, making pinpointing the ideal potato havens difficult.

The Results Speak for Themselves:

The client unlocked significant benefits from implementing Cropin's data-driven approach:

Area Audit & Remote Farm Management: Cropin audited and geotagged all plots. This accurately determined actual acreage vs self-reported acreage by farmer partners, enabling improved allocation of seeds and yield forecast planning.

Complete Digitization: End-to-end digitization streamlined the processes from farm registration to harvest and improved the visibility of farm operations and field staff productivity, helping identify risks and bottlenecks to be mitigated.

Enhanced Adoption of PoP: Comprehensive support in adhering to PoP resulted in good adoption by farmers, resulting in optimal input usage and maximized yield per acre.

Remote Monitoring: The centralized platform allowed for remote monitoring of farm activities, resulting in complete traceability and proactive planning.

Real-Time Insights: Timely alerts and resolution with quick advisories along with near-real-time data enabled proactive interventions and prevented crop loss.

Effective Downstream Planning: Near real-time tracking of crop health, yield estimation, and growth stage facilitated improved efficiency in downstream planning, preventing delays and wastage.

Data-Driven Decision-Making: Cropin Grow's intuitive business intelligence module enabled data-driven decision-making to optimize business growth.

Efficient Dehaulming: Timely dehaulming and insights to prevent losses during the process ensured efficient resource utilization, prevented crop damage, and boosted yields.

Customized Reports: Based on the intelligence captured, Cropin's platform generated concise reports customized to the client's need, which allowed them to mitigate risks preemptively at each crop growth stage and plan post-harvest activities in advance.

As part of their ongoing partnership, the company is now evaluating Cropin intelligence, supported by AI/ML-powered geospatial analysis, to help the company identify the perfect growing regions for its desired potato varieties. By analyzing historical data, weather

patterns, soil conditions, and even diurnal temperature variations, Cropin can create a map of potential ideal potato-growing regions. This will allow the company to confidently expand its cultivation footprint as it continues to plan and protect its potato supply chain in the future, knowing they will plant the seeds for success in the ideal locations.

This successful collaboration demonstrates the power of data-driven agriculture in ensuring sustainable, high-quality potato cultivation for food processing companies.

Impact: Data-Driven Transformation

Cropin's technology delivered tangible results:

4600+
Plots Audited

3250+
Farmers digitally profiled

13750+
Acres of area audited

Enhanced Visibility

Digitization provided a near real-time comprehensive overview of field operations.

Optimized Practices

A 98% adoption rate of best practices led to improved potato quality and reduced crop loss.

Complete Traceability

End-to-end farm digitization ensured complete traceability across farm operations.

Cropin's centralized platform significantly improved:

- Farm Management & Efficiency
- Crop Health & Yield
- Risk Mitigation
- Harvest & Post-Harvest Activities
- Continuous Improvement seasons

Cropin empowered the company to achieve a data-driven transformation, ultimately leading to a predictable and sustainable high-quality potato supply.

Near-real-time monitoring of farms for improved adherence to the package of practices to optimize your operational efficiency with our platform

Book an Appointment Now!

About Cropin

Founded in 2010, Cropin is the world's most advanced AI Platform for Food and Agriculture. Cropin Cloud, the world's first industry cloud for agriculture, empowers stakeholders to make informed decisions that enhance farming efficiency, productivity, and sustainability through digital technologies and predictive intelligence. Cropin is not merely a participant in the 'Ag-intelligence' movement; we are spearheading it through strategic partnerships with over 250 B2B customers. Cropin has digitized 30 million acres of farmlands, positively impacting over 7 million farmers worldwide. Our crop knowledge graph, spanning 350 crops and 10,000 varieties in 103 countries, powers the Cropin Cloud in providing predictive intelligence for over 200 million acres of farmland globally. Cropin is at the forefront of uniting agribusinesses, development agencies, international organizations, and governments in leveraging Agtech systems to transform global food systems and attain climate goals.

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