



CASE STUDY

**How NatureSweet built
business-impacting
applications faster –
improving yield forecasting
by 7% and reducing waste**



“Instead of building our own digital ecosystem, which would have taken 12-18 months – before we could solve business problems – we could start within 8 weeks thanks to Calibo’s platform. For one application, we were able to improve yield forecasting by 7%, resulting in millions of USD of savings the first three quarters after implementation.”

Noé Angel

Global Head, Chief Information Officer, NatureSweet

Background

NatureSweet is widely known for growing some of North America's finest fresh tomatoes. With over 5000 employees, and their greenhouse facilities spanning a robust 1,000 acres, they're committed to year-round excellence in tomato production.

Challenges

NatureSweet's approach to forecasting was largely manual, relying heavily on the acumen of their harvest planners. This method didn't embrace the wide array of data potentially at their fingertips, and this oversight led to an accuracy rate of below 88%.

NatureSweet faced additional challenges, including relying on outdated legacy tech ecosystems which were difficult to maintain and scale, and using too

many siloed technologies altogether which ultimately slowed down their development work.

What's more, they had limited business and IT resources, leading to a skillset deficit and a shortage of specialized knowledge. These limitations significantly hindered their ability to accurately forecast yields and maintain optimal productivity levels.

Objectives

OVERALL OBJECTIVES



Customer satisfaction

Overall, NatureSweet needed to accurately improve their yield forecasting, productivity and customer satisfaction.



Anticipate yield

NatureSweet's manufacturing and planning team aimed to gain the capability to peer six weeks into their crop yields' future. They needed to be more savvy with how they handled the surpluses or shortages of their yields within the critical six-week window, minimizing those unexpected fluctuations that could throw a wrench in the works.

SPECIFIC OBJECTIVES



Enhance productivity

NatureSweet sought to enhance productivity by creating a comprehensive machine learning model using data from all greenhouse operations, making it simpler for all staff levels to manage this data effectively. They intended to build a Single Source of Truth (SSOT), pulling in and merging data from a variety of relevant sources to forecast the yield more accurately.



Precise output

The company aimed to identify key data factors, train the machine learning model for precise output, and provide user-friendly tools for visualizing data insights to support informed decision-making.



High-accuracy forecasting

NatureSweet aimed to achieve high-accuracy forecasting, regularly measuring and comparing these results at various operational levels to maintain a superior standard of data precision.



Modernize technology

The company aimed to modernize their technology ecosystem through the adoption of a self-service platform with integrated Cloud, DevOps and Agile best practices to accelerate data solutions development.

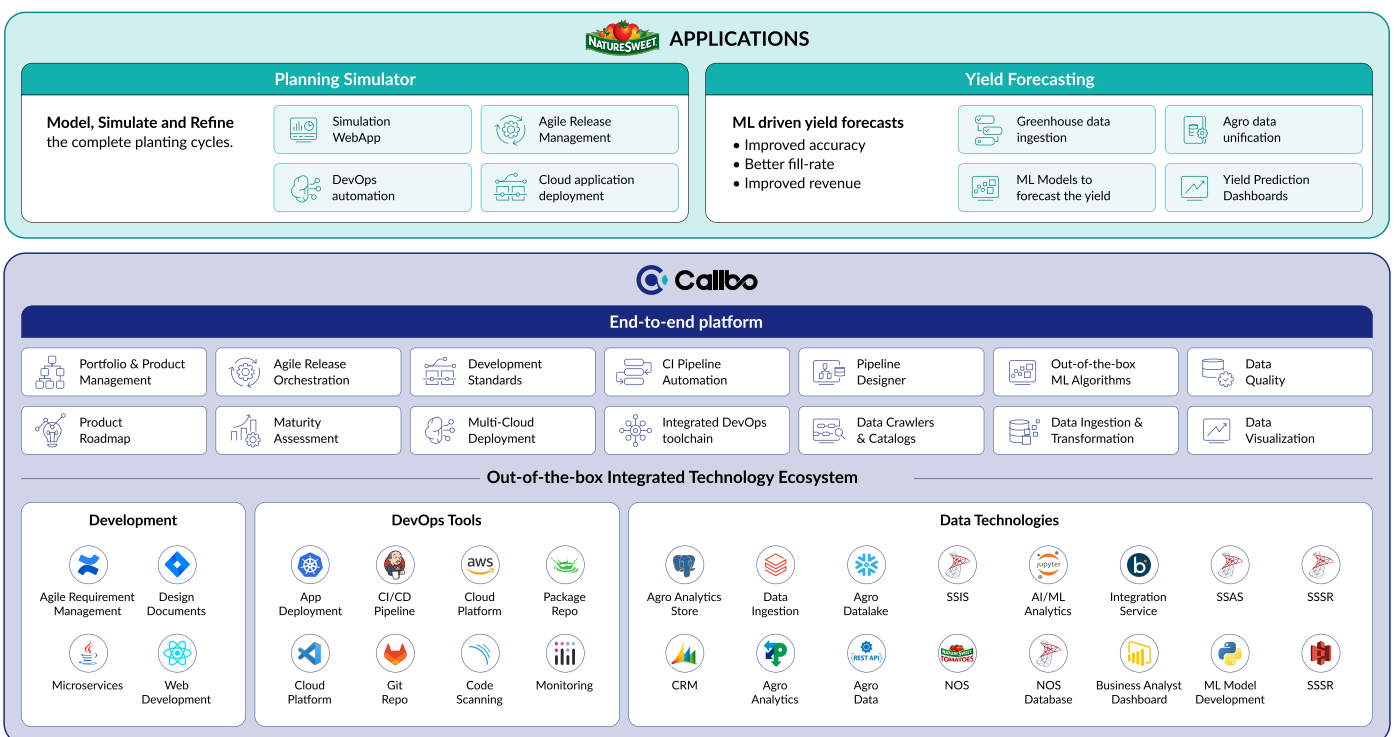
Rationale for using Calibo

Calibo enabled NatureSweet to accelerate high-impact use cases like yield forecasting and planning simulations by providing a unified platform with built-in AI/ML capabilities.

Rather than piecing together a tech stack from scratch, NatureSweet chose Calibo for its end-to-end approach — combining cloud, DevOps, and data engineering best practices into a ready-to-use, business-enabling platform.

How Calibo powers rapid use case delivery

A modular, self-service platform enabling faster forecasting, planning, and insight generation



NatureSweet + Calibo Tech Stack

Data platform and yield forecasting:

Databricks, Snowflake, Qlik Sense, JupyterLab, PostgreSQL, GitLab/GitHub, AWS/Azure among others.

Planning Simulator:

AWS/Azure, Gitlab/GitHub, PostgreSQL, Redis Cache, Notification Service.

Solution

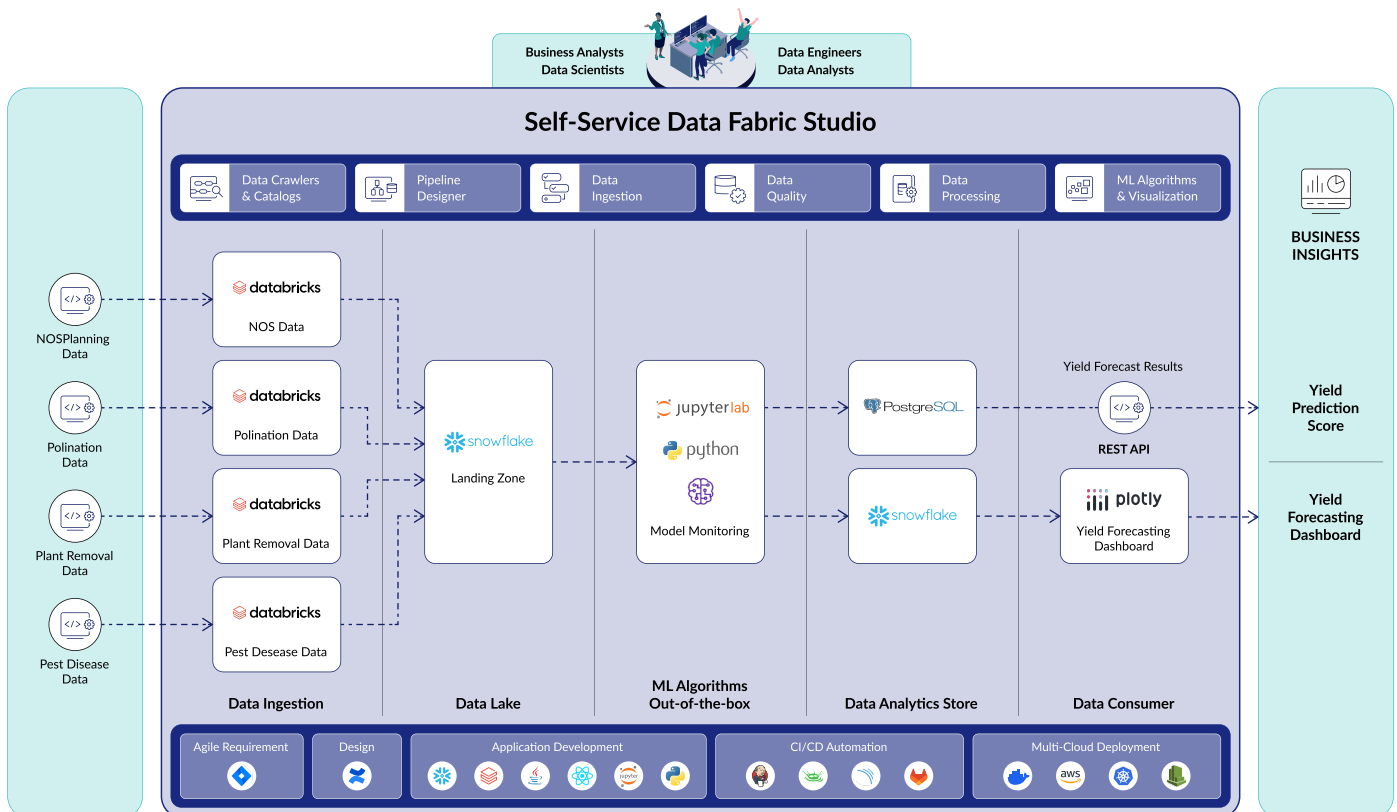
With Calibo's self-service platform, NatureSweet quickly built and deployed their forecasting solution using automated data ingestion, AI/ML models, and intuitive user interfaces.

By eliminating manual data prep and unifying sources through an automated pipeline, teams could generate actionable insights in a fraction of the time. The solution was built using Calibo's Data Fabric Studio — enabling faster delivery, smarter forecasting, and scalable reuse of components.

CORE COMPONENTS USED

Data ingestion & transformation pipelines
AI/ML model development & automation
Planning simulator with scenario modeling
Yield forecasting dashboards for business users
Integrated DevOps and CI/CD tools

NatureSweet data ecosystem with Calibo



Calibo's modular platform enabled NatureSweet to rapidly build forecasting and planning apps using out-of-the-box components and automated pipelines.

Outcomes

By using Calibo, NatureSweet has saved several months of development time. The accuracy of yield predictions increased by leveraging robust and customizable AI/ML models within the platform.

By automating data workflows, Calibo enabled more meaningful correlations across variables — paving the way for more dependable and consistently accurate predictions. Such an increase in accuracy not only arms NatureSweet with better insights but also enables them to take proactive steps in honing their operations.

Results highlights



Yield forecasting improved by 7%, from **88% to 95%**, resulting in savings of millions of USD in the first three quarters after implementation.



The increased accuracy also **saved 900+ tons of tomatoes** from potential wastage per quarter.



Instead of building its own best-of-breed tech stack in 12-18 months, NatureSweet could start work **within 8 weeks** to realize its data and digital initiatives.



Business-impacting applications can now be built within **half of the time** with Calibo, as opposed to previously.

The farming data, sourced from diverse channels, is now seamlessly collected, and channeled through an automated data pipeline right into a handy self-service platform. This innovation is a game-changer for users, empowering them to run data science algorithms without a hitch.

What's more, it delivers user-friendly dashboards and insights for the team to parse through and understand yield patterns, all thanks to smart, intuitive interfaces that lay out information across different parameters for easy review and in-depth analysis.

With the platform, they can now reuse components, automate certain capabilities and go from ideation to deployment in half of the time, reducing development time considerably..

Tangible impact across teams

USER EXPERIENCE

01.

The platform incorporates user experience (UX) design based on journey maps, specifically targeting, and addressing pain points faced by planners.

02.

Users can model multiple scenarios based on production assumptions and historical data.

03.

Alert notifications are implemented to inform users upon the completion or failure of a simulation.

OPERATIONAL EFFICIENCY

01.

The solution optimizes operational efficiency by reducing manual work and streamlining the data ingestion process through automation.

02.

Different planting cycles can be strategically planned to align with supply and demand, resulting in optimized utilization.

03.

The yield forecast solution offers recommendations to address capacity constraints and maximize operational output.

Thanks to the proactive solutions provided by Calibo, NatureSweet saw enhancements in productivity, accuracy, waste management, and efficiency - vital factors in the success of their vast agricultural operations.

"With Calibo, we were able to create business impacting applications which would have taken us more than 9 months to develop in just 4 to 5 months, resulting in faster time to value."

Alberto Langle Bornacelli

Global Head of IT Business Relationship, NatureSweet



Calibo helps enterprises accelerate use case delivery through a self-service platform that unifies software and data engineering. From cloud modernization to AI-powered apps, Calibo reduces development time by 50% and drives measurable outcomes.

Discover how enterprises **accelerate time to value** with Calibo's unified platform.

LEARN MORE



visit www.calibo.com