

Agricultural Storage Capacity Analysis Postpones 12 Million Dollar Investment

Vertical

Manufacturing

Pharmaceutical

Healthcare

Portfolio

Logistics

Financial

Government

Business

Genre

Case Study

Project Review:

White Paper

Technology Overview

Client

A leading berry produce company

Situation

A leading berry produce company with fields and storage facilities all over the western US and Mexico needed to accurately forecast their cooler storage capacity in preparation for the upcoming growing seasons. Their high quality berries are picked from the field and must enter the cooling storage facilities (giant cooling tunnels and storage coolers) within 2 hours of being picked, or the quality begins to degrade. In the past, extra berries that could not be entered into cooling tunnels within the required 2 hours had to be shipped to a third party company to maintain freshness. This created a loss in revenue and reduced business.



To properly understand their future cooling capacity needs across the entire organization, the company created a new strategic planning group. This group would plan and forecast berry growth and related cooling and storage capacity needs, as well as cost and profitability over the next five years as the company is scheduled to double in size. The planners found that traditional spreadsheet analysis for strategic planning could not accurately forecast their capacity needs. So they decided to engage ProModel to introduce a simulation solution that offers them a dynamic representation of their production capabilities and the predictive analysis necessary to improve operations.

The first project involved a particular field in Mexico which had requested and received approval from corporate for an additional \$12 million worth of cooling tunnels for the upcoming season. The new planning group was responsible for reviewing all requests of this type going forward and decided to pilot ProModel's capability by reviewing this request, even though it had already been approved.

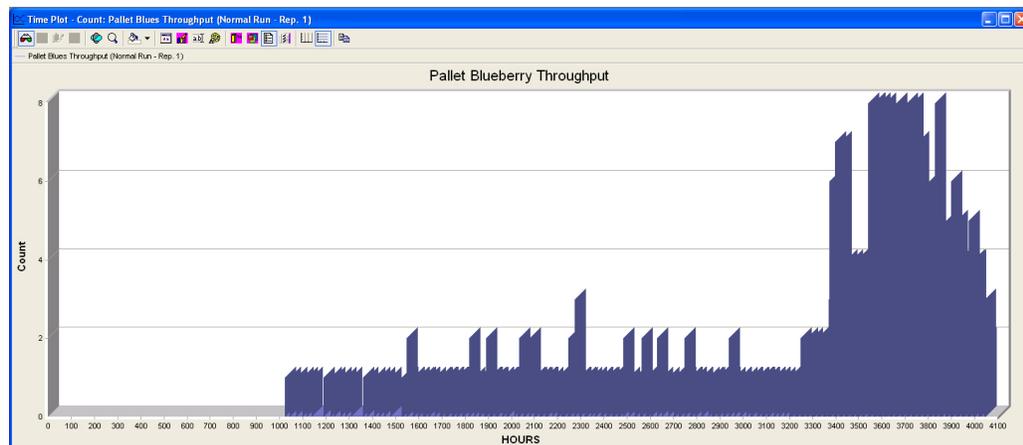
Objectives

The business objectives for developing a more accurate capacity planning capability were to:

- Eliminate lost revenue due to insufficient cooling capacity
- Avoid unnecessary capital expense from adding too much cooling capacity, or adding it before it's fully required

Results

- A \$12 million capital expense for additional cooling tunnels at the Mexican facility was avoided and postponed until the need fully requires it.
- In addition to the cost avoidance in Mexico, the client was also able to justify the delay of additional cooling equipment for one of its California facilities, as it was determined unnecessary at current capacity levels.

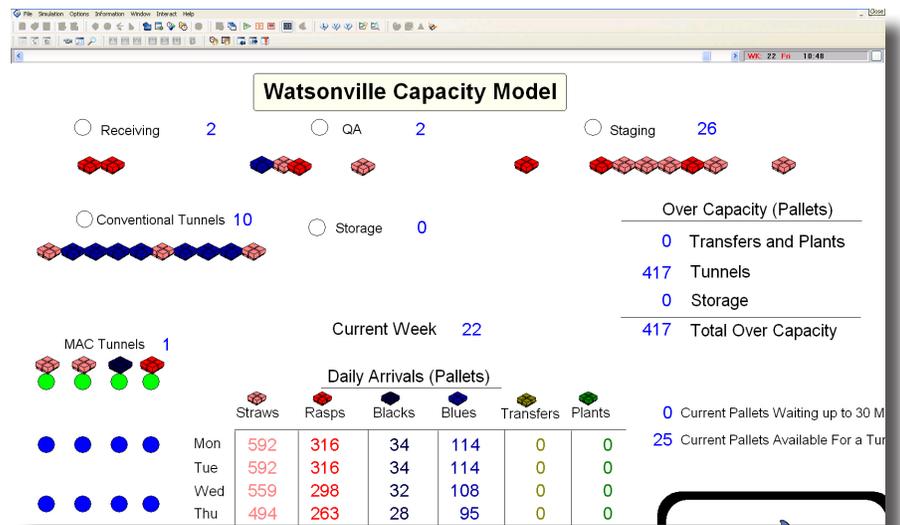


Simulation clearly showed when throughput would increase and more storage capacity would be required.

Solution

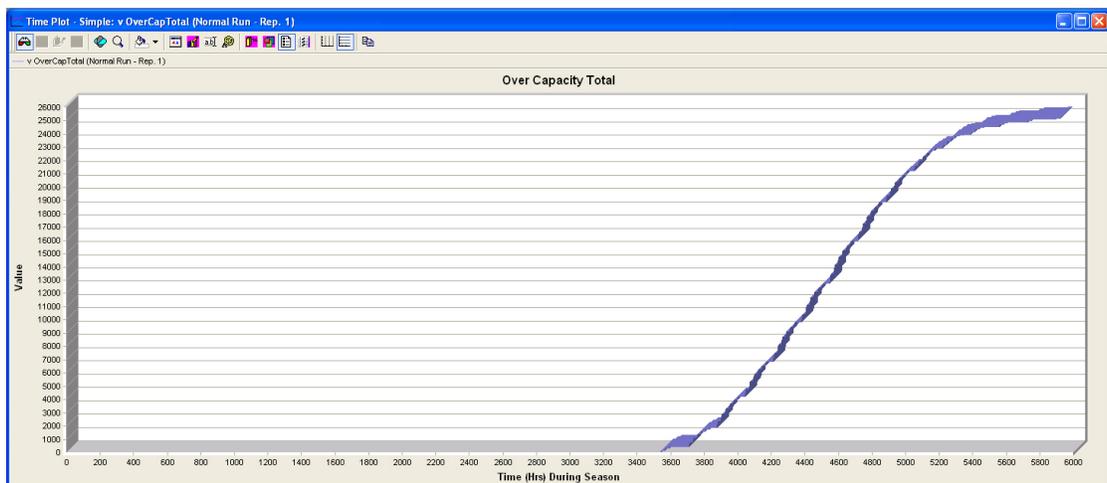
ProModel and the client team worked to develop a capability which enabled them to more accurately predict the amount of cooling capacity growth with specific equipment requirements (size and type) as well as timing in order to meet their future capacity needs.

For this first project they used the ProModel Optimization Suite application to model the existing storage cooler and cooling tunnels at the Mexican facility. This helped them to understand how to handle the volume of produce they expected to have over the next 5 years, but specifically over the next immediate season. The model validated their assumption that the Mexican facility would need to expand its cooling capacity, but not until the following growing season. This enabled the company to delay the purchase of \$12 million worth of additional cooling tunnels by a full year.



After the success of the first model, the team developed additional models with a template-based approach so that only certain characteristics of the model have to be changed in order to accurately represent a different field. Presently, the data produced from the simulation model gave the client a 95% accurate capacity forecast for a large cooler in one California facility. The model also provided the client with insight to focus their efforts on the CA facility and postpone the planned expansion to the cooler in Mexico for another year, until the space is fully needed.

ProModel simulation continues to give this company the ability to understand which areas of production should become a priority for capacity improvement and which areas should not. With this simulation solution increasing their capability to understand current and future capacity issues and plan for them accordingly, their business plans will be realized as produce remains in house adding to their revenue and protecting the quality of their berries.



A simulation model revealed when over-capacity problems would emerge.