

Abstract

Fresh Harvest, a Central Coast Community Supported Agriculture (CSA) program run by Talley Farms located in Arroyo Grande, CA, has a rapidly growing customer base. They harvest, package, and deliver boxes of fresh quality produce to almost 3000 subscribers. However, Talley Farms' space for production and processing is limited and at times required for other aspects of business. This results in a problem where Talley Farms current processing system of produce for the Fresh Harvest program is not suitable for the forecasted growing demand. This report addresses the need to prepare for continued significant growth to the demand for Fresh Harvest produce boxes.

The objective of this project is to analyze and improve the procedures of the current Fresh Harvest processing system. By increasing the capacity of the system in place, Talley Farms can take full advantage of potential demand growth.

The systematic approach to methods engineering was the structure the team implemented in order to address the problem statement successfully. The steps included were defining the problem, collecting data and relevant information, data analysis, generating alternative solutions, analyzing the solutions, and selecting the best solution and providing recommendations. These steps help to not only offer suitable solutions, but also encourage multiple iterations of a solution to be created. This allows the solution to be improved, and therefore allows a solution to be better designed to address the problem statement.

To improve the production process, the team redesigned the current approach to packaging for short term benefits. Overall, it is projected that with these improvements, capacity of the current space has the potential to increase from about 2000 boxes per week to 3000 boxes per week. After evaluation of four facility alternatives, a comprehensive layout design is proposed with features including a prewashing area, two processing lines, with space which can be utilized for both pre-packing and packaging, an employee area for a desk, refrigerator, bathroom, and

employee personal belongings, an independent loading dock so pallets of finished boxes can be directly loaded for shipment, and a cooler designed for only Fresh Harvest produce storage. Along with this facility, Standard Operating Procedures for new proposed pre-packing and packaging set ups are included. These new process designs should not only boost productivity for the new facility, but should also help to increase the production capacity of the current area.

Lastly, an economic analysis and recommendation is included for both the short term approach to the program, and a long term approach to the program. Overall, the team proposes an implementation and investment in the facility design included in this report. With a facility implementation, the team estimates a capacity improvement from the current limitation of 2000 boxes per week (400 on average per day) to a capacity of 6000 boxes per week (1200 per day). If the subscriber total increases to 5000 boxes per week as the Fresh Harvest program suggests, the payback period on the total proposed facility investment of \$210,000 would be paid off in approximately 0.55 years.