

1.0 Problem Statement

Return to User Scenario: Supply Chain

Sal is an organic strawberry farmer with fields in Mexico, USA and Canada. He supplies fresh strawberries to consumers in all three countries. The strawberries are eaten “as-is” or they can be combined into other products such as desserts, yogurts, ice cream, or even freeze dried and added to breakfast cereals. Although Sal can control many aspects of strawberry production from field site location, seed selection and irrigation; he does not own the [Supply Chain](#) and is only the very the starting point of a long and complicated chain that includes farm workers, shuttle vehicles and drivers, warehouse workers, packaging companies, cold storage facilities, produce brokers, trucking companies, Health and Safety and Quality Inspectors, large fruit processing and distribution centers, delivery vehicles, retail outlets, consumer discretionary providers (i.e., restaurants, etc) and ultimately the end consumer.

Sal also wants provide the highest quality strawberries in terms of health and safety, taste and appearance to his customers. Therefore, he would like his products on a supply chain that understands the requirements of fresh fruits and vegetables, especially strawberries. He wants a Supply Chain that follows the recommendations of the [California Strawberry Commission Best Handling Practices for Fresh Strawberries^{1\)}](#). For example:

Maintaining strawberry temperature as close as possible to the optimum temperature range of 32°F to 34°F will maximize strawberry quality and shelf life in several ways including:

- *Slowing the growth of plant pathogens (Botrytis; Rhizopus, etc.)*
- *Reducing the respiration rate*
- *Minimizing water loss*

Additionally, Supply Chain needs to support many-to-many relationships. For example, Sal may provide strawberries to multiple packaging companies. Also, the distribution center may supply multiple retail outlets (i.e., different restaurants, grocery stores and fruit stands).

¹⁾

California Strawberry Commision, [California Strawberry Commission Best Handling Practices for Fresh Strawberries](#), Accessed 134 May 2021,

<https://www.calstrawberry.com/Portals/2/Documents/Promotional%20Resources/Retail/Maintaining%20Quality%20of%20Fresh%20Strawberries.pdf?ver=2018-01-31-031414-433>

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