Workflow: Demand and Supply

Toolkit 2.4
Supply Planning

target audience

Packhouse management, purchasing, warehousing, and transportation.

what it is

Supply planning is the part of the supply chain that ensures that the packhouse has the product and all the related material, e.g., cartons, packaging etc, required to fulfil the planned demand and the commitments made. This may include outsourced services, such as logistics service providers. Supply planning also includes the scheduling of incoming product, and feeds into operational efficiency and optimal capacity management.

why it is important

Like any industrial, manufacturing process, a packhouse aims to optimise its capacity, efficiency, and quality of product. This requires a well-planned supply chain. Any breakdown, delay, or interruption in the supply chain (e.g., fruit, cartons, or water) will compromise the packing process, and even bring the packing process to a halt. When this happens, operational efficiency suffers, labour stands around waiting instead of working, and the quality of the fruit can be affected as it also waits.

Conversely, too much inventory, whether fresh produce or material (e.g., cartons) increases the cost of your stock, and results in additional problems such as wastage or a lack of storage.

Supply planning best practice focuses on your ability to supply the demand as promised, on time, in full, and according to specification.

The key benefits of good supply planning include:

- Improved service levels and customer satisfaction.
- The optimal use of the packhouse's operational capacity and resources, including labour.
- Reduced operating costs.
- Better flexibility and agility.
- Improved stock turnover.
- Reduced wastage.

success factors

The key success factors of supply planning are:

- **Integration with the marketing and operations plan** – It makes sense to plan the supply of products into the packhouse from the demand (client/market/sales) and capacity (operations/constraints) perspectives. Your supply plan is the result of 4 questions:
  - How much can we sell (demand)?
  - How of that demand can we process/pack (capacity)?
  - How much product (fruit) should/can we supply to maximise process capacity?
  - What other input resources (packaging, chemicals etc) will we require?

  Integration with the marketing and operations plan will result in greater efficiency and a reduction in waste.
- **Integration with the planning and forecasts of the production units (farms)** – The packhouse supply plan is, by definition, the demand plan of the farm(s). The greater the alignment is between these plans, the greater the efficiency within the supply chain. Achieving this alignment is not easy, given the many factors and variables that come into play. Nonetheless, continuous improvement in this regard will pay off.
- **Inventory management** – The supply plan includes an accurate inventory plan and inventory management. Critical items such as packaging material need to be ordered, stored, and managed. The amount and timing of fruit needs to be carefully planned. The demand and capacity for de-greening needs to be forecast and planned.
- **Quality management** – Quality management is key factor determining the efficiency of the packhouse, starting from the orchard (supply) all through the sorting and selection process in the packhouse. Ensuring that non-packable fruit is reduced as early as possible in the process, makes a significant impact on the cost and process efficiency of the packhouse.
- **Optimising packhouse capacity and efficiency** – Ensuring that you factor in the latest information in your packing plans and runs, and that you have the data, measurements, and information you need to make good decisions.
- **Data and information accuracy** – How reliable, efficient, and accurate is the system, technology, and process that produces the information you require, when you require it, to make good decisions? How well is information communicated and how transparent is it to the decision makers across the whole process?
- **Managing constraints** – How well do you manage constraints within your process? These could include bottlenecks, the need to change the packing line/runs and what is being packed, set up changes such as different labelling requirements, machine downtime including preventative and unplanned maintenance etc.
- **Agility and flexibility** – How quickly are you able to adapt to new requirements, contingencies, and constraints?
- **Measurement, metrics and feedback** – In any system, including a supply plan, the relevance, quality and timing of feedback ensures that you stay on track. How accurate and timely is your feedback system? For example, how accurately and quickly can you identify which production unit and even which picking team, may be compromising your quality of supply, and how quickly can you react to correct the situation?

execution steps

See the success factors above.

assessment questions

Please Note: There is no minimum / maximum number of questions you can add.

1.	Do you have a supply plan?
2.	Do you identify and address the key risks in your supply plan?
3.	Is your supply plan integrated with your market demand and operations plan?
4.	Is your supply plan informed directly by the planning by the farm(s)?
5.	Does your inventory management ensure that you can optimise your packhouse efficiency?
6.	Do you have an integrated quality management assurance approach to both product and materials in your incoming supply chain?
7.	You receive the required data and information regarding the incoming supply chain which enables you to keep your packhouse process and labour allocation at optimal efficiency?
8.	You fully understand your constraints and manage accordingly?
9.	You have the measurement and feedback process that enables you to react and/or change plans quickly?
10.	You have a comprehensive process map of your incoming supply chain, and have identified key areas of waste and loss which can/should be reduced?