PRODUCTION PLANNING CHALLENGES FACED BY RETAIL PACKERS IN THE FRESH FOOD SECTOR

SYSTEMS INTEGRATION (TRADING) LTD

WHY IS IT SO DIFFICULT TO PLAN THE PRODUCTION OF FRESH FOOD?

Food manufacturers receive lots of orders from different retailers every day, usually with very short delivery deadlines. They process inconsistent, perishable raw materials that have a short shelf life and have to work to different vehicle departure times.

Planning in this environment is very difficult. To make things worse, last minute changes and top-up orders are common in food production. This means that any plans quickly become out of date.

Raw materials and wages form the majority of overheads for a food processing business. This means it's important to ensure the best possible use of these resources. Achieving this, while trying to meet customer orders in this high pressure environment, is a huge challenge.

To avoid order shorting, most processors usually compensate by over staffing, meaning that at times, crew stand around idle. They also tend to over stock and over produce, resulting in devalued product and waste. This is a serious issue as WRAP UK estimate that waste in the supply chain is costing food retailers and manufacturers £5bn annually. (1)

WHAT ARE THE REPERCUSSIONS OF FAILING TO PLAN PROPERLY?

There are several consequences of failing to communicate an effective plan:

1) **A stressful work environment**
   A negative atmosphere will increase the chance of errors, costing time and money.

2) **Incorrect or late orders**
   Failing to meet customer service levels can result in fines, or even vehicles being turned away.

3) **Inefficient use of raw materials**
   As order shorting isn't an option, most processors over stock on one of their most significant expenses, raw material. This either forces them to sell it off at a reduced price, or devalue it through freezing.

   Manufacturers also tend to over produce, which increases costs through rework. Another problem that arises when raw materials aren't managed properly is having to use premium ingredients for standard products.

4) **Poor labour management**
   It's essential that this costly resource is used most efficiently. When a business understaffs, they have to pay overtime. However, it's more common for food manufacturers to err on the side of caution by overstaffing. This often means that crew are standing around idle.

5) **Customer dissatisfaction**
Failing to meet product supply service levels causes retailers to lose confidence and in the long term, contracts can be lost.

All of the above will reduce profitability.

SO WHAT NEEDS TO BE CONSIDERED WHEN PUTTING TOGETHER A DAILY PRODUCTION PLAN?

Creating a daily production plan and keeping it up to date is very difficult for retail packers. There are many factors that affect the plan and a considerable amount of data to track and monitor in a fast paced, ever-changing environment.

Firstly, planners have to decide which orders need to be dispatched that day. They then need to work out if any of the finished goods on site can be used for those orders, taking into account customers' different shelf life requirements. Once this has been calculated, planners can decide what else needs to be produced to fulfil the orders due to be dispatched.

Planners need to work out which production lines these items can be processed on. They then need to calculate what raw materials and packaging will be required, where, when and in what quantities.

Another important consideration is labour requirements. Planners have to decide how many crew members will be needed that day, which production lines they should be sent to work on, when and for how long.

Planners have to consider where each order needs to be delivered to and when it should be despatched to meet the delivery deadline.

Finally, the machinery which will be used that day needs to be confirmed, as well as any planned breaks, wash-downs and power-downs. It's only when all of these factors have been considered that a plan can be produced to ensure that each order will be met on time.

There is a lot to consider, even if a plan remains the same throughout the day. Unfortunately, last minute changes and top-up orders are common and that's without considering problems such as machine breakdowns and staff absences.

It can take hours to manually plan production using spreadsheets. Daily plans are out of date as soon as they are created and rely on being emailed or reprinted every time there is a change.

Obviously this is very inconvenient, so many food processors are turning to software to try to cut down planning time. However, most solutions haven't been developed to cope with the perishable raw materials, short delivery deadlines, last minute changes and top-up orders that are specific to food processing. It's therefore particularly important for food manufacturers to find a solution that will solve their business problems.

Time is money in any business and food processors work to particularly short delivery deadlines. They need a solution that will account for all of the above issues, enabling them to build and update their plan in seconds.

THINGS TO THINK ABOUT WHEN SOURCING PRODUCTION PLANNING SOFTWARE

How long does it take to perform the following tasks?

1) Create and distribute a daily plan
2) Calculate crew levels
3) Create and distribute a raw material requirement list
4) Create and distribute a packaging requirement list
5) Add breaks for wash-downs, power-downs etc
6) Update the plan with changes and top-up orders
7) Adjust the plan to account for problems, such as machine breakdowns
8) Move orders/products onto different lines
9) Republish the updated plan

With the right software, you should be able to perform any of the above actions in seconds. An effective production planning solution will automatically calculate what needs to be produced each day, as well as raw material, packaging and labour requirements. It will take into account finished goods stock, which lines each product can be produced on, vehicle departure times and any planned breaks. This should allow you to produce your daily plan with a few clicks of the mouse.

WHAT ABOUT VISIBILITY?

10) Will your production crew have a live view of the plan?
11) Will they have a real time view of progress?
12) Will they be immediately alerted to any last minute changes/problems? Are they able to see what effects these will have?
13) Will they see the impact of problems such as machine breakdowns?
14) Are management able to view what has been produced 'off plan'?

An effective solution will give you a live view of your plan, as well as production progress. It will enable you to log any last minute changes or issues in seconds and will immediately calculate the knock-on effects they will have on production time, as well as raw material and packaging requirements.

Any software supplier that works with food manufacturers understands that sometimes processors have to produce 'off plan'. This can be for a number of reasons. For example, you may have opened a box of perishable raw material and didn't need to use all of it for the orders on that day's plan. It's likely that you will process it to avoid wastage and it's essential for your software solution to keep track of these products. If you're not aware of all finished goods on site, it can lead to stock going out of date. An effective factory management system will ensure that the oldest raw materials and finished goods are used first to avoid freezing and waste.

THE DEVIL'S IN THE DETAIL…

15) Will you be able to view your entire plan on one screen?
16) Are different users able to set the screen view to their own specific requirements?
17) Is it possible to see actual orders, pre orders, back orders and forecasts?
18) Can you drill down into data for detailed associated information?
19) Will you be able to view the plan for a specific customer/product/order?
20) Can you view production timeframes for different products/orders/customers?

The best production planning software will be quick and easy to use. You should be able to view your entire daily plan on one screen, but also be able to focus on product, order or customer specific information in seconds. The most suitable solutions will enable you to easily 'drill down' and analyse any piece of data with the click of a mouse.

If you answer **'yes'** to questions **10 – 20**, you should be getting a solution that offers the greatest return on investment. The right solution for a food processing business will result in significant savings and so could pay for itself within 6 months. This is achieved through time saving, 100% order fulfilment and the most efficient use of raw materials, labour and packaging.

ABOUT THE AUTHOR

Rob Stephens was Group Operations Manager at a large meat processing plant. He is now Managing Director at Systems Integration (Trading) Ltd, a software house dedicated to providing solutions for the food processing industry. Established in 1992, the team of food production and business experts has formed long-term partnerships with leading food manufacturers across the UK and North America.

Their solution, **Integreater®**, is a range of food productivity software developed to help manufacturers see, measure, simplify and improve their business. The right decisions are simpler to make because everyone has the information they need, when they need it, in a way that's easy to understand.

Integreater® is a complete business solution, connecting the factory floor and office. Because it's modular, it can be used to manage your entire business, or just address key areas. You decide how much to invest and when. The software can be integrated with your existing systems and is flexible enough to grow with your business.

APPENDIX

1) Smart Planning and Demand Forecasting for Retailers, http://www.wrap.org.uk/sites/files/wrap/Smart%20Planning%20and%20Demand%20 Forecasting%20-%20final%20v1.pdf