



CASE STUDY

# Grove Juice: Fewer sprints, more marathons

Manufacturers often believe that the faster they run the more efficient they are. Grove Juice is proving them wrong.



# Overview

One of the largest Australian owned fresh fruit processors in the juice category, Grove Juice was collecting data using old manual methods and struggling to use it to answer the big questions that would ultimately enable them to improve production efficiency, such as their biggest sources of loss.

With OFS data, Grove Juice has not only highlighted key improvement opportunities, but revealed how slowing down their machinery holds the key to producing more units, more efficiently – resulting in less downtime and better quality.

# Challenge

Grove Juice has been producing naturally healthy, naturally simple and naturally delicious juice in Australia since 1969. Fast forward 52 years and the company squeezes and presses some 480,000 oranges and apples daily, before pasteurisation, chill filling bottles and packing into cartons which are shipped around Australia and the world.

However, rapid expansion was highlighting challenges around downtime and losses.

“We were quickly growing from a small sized business to a medium sized business, which meant growing pains with product waste and time loss due to unplanned downtime,” said Grove Juice’s Process Improvement Manager, Zac Murray. “We were measuring performance ourselves with our metrics in an Excel spreadsheet. I’m sure that’s where most people start.”

Zac realised they did not have the accurate and granular information they needed to answer some critical questions:

- **What were their biggest sources of loss?**
- **What was the impact of their run-speed?**
- **What could they do to improve their run-times?**
- **How could they reduce downtimes and improve product quality?**

There was a lack of confidence in the story the data was telling around what their biggest manufacturing losses were. The management team began to question the accuracy of data, which meant Zac and his team didn’t have the confidence of stakeholders when it came to getting traction for improvement opportunities.

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“We simply couldn’t quantify any of the true issues we faced,” he said.

“The projects that did move forward had varying levels of success, because they’re essentially a knee jerk reaction to the issues and we didn’t get to the root cause.”

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If they were going to improve, Grove Juice needed to find out exactly what was happening.

# Solution

OFS quickly emerged as the standout solution. OFS helps Grove Juice see real-time data, so they can get a clear picture of what's happening when they are running, how fast they are running and what they can do to improve their run-time.

Grove Juice started with trials of OFS software before rolling it out across other lines throughout the business. Zac and his team easily updated the software to reflect downtime reasons which were specific yet understood by the operators. As a result, operators were selecting more accurate reasons for the downtime, quickly finding the right codes to highlight a root cause of an issue on the line.

"With more clarity as to where issues originate, it's made the improvement process more effective," Zac said.

By implementing OFS software, Zac and his team were able to identify that running their machinery faster didn't make them more efficient – in fact, the opposite was true: running their machinery faster led to a decrease in efficiency.

## Faster run speeds was proven to cause:

- Forced operator error – even if experienced, operators were more likely to make a mistake when working at speed.
- Higher levels of short stops, leading to accumulated unplanned downtime.
- More quality issues.
- Higher chance of machinery failure.

"There's a tipping point at which running your machines faster will actually decrease your efficiency. We needed to uncover what our

perfect line speed was in order to achieve a steady state – the Goldilocks zone of not too fast, not too slow – where both operators and machines are productive, not busy," Zac said.

Zac implemented an action plan to identify their optimal line speed:



1. Identified the speed each machine was capable of in isolation.



2. Put this information in an easy-to-read format for operators.



3. Conducted a toolbox with each shift team to discuss the concept of 'you are only as fast as your slowest machine'.



4. Agreed on set speeds for each pack size based off the data and discussions with key stakeholders. Teams experimented around those speeds and saw what worked and what didn't.



5. Saved recommended speeds as recipes in the machines or displayed the speeds, and monitored for adherence.

"What productivity now looks like for us is long periods of run with minimal waste and downtime, as we know that our team has found their steady state," he said.

# Result: Running faster doesn't mean running smarter

Once the team identified their optimal speeds and slowed their lines accordingly, Grove Juice saw a significant decrease in downtimes, longer runs and improved product quality.

By slowing down their machines, Grove Juice is now producing a greater number of products, and higher quality products, in a shorter period of time.

"Running faster doesn't always mean running smarter. Your operators need to understand the limitations of each piece of equipment and employee on the line they are working on, so they understand why slower isn't always better," Zac said.

Most importantly, with OFS, Zac and the team at Grove Juice are now able to make informed decisions based on facts, and execute impactful improvement projects, mastering their manufacturing one step at a time.

"Before decisions are made on improvement opportunities, make sure you're looking at the bigger picture. Don't have a preconceived idea of what the issue is, and have an open mind," Zac said.

## Wins

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↑ **15% INCREASE**  
in output for 350ml

↓ **38% DECREASE**  
in unplanned  
downtime for 350ml



↑ **12.5% INCREASE**  
in output for 2 litre

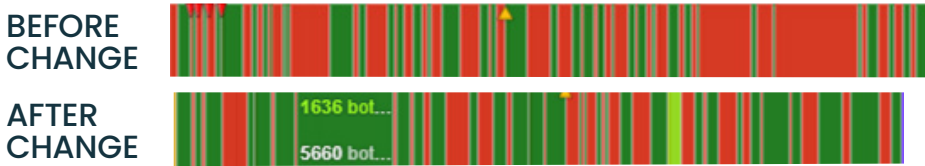
↓ **37% DECREASE**  
in unplanned  
downtime for 2 litre



**REDUCTION**  
in forced downtime

## 350mL Example

In the example comparisons below, Grove Juice saw a 15% increase in output for 350ml products.



CATEGORIES	BEFORE CHANGE	AFTER CHANGE
<b>RUN RATE</b>	6500 bph	4000 bph
<b>UNPLANNED DOWNTIME</b>	47.3%	29.7%
<b>MEAN-TIME BETWEEN FAILURE</b>	1.8 mins	3 mins
<b>OUTPUT</b>	2093 bph	<b>3370 bph</b>

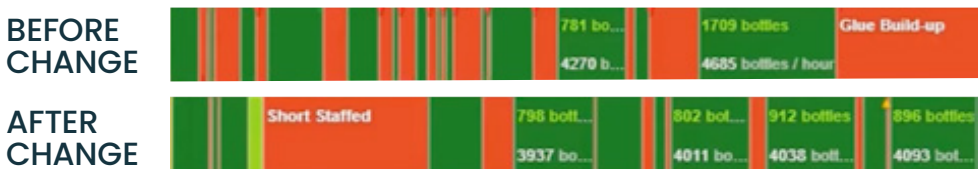


### What's This?

This is an Events Chart. It is a running timeline of your factory. It's a visual tool to answer the question 'have we had a good day?' where green means you were running.

## 2 Litre Example

In the example comparisons below, Grove Juice saw a 12% increase in output for 2L products.



CATEGORIES	BEFORE CHANGE	AFTER CHANGE
<b>RUN RATE</b>	4400 bph	4000 bph
<b>UNPLANNED DOWNTIME</b>	34.2%	21.8%
<b>MEAN-TIME BETWEEN FAILURE</b>	4.2 mins	6.6 mins
<b>OUTPUT</b>	2447 bph	<b>3035 bph</b>

For both 350ml and 2-litre examples, OFS helped Grove Juice identify that a slower run rate would improve unplanned downtime and increased time between failure to result in more output (bottles produced per hour).

In the 350ml example, they reduced the run rate by 900bph (bottles per hour) and reduced their unplanned downtime by 38%. As a result, they improved output by 1287 bottles.

In the 2 Litre example, Grove Juice reduced their run rate by 400bph and reduced their unplanned downtime by 37%. As a result, they increased output by 588 bottles.

## Questions? Talk to the team that know manufacturing.

Book a quick no-obligation chat with one of our manufacturing experts. We can walk you through how OFS would fit your business needs and provide a step-by-step guide to getting started.

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