



## GS1 and Manbulloo create next level 'whole-of-chain' tracking

*Strategy.  
Action.  
Results.*

The Manbulloo 'whole of chain' solution has provided the entire supply chain with new levels of efficiency and effectiveness

Manbulloo is Australia's largest grower of mangoes, specialising in the world-renowned mango variety, Kensington Pride. The company takes 'pride' in delivering fresh, sweet mangoes to customers in Australia and overseas.

The company has been supplying delicious fruit to its retail partner since 2005 and has worked closely with GS1 Australia for the past seven years, proactively helping to drive industry forward with technology and advancements in data sharing.

Manbulloo wanted to improve the process of information flow in their supply chain, particularly the effectiveness and efficiency of communications and business operations between Manbulloo, their ripeners and their customers.

Scott Ledger, Quality Manager at Manbulloo says, "Our supply chain was fragmented and errors occurred during marketing as timely information was difficult to obtain, or we weren't able to share it efficiently." Each partner in the supply chain operated their own proprietary information system. It was difficult for information, such as fruit temperature and ripeness levels, to be shared as the data was only directly available to Manbulloo.

Other members of the supply chain had to rely on Manbulloo sending the information by email. Other information was communicated verbally by telephone, reliant on people being available 24/7. Information was often received last minute and under pressure, resulting in errors, impacting heavily on all members in the chain.

Manbulloo's vision was to have one product identification and traceability system for the whole supply chain. One that each member could access. As well as a carton identifier that anyone in the chain could scan to identify the history of the fruit as the carton moved through the chain.

Marie Piccone, CEO at Manbulloo says, "What we needed was a 'whole of chain' information system that could be accessed by each member of the supply chain and information shared timely and accurately."

Manbulloo already had GS1 barcoding embedded in their operations. Each piece of fruit was identified by a GS1 Databar label. It made sense to expand the use of the GS1 barcodes to provide improved communications and traceability up and down the supply chain. Ledger added, "The good thing was, because we used GS1, our supply chain partners didn't need to upgrade or change their technologies. GS1 integrates with other systems including our crop management program and blockchain. The collective of information is available to us in real-time and allows for greater data insights. This leads to an increase and improvement in product knowledge, inventory control and product quality, all creating a better consumer experience."

Each Manbulloo mango is hand-picked and handled with care at every stage of the supply chain. Specially designed fruit trays are used to protect the delicate fruit during transport and handling, until it reaches its final destination, the supermarket shelf.

For Manbulloo to achieve enhanced levels of communications and visibility throughout the chain, the trays also required unique identification. To address this, the mango giant switched their Freshtrack Gateway implementation to print GS1 serialised barcodes on their tray labels. This allowed every tray on every pallet from all seven Manbulloo farms and five pack houses to be tracked up and down the chain.

Manbulloo also utilised Freshtrack FieldOp, an application developed by FreshTrack Systems to complete quality checks on mangoes in the packhouses. FreshTrack's solution collects the information and generates the GS1 barcodes on the fruit trays and directly uploads to a blockchain system, in real-time and without any loss in performance. Other companies involved in the Manbulloo initiative were Trust Provenance and Muddy Boots Software.

Trust Provenance provided Manbulloo with an integrity system that enabled all data points in the supply chain to be securely stored and accessed via the one platform. This data was secured by a distributed ledger infrastructure (aka blockchain) and made available to supply chain partners with permissions for who-sees-what. Data points included food safety certificates, real-time temperature data, quality assessments and the location of shipments. All tracked using the serialised barcodes on the mango trays. Each data point is added to the blockchain using GS1 EPCIS event data standards.

With the whole-of-chain network in place, Manbulloo can enter a carton number and see throughout the supply chain, from packing shed to retailer, where all related mangoes are from that batch. It also allows for rapid reporting and because it links with each system in the supply chain (such as FreshTrack, Muddy Boots Software, Emerson, etc) it records, stores and makes information available in real-time, providing flow-on benefits for optimising quality control and management.

Ledger says, "Using GS1 standards in conjunction with other technology solutions, we can now track every carton and every batch through the supply chain, from packing shed to retail shelf. Our order rejections at the retailer's DC have reduced to very low levels. This is a major win for everyone in the supply chain as it saves an enormous amount of time and money."

Ultimately, the improvements in data management have helped Manbulloo increase the quality and integrity of their mangoes for consumers - today

and for the future.

More information

Find out more about Manbulloo visit [www.manbulloo.com](http://www.manbulloo.com)

For more about GS1 Australia and Traceability visit <https://www.gs1au.org/traceability>

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