

Discussion Paper : Transferring information from Packhouse/Coolstore systems to Exporters.

Phillip Herries, TASC Systems Ltd.

Aim:

- 1) To encourage the people involved in the pipfruit industry to consider what information is required by the exporters from the packhouses and coolstores.
- 2) To propose as a starting point, a possible solution to deliver the information.

Introduction:

Exporters need to keep record of what has been packed, where it has gone, whose fruit it is etc. As the packhouse or coolstore handling the fruit will already have this information in their systems, it makes sense for the exporters to collect it at these points. Where the information is sourced from (and so whose software it is coming out of) does not matter if a simple (standard) format is used. Whether the exporter runs a manual system, spreadsheet based, sophisticated ERP (enterprise resource planning) software such as SAP, or somewhere in-between, they will still have easy and cost-effective access to the required information.

History:

In the past, the information about the packed fruit has been provided in 3 main formats....

1. ENZA :

Using this format, once fruit arrives at the coolstore, a file is sent off to ENZA’s SAP system containing the details provided by the sending packhouse. Then if any operations are carried out on the fruit, files are also exchanged to both notify ENZA of the changes and receive approval to for the changes. This is designed to allow ENZA to keep absolute track of the fruit at all times.

A list of the various operations in shown in Table 1:

Table 1 – ENZA Coolstore Operations / Transactions

Transaction Types	Notes
Submissions	Packhouse to Coolstore
Submissions/Reversals	Packhouse to Coolstore (to ENZA)
Pallet Inquiry	Supply Pallet Information
Stock Gain	Add stock without submission
Stock Gain Reversal	Cancel stock gain
Stock Loss	Write off stock
Stock Loss Reversal	Cancel stock write off
Take Cartons from Pallet	
Add Cartons to Pallet	
Recycle	
Attributes/Restriction	
Transfer Orders	
Coolstore to Coolstore Transfers	Transfer between Coolstores
FAS to FAS Supplier Transfer Issue / Reversal	Transfer between FAS providers
Coolstore to Port Transfers	Goods Issue - Loadout

The file formats and information generated by most operations varies. A further problem is that the files don’t necessarily include what another exporter may need to know. For example, Coolstore to port files do not contain container, vessel or seal information, so how will this information be collected?

The need to be able to process the different files also means exporters must have a reasonably sophisticated system to gather the information.

Reports :

Reports are summaries of the coolstore information. This means, for example, a grower report might summarize how many cartons of each size he produced over a certain period.

These types of reports are very useful, and where all fruit goes through one coolstore, may be all that is required. Where the fruit goes through multiple stores however, combining the data becomes an issue. Tracking the fruit is also difficult using only reports. A container report may tell you what pallets were in it, but then you have to try and find the block report to check what happened with the fruits block status and then maybe the load-in report to check how long it had been in the store.

The format and exact layout of these reports also has varied a lot in the past, making comparing information across different coolstores harder.

Their method of delivery has included being printed to paper, emailed as text, sent as Excel spreadsheets and provided as Adobe acrobat pdf files.

2. Inventory :

The 'inventory' is a list without any summarising. E.g. details of **all** the pallets that have passed through the coolstore for a particular exporter.

The exporter can then use all this information by sorting and / or filtering to produce reports suited to his requirements. For example, when loaded into Microsoft Excel he may filter by a particular vessel name to only show the pallets loaded on to it.

What information is required? :

The table in Appendix 1 provides a list of the information that we have provided or that exporters have commonly requested in the past. This table is not in any particular order.

It is important exporters and coolstores provide feedback on ...

1. Is it too much or too little?
2. If so, what can we take out or what can we add?
3. Do all coolstores have this information?

A Possible Solution ? :

Step 1: A common file format.

To meet the requirements of ENZA, the information held in the systems at packhouse, coolstore, or exporter level is fairly standard, as per appendix 1.

If you compared the information available when the fruit arrives at a coolstore to when it leaves you would find that on arrival some information such as the container would be blank. On departure however, the container number would have a value. This means a common format could be used for both operations. The following example shows another case where the fields are progressively filled

e.g. a simple pallet passing through the coolstore.

Operation	Pallet	Variety	Size	Block	Container
1.Submission	12345	039	150		
2.Form a block	12345	039	150	AA12	
3.Loadout	12345	039	150	AA12	CU123456789

However using separate transaction types (as used by Enza) has the advantages that ...

1. The files will be smaller as you are only sending what is required to indicate the particular operation. E.g for putting a pallet into a block, just send the pallet number and block number.
2. The actual operation may be able to be tracked better. E.g. a stock loss, where the very arrival of this type of message may raise alarm bells.

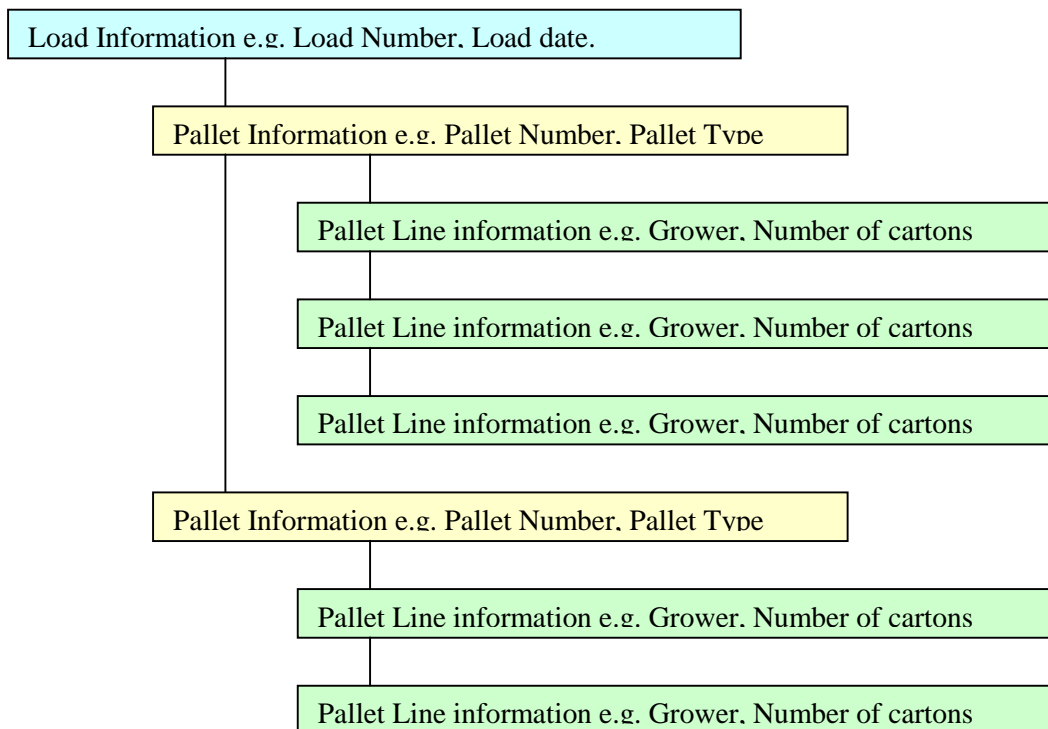
As always with any point raised there will be counter points.

1. File Size: - is not as important as it once was. We now have computers with larger memories and also faster communications. The extra information is also only a small percentage in most operations. E.g. for a block operation it could be high but for submissions or loadouts, which contained most of the data anyway, it will be very low.
2. Tracking – The stock loss would still be able to be picked up with a general file format, but may be more subtle. E.g. the quantity for the pallet has gone down by one compared with when it was submitted.

Step 2 : Flatten it out.

Enza’s file formats contain the fruit information in a natural, structured way as shown below in Figure 1.

Figure 1: An ENZA loadout file structure.



However, to work with the information as structured above is more difficult, especially when dealing with large quantities. Another way to store this information is in a flat loadout file, as in Figure 2.

Figure 2. A Flattened Loadout File.

Pallet Lines - Grower, Number of cartons	Pallet Number, Pallet Type	Load Number, Load date.
Pallet Lines - Grower, Number of cartons	Pallet Number, Pallet Type	Load Number, Load date.
Pallet Lines - Grower, Number of cartons	Pallet Number, Pallet Type	Load Number, Load date.
Pallet Lines - Grower, Number of cartons	Pallet Number, Pallet Type	Load Number, Load date.
Pallet Lines - Grower, Number of cartons	Pallet Number, Pallet Type	Load Number, Load date.

As you can see, the file in Figure 2 contains a lot of repeated information such as the load number which is repeated for every pallet line (5 times) as opposed to the once with a structured layout.

However, the flat format is more easily analysed, especially if using the information manually or in spreadsheets.

E.g. What growers were in the load? In a flat format the pallet information can be skipped completely whereas with a structured format the only way to find the grower is to go through the pallet information.

With Enza's pallet rules, a pallet may not be mixed. E.g. size 150's and 165's on the same pallet. This means in the structured format the pallet holds the size information, so repeating the size information in the pallet line as with a flat format may be considered wasteful. TASC Systems software developed for other exporters have had to allow for mixed pallets, therefore information like the size will only occur at the pallet line anyway. While some exporters may argue that mixing pallets is a practice being phased out, what constitutes a mixed pallet? A pallet will still be considered 'mixed' if not all grades, label types etc are the same.

Step 3 : Send it when needed.

In step one we arrived at a common file format that holds everything we could want to know about the fruit, while in step 2 this was moulded into a simple list format.

How often do we send the information to the exporter, either every time something changes, when requested, or at regular intervals, e.g. once a week?

This can vary with the different requirements of each exporter but there is rarely the need to send on a transaction-by-transaction basis. A daily update would normally suit the most information hungry exporter while a weekly one may better suit another exporters payment system.

If we move away from a transaction-by-transaction system, in effect what we end up with is a system that is basically just providing a view of the current inventory. If two operations are carried out in the one day like passing a block and then loading out pallets from it, a daily update provided to the exporter would show this as one operation.

Is the whole inventory sent or just what's new?

How do we know what's new, i.e. what information the exporter has already seen?

Does the coolstore simply send off a file with the changes that have occurred for the one-day?

What if the exporter missed yesterdays file?

If it's the rep with her laptop, how is she going to keep synchronized?

While the whole inventory could be sent to the exporter each time, this could be a very large file. It would be better if there were a system to only send information the exporter didn't currently have.

This is a similar situation to how Internet newsgroups function. A newsgroup may contain thousands of messages relating to a particular subject such as peoples opinions on the All Blacks. Rather than download all the messages each time a person logs into the newsgroup, only the ones not seen before are sent. This is achieved because when logging on, the reader sends the newsgroup the transaction number of the last message read. The newsgroup then knows it must send all messages that have a larger transaction number. In a coolstore situation this number would be stored for each pallet line and updated if an operation is performed on it. The actual number used could simply be a value that is incremented by one each time or it could represent the date and time of the last operation.

E.g. On submission the its transaction number is "21/3/2001 12.34." If it is then put it in a block some days later, its number will be changed to "25/3/2001 8.30". If the exporter requested an update and sent a last known transaction number of "23/3/2001 8.00" then the pallet information will be sent again due to its latter transaction value, but pallets that have not changed will not be re-sent.

This method also allows the amount of information to be tailored to the exporter. E.g. A small exporter may request a inventory view starting from transaction '1/1/2001' each time to get a spreadsheet type report for all his stock.

Language :

Even with a standard for **what** information is sent, do we also need one for **how** it is sent?

Should the files be sent as...

Excel Spreadsheets – suit smaller exporters.

EDI – a packed format used currently by ENZA.

CSV – a format easily read by databases or spreadsheets

XML – the latest buzzword being used with E-commerce.

While it would be great to permit only one type as a standard, allowing for a couple of formats such as CSV and XML should be possible. It would also allow coolstores to cope better for the variation in exporters capabilities / requirements.

Conclusion:

As originally stated, this paper is presented to promote discussion. Any method will have good points and bad points, but if a common standard can be achieved it will dramatically lower the complexity and costs in acquiring and using the information.

For questions or comments please use the discussion group that has been set up to discuss industry standards at the website...

<http://groups.yahoo.com/group/pitsa>

Note: Once you enter this website, if you are not already a member click on '**Join this Group**'. You may then be prompted to register and sign in. An email message will then be sent to you acknowledging your membership of the PITSA group. After this you can return to the site and browse or post messages and files.

or contact me directly at:

Phillip Herries
TASC Systems Ltd
P.O.Box 13046
Hastings

Ph. 06 8786990
Fax. 06 8789903
Mobile 025 455473

Email: pherries@tasc.co.nz
Website : www.tasc.co.nz

Appendix 1: What information is required?

Type of Information	Examples
Trader	FC
Coolstore	E202
Pallet Number	7310009400
Product Line Number (Track & Trace)	DL20040921
Material Number	34567
Grower	D1234
Variety	039
Quantity	22
Harvest Date	20010315
Pack Date	20010320
Submission Profile	A
Packhouse Run Number	234
Size	150
Pack Type	139
Growing Method	CN
Packing Treatment or Market	E
Marketing Attribute or Label	LB
Grade	HG
Brand	FL
Packer	7500120
Status – In Store / Loaded Out	O
Block Number	H003020
Block Status	P
Order Number	FC114
Order Line	1
Pallet Type	650
Storage Type	N
Part Pallet	Y
Inwards Load Number	100319
Inward Submission Date	20010320
Outwards Load Number	E202000028
Outwards Load Date	20010410
Container Number	CRLU5105875
Seal Number	NZDL012201
Temperature Recorder	F596378
Carrier	HAULAGE
Vessel	COLOMBUS FLORIDA
Voyage	V1565 SEATTLE
Load Port	NPE
Discharge Port	SEATTLE
Destination Port	SEATTLE
Booking Reference	AK320022