

Module 47

Cold Chain Review

Presenter: Malcolm Dodd

Introduction

Over the course of this series we have discussed in detail all the steps involved in preparing citrus fruit for export, up to where the fruit is loaded onto a vessel heading for the overseas market.

In review, Malcolm Dodd looks at the fundamental importance of the cold chain in maintaining the value of your fruit.



The Cold Chain

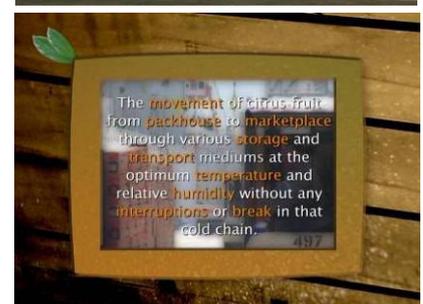
The cold chain is fundamental to the success of the export of citrus from South Africa to all the markets overseas. The reason for this is that citrus fruit is still alive once it has been picked of the tree and to keep it alive for as long as possible and in as good condition as possible we have to keep it cold.

So the important thing with the cold chain is to get the fruit cold and maintain the fruit at that temperature.

In the citrus industry in some circumstances fruit are picked and packed and it does not get chilled until it gets to the port and gets put on a vessel. That is fine because the fruit can withstand that treatment.

However what is important to understand is that once the fruit have been chilled you have to keep it cold. The reason for this is that if you take it out of the cold store and let it stand outside and it warms up, the fruit then will start to respire faster and its rate of deterioration increases.

Now the definition of a cold chain is: the movement of citrus fruit from packhouse to marketplace through various storage and transport mediums at the optimum temperature and relative humidity without any interruptions or break in the that cold chain.



So the people who have influence on this are the cold store manager, who has to remove the fruit from the cold store to make it ready for when a container is being loaded, the forklift driver who moves that fruit, and then also the person who is in charge of having the fruit inspected and then loaded into the container.



What happens sometimes is that a message is sent that a container has arrived. So the cold store manager will issue instructions for those twenty pallets of fruit to be moved out of the cold store and into a waiting area, and then an inspector comes along and there is a delay there. So fruit is standing outside the cold room waiting all the time before it is loaded into the container.



It is important that the cold store manager, the forklift operator and the person who is supervising the loading of the container to communicate with each other and ensure that the movement of the fruit from the cold store into the container goes as quickly as possible so the fruit does not pick up temperature.



All these steps and processes for whoever is involved in the cold chain need to be observed, and often people do not appreciate the impact that delaying loading a shipping container can have on the quality of the fruit. Therefore it is important for them to move this fruit into the shipping container as soon as possible.



Once the fruit is in that shipping container there is nothing that anybody can do about it because it is under the control of the shipping line. They deliver it to the port in the international market and from then on the cold chain must be maintained as well. It becomes increasingly important because the fruit is getting older at that point in time.



It might seem that one is placing a lot of emphasis over maintaining this cold chain. It is necessary to place a lot of emphasis on it for the simple reason that it is so important.

If the fruit is cold and allowed to warm up, it then ripens up somewhat during that warming period and you never get it back to the same level of ripeness as it was before the cold chain was interrupted.



Conclusion

The grower can spend a lot of money on growing the best quality fruit and packing and preparing it for the export market, but all of this effort and cost can come to nought if every person involved in the value chain does not fully appreciate the importance of maintaining the cold chain.

Remember that a chain is only as strong as its weakest link.



active learning

Watch the DVD clips, read through the learning material and do workplace research to gather the knowledge and information to complete the assignments below.

Activity 47.1 – Staff Training

Develop a short training session aimed at new, low-level packhouse workers to explain to them why it is important to maintain the cold chain, and how this should be done.

Activity 47.2 – Research Report

Research the differences between the cold chain for export citrus and the cold chain for exporting deciduous fruit. Write a 1-page report on the subject.

