Introduction

Before any ship can be loaded with export citrus it has to be inspected and approved by the PPECB. Some vessels will be inspected and approved by the countries of origin as well.

The PPECB will also check and ensure that cooling facilities on these vessels are adequate and in good working order.

There are two types of Refrigeration Ships or Reefer ships that are used for exporting citrus. Firstly the normal Reefer ship that is used to export citrus to non-sensitive markets and secondly, “steri” ships that transports fruit to sensitive markets. In this module we will look at the general procedures the PPECB follows to inspect these vessels and then also at the specific procedure followed for inspecting “steri” ships.

In terms of the PPECB Act 9 of 1983, all vessels carrying perishable products for export control must be inspected by PPECB. Firstly, the forwarder must send a F01, a service request, to PPECB and from there on the process will start.

Vessel Inspection

We visit the vessel, and a discussion is held with the chief officer or the captain. We will discuss the specific cargo that was previously carried by the vessel.
Vessel Certification

All vessels must have a valid certificate. The certificate is valid for a three year period. The list of vessels that is certified to be used for fresh produce exports is provided by the USDA website.

Part of the requirement is that temperature logs must be kept and also service certificates for their printers. The vessel must have a certificate that has been valid for a six month period before arrival in any port of South Africa.

On board they must have a minimum of two printers and also a memory back-up system. According to the requirement, they must also have a new printer cartridge, they must have at least two spare air sensors, and they must have five spare pulp sensors.

That is part of the requirement before we will continue with the whole survey process.

Deck Inspections

After we have completed the technical check, we proceed to the deck self in a vessel to do specific survey. The PPECB inspectors are accompanied by a senior officer who will follow the whole process.

Deck Plan

Firstly we verify the common decks according to the deck plan. We also check for the independent decks, to make sure that the deck plan is correct according to the vessel layout.

Temperature Check

While we are in the decks we will take the temperature readings. The vessel temperature must be -1°C within a tolerance of one degree.
Deck Cleanliness

Firstly we check that there is no taint in decks. We check all the pallet boards and the side boards to make sure that they are not damaged. We check for dirt and make sure there is no decay, any signs of rodent activity or anything lying around in the decks.

Gratings

We also look underneath the gratings to make sure everything is clean and neat.

On the deck side itself, the gratings must be able to carry at least five tons, the weight of a forklift with a pallet. The vessel has to provide information that the gratings can maintain that.

Cooling Facilities

We check that all the independent decks and the common decks – common decks are two decks that work with one cooling system – have their cooling facilities in place.

Lights

While we are in the decks we will also look at the lighting, to make sure all lights are working properly. There must be sufficient light and no light covers must be broken.

Hatches and Railings

Between the hatches we check on the rails to make sure that there is no dirt. There must be nothing at all. On the rails we look for glass, dirt and debris. If there is any it must be cleaned before we can commence with the loading process.
Q10 Form

All this information is noted on the Q10 forms, which is also completed to identify any problems with the vessel. If there is a problem it is noted in the remarks column. That information is then discussed with the chief officer and the captain to make sure that they rectify the problem.

Calibration

After we have completed the deck survey, we proceed with the calibration of the vessel. The tolerance for the calibration for USA is ±0.3°C and for Japan it is ±0.2°C. We work within those tolerances. Any sensor that deviates from that tolerance must be replaced or be rectified.

We make two consecutive printouts of the temperature reading to ensure that all temperatures are within the protocol.

A deviation of -0.1°C will be allowed from the first printout to the second printout. If there is a problem we can make a third printout, but the second and the last printout must correspond. Time intervals allowed between the first and the second printout is a minimum of one minute and a maximum of five minutes.

After we have completed the calibration the charts are stamped and signed, indicating when calibration commenced and completed.

Inspecting Steri Ships

When inspecting steri ships the PPECB will also carry out the following checks.
Pre-Cooling

In our inspection, there is a pre-cooling requirement. The requirement is a technical requirement. The vessel must pre-cool its hold for a specific period of 48 hours, at ±0.5°C, of which the last 24 hours it must be within the temperature specifications temperature.

From thereon we will scrutinise the temperature logs. The logs must provide us with the delivery air temperature, which we call the DAT, and also the return air temperature, which is the RAT. We also look at the CO₂ gas concentrations.

All logs must be checked, for pre-cooling time, exactly when the process started and when the process ended, to make sure that the 48 hours was completed.

Importer Requirements

Looking at the shipping line, if you ship to Japan, their vessels must also be approved for a three year period, but it is a little different from the USDA. The USDA will inspect their own vessels, whereas Japan, PPCEB will do the inspection.

They send us a form called a Q58, which is a technical document with all specific requirements. Using that document, we will evaluate the vessel. Basically what will happen is, when a vessel arrive in port we will do the final check. After that the vessel will be placed on the approved list for a three year period.

In the case of Iran, the vessels must also be surveyed by the PPECB. They also have to send in the Q58 technical form. The only difference between our Iranian vessels and our Japanese vessels is that they don’t need a USDA approved certificate.

If they can provide us with an approved certificate, obviously we will do the calibrations as a normal process. But if they do not have one, all the sensors must also be identified. It can take quite a while to complete the process. When approved all vessels will be placed on the approve list for a three year period.

For Japan, we must perform a 24 hour empty deck test. Every censor are suspended from the ceiling and placed into a fruit in the deck. For a 24 hour period, the fruit must be cooled to -0.6°C.
After the 24 hour period, which might be more or less 28 hours later, we will scrutinise the logs to make sure that all censors was down to -0.6°C. A double check will be done by a second PPCEB assessor, to make sure that we did not miss any deviations. Everything is logged on the Q114 form.

**Product Inspection**

After the vessel has been inspected and approved for use we will locate product in the cold stores. We proceed to the cold store to make sure that the product is on the correct temperature for loading. We verify the product against the loading document which we receive from the cold store side.

A product allocation is done that will indicate exactly which rooms must be used to approve the cargo. Everything will be documented on the Q01 form which is our cold store loading document.

**Quay Side**

From the cold store we proceed to the quay side operation. The fruit must now be moved over the quay side to the vessel.

**Lifts**

On the quay side we only allow two lifts on the ground and one lift in the air per hatch. That is the process we follow to minimise the temperature risk of product moving from the cold store to the vessel.

**Climate**

We do not load in rainy conditions. Inclement weather will also force us to stop the loading process. But if the weather is good, we will proceed with the loading.
Quay Side Product Check

On the quay side we do a double check of the pallets. We will physically check for the USDA pass stickers, we will also look for the Japanese pass stickers.

We will take a temperature reading to make sure that the product temperature is still within the tolerance. We do not allow a temperature increase of more than 1°C. Any damaged cartons or any damaged pallets are removed from the quay side and are rectified.

Pallets that are moving across to the vessel must be in a good condition. We also check the pallet bases for fungal growth or any bark. The pallet bases must also adhere to the ISP15 requirements.

Q114 Form

Onboard the vessel, while we are loading, we record all temperatures on the Q114 form. The whole process is documented to make sure that the correct steps are followed.

Onboard Product Inspection

Onboard the vessels again we check for broken pallets. We check that walking boards are used when people walk on top of the pallets and we also check that airbags are placed in between pallets where there are any gaps. We check for fan obstructions, fans must be unobstructed. There must be a proper airflow through the product and back to your fans.

Deck Covering

Next we check that part of the decks is covered with plastic sheets where pallets are not placed in the decks itself. The plastic sheeting must be properly secured. On the upper decks railings must be in place for safety sake.
Loading Checks for Steri Ships

In addition the PPECB do the following check while steri ships are loaded.

The temperature tolerances that we allow for fruit being exported to Japan and Iran is +1°C during the loading process. Fruit must be below 0°C or colder before we can commence the cold treatment onboard the Japan vessels.

For the USA, -0.6°C is the commence temperature. So all temperatures must be down to -0.6°C or colder before we commence the cold treatment.

Double Checking

All temperature guidelines in place when exporting food must be double checked afterwards by a second person to make sure that the temperature is within the tolerances.

When we place the stamps on a chart that indicate a deck opening and a deck closing, it must also be double checked. This is done to ensure that we use the right time, and that the temperatures are within the protocol.

The printer paper must be stamped and signed by the PPECB inspector, and it must also be stamped and signed by the chief officer, to confirm that the information is correct on the charts. The vessel will only be permitted to sail when all deck temperatures are down to the correct protocol temperature.

In the case of exports going to Japan, the Department of Agriculture, Forestry and Fisheries, and the MAF officer must also sign the charts. Their signature must be next to the PPECB stamp to confirm that cold treatment has commenced.

MAF officer

The MAF officer is an official from the Japanese Ministry of Agriculture and Fisheries.
**Departure Documentation and Reporting**

All the information will be then documented. The vessel will also be provided with a daily report which must be send every morning at 8 o’clock to the PPECB with all temperature readings recorded. The PPECB will manage this information to make sure that the set protocols are adhered to.

Just before the vessel sails the PPECB will issue the vessel with a temperature letter and a temperature instruction. This instruction will indicate to the captain exactly what procedure he must follow. During the sailing he will report back to PPECB on a daily basis.

On the Q106 form the captain will stamp and sign that he has received all the information and is familiar with the temperature instructions and that he knows exactly what he must do.

The Q07 is our sealing document, which PPECB use to indicate that all hatches were sealed by the PPECB.

In the case of vessels heading to Japan the inspectors will be present when we seal the hatches and they will also document that specific seal numbers. The seal numbers is very important on arrival in the port of destination, because on the other side the authority will check and make sure that the seals were not broken and replaced during the journey.

The temperature instruction is issued to the master of the vessel. Copies are given to the Japanese inspector as well as the American inspector, and then there will also be a copy onboard the vessel for the officer in charge at the port of destination.

**Conclusion**

Another important document that must accompany any shipment of fruit is the Phytosanitary Certificate that is issued by the Department of Agriculture, Forestry and Fisheries. Inspections by the PPECB ensure that the vessels used are able to transport export citrus safely and in hygienic conditions to overseas markets.

The inspections also ascertain that the temperature protocols for the product are adhered to and strictly followed.
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 46.1 – Worksheet**

During vessel inspection and loading, the PPECB makes use of several forms. List these forms and explain shortly how and why each is used.

**Activity 46.2 – Internet Research**

Do research on the PPECB website for the relevant information, and describe in your own words the method and temperature protocols for exporting fruit to Japan.
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