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FACT SHEET 3/96 **November 1996**

REFRIGERATED CONTAINERS AND THEIR PRE-COOLING ADVICE TO SHIPPERS

The Pre-Cooling of a refrigerated integral container prior to loading the product is seen as **not having any benefits** to the cargo or assist in a quick reduction of the temperature of the produce.

There could, be in fact be some harmful effects to the operation of the refrigeration system and the cargo or its packaging.

- The condensation effect of having a chilled container at a lower than ambient temperature opened to warmer moist air will result in the deposit of water on all internal surfaces of the container. This effective production of moisture in the unit could result in carton damage through moisture absorption resulting in the collapse or deformation of the stow, giving rise to damage to product and possible air flow change.

- This moisture, that is contained within the cartons and on the surfaces of the unit, will after packing and start-up of the machinery be removed and deposited on the evaporator coil as ice. Reduction in the refrigeration effect and air flow of the system is hampered until defrost cycles are effective.

At no time should the machinery be in operation if the container doors are open

Far more benefits are gained if cargo has been effectively reduced to its carriage temperature at post harvest and stabilised prior to container packing.

Further benefits are seen if cargo is quickly stowed in the container from the cool store without delay or interruption, any increases in temperature are not significant upon closure and start-up of the container and the refrigeration machinery, if this is carried out.

The only time the Pre-Cooling of the container may be used with some benefit is when cargo is loaded directly from the cold or chill store via a 'port door' or 'joining shoot'. This direct companionway joins the two working sections, resulting in a insulation seal and stops the moist ambient air from entering the packing operation area.

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