Abstract:

Exporters of fresh produce to distant markets (such as from Australasia to Europe) generally have three options for transport of their goods to distant markets; by airfreight, stowed in refrigerated containers or placement into the refrigerated hold of a vessel. Airfreight is generally used for high-value, low volume, short shelf-life products. As this study dealt with large volume, long shelf-life products, airfreight was not monitored. Integral refrigerated container systems have become the system of choice for many fresh produce exporters as they provide a convenient unit, with perceived control of product conditions. Larger volume exporters are able to take advantage of a lower cost option whereby product is placed in a refrigerated deck of a ship. In recent years a number of intensive temperature surveys have been undertaken to ascertain the variability within produce loads in order to guide export industries on heuristics to minimise undesirable out-turns. This paper presents measured data from typical container and refrigerated vessel shipments, monitored throughout voyages from Australasia to markets in Europe and Japan. Thermographic plots of the temperature distribution in stows are presented. A number of factors considered likely to have caused the variability are also proposed.