TO MARKET, TO MARKET

Issues arising from the International Transportation of Fresh Fruit and Vegetables in Refrigerated Sea Containers

Peter W. Davidson
Brisset Bishop S.E.N.C.

Introduction

The carriage of cargo by sea under refrigeration has been taking place since the 1870s. In those days, meat was stowed with natural ice and salt to provide the necessary coolant.[1]

The Hague Rules of 1924 required the carrier to exercise due diligence, *inter alia*, "to make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage and preservation". In fact, this obligation can be found in the Canadian Water-Carriage of Goods Act of 1910.[2]

Since the early 1960s, containers have revolutionized the carriage of perishable foodstuffs and continue to do so. While perishable cargo is still carried in refrigerated vessels, the main increase in the volume of such cargo carried, its variety and the distances travelled has come from the use of refrigerated containers. This is particularly so in the case of fresh fruit and vegetables.

Factors contributing to this include:

1. (in common with other containerized cargo) combined land and sea door-to-door transit is facilitated, transit times are shortened and less handling is required;

2. (for perishables generally) the cargo can be kept at a constant temperature throughout and not exposed to ambient temperatures while being transferred from one means of transport to another;

3. for fresh fruit and vegetables in particular:

    a) on a single ocean voyage, a wide variety of produce requiring carriage at different temperatures can be transported;

    b) there have been technological advances in refrigerated containers which, if required, can provide control of humidity and the gas composition of the

---

1 The London Steamship Owners' Mutual Insurance Association "Refrigerated Containers at Sea – A Guide to Members for Handling".

2 9-10 Edward VII, chap. 61.

atmosphere within the container, in addition to temperature control and fresh air ventilation;

c) on modern container vessels, remote monitoring systems permit continuous checking of the temperatures in all containers from a central location on board instead of periodically reading the temperatures individually.

The changes have not, of course, all been on the carrying side. Post-harvest management procedures in the growing areas have also continued to improve, for example, in the case of:

a) packaging for transport;

b) determining the optimum storage/transit temperature of the produce;

c) reducing delays between harvesting the produce and cooling it to the required transit temperature.

Information is becoming increasingly available to shippers and carriers alike.[3] Standards, whether voluntary or mandatory, continue to develop.[4]

Last but not least are the consumers themselves. In Canada, people are more concerned about staying healthy and research has highlighted the health compounds found in fruit and vegetables. In addition, there has been an increase in vegetarian diets and a stronger demand for exotic produce, resulting in a wider variety of imports during all seasons of the year.[5]

What can go wrong?

Despite the improvements mentioned above, things can and still do go wrong.

Harvested fruit and vegetables are living things. They respire. If all goes well, they meet their end by being eaten or cooked and eaten but like other living things, they are liable to perish by disease, injury or old age. Disease can be caused by fungi and/or bacteria. Physical injuries can be caused by insects, mechanical force or chemicals. Injury and disease are not necessarily apparent when the produce is packed for shipment. Disease can be aggravated by transit

[3] From a shipper's perspective, one excellent publication is "Marine Container Transport of Chilled Perishable Produce", University of California, Division of Agriculture and National Resources publication 21595; publications for carriers include "Reefer Claims Loss Prevention", a 10-part guide of the UK P&I Club covering the various stages of transit.

[4] The Fresh Fruit and Vegetable Regulations, C.R.C. c.285 as amended, provide a list of fruits and vegetables that, when imported, must meet Canadian grade standards. These happen to be products that are also grown in Canada at certain times of the year. There are no grade standards for "exotic" products. To enforce the standards, the Canadian Food Inspection Agency (CFIA) has authority to inspect any shipment consisting of a "graded" product at any time. An importer can also initiate the inspection process by contacting the CFIA's Department of Destination Inspection if he is concerned about the grade of a product.

[5] Consumer Trends for Fruit and Vegetable Products, Alberta Agriculture Food and Rural Development, March 2004

conditions and give rise to endless disputes between shippers and carriers as to which of them is responsible for a poor outturn and to what extent.[6]

Respiration involves taking in oxygen, breaking down carbohydrates to provide energy and giving out carbon dioxide, water vapour and heat. Some produce also gives off minute quantities of ethylene gas and in certain cases this can hasten the aging process[7]

Old age, or senescence, is postponed by temperature control. The storage life of fresh produce is highly variable and related to the respiration rate. The lower the temperature, the lower the respiration rate. Produce with low respiration generally keeps longer and for maximum storage life, the optimum temperature is the lowest to which the produce can be exposed without risking chilling injury or freezing. At the same time, reefer containers (and transport refrigeration generally) are designed to maintain the temperature of fresh produce, not to reduce it.

As a result, for maximum prolongation of storage life, the produce should be cooled to remove field heat as soon as possible after harvest. This can be done in a few hours in spaces that permit as much of the surface area of the produce as possible to be exposed to the cooling medium. In any event, the optimum transit temperature should be achieved before the produce is stuffed in the container.

Once a container has been stuffed and the door closed and sealed, the functioning of the container's refrigeration equipment becomes of paramount importance. In a few instances, there may be an actual breakdown of the equipment during transit but most of the disputes that arise whenever produce has out-turned in poor condition involve the interpretation of temperature records.

A typical modern reefer container has an electronic data recorder (EDR) from which can be downloaded information that includes air supply and air return temperatures recorded on the hour, every hour. Very often a shipper will have placed a portable temperature recorder in the container. This is usually placed on top of the cargo or inside a carton, rather than in the supply air stream. It, too, will provide a printed record.

Leaving aside disputes as to whether the portable temperature recorder has been properly calibrated, it is important to remember that the container's equipment and the portable unit are recording the temperature of the surrounding air, not the cargo[8]. Disputes therefore arise

---

[6] The disputes are by no means all between marine carriers and importers. Under the Licensing and Arbitration Regulations (SOR/84-432 as amended), a Canadian importer is required to be licensed with the CFIA and/or be a member of the Dispute Resolution Corporation (DRC). The DRC is a private, non-profit organization of produce and transportation companies established pursuant to Article 707 of the North American Free Trade Agreement (NAFTA). As its name suggests, the services provided by the DRC include mediation and arbitration of disputes between members, consisting of fruit and vegetable importers and exporters in the United States and Canada and, to a lesser extent, Mexico. More recently, membership has been extended to trucking companies in North America. For a summary of the role played and to be played by the CFIA and the DRC in resolving disputes primarily within North America, see SOR/2011-11 and its Regulatory Impact Analysis Statement.

[7] P&I International, December 1991, pp. 5-6

[8] For phytosanitary purposes the USDA may require certain produce imported from various countries to undergo "cold treatment" during transit to the United States, i.e., the cargo must be maintained below a certain

frequently between cargo and carrying interests as to what these records infer about the actual temperature of the cargo.

The computer system in a reefer container also records the time the refrigeration unit is off power and this again is a source of lively debate between claimant and carrier.

During ocean carriage, the unit is run on electrical power supplied by the ship and during inland carriage, depending on the type of conveyance involved, the power may be supplied by a portable genset. The transfer from one means of conveyance to another, either directly or through a terminal, will dictate that the unit is off power for a time. A similar effect will result from the defrosting cycles which the refrigeration equipment requires to remove the build-up of ice within the system. As will be seen, there is an issue as to how much time off power is too much.

Case law review – Issues that have come before the Courts

(1) Condition of cargo at time of receipt by the Carrier

In common with other containerized cargo, it is usual for fresh produce to be carried under "clean" bills of lading. Such bills of lading do not by themselves make out for the claimant a *prima facie* case of proof of delivery to the carrier in good order and condition. They say nothing about the condition of the cargo itself unless the carrier actually stuffed the container. For fresh produce, however, it is practical for the shipper to stuff the container in order to avoid extra handling of the cargo and its exposure to ambient air.

American reefer cargo cases holding that, for shipper-stuffed containers, the claimant must come forward with more than a clean bill of lading in order to establish its *prima facie* case include *Amorex Marine Inc.* v. *M.V. "Maersk Mango" et al.*, 1991 A.M.C. 2941 and two recent cases decided on Motions for summary judgment, *JRJ Enterprises Inc.* v. *M.V. "Cap Ortegal" et al.*, 2009 A.M.C. 714 and *Sam Jin World Trading Inc.* v. *M.V. "Cap San Nicolas" et al.*, 2010 A.M.C. 1970.

Another American decision, *Fruitex Corporation* v. *"GTS Eurofreighter" et al.*, 1980 A.M.C. 2710 at p. 2715, goes one step further. It states:

> "Fruitex, because it is a shipper of perishable goods, must come forward with more than a clean bill of lading in order to establish its *prima facie* case."

The cases cited as authority do not deal with fresh produce, but as appears below, this statement has some merit.

It should be mentioned that not all bills of lading issued for fresh produce in containers nowadays are "clean". A practice has developed of clausing bills if there is a significant difference between the requested carrying temperature and the temperature being recorded by the

---

temperature for a minimum number of days. For verification purposes sensors may be inserted directly into the cargo.

container at the time it is received by the carrier from the shipper. So far as I am aware, there have been no Court decisions arising from this practice.

Apart from the bill of lading, are there any other documents that might be accepted as speaking for themselves?

In the routine handling of reefer cargo claims, one document that is often produced by the cargo claimant is a phytosanitary certificate from the country of origin. This is an official document issued by the plant protection organization of the exporting country to the plant protection organization of the importing country. It certifies that the plants or plant products covered by the certificate have been inspected according to appropriate procedures and are considered to be free from quarantine pests and practically free from other injurious pests, and that they are considered to conform with the current phytosanitary regulations of the importing country. In Canada, the relevant organization is the Canadian Food Inspection Agency (CFIA)[9]. However, the main purpose of the certificate is to prevent the introduction of pests that would be harmful to plant life in the importing country. It is by no means a certificate of good order and condition in any other respect. A phytosanitary certificate was held to be insufficient proof of good condition in *Fruitex Corporation* v. *"GTS Eurofreighter" et al.*, cited above.

Other government certificates have been introduced from time to time in Court proceedings involving reefer cargo with varying results. In *Amorex Marine Inc.* cited above, the US District Court in Houston, Texas, was provided with a certificate of fitness issued by the Federal Ministry of Health of Nigeria stating that a shipment of shrimp contained no detectable salmonella. After hearing the evidence of both parties, the Court concluded that the weight to be given to the certificate was minimal on the question of whether the shrimp were contaminated with salmonella upon departure from Nigeria. "The report does not reflect the time and temperature conditions under which the tests for salmonella were conducted. Further, (the claimant) failed to establish the reliability of the analysis performed by the Federal Ministry of Health."[10]

In another "inherent vice" case involving damage to containerized plantains originating in South America and received by the carrier in Florida for carriage to Puerto Rico, an American Court in *Fl. Roman* v. *Puerto Rico Maritime Shipping Authority*, 1980 A.M.C. 2261, took a similar critical view of certificates of inspection issued by the United States Department of Agriculture in Miami. The Court in this case was presented with evidence that an infection known as "black rot" was caused by a fungus of field origin and would usually not manifest itself until the fruit was in an advanced stage of ripening.

On the other hand, in a decision rendered on January 11, 2010 (*Les Courtiers Breen Ltée* v. *Mediterranean Shipping Company (SA) et al.*, (C.Q. 2010-01-11), 2010 QCCQ 583, SOQUIJ AZ-50604812, and presently under appeal on other grounds, the Cour du Québec in Montreal accepted as proof of delivery of a cargo of clementines to the carrier in good order and condition an "official export certificate of fresh fruit and vegetables" issued by the Perishable Products Export Control Board (PPECB) in South Africa.

---

[9] Plant Protection Regulations, SOR/95-212

[10] 1991 A.M.C. 2941 at p. 2946

The document in question was a quality certificate separate and distinct from a phytosanitary certificate. The PPECB has a statutory mandate to ensure that export food safety and quality standards of all perishable products are complied with, and it inspects all such shipments. It has prepared a "Blue Book" of general loading and carrying temperature instructions for perishable products. These include detailed instructions for pre-cooling of cargo as well as optimum carrying and minimum delivery air temperatures and fresh air ventilation for various fruits and vegetables.

(2) Inherent Vice

Tetley, Marine Cargo Claims, 4th Ed. @ p. 1172, makes the following distinction:

> "Inherent vice and hidden defect are covered under the single exculpatory clause, Article 4(2)(m) of the Hague and Hague-Visby Rules. They should be distinguished, however. An inherent vice is a natural condition or characteristic of the goods which renders them unfit to withstand the ordinary incidents of the voyage contemplated by the parties to the contract of carriage, despite the taking of proper care by the carrier. An example is the natural tendency of fruit to ripen while in transit if not properly refrigerated by the shipper prior to loading. ... Hidden defects, on the other hand, are defects not normally encountered in a given cargo and not ordinarily detectable on an external inspection, which render the cargo unfit for the voyage contemplated by the parties, despite proper care by the carrier. An example is a grain shipment, infested by weevils or some invisible bacteria."

I accept this distinction although the Courts are sometimes not as meticulous as Professor Tetley. Here is a summary of four U.S. District Court decisions, two of which involved seafood.

In *Spada Distributing Co. Inc.* v. *Sea-Land Service Inc.*, 1978 A.M.C. 2085, six containers of tomatoes were shipped with their stems. The Defendant presented evidence from two plant pathologists that tomatoes should be shipped without their stems (1) to prevent injury to adjacent fruit by puncturing and (2) to prevent the growth of organisms which feed on the stem and can then enter and rot the fruit. Laboratory analysis at destination showed four types of organisms (fungi) in the tomatoes, the two most prominent fungi being associated with the soil in which the tomatoes were grown. It was held that the Defendant was not liable under the U.S. equivalent of Article 4(2)(m) of the Hague Rules.

Transflorida Foliage v. *M.V. "American Entente" et al.*, 1986 A.M.C. 2532 involved ornamental plants carried in a temperature-controlled container from Florida to Holland. The cargo was a total loss caused by toxic build-up of ethylene gas from the plants themselves.

On the evidence, the Court found that there was lack of proper circulation of air in the container, leading to increased production of ethylene gas. The interruption of the air circulation was due to the shipper having placed solid sheets of plywood on the floor of the container and a "block stow" in part of the load. The problem with ethylene gas was also compounded by including a large number of plants bearing mature fruit.

The carrier's defence succeeded on the basis of inherent vice and/or act or omission of the shipper.

The case of *Amorex Marine Inc. v. M.V. "Maersk Mango" et al.,* has already been cited in relation to documentary evidence of delivery of the cargo to the carrier in good order. Containerized shrimp could not be imported into the United States due to a finding of salmonella bacteria by the U.S Food and Drug Administration. There was evidence before the Court that the actual transit temperatures would not produce salmonella and that the bacteria had to have been present in the shipment prior to its receipt by the carrier. The action was dismissed on the basis that the carrier had established the defences of inherent vice and latent defect (sic).

On the other hand, in *Altrix International Inc.* v. *Seaboard Marine Inc. et al.*, 1997 A.M.C. 41, the cargo claimant succeeded. Damage was sustained by frozen lobster tails as a result of a process known as melanosis, giving rise to defects identified as "blacktail" and "blackbelly".

The evidence was to the effect that melanosis naturally occurs in lobsters but its effect can be reduced (to an industry tolerance of 5%) with proper temperature control. The inability of the carrier to provide complete transit temperature evidence resulted in the dismissal of its inherent vice defence.

(3) Delay

Delay to perishable cargo can produce not only consequential loss but actual physical damage.

Delays can result from a wide variety of causes, including rail strikes, cargo terminal congestion and government inspections (many of which have nothing to do with the condition of the cargo itself). Most of these causes are land based so it is somewhat ironic that the one case that identified delay as a cause of damage actually involved the ship.

In *Fruitex Corporation* v. *M.V. "GTS Eurofreighter" et al.*, previously cited, it was held that the ocean carrier's failure to prove the cause of the vessel's six-day delay in a New York to Rotterdam voyage and a further four-day delay in discharging containerized watermelons made it liable for decay found on delivery in Rotterdam. The carrier claimed that some of the voyage was spent in heavy weather but provided no data as to the severity and duration of the weather.

(4) Temperature Settings

Decisions on this issue, also American, have gone either way.

The cargo claimant was successful in *Project Hope* v. *M.V. "Ibn Sina" et al.*, 2000 A.M.C. 1287, confirmed on issues of liability at 2001 A.M.C. 1910.

Carriage of medical supplies in reefer containers was undertaken by an NVOCC from the shipper's premises. The NVOCC sub-contracted with a trucker for carriage from the shipper's

premises to a marine terminal and with a marine carrier for (1) the supply of containers and (2) ocean carriage.

The shipper's required carrying temperature was known to the NVOCC[11] and correctly communicated by it to the trucker. An incorrect temperature was given by the NVOCC to the marine carrier and the container was pre-set at that temperature. The container was brought to the shipper's premises where it was stuffed. Neither the shipper nor the trucker checked the setting.

The container was then trucked to the marine carrier's terminal. Prior to loading on the ocean vessel, the temperature discrepancy was discovered and at the shipper's request, the carriage was terminated. The NVOCC and the trucker were held liable but the marine carrier was excused because the loss was the result of the fault of its shipper, i.e., the NVOCC.

Different facts produced a different result in *Albany Insurance Co.* v. *M.V. "Sealand Uruguay" et al.*, 2002 A.M.C. 2189. On arrival in New York a containerized shipment of cheese was found to have been carried from Uruguay at a temperature well below what was required.

Evidence was presented that pursuant to local trade and custom, shippers did not set the temperatures on reefer containers. Instead, instructions were sent to the vessel by the shippers to specify the temperatures at which the containers should be maintained. The carrier's bill of lading, however, required the shipper to set the proper temperature prior to delivering the container to the carrier (a copy of the bill was in the shipper's possession prior to issuance of the original by the carrier).

In holding the carrier not liable, the Court ruled that:

1. Custom may not be used to contradict the language of the bill of lading when that language is clear, and

2. Simply sending instructions to the carrier does not bind the carrier to instructions that would modify a bill of lading.

(5) Proper Carrying Temperature and Expected Storage Life

These are subjects that one would expect to be fundamental to the successful transportation of fresh fruit and vegetables, particularly where new markets are being explored. There is no shortage of information on the subjects to be found in text books or on the internet from seemingly reliable sources. Yet if you were to select a particular variety of fruit or vegetable to which to apply this information, you will find that it is by no means uniform.

To find cases we need to go no farther than Montreal, where two decisions have been rendered in recent years by the Cour du Québec, namely:

[11] "Non Vessel Operating Common Carrier", often a freight forwarder who contracts, as principal, for the carriage of goods partly or wholly by sea.

1. *Delmondi Import-Export Inc.* v. *Orient Overseas Container Line*, (C.Q. 2005-08-31), SOQUIJ AZ-50333024

2. *Les Courtiers Breen Ltée* v. *Mediterranean Shipping Company S.A.*, previously cited.

In *Delmondi* cucumbers originating in Spain were shipped from northern Europe to Montreal with a requested carrying temperature of 9°C. The container's EDR showed an actual temperature range of 10-11°C while the corresponding figures from the portable recorder placed in the container by the shipper were 11-12°C.

As it turned out, the expert testimony of both parties agreed that cucumbers could be carried at 10-13°C without causing premature aging. The expert evidence was given by a marine surveyor for the Defendant and an emeritus professor of McGill University with a PhD in plant pathology for the Plaintiff.

A text book introduced in evidence by the Plaintiff's president indicated that the approximate storage life of cucumbers at 10-13°C was 10-14 days.[12] The time between harvesting and arrival at the consignee's premises was 16 days, and there was no delay on the carrier's part. The claim was dismissed.

In *Les Courtiers Breen*, clementines were shipped from South Africa to Montreal via the Port of New York at a requested temperature of 4.5°C. Temperature records showed that the cargo was maintained generally at between 5-8°C.

The Defendant's expert, with degrees in chemistry and biochemistry, testified that 5-8°C was the optimum cold storage temperature for clementines. The Plaintiff's expert, a marine surveyor relying on a text book[13], said the recommended storage temperature was 4-5°C. The total transit time of 35 days was less than the 40 day storage life that was accepted by both parties.

Judgement was rendered in the Plaintiff's favour, essentially on the basis that there were excessive times off power after the container had been discharged at New York (see below).

(6) Times off power

As previously mentioned, records showing the times during which the refrigeration equipment has been off power in transit (excluding equipment breakdown) have given rise to numerous disputes between cargo and carrying interests. It appears, however, that it was not until 2010 that the Courts had a say in the matter.

The Guidelines on Cargo Temperature Maintenance published by International Cold Chain Technology (ICCT) in Cambridge, UK, include the following comment:

[12] Produce reporter (blue book)
[13] Post-Harvest Diseases and Disorders of Fruits and Vegetables, Anna L. Snowdon PhD D.I.C., published 1990

> "Times off power – if a transport refrigeration unit is without power, there will be no temperature control and no air circulation. Time off power should therefore be minimized. The effect of time off power will depend on cargo temperature, ambient temperature, quality of insulation and respiration rate. It will also depend on the density and other characteristics of the cargo and its packaging, and on the mass of cargo carried. Any time off power will lead to an increase in temperature gradient, as warming will be from the outside surfaces and by respiration of the cargo.
>
> Because of all these factors, there are no reliable rules of thumb for estimating the effect of time off power. There are some relatively straightforward graphical methods which can give useful estimates, but accurate calculations require detailed computer simulations."

In *Courtiers Breen*, previously cited, the carrier's records showed that the container was off power for 11 hours on the day after discharge in New York and for 9 hours the following day. No explanation was put forward by the carrier and the Court rejected the testimony of the defendant's expert that the "power offs" would not have affected the temperature of the fruit. However, as these occurred during a stage of transit to which the Hague-Visby Rules did not apply, one issue in the pending appeal is whether an exculpatory clause in the bill of lading would protect the carrier.

A more detailed examination of this issue was carried out later in the year by the High Court of Justice, Queen's Bench Division, Commercial Court in London, UK, in *Exportadora Santa Elena et al.* v. *AP Moller-Maersk A/S* [2010] EWHC 3224 (Comm.). Unlike the typical case involving a single shipment, the claim before the Court covered 57 containerloads of table grapes, some 42-45% of a series of shipments carried from Chile to Europe in 10 vessels between February and April 2006. The trial lasted 10 days and in a 216-paragraph judgment the carrier was held liable. Fifty-one paragraphs were devoted to the issue of "power offs".

Before reaching the point in the judgment at which the issue was discussed, the Judge had satisfied himself that the cargo had been received by the carrier in good condition and out-turned in bad condition and that the defences pleaded by the carrier did not succeed. These included a variety of pre-shipment issues such as temperature control, length of time in storage, quality control and inspection after harvesting and palletization as well as inadequate packaging and improper stuffing of the containers.

Strictly speaking, therefore, it was not necessary for the Judge to deal with times off power but perhaps prompted by the amount of effort the parties had devoted to the issue, the Judge went on to consider:

a) what power off periods would constitute a breach of contract; and

b) to what extent did those periods cause or contribute to the damage.

The following is a summary of what he said:

1. Excessive or unexplained periods of power off constitute breaches of contract by the carrier.

2. (On the basis of testimony by one of the carrier's own employees) a power off for valid operational reasons would be expected to last one hour or at most between 1 and 2 hours; this included defrost cycles, transfer of the containers from road vehicle to marine terminal and from terminal to vessel at the port of loading and the corresponding operations at the port of discharge. It would also include, from time to time, reconfiguration of the containers at a marine terminal en route in order to ensure that containers to be offloaded at the various ports of discharge were in the right place on board the vessel. Finally, there might sometimes be transfers between a feeder vessel and the ocean vessel.

3. In the face of conflicting expert evidence, the three-hour maximum allowable power off time for chilled cargo in the carrier's operations manual was accepted as the starting point for potential damage to cargo. The claimants' expert had testified that the starting point should be one hour while the defendant's expert testified that power offs up to 12 hours were unlikely to have significant impact. The precise qualifications of the experts are not stated in the judgment but the Judge summarized the dispute by saying "as sometimes happens with expert evidence, I suspect the true position lies somewhere between the extremes".

4. "With a handful of exceptions, periods of off power in excess of 3 hours caused the damage in all the containers".

(7) Exculpatory Clause for Supply of Defective Containers

An introduction to this subject can be found in Tetley, *Marine Cargo Claims*, 4th ed., at pages 1553-4 where he states:

> "Standard form bills of lading typically exonerate the carrier from liability for cargo damage caused to goods by a defective container supplied by the carrier but packed by the shipper. Such clauses exonerate the carrier, but only provided that the container's defective condition arose without any want of due diligence on the carrier's part or would have been apparent upon 'reasonable inspection' by the 'merchant' at or prior to the time when the container was filled. 'Reasonable inspection' has been held to mean an inspection by unskilled person, rather than a skilled individual, such as a marine surveyor. The onus of proving that the defect would have been apparent on a reasonable inspection has been held to fall upon the defendant, even if the shipper packed the container. Such clauses are of questionable validity, in my view, because their effect is arguably to relieve or lessen the carrier's liability contrary to Art. 3(8) of the Hague and Hague-Visby Rules."

In a footnote to the above passage, Tetley explains:

> "In the TNT Express [1992] 2 Lloyd's Rep. 636, the Court determined that it did not have to decide whether the non-responsibility clause was void under Art. 3(8) because of its finding that the container's defects were non-apparent, rendering the clause of no benefit to the carrier. In the US, however, in Cigna Ins. Co. v. M.V. "Skanderborg" ... 1996 AMC 600 at pages 603-604 (D. P.R. 1995) such a clause was upheld as not violating section 3(8) of COGSA (46 US Code Appx. 1303(8)). In France, however, the non-responsibility clause in a bill of lading excusing the carrier from liability for loss or damage to the goods caused by defect in containers which it provided at the shipper's request has been held contrary to Art. 29 of the Law of June 18, 1966 (corresponding to Art. 3(8) of the Hague and Hague-Visby Rules). See Cour d'Appel de Rouen, February 28, 2002 (The Contship Germany), DMF 2002, 965 and observations by M.-N. Raynaud, DMF 2002, 970."

The *TNT Express* was an Australian decision. The cargo consisted of lever arch boards foolscap carried in a standard dry-box container. The cargo suffered wetting damage mainly due to the defective condition of the door seals. It was common ground that the container was defective when supplied to the shipper by the carrier but as stated above, the defect was not one that would have been apparent upon a "reasonable inspection".

In the US District Court decision of the M.V. "*Skanderborg*", cartons containing tins of olive oil were shipped in an unventilated dry-box container provided by the carrier. The cargo was damaged by rust due to lack of ventilation. The Court held that COGSA imposes no duty on carriers regarding their packaging arrangement with the shipper (sic), and that the "reasonable inspection" clause is valid under COGSA. An earlier American decision, *Houlden & Co. Ltd. et al.* v. *SS Red Jacket et al.* reported at [1978] 1 Lloyd's Rep. 300, found the carrier liable when 43 containers were lost overboard during the voyage as a result of the collapse of a defective container which it had supplied to the shipper. The container had been loaded on deck despite a pre-loading inspection which noted that it had sustained "major structural damage". The Court ruled that the carrier had failed to use "due diligence" to prevent the loading of an "unseaworthy" container.

The French decision brings to mind the fact that the civil law courts reason from general principles while the common law courts reason from precedent. Under the civil law, it would seem logical to extend the due diligence obligation under the Hague or Hague-Visby Rules not only to the vessel but to containers supplied by the carrier. However, in the 2007 decision of the M.V. "*Matisse*" a French court did come to the same result by a different route.[14] Several reefer containers loaded with frozen lamb were damaged in the course of transportation from Australia to Libya. The Court held that since the carrier had supplied the containers that had caused the cargo damage to the shipper on the basis of a contract that is "incidental" to the contract of carriage, the carrier should be liable on the basis of the contract of supply of equipment. On the

[14] "The liability attached to the supply of containers by a maritime carrier", Pierre-Jean Bordahandy (2007) 21 A & NZ Mar LJ

facts, the claimant could not prove that the cargo was damaged prior to delivery under the bill of lading but could establish that the cargo damage was caused by the defective container.

Other civil law jurisdictions have taken the same approach as the French case cited by Professor Tetley. A judgment of the Supreme Court of The Netherlands of February 1, 2008 (The *NDS Provider*)[15] held that a container owned or provided by the carrier should be cargo-worthy and that by Article 3(1)(c) of the Hague-Visby Rules the carrier has to exercise due diligence for the cargo-worthiness of the container. A clause excluding the carrier's liability for damage caused by "unsuitability or defective condition of the container" was held to be invalid under the Rules.

There are no reported English or Canadian cases dealing with this issue but the Courts of Australia have had a second look at it in *Seafood Imports Pty Ltd.* v. *ANL Singapore Pte. Ltd.* [2010] FCA 702. This case involved a reefer container of frozen seafood. The damage to the cargo resulted principally from the container's refrigeration equipment having been stuck in defrost mode for a period of more than 77 hours. The propensity of the container to become stuck in that way was likely due to incompatibility between the container's controller and the software with which it was fitted.

The Court made no ruling on whether liability for loss or damage arising from unseaworthiness under Article 3, Rule 1 of the Hague-Visby Rules attaches to the provision of a controller fitted with incompatible software but the carrier was in breach of Article 3, Rule 2 for failing to carry the cargo "properly and carefully". The carrier was allowed to raise the defence of "latent defect" but failed on the evidence. Although the container temperature display module may have shown that proper temperatures were being maintained, the preponderance of expert evidence was to the effect that the extended defrost period could and should have been detected by the Master and crew of the vessel.

I question the application of the "latent defect" defense to a container. It has until now applied only to the ship. However, the judge observed that in a footnote to Carver, *Carriage by Sea*, 13th ed., at p. 382 [541], it is stated that the defence "may include latent defects in other cargo or in shore tackle".

As some of the above cases illustrate, whether or not a carrier may be able to exculpate himself for the supply of a defective container, he may well be liable if the defect manifests itself after the container has been sent back to him by the shipper and he does nothing about it. There are, however, instances where a defect will remain hidden. The non-electronic parts of the air distribution system in a reefer container, such as a baffle plate located near the floor at the air supply end of the container, can be damaged by cargo handling operations. The result is that instead of being distributed throughout the stow, the cooling air will return directly to the top of the container. The temperature monitoring records, however, will indicate that everything is in order.

If a case were to come before a Canadian court today that involved cargo damage due to a container defect that remained hidden throughout, would an exculpatory clause be upheld? I believe it can be argued that there is a fundamental difference between a shipper-stuffed

[15] NJ 2008, 505; SES 2008, 46; RvdW 2008, 177

container and the hold of a ship. In the liner trade, the shipper has no involvement in the loading of the cargo hold. In the case of a shipper-stuffed container, on the other hand, the shipper is not only directly involved in the loading operation but has the opportunity and, I believe, the duty to inspect the container before using it, as well as the right to reject it. The common law, reasoning from precedent, can more readily than the civil law look outside the text of the Hague or Hague-Visby Rules and can more readily allow freedom of contract. There is also the question of causation. If the carrier supplies a defective container and the shipper sees the defect but chooses to ignore it with the result that the cargo is damaged in transit, what, if any, damage has been caused as a matter of law by the supply of the defective container by the carrier?

Will the situation change if and when The Rotterdam Rules come into force? Under Article 14 of the Rules, the carrier's obligation to exercise due diligence extends to making and keeping "any container supplied by the carrier in or upon which the goods are carried, fit and safe for their reception, carriage and preservation"[16].

Causation and the Rotterdam Rules are further discussed below.

(8) Apportionment

Although it can happen with any type of cargo, the carriage by sea of fresh produce is more likely to give rise to the situation where damage results from a combination of causes, not all of which would engage the carrier's responsibility. An example would be the shipper's failure to pre-cool the cargo properly on the one hand and excessive power off times in the container during transit, on the other.

The typical cargo claim involves an alleged breach of contract to which the Hague or Hague-Visby Rules apply. Contract law in most jurisdictions tends to resist the application of contributory negligence principles, one reason being that a contractual promise more often than not gives rise to strict liability or an obligation of result.

In breach of contract cases, damages can be limited by the principle of causation but for cargo claims, this principle is restricted whenever one cause of damage is unseaworthiness of the carrying vessel. In the "*Eurasian Dream*" [2002] 1 Lloyd's Rep. 719 at 737, Cresswell, J. saw fit to quote from a House of Lords decision rendered more than 60 years earlier:

> "(5) As to causation, unseaworthiness must be –
> ... a cause, or if it is preferred, a real or effective or actual cause [and] in truth, unseaworthiness ... can never be the sole cause of the loss ... it must, I think, always be only one of several co-operating causes ... I can draw no distinction between cases where the negligent conduct of the Master is a cause and cases in which any other cause, such as perils of the sea, or fire, is a co-operating cause. A negligent act is as much a co-operating cause, if it is a cause at all, as an act which is not negligent. The question is the same in either case, it is, would the disaster not have happened if the ship had fulfilled the obligation of seaworthiness, even

[16] A comparison of the liability and immunity provisions of the Hague-Visby Rules with their counterparts in the Rotterdam Rules can be found as Appendix A to this paper.

> though the disaster could not have happened if there had not also been the specific peril or action. [per Lord Wright in *Smith Hogg & Co.* v. *Black Sea and Baltic General Insurance Co.*, (1940) 67 Ll. L. Rep. 253 at p. 259, column 1; [1940] A.C. 997 at p. 1005]"

In *Smith Hogg*, the vessel was unstable as a result of loading an excess quantity of deck cargo. She capsized during the voyage while taking on bunkers at an intermediate port after having pumped out the forepeak on entering the port. The governing contract was a voyage charterparty in which the "due diligence" requirement had been incorporated as well as the "error in navigation or management" defence. Where the Rules themselves have been incorporated, or apply as a matter of law, the leading case is taken to be the decision of the Privy Council on appeal from the Supreme Court of Canada in *Maxine Footwear Co. Ltd.* v. *Canadian Government Merchant Marine* [1959] 2 Lloyd's Rep. where Article III, Rule 1 was declared to be an overriding obligation. In that case, cargo was damaged by fire during loading. The "due diligence" obligation took precedence over the "fire" exception. In other words, if there is a single cause of the loss and that cause is both lack of due diligence by the carrier to make the vessel seaworthy "before and at the beginning of the voyage" and a fire arising without the carrier's actual fault or privity, the carrier is fully responsible for the loss.

Typically, however, in fresh produce claims, damage will arise from separate and distinct causes having nothing to do with seaworthiness. With other cargo, separate causes will often produce distinct types of damage but with fresh produce, separate causes tend to produce the same type of damage, eg. senescence or external manifestation of disease or injury.

As a result, apportionment of damage may be difficult to make. In the previously cited decision of *Fruitex Corporation* v. *GTS Eurofreighter et al*, the US District Court judge (S.D.N.Y.) was satisfied that decay found at destination resulted from the concurrent causes of insufficient packing by the shipper (preventing the proper circulation of air in the container) and unjustified delay by the carrier in prosecuting the ocean voyage and discharging the cargo. He stated, nevertheless: "There is no support in the record to make a finding allocating the percentages of fault."[17] Under these circumstances, the carrier was held liable for the entire damage.

In England, the 1928 House of Lords decision in *Gosse Millerd* v. *Canadian Government Merchant Marine* is still cited for the burden of proof where there are competing causes of cargo damage and the seaworthiness of the vessel is not an issue. The burden is on the carrier to show what proportion of the damage is attributable to the cause for which is it not responsible ((1928) 32 Ll. L. Rep. 91, per Lord Sumner at p. 98).

Ten months after the decision in *Gosse Millerd*, the case of *Silver* v. *Ocean Steam Ship Company* went to trial and a few months later, to the Court of Appeal. The case is still cited for having decided that an "insufficiency of packing" defence cannot be raised by a carrier who has issued a clean bill of lading if the inadequacy of the packing was apparent at time of receipt. What has perhaps been forgotten is the manner in which damage was apportioned in the first instance and on appeal.

---

[17] In the United States, when apportionment is permitted by statute, the draftsman may prefer the word "fault" to "damage". It is a moot point whether this produces a different result.

In *Silver*, the cargo consisted of frozen eggs in tin cans. The cans were pierced and dented and perforated. The damage occurred at more than one stage of transit and although mainly associated with the nature of the packing, it was in part due to bad handling during discharge. Here is what Mr. Justice Roche had to say in first instance:

> "In no part of this case, it seems to me, am I dependent on onus. All the evidence is out and my conclusions are based on the balance of the evidence without regarding any consideration of whether the onus in this matter or that matter rests on the Plaintiffs or the Defendants. I am satisfied on the whole of the evidence that ten percent is more than enough to compensate the Plaintiffs for damages for which the Defendants are responsible through want of care." (1929) 34 Ll. L. Rep. 149 at p. 156

The decision was overturned by the Court of Appeal as a result of the judicial interpretation of the insufficiency of packing defence mentioned above. Because part of the insufficiency of packing in the cargo was not apparent at time of receipt and some damage was post-discharge, the defendants were not held fully liable but only for sixty percent of the claim. Here is how Lord Justice Scrutton, speaking for the majority, summarized his apportionment:

> "The percentages I have given are of the total money value. I am conscious that they are rough and ready estimates but I think that if they were arrived at by a jury, they could not be upset." (1929) 35 Ll. L. Rep. 49 at p. 54

There would seem to be a subjective element in the apportionment of damage.

Until recently, fresh produce claims have often involved a single containerload and the parties have been conscious of the fact that the amount involved may not justify the expenditure of obtaining and presenting all available evidence. Also, it appears that no universally-accepted method has yet been developed for assisting the Court in solving the problem. Where expert evidence has been tendered, it has tended to reflect opposite extremes as the recent *Exportadora Santa Elena* case illustrates.

It is quite possible that the position will change if and when the Rotterdam Rules come into force. Liability under the Rotterdam Rules is based on fault[18]. The "error in navigation or management" defence has been eliminated and absence of "actual fault or privity of the carrier" alone will not justify the fire defence. However, the Rules refer in several instances to the carrier being liable for, or relieved of liability for, "all or part of the loss, damage or delay" and Article 17 (6) provides that "when the carrier is relieved of part of its liability ... the carrier is liable only for that part of the loss, damage or delay that is attributable to the event or circumstance for which it is liable pursuant to this article."

Is this an open invitation to judges (or arbitrators) to apportion liability as they would in a tort or quasi-delictual case? Only time will tell, but it certainly seems that courts will have greater flexibility than they do now.

[18] See Appendix A