

Case teaching note: Contamination in the bulk agri-commodity logistics chain

Short case summary / overview

This case charts the course of a food-commodity contamination event that created a great disturbance in the Western Australia grain industry in 2002. Operational and cultural failures were estimated to have cost the industry millions, as well as nearly losing the industry one of its most lucrative markets: that of Japanese noodle wheat. The benefits of collaborative relationships and a resilient supply chain (with many robust characteristics) are demonstrated herein.

Key issues

Collaboration, operations management, cultural differences, niche commodity markets.

Teaching / learning objectives

- To illustrate the complexity of agri-commodity logistics chains
- To demonstrate the delicate nature of international trade relationships
- To apply key supply chain terminology in an international agri-logistics case study

Timeplan for use in class – 60 minutes in total

Students should read the case before attending the class and make notes on the following:

- Who are the main actors in the case (companies and people)?
- What influence does culture have over the relationships in this case?
- If the Japanese were so dissatisfied, why did they continue to do business with Western Australia?
- Why are food quality standards so important in the context of this case? Consider both Saudi Arabia and Japan.

In groups of 3-4 students, discuss the case questions (15 minutes)

Following groups discussions, return to the whole class groups and, for each of the case questions, spend 10 minutes asking each group to report their answers (40 minutes)

Draw conclusions on the main themes discussed (5 minutes)

Case questions and answers

Using the actors illustrated in Figure 2, what factors led to the breakdown of relationships between members of the noodle wheat supply chain?

- Operational factors: cleaning/hygiene and monitoring of port loading equipment.
- Communication factors: continued attention to communicating the importance of customer demands throughout the supply chain (markets → grain handlers → port operators)
- Food commodity marketing factors: the complexity of food marketing cannot be taken for granted. Food commodities can be ‘written-off’ as homogeneous; they are often highly-priced goods that are used for the manufacture of boutique products (such as Japanese shōchū or its specialty beers).
- Cultural factors: In this case, Japanese methods of doing business (based on trust, honour and reliability) were under-estimated by the Australian bulk handlers. The grain marketers were sensitive to the delicacy of the cultural dimensions of doing

business with the Japanese but it was the bulk handlers whose complacency wore down the trade relationship between the two nations.

What supply chain management processes could have been put in place to ensure the second contamination of carmoisine did not occur?

Collaboration (see text chapter 3). This case is a good example of how trade relations suffered because of insufficient information sharing between supply chain partners. The first carmoisine contamination should have resulted in subsequent cargos being monitored by all parties involved. Operational systems and data systems should have been opened-up so there was complete transparency through the entire information and operational process.

Resilient supply chain (see text chapter 15). Through operational efficiencies and (eventually) understanding cultural norms, this case has demonstrated the Western Australian grain industry's ability to return to its original state after being disturbed (resilience). The carmoisine incident shook relations up and down the supply chain but once actors moved to more collaborative relationships and better sharing of information, problems were resolved.

Discuss the importance of collaboration in the development and maintenance of an international agri-food market.

The homogeneous nature of bulk commodities can often over-shadow the need for precision in the delivery of food products. Simply because large quantities of low-priced, homogeneous goods are shipped in bulk does not detract from the strict maintenance of quality standards. While food commodities are characterised as being low-value, their collective value often contributes significantly to rural and national economies. Furthermore, great efforts are made by food manufacturers to transform dull, homogeneous commodities (such milk or fruit juice and grain) into heterogeneous, exciting consumer goods (such as Innocent smoothies or speciality, boutique beers). Undermining the quality of bulk commodities through complacency has the effect of de-valuing the end-product. Finally, safety is of the utmost importance when handling any food product (bulk or micro quantities). These points all contribute to the need for a seamless flow of information to maintain quality standards throughout the food supply chain. Food chains are complex as there are often numerous actors and it is rare that a single firm is responsible for growing, processing and retailing a single product. Therefore, open lines of communication and trusting relationships are at the fore-front of the development and maintenance of an international agri-food market.

Provide justification for the idea that the Western Australian export grain supply chain, as described in this case study, had robust qualities.

“Robust: a strong or vigorous capability to, for example, manage regular fluctuations in demand” (p. 407, all see text chapter 15).

Agriculture, by nature, is a highly volatile industry due to its strong reliance on weather conditions. As a consequence, it has developed strategies (over millennia), to cope with fluctuations of supply. For example, grain storage systems have been engineered over centuries to ensure that quality is maintained over long periods of time. In more recent times, sophisticated information systems have been developed to capture grain quality upon delivery and monitor quality over time so precise knowledge is available on substantial quantities of grain. Also, physical storage facilities are better engineered to cope with numerous segregations of grain types. Therefore, changes in demand are easy to cope with as bulk handling agents have access to both physical and informational resources to respond when market changes occur – or returned to its original state after being disturbed (resilience).