



BRAZILIAN SOYA BEANS DESTINED TO CHINA – CONTINUED CHALLENGE

Brazil is one of the most important producers of Soya beans (vegetal protein) in the world, and new technologies are increasing the productivity year by year. Historically Brazilian soya beans were exported to European markets; and considering the transit time from Brazil to Europe and minor variation of air and seawater temperature, complaints regarding cargo quality were rare. Nevertheless, when China commenced to increase importation of Soya beans, significant cargo claims appeared to be a new challenge to the Owners and their P&I Clubs.

Presently there are multiple articles prepared by P&I Clubs' Loss Prevention department, in association with scientists of Consulting Companies and Agricultural Universities, enlisting various advices and/or precautions for shipowners and Masters, to minimise deterioration of cargo during long sea passage. Nevertheless, it is well known that self-heating process can often not be avoided while the cargo is already stowed on board a vessel.

Self-Heating has a direct relation to cargo moisture content and cargo temperature (the cargo is loaded on board with such condition, and those parameters are uncontrolled by sea carriers). If combination of cargo moisture and temperature are high, the possibility of cargo self-heating during sea passage shall be high as well. The opposite is also true. Then, values of moisture content and cargo temperature have an important significance on preservation of cargo quality / condition during a long sea passage.

The analysis of Free Fatty Acid (FFA) is a valuable marker for the "health" of the beans. This is a sensitive index of initial grain deterioration (*Zeleny and Coleman, 1938*), where hydrolysis of triglycerides is catalysed by enzymes whose activity is increased by increased moisture content.

A cargo claim in China is regulated by The Chinese Maritime Code 1992 (CMC), which provides also the responsibility, exemption and/or limitation of liability available for sea carriers. According to CMC Article 51, a carrier shall not be responsible for loss or damage arising or resulting from "nature or inherent vice of the goods". This is the main cause of damages to the cargo of soya beans observed during discharge in China port(s).

In order to construct a consistent evidence to exempt the sea carriers' liability for the damages to the cargo caused by "nature or inherent vice of the goods", it is quite crucial to collect valid evidences of cargo condition at loading port.

In general, it is expected to have a cargo loaded on board "in apparent sound condition", once intrinsic characteristics of cargo cannot be determined during loading. However, organoleptic condition, moisture content and temperature of cargo, as well as samples of cargo drawn during whole shipment, carried out by a qualified surveyor, can be ascertained and most probably shall assist the sea carriers at discharging port, in case the cargo deteriorates during sea passage. In summary, a reasonable defence commences with evidences collected simultaneously with commencement of loading.

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