

Brazilian Soya Beans Guideline:

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.

Currently, the ports of Parana are the second-largest soybean export gateway in Brazil. The main destinations for Brazilian soybeans exported through the Port of Paranaguá are China, Vietnam and Iraq.

Loading of Soya Beans at the Port of Paranaguá:

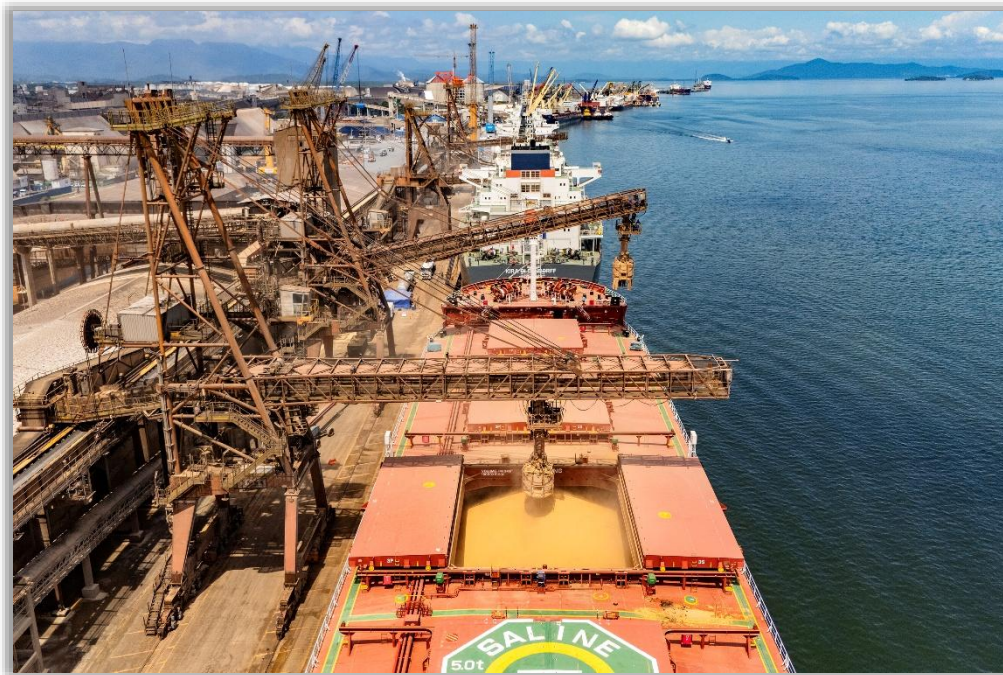


Photo by Claudio Neves

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.

Self-Heating has a direct relation to cargo moisture content and cargo temperature (the cargo is loaded on board in such condition, and those parameters are uncontrolled by sea carriers). If combination of cargo moisture and temperature is high, the possibility of cargo self-heating during sea passage is 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.

In order to construct 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 evidence of cargo condition at loading port.

There are several preventive measures that Shipowners and Masters can adopt to mitigate the risks of cargo loss. It is recommended that the vessel's crew:

- 1)** Ensure that cargo holds are prepared to 'grain clean' standards.
- 2)** Collect 3 (three) samples of cargo from each hold (bottom, middle and top), duly identified including date and time.
- 3)** Observe the sensorial characteristics of cargo:
 - Odor: "off odors" are smells, that are produced when bacteria break down the protein in food, (usually fatty foods).
 - Sliminess: Food becomes slimy as the bacterial population grows. Molds may also form slimy whiskers.
 - Discoloration: Foods can become discolored by microbial growth. Some molds have colored spores that give the food a distinctive color. The cargo must have homogeneous appearance; any abnormality must be reported to the Company.

NOTE: presence of foreign matters (impurities) can be detrimental for the cargo, because natural flowing of air inside hods can be jeopardized.

- 4) Prepare and maintain, during whole sea passage, a detailed holds' ventilation program according to vessel's SMS Manual.
- 5) Be aware that the official Brazilian standard for cargo moisture content is a maximum of 14%, according to ANEC.
- 6) Follow the instructions of the Fumigator Company relating to in-transit fumigation. The fumigator should provide detailed documentation, including the type of fumigant, method of application, dosage, exposure duration and method of residue disposal.
- 7) Actively monitor loading operations and suspend loading immediately if contaminants or discoloured, obviously moist or heated soybeans are observed.
- 8) Consider appointing experienced surveyors to document cargo condition, including temperature and moisture during loading.