

Glossary

U.S. Soy: International Buyers' Guide

Glossary

Amino acids — The chief components and determinants of the characteristics of a protein; the building blocks of living tissues. Eighteen different amino acids commonly occur in the food supply and eight are considered essential because the body cannot make them. Soybeans contain all eight of these amino acids.

Basis — The difference between the local cash price of a commodity and the price of a related futures contract, i.e., cash price – futures price = basis.

Bearish — A market view that anticipates lower prices.

Bill of lading — A document that establishes the terms of a contract between a shipper and a transportation company under which freight is to be moved between specified points for a specified charge. Usually prepared by the shipper on forms issued by the carrier, it serves as a document of title, a contract of carriage, and a receipt of goods.

Bleaching — Treatment of a fat or oil with a material such as activated charcoal or diatomaceous (Fullers) earth which removes or reduces the amount of coloring materials normally present in a refined oil. The bleaching process may be carried to the degree desired depending upon the color required by the eventual usage of the processed oil.

Bullish — A market view that anticipates higher prices.

Call option – An option that gives the option buyer the right to purchase the underlying futures contract at the strike price on or before the expiration date.

Cash grain — The physical commodities, the definition encompasses all or any markets.

Cash market — A market in which buyers and sellers purchase/sell physical commodities. This can refer to a specific place, but it can also refer to the transactions themselves and need not be confined to any one place.

Cash position — A trading position in a physical commodity.

Cash price — The price of the physical commodity.

CFR (cost and freight) – A pricing term indicating that the cost of goods and freight charges are consolidated for shipment or unloaded for final delivery.

C & I (cost and insurance) – A pricing term indicating that the cost of the product and insurance is included in the quoted price. The buyer is responsible for freight to the named port of destination.

CIF (cost, insurance and freight) – A pricing term indicating that the cost of the goods, insurance, and freight is included in the quoted price.

Confirming bank — The financial institution that confirms payment against presentation of negotiated documents; preferably a first class U.S. bank.

Container — A uniform, sealed, reusable metal “box” (generally 40 feet in length, able to hold about 40,000 pounds) in which goods are shipped by vessel or rail. The use of containers (or containerization) in trade is generally thought to require less labor than more traditional shipment methods and reduce losses due to breakage, spoilage, and pilferage.

Container Ship — A ship specially constructed to handle containerized cargo.

Cooking Oil — A refined, bleached, and deodorized oil that has not been further processed to remove the higher melting point portions of the oil. Cooking oils tend to crystallize or set up semi-solid at temperatures much below about 70 degrees F. For this reason, heating coils should be installed in storage tanks for cooking oils in contrast to salad oils where no heating coils are usually necessary.

Cracking — The breaking of the whole seed into several pieces to facilitate dehulling and flaking.

Crude soy oil — Sometimes referred to as crude raw soybean oil; the unrefined oil produced by any one of the procedures described for the extraction of oil from soybeans. It is customary to filter the oil and/or allow it to settle after being processed from the soybeans as required by the standard trade specifications. Crude soy oil is a mixture of triglycerides composed of unsaturated fatty acids (oleic, linoleic, linolenic) and saturated fatty acids, together with usually not more than 1.5% of free fatty acids and from 1.8% to 3.2% of phospholipids, depending on the quality and kind of soybeans and the procedure used in processing.

Dead weight — The vessel’s total carrying capacity, i.e. cargo plus fuel and water and constant (crew, machinery, spare parts, etc). Dead weight cargo capacity is what remains after deducting fuel and water, etc. as above for total dead weight.

Defatted soy flour — Flour produced by the nearly complete removal of the oil from soybeans by the use of hexane or other homologous hydrocarbon solvents; usually contains about 1% fat.

Degummed soy oil — Sometimes referred to as crude degummed soy oil; the product resulting from washing crude soy oil with water and/or steam or another degumming agent for a specified period of time and then separating the oil-and-water mixture, usually by centrifugation, to remove the phosphatides. It shall not contain more than 0.02% of phosphorus without a discount penalty.

Degumming — The removal of phospholipids from vegetable oil by a water washing step.

Delivery period — The time period within which a buyer will provide a vessel to receive delivery on FOB contracts.

Demurrage – A surcharge assessed by steamship lines and railroads for storage at their port facility longer than the allotted “free time.”

Deodorizing — A process involving use of high vacuum and superheated steam in washing of fats and oils. Deodorization removes from fats and oils materials originally present or introduced during previous processing that would contribute objectionable flavors and odors to the finished product.

Diglyceride — A chemical combination of fatty acids and glycerin in the proportion of two fatty acid units to one glycerin unit. A diglyceride may result from the combination of the units or by splitting off one fatty acid unit from a triglyceride during fat breakdown or hydrolysis.

Edible crude soy oil — Soy oil which shall be of any of the following designated types produced from mature yellow soybeans: (1) expeller pressed, (2) expeller pressed degummed, (3) hydraulic pressed, (4) hydraulic pressed degummed, (5) solvent extracted, (6) solvent extracted degummed, and (7) mixtures of any of the above-described types. When the oil is produced by solvent extraction, the name of the solvent used in the process must be given.

Edible refined soy oil — Crude or degummed soy oil which has been subjected to special refining processes to adapt it specifically for use in food products. In addition to treatment with alkali, bleaching, partial hydrogenation, the oils may be also winterized. These oils are further classified as salad oils, cooking oils, or shortening.

Expeller — Equipment for expressing oil from oil seeds, consisting of an augur moving through a slotted barrel through which oil can drain. Also called a continuous screw press.

Extruder — A jacketed augur used as an economical cooker and as a means of texturizing soy flours or concentrates. Can also be used to treat oilseed flakes before solvent extraction.

Extrusion — A process for texturizing soy flours or other proteins using high pressures and temperatures in an extruder.

FAS (free alongside) – A pricing term indicating that the quoted price includes the cost of delivering the goods alongside a designated vessel.

FEU (40-foot-equivalent unit) – Commonly describes a 40-foot container.

FOB (free on board) – A pricing term indicating that the quoted price includes the cost of loading the goods into transport vessels at the specified place.

Fully refined soy oil — The edible oil produced from crude or degummed soy oil that has been treated with dilute alkali solution (caustic refining) or neutralization, treated with absorbent clay materials (bleaching) and subjected to steam distillation at high temperatures under vacuum (deodorizing). Such oil may also be produced by a process called physical (steam) refining which consists of degumming, bleaching and neutralization by final step of deodorizing.

Fumigation — Application of a pesticide or chemical to a cargo in order to rid the cargo of insects. The most common type of fumigant is phosphine gas, which is applied, in several different methods, to grain while in the elevator or vessel or

barge. A firm licensed by the government should handle fumigant, which can be toxic.

Futures contract – A contract traded on a futures exchange for the delivery of a specified commodity at a future time. The contract specifies the item to be delivered and the terms and conditions of delivery.

Futures price – The price of a futures contract determined by open competition between buyers and sellers on the trading floor of a commodity exchange or through the exchange’s electronic trading platform.

Gumming — Formation and accumulation of a fat insoluble sticky material resulting from continued heating of fats and oils. The gummy material is produced by oxidation and polymerization of the fat and represents fat breakdown products that collect on heating surfaces.

Hedging — Shifting the price risk to reduce or remove any unforeseen adverse price movements in the future. The risk is shifted to those who are willing to take on the risk in hopes of making a profit (speculators).

High-fat soy flour — Flour produced by adding back soy oil and/or lecithin to defatted soy flour to a specified level, usually in the range of 15%.

Hydrogenated soy oil — During the process of hydrogenation, the soy oil is exposed to hydrogen gas in the presence of heat and a catalyst (nickel, copper chromite) and the hydrogen combines with certain of the chemical components (unsaturated fatty acids) of the triglycerides with a resultant increase in the melting point of the oil; sometimes referred to as “hardening.”

Hydrogenation — The process of chemically adding hydrogen in the presence of a catalyst to the unsaturated, “hydrogen short” portions of a natural fat. The addition of hydrogen reduces the reactivity of the fat toward oxygen and thus stabilizes and retards rancidity development in the fat. Hydrogenation usually raises the melting point of a fat or changes it from liquid oil to a solid fat.

Hydrolyzed soy protein — Made from soybean flours, concentrates or isolates, treated with an acid or a base or an enzyme and then dried.

Kibbled soybean meal — The product obtained by cooking ground solvent extracted soybean meal, under pressure and extruding from an expeller or other mechanical pressure device. It must be designated and sold according to its protein content and shall contain not more than 7% crude fiber.

Lecithin — The mixed phospholipids product obtained from soy oil by the degumming process, contains lecithin, cephalin and inositol phosphatides, together with glycerides of soy oil and traces of tocopherols, glucosides and pigments. It is designated and sold according to conventional descriptive grades with respect to consistency and bleaching. The dehydrated emulsion of mixed phosphatides and soy oil is further processed to produce the commercial grades which may be described as follows: plastic or firm consistency; soft consistency; fluid; unbleached; bleached; and double bleached. High quality commercial lecithin contains 60% to 65% phosphatides.

Loading charges — Costs incurred for the loading of cargo. The charges vary depending on the kind of vessel specified, the port visited, and the time spent at berth. The party responsible for the charges is determined as part of contract negotiation.

Long position — A position established by purchasing a futures contract or an options contract (either a call or a put).

Margin — Deposits posted by all futures buyers or sellers to the brokers handling their accounts, guaranteeing that the buyer/seller will meet his obligation.

Margin call — A requirement made by a brokerage firm to a market participant to deposit additional funds into one's margin account to bring it up to the required level.

Meat extenders — Soy or other vegetable proteins used as partial substitutes for meat in processed items such as patties, chili, casseroles, etc.

Melting point — Usually the temperature at which a natural or processed fat becomes perfectly clear and liquid or at which a disc of the fat assumes a spherical shape under prescribed conditions of raising the temperature of the fat sample. The melting point for typical nonhydrogenated soy oil is in the range of -10 to -16 degrees C. Hydrogenation decreases the degree of saturation, and therefore, raises the melting point of oil.

Oilseed crops — Soybeans, peanuts, cottonseed, sunflower seed, canola and rapeseed, as well as other crops used to produce edible and/or non-edible oils.

Premium — The price of a particular option contract determined by trading between buyers and sellers. The premium is the maximum amount of potential loss for an option buyer and the maximum amount of potential gain for an option seller.

Put option — An option that gives the option buyer the right to sell the underlying futures contract at the strike price on or before the expiration date.

Price discovery — The process by which a combination of the futures and cash markets allow both buyers and sellers to determine the approximate value of a commodity at a given moment.

Refining — Treatment of a natural or processed fat to remove impurities. Refining is accomplished by treatment of the fat with caustic soda, centrifuging, washing with water and centrifuging again. The separated refined fat or oil is dried by heating under vacuum.

Shipped weight — The weight of the grain that is shipped; determined by or under the supervision of FGIS or a state weighing agency. Shipped weight is almost always the weight that governs. The weight certificate is final. This is also frequently referred to as loaded weight.

Short position — The position created by the sale of a futures contract or option (either a call or put).

Speculator – A market participant who buys and sells futures and/or options in hopes of making a profit – adding liquidity to the market.

Soy flour and/or grits — The ground, screened, graded product obtained after extracting most of the oil from selected, sound, clean, dehulled soybeans. They are produced from grinding the defatted soy flakes. Grits are coarser ground than soy flour. Protein range is 40% to 60%. It must contain not more than 4.0% crude fiber.

Soy protein concentrate — Prepared from high quality sound, clean, dehulled soybean seeds by removing most of the oil and water soluble non-protein constituents and must contain not less than 65% protein on a moisture-free basis.

Soy protein isolates — Soy protein that has been removed and greatly concentrated from the soybean by chemical or mechanical means. Isolates are generally produced by extracting protein from white flakes or flour with water or a mild alkali. Isolates usually have a protein content of at least 90%.

Soya — As with the term soybeans, soya describes a legume, the botanical name of which is *Glycine max* (L) Merrill. Also, soya can be used when describing the entire plant, crop or category of products derived from soybeans. Differentiated from the term soybeans, which can be used to describe the actual seed of soya. Internationally acceptable.

Soybeans — A legume, the botanical name of which is *Glycine max* (L) Merrill; a summer annual varying in height from less than a foot to more than six feet and in habit of growth from stiffly erect to prostrate; the cultivated plant may reach a height of three feet or more. The seeds (soybeans) are borne in pods that grow in cluster of three to five with each pod usually containing two or three more seeds. The oil content of the soybean varies from 13% to 26% (average 18% to 22%) and from 38% to 45% protein (on a moisture-free basis.) Soybeans were grown for centuries in the Orient and first introduced to the United States early in the 19th century. Soybeans grow best in areas having hot, damp summer weather but they can be grown under a great variety of climatic conditions.

Soybean cake — Product resulting from the extraction of part or all of the oil by pressure or solvents from soybeans, sold according to its protein content and further described by its process of manufacture.

Soybean extraction/processing — The procedures involved in the separation of the oil and the protein meal; also called “crushers” or oil mill operations. There are two types of processes presently used in the United States for this purpose: (1) Solvent extraction: the process whereby the oil is leached or washed (extracted) from flaked soybeans by the use of commercial hexane as the solvent. The level of oil in the extracted flakes can be reduced to 1% or less by this processing method. The products resulting from the use of this process are designated in the trade as “solvent extracted,” e.g. “Solvent extracted soybean meal,” “dehulled solvent extracted soybean meal,” “solvent extracted soy grits,” “solvent extracted soy flour.” Practically all soybeans processed in the United States are processed by the solvent extraction system. (2) Continuous pressing: a continuous pressing process, at elevated temperatures, using expellers or screw presses which utilize a worm shaft continuously rotating within a pressing cylinder or cage to express the oil from soybeans after they have been ground and properly conditioned. The oil content of

the resulting press cake is reduced to from 4% to 6% by this processing method. Although technically incorrect, the products resulting from this type of processing are often referred to as “expeller,” e.g. “expeller soybean meal.”

Soybean meal — Ground soybean cake, ground soybean chips or ground soybean flakes, sold according to its protein content and further described by its process of manufacture. Typical composition: protein 44.0% minimum, fat 0.5% minimum, fiber 7% minimum, and moisture 12.0% maximum.

Soybean meal, dehulled, solvent extracted — Obtained by grinding the flakes remaining after removal of most of the oil from dehulled soybeans by a solvent extraction process. It must contain not more than 3.5% crude fiber.

Soybean meal, mechanical extracted — the product obtained by grinding the cake or chips that remain after removal of most of the oil from soybeans by a mechanical extraction process. It must contain not more than 7% crude fiber.

Soybean meal, solvent extracted — The product obtained by grinding the flakes that remain after removal of most of the oil from soybeans by a solvent extraction process. It must contain not more than 7.0% crude fiber.

Soybean mill feed — Composed of soybean hulls and the offal from the tail of the mill that results from the manufacture of soy grits or flour. It must contain not less than 13% crude protein and not more than 35% crude fiber.

Soybean mill run — Composed of soybean hulls and such bean meats that adhere to the hulls that result from normal milling operations in the production of dehulled soybean meal. It must contain not less than 11% crude protein and not more than 35% crude fiber.

Soybean processor — A company or firm whose primary business is the separation of the oil and meal in soybeans. The activities of a processor may also include refining and/or distribution of the oil as well as distribution or further production with soybean meal or soybean protein.

Soybean hulls — The outer covering of the soybean. Hulls typically contain 13% moisture.

Soyfoods — Term for edible (primarily for human consumption) soy-based products. These include traditional soyfoods such as tofu, soymilk, tempeh, soy sauce etc: soy protein products produced after processing such as soy flour, soy concentrates and isolated soy proteins: soy oil products such as refined soy oil, hydrogenated soybean oil and soybean lecithin: and other edible by-products such as soybean hulls and soy fiber. Also, “second generation” soyfoods, a term to describe consumer-oriented products that use a soyfood as a primary ingredient, such as tofu or soymilk-based nondairy frozen desserts or tofu-stuffed ravioli.

Soymilk — A protein-rich, milk-like liquid typically obtained from the soaking and grinding of whole soybeans with water; or, hydrating whole, full-fat soy flour; cooking the resultant slurry, and filtering all or part of the soy pulp or fiber from the cooked liquid.

TEU (20-foot-equivalent unit) – Commonly describes a 20-foot container.

Trimmed cargo — Cargo is manually or mechanically moved to the edges of the holds for safe stowage to reduce any risk of shifting during the voyage. Ordinary vessels require cargo to be trimmed.

Unsaturation — a term descriptive of the carbon-hydrogen make-up of a material such as fat or oil. The term refers specifically to a shortage of hydrogen atoms in the oils structure. The less hydrogen, the greater the degree of unsaturation and the greater the reactivity with oxygen. Unsaturation in a fat or oil means easier formation of peroxides, easier development of rancidity and more tendencies to polymerize. Highly unsaturated fats are usually oils, and solid fats have lower unsaturation.