



REF 2001

ExPress® Soybean Oil

ExPress soybean oil is extracted by a purely mechanical method without the use of organic solvents, as is the current practice in the soybean oil industry. Oil is extracted by extrusion cooking of beans for less than 30 seconds followed by continuous screw pressing of the cooked bean. The oil comes out as a brilliantly clear liquid with the natural color due to carotenoids. Because of the high-temperature-short time cooking treatment, the oil has a pleasant mildly nutty flavor unlike solvent extracted oil that has a raw odor.

The **ExPress** process imparts other superior characteristics to the oil. Unlike in solvent extraction, this mechanical method of extraction does not extract all of the undesirable components into the oil. Much of the gums are left in the meal while the free fatty acids are consistently lower. Likewise the content of unsaponifiable matter is also lower due to the selective extraction taking place unlike in the solvent method. These traits coupled with the good color and odor has resulted in the use of this oil directly as cooking oil in certain countries where the natural color of oil is accepted. However, for deep frying purposes, the oil should be de-gummed to avoid foaming over.

The **ExPress** process extracts high levels of the naturally occurring tocopherols into the oil. The tocopherols serve a dual function in that they extend the shelf life of the oil and also provide Vitamin-E activity. The shelf life of the oil properly packed and stored at room temperature is in excess of one year.

ExPress soybean oil has been refined by physical means without the use of caustic for neutralizing. In this case, the natural quality of the oil is retained while providing colorless and odorless oil to the sophisticated market.

Perhaps the most important aspect of the whole process is that it is compatible with value adding at the rural level and supporting viable agribusiness on the small scale. Currently, commercial ventures using this technology operate at capacities as low as 6 MT/Day and as high as 125 MT/Day. Today's markets also demand identity preserved oil products, whether it is natural, organic, non-GMO or other traits. **ExPress** technology is ideally suited to capitalize on this opportunity whereas the large scale solvent extraction industry finds it logistically impossible to do so due to infrastructural constraints.

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