Success Case

Newsletter
N° 1902

Dehulling Case

Dehulling – Fluidized Bed

Ponta Grossa, PB (Parana), Brasil

Our team of process engineers has many years of experience in dehulling systems for both soybean and sunflower.

Every day, countries around the world are finding less amounts of protein in the soybean beans, and in the last 12 years this problem has significantly affected Argentina.

This situation requires all plants to carry out a complete dehulling process for full removal of the grain's hull because any remaining fraction would result in lower protein content in the meal, impeding the fulfillment of market requirements.

Today, powerful and efficient aspiration can only be achieved using equipments specifically designed for such operation; otherwise, significant losses of fat matter in the hull will occur, as well as high percentages of fiber in the meal.

Making a quick calculation, a plant that processes 3,000 ton/day of soybeans with a hull removal of 6% = 180 ton/day, in which every point of fat matter above standard represents 1.8 ton/day of lost oil.

If we translate this into soybeans, it is necessary to multiply by 5, because we are removing fines with 20% of fat matter, and we lose 9 ton/day of soybean per each porcentual point of excess residual fat matter in the hull.

The typical residual fat matter in the hull needs to be between 1.0% and 1.5%, and it depends on the botany of the grain as well as on the process used for dehulling (Cold, Warm or Hot).

This success case refers to a plant that required aspiration of the entire hull (6%) but could not reduce the residual oil content of 4%.This meant a loss of 2.5 % (4.0% - 1.5%), which in soybean tons resulted in 22.5 ton/day of losses (9 tons of fines x 2.5 points of inefficiency).Such decrease equals a daily value of USD 7,425 (22.5 tons x USD 330), or 742,500 U.S. dollar per every 100 work days.

Our company has installed more than 100 improvements of this type both in Europe and Mercosur.

Using ROTEX, KICE, CODEMA, and PROGLOBAL equipments that our team of applications engineers adapted for this specific purpose, it was possible to obtain optimal performance with a fast investment recovery.