

NUSUN QUALITY AND INDUSTRIAL FRYING APPLICATION

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NuSun Overview

Fatty acid composition has an impact on frying stability and shelf life of finished products. Low level of polar compounds is considered beneficial. NuSun, a sunflower oil with a mid-range oleic acid content, is a choice for industrial frying application.

NuSun Fatty Acid Content

The stability of NuSun oil comes from having a mid-range level of oleic acid content and low level of linolenic acid. There are other types of high-oleic oils being developed. But, all still have high levels of linolenic acid. That will be not be stable for industrial frying applications. Higher oleic acid content will make the frying more stable. Recent analyses shows that the level of oleic acid in NuSun oil has been improved to 57-58% in 00/01 crop.

NuSun OSI Data

As oleic acid level increase, OSI of NuSun is getting closer to that of cottonseed oil. OSI of Cottonseed oil is 7.0 to 7.5 hours at 110°C

<u>% C18:1</u>	<u>OSI @110°C</u>
66.89	7.00
56.55	6.30
55.17	5.60
51.48	5.55

NuSun Polar Compounds Level

NuSun has very low polar compounds(2.3%) from the new crop seeds, which is about half the amount of other oils. Low polar compounds in the oil is beneficial. This may be one of the reasons that chip fried with NuSun has a cleaner taste. It will help easier flavor display in seasoning brands. When NuSun seeds being properly stored, it was found very little increase in polar compounds over the crop year(2.9%). This is an important attribute providing consistently good quality oil throughout the year.

Today's Situation

Pringles has accepted NuSun as one of the frying oils. Oleic acid level of 57-58% is good, above 60% is preferred. Pringles shelf-life is imaginarily med with 57-58% oleic content. We would like to be at a more robust condition with oleic content of 60 – 65%. There are many hybrids of NuSun seeds to choose from. I need your help selecting ones that will guarantee us to have oleic content of higher than 60% in next crop. Another important note is that a blend of regular sunflower with high oleic sunflower to meet NuSun requirement will not give stable oil we need. Polar compounds of 2 – 3.0% is good, 4 – 5.0% is not desirable. NuSun seeds are like other vegetable oil seeds. The quality of oil will go down if seeds are not dried properly and stored in cool environment.

Outcome

As a stable oil, NuSun can be very competitive as the industrial frying oil. For supply assurance, the industrial users would like to see more NuSun plantings. As a natural hybrid, NuSun is a good oil choice for non-GMO requirements. Consumers are our bosses. We have to provide what they want. As long as GMO issue is a concern to consumers we need to be sensitive to their needs.