



Why HOLL OSR oil is a great alternative for Deep Frying ...

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The level of unsaturation is the main factor that promotes oxidation and break down during use of the hot oil. HOLL OSR oil, with less saturated fatty acids and higher levels of oleic acid is more heat resistant than many edible oils.

.....It has a higher smoke point (246°C) resulting in higher resistance to heat process than most edible oils, thus being a good choice for the frying industry (Table 2).

Smoke point of common edible oils

Oil	Smoke point (°C)
HO sunflower oil	248
HOLL OSR oil	246
Peanut	244
Regular rapeseed	242
Sunflower	240
Corn	234
Soybean	234
Olive processed	220
Extra virgin olive	166

Table 2. (adapted from Canola Council of Canada¹¹).

HOLL OSR oil has a high smoke point (246°C), four degrees higher than regular OSR oil and close to HO sunflower oil, indicating its high resistance to heat processing.

....It has similar behavior alone and in blends and it also has better performance in the development of total polar materials (TPM) than regular rapeseed oil (Fig. 4), indicating that the frying life of HOLL OSR oil is longer than for regular OSR oil. Moreover, it has similar behavior to HO sunflower oil in the development of total polar materials (TPM), which indicates substitutability (Fig. 5).

- Polar materials are the compounds produced due to changes in the oil during heating or frying of oils. Their evaluation in used frying oils is an excellent measurement of oil degradation.***
- In some European countries the discarding level of an oil is set by 24-27% of polar components (Table 3).***

- **This increase in shelf life means less frequent oil changes for operational and financial efficiencies.**

Limitations in official regulations on used frying fats and oils

Country	Polar compounds max. (%)	Smoke point (°C)
Austria	27	170
Belgium	25	170
France	25	-
Germany	24	170
Italy	25	-
Spain	25	-

Table 3. (Fox 2001¹²).

HOLL OSR oil has a higher smoke point (246°C) compared to what is required in the regulations of some European countries. In addition HOLL OSR oil does not reach the maximum tolerated levels of polar compounds after 14 days of frying.

Frying life

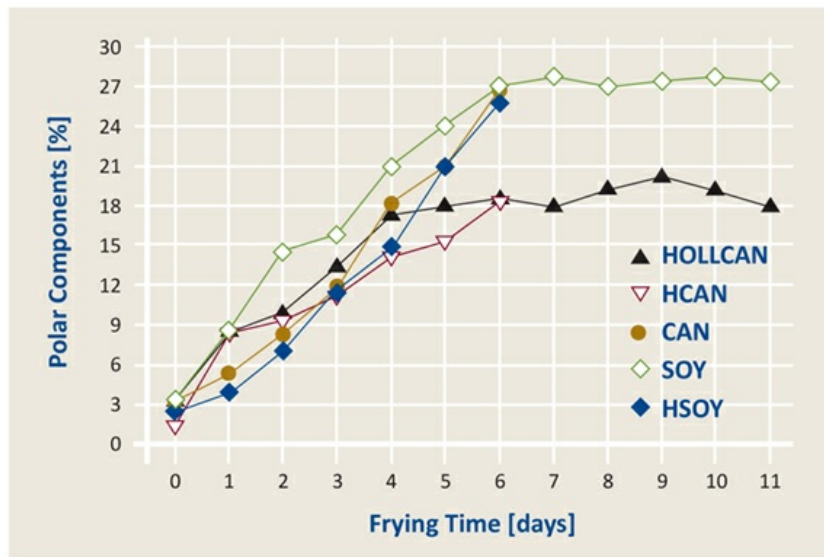


Figure 4. Formation of polar components. (Przybylski 2013¹³).

Legend: HOLLCAN/ HOLL OSR oil; HCAN: hydrogenated canola frying shortening; CAN: regular RBD (Refined, Bleach & Deodorized) canola; SOY: standard RBD soybean oil; HSOY: hydrogenated soybean frying shortening.

HOLL OSR oil shows that the frying life can be expanded from 6 to more than 11 day: compared with regular OSR oil.

Frying life

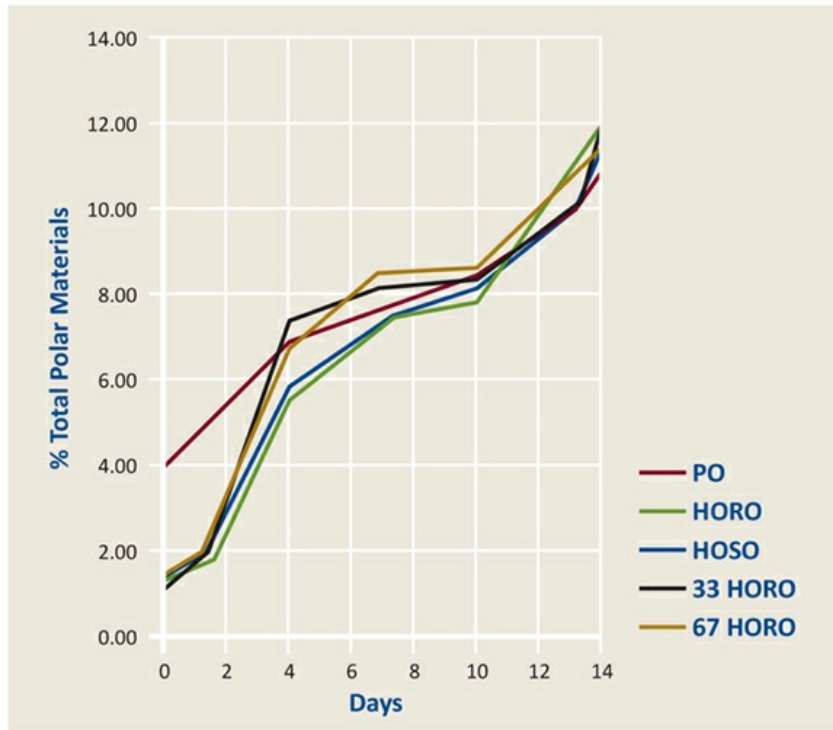


Figure 5. Total Polar Materials analytical (Leatherhead Food Research UK¹⁴).

Legend: PO: palm olein 64; HORO: HOLL OSR oil; HOSO: HO sunflower oil; 33 HORO: Oil blend (33% HOLL OSR oil, 67% HO sunflower oil); 67 HORO: Oil blend (67% HOLL OSR oil, 33% HO sunflower oil).

HOLL OSR oil has similar behavior to HO sunflower oil in the development of total polar materials. HOLL OSR oil is a versatile oil which can be used as a stand-alone oil in addition to being a component in oil blends based on specific customer requirements and needs.

... It results in good sensory evaluation of the fried products.

Sensory evaluation of French fries

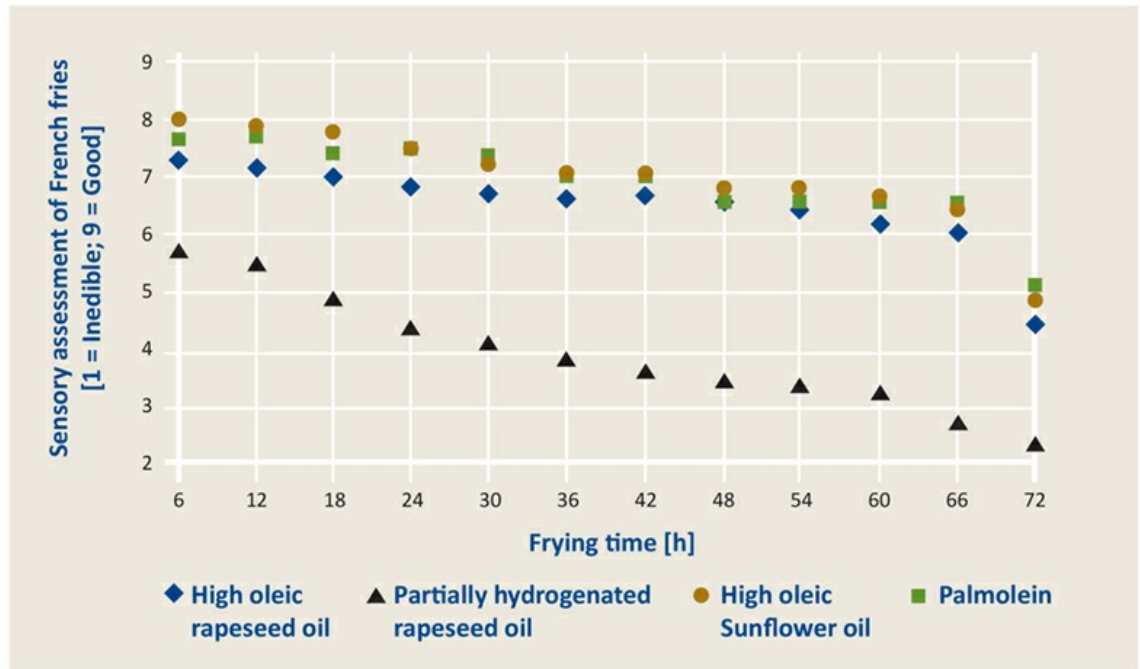


Figure 6. (Matthäus 2006¹⁵).

Even after 66 hours using the oil for deep frying, French fries obtained with HOLL OSR oi (High oleic rapeseed oil) had a satisfactory taste, close to French fries fried in HO sunflower oil and palmolein (Fig 6).