Food Oil Management

Six Strategies for Maximising Oil Life - without Compromising Quality.

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Speakers

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MD Scotland,
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Agenda

Step 1
Choosing the right oil

Step 2
Choosing the right fryer

Step 3
Fryer operation & filtering

Step 4
Monitoring oil quality

Step 5
Pumping & storing waste oil

Step 6
Recycling used oil

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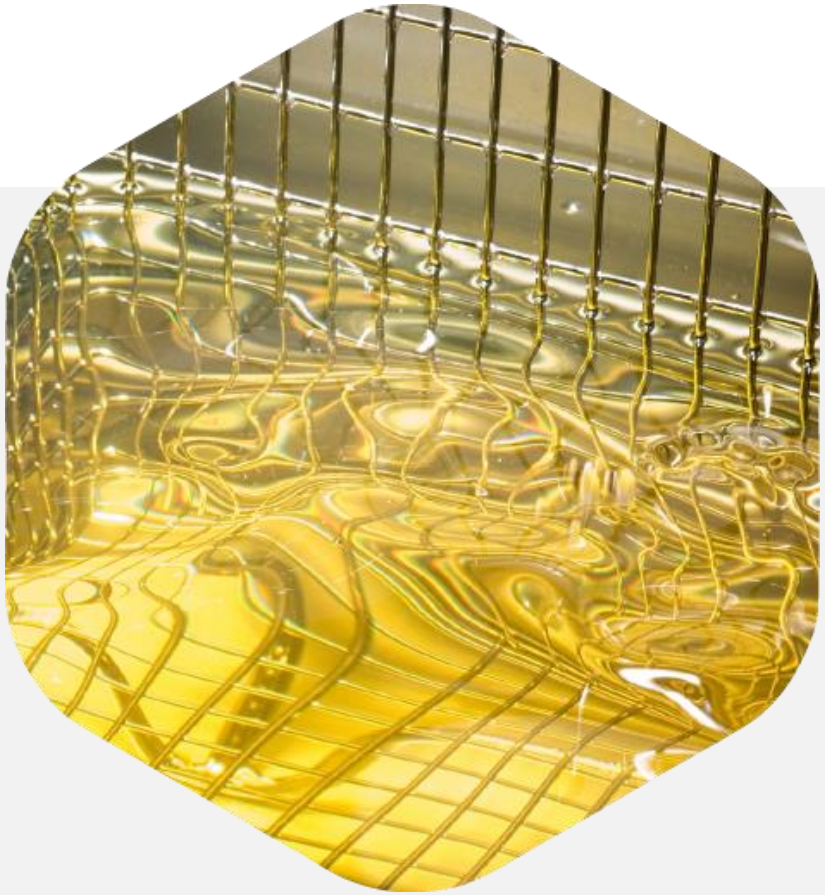

Step 1:
Choosing the right oil

Vincent Igoe
MD Scotland, Olleco Ltd

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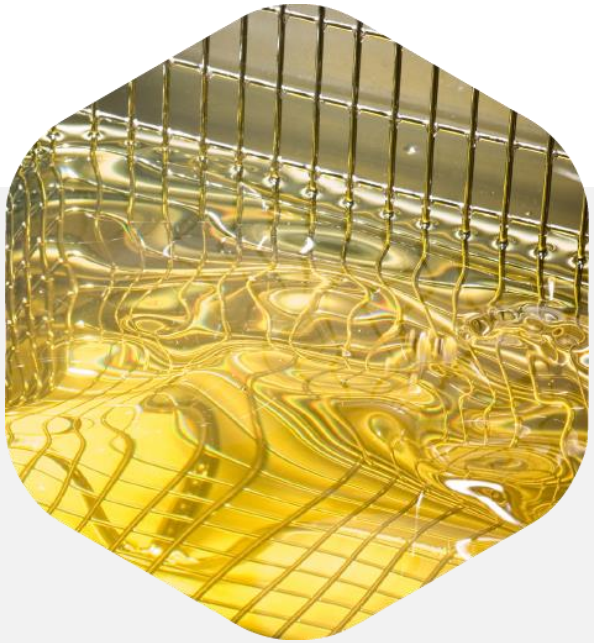
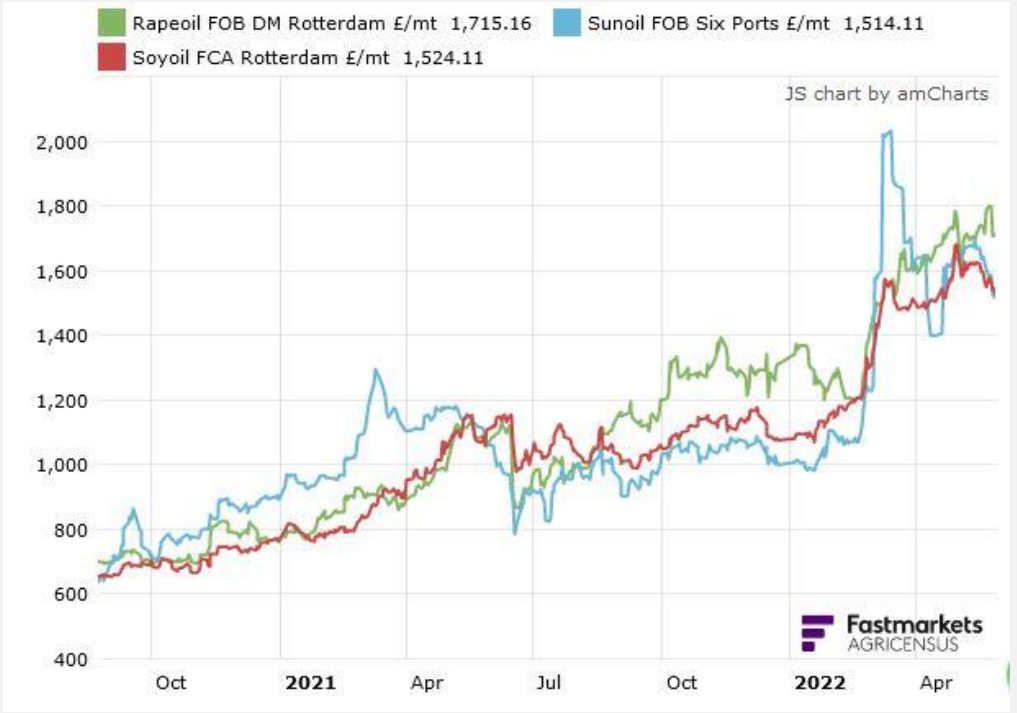
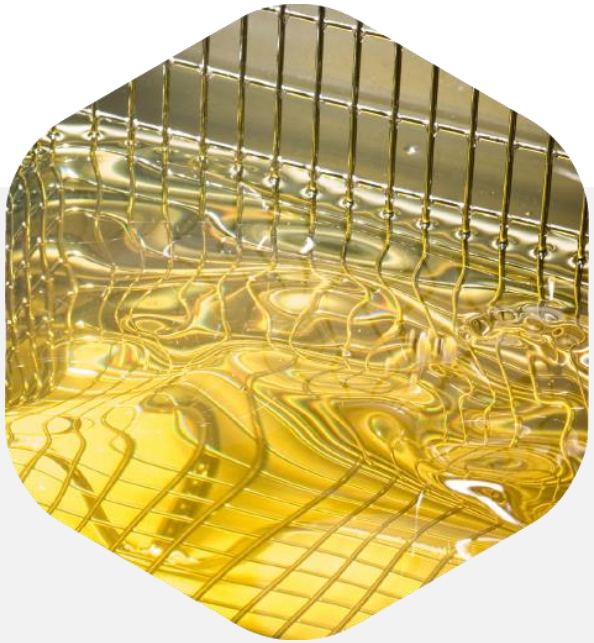


Today’s oil market

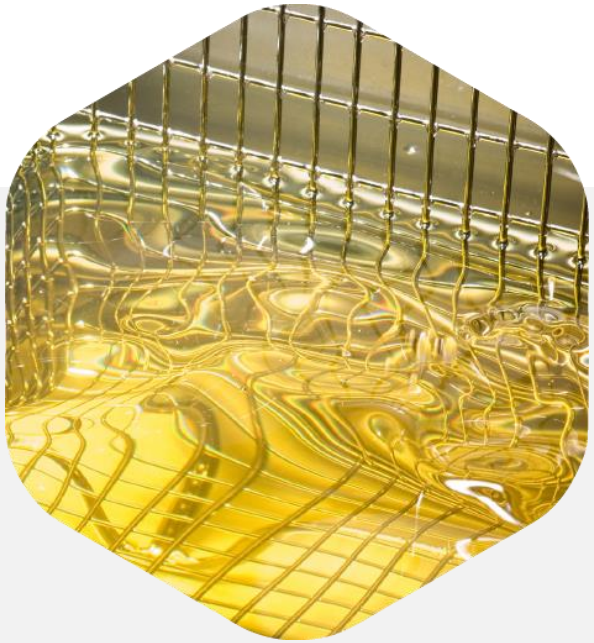
What is happening in the oil market?

- Sunflower oil supply disrupted
- Weather in Canada
- Biodiesel demand in the EU





Olleco’s range of premium oils



Benefits of choosing the right oil

Rapeseed oil	**Vegetable oil**	**Long life oil**
✓ Non genetically modified seed ✓ High smoke point ✓ Extended life ✓ Anti foaming agent - making it safe for use in fryers	✓ Contains anti foaming agent ✓ Extended life ✓ Produced from genetically modified soya	✓ Certified by RSPO ✓ Contains anti foaming agent ✓ Long life lasts two times longer than extended life oils ✓ Non genetically modified seed

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Step 2:
Choosing the right fryer

Michael Eyre
Culinary Director, Jestic Ltd

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Choosing the right fryer

There are many varieties of fryer, of all sizes and budgets.

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Simple Fryers

- No filtration
- Thermostatically controlled
- Entry level £
- Does the job, no oil management assistance

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Gravity (or External) Filtration

- Filter through a sieve or mesh ‘net’
- Thermostatically controlled
- Entry level £
- Allows some basic filtration

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Pumped (or Internal) Filtration

- Filter through a sieve or mesh ‘net’
- Pumped back into the vat, sometimes through a filter paper
- Still lower end £
- Easy to filter regularly and fairly safely

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Digital with In-Built Filtration

- Digital controls with built-in basket timers
- Built-in ‘connected’ filtration system with filter paper
- Moving up in £
- Very easy to filter regularly and safely

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Low Oil Volume (LOV)

- Small or no cold zone
- Automatic oil top-off
- Energy efficiency of over 95% (electric)
- Regular, automatic filtration. Filters oil after a pre-determined number of cooks.
- Menu items programmed for precise cooking every time.
- ‘Daily Clean’ feature with in-built oil polish.
- Microprocessor temperature control increases accuracy.
- High initial cost but payback as low as 18 months.

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Step 3:
Fryer Operation & Filtering

Michael Eyre
Culinary Director, Jestic Ltd

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Fryer operation & filtering

Key things to think about when producing fried food:

- Food types
  - Coated products
  - Chips
- Loading the fryer
- Filtering
  - Paper
  - Powder
  - Depth
- Auto filtering
- Skimming
- Frying temperatures

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Frying best practice – BEFORE frying

- Don’t skip ‘melt-mode’ in the morning.
- Never fill basket over the vat.
- Don’t overfill basket! Respect recommended quantity per basket.
- Ensure that oil is at cooking temperature before basket is dropped.
- For better consistency: always from frozen (no thawing) or always from fresh.

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Frying best practice – DURING frying

- Ensure correct frying temperature: frying at higher temperatures does NOT decrease the frying time!
- Always use timers! Never drop a basket without pushing a button.
- Drop 1st basket and allow 30 sec. before dropping the second basket in the same vat.
- Program an alarm during cook cycle to shake basket.

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Frying best practice – AFTER frying

- Drain/shake the basket above vat
- Skim vat regularly throughout the day
- Top-up oil throughout the day
- Use ‘night’-covers
- Test quality of oil daily, after the daily filtration/clean.
- Proactively filter the vats during the day, the more often the better.
- Use idle-feature when the fryer is not in use.
- Change filter-paper daily
- Polish oil daily

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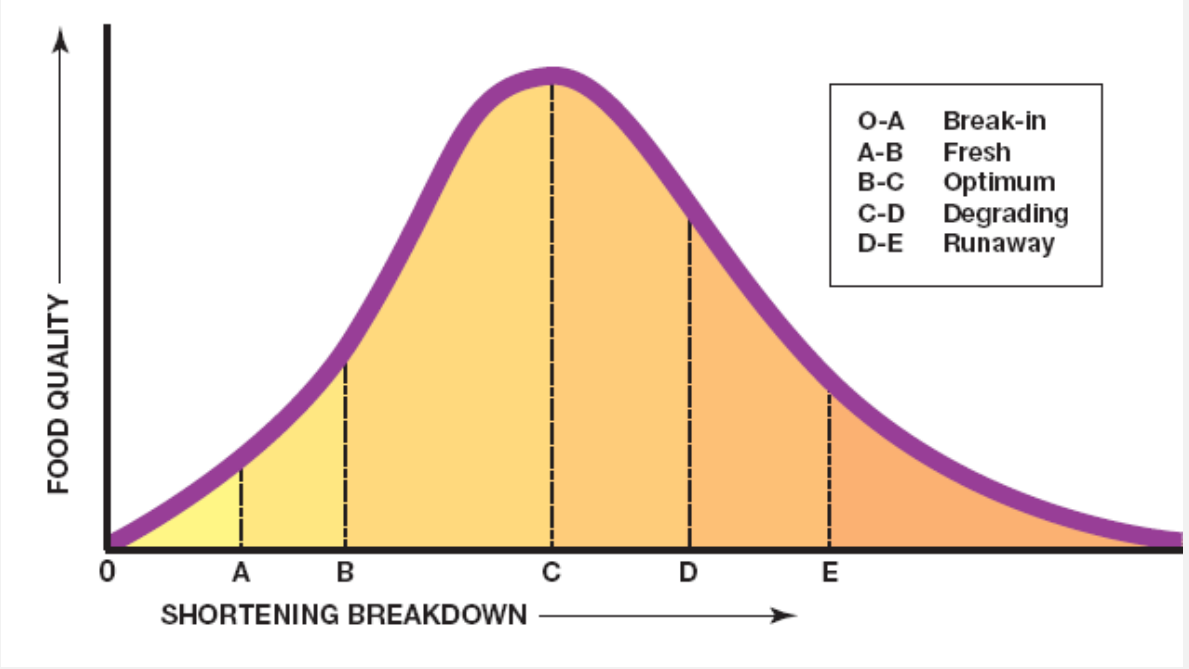
Oil degradation

The process of oil degradation is irreversible, but it can be slowed down with regular filtration and good oil management.



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Oil filtration: how and why?

There are two forms of impurities:

- Solid impurities
- Soluble impurities

Two forms of filtration:

- Particulate Filtration
- Adsorbent Filtration

Most common:

- No Filtration

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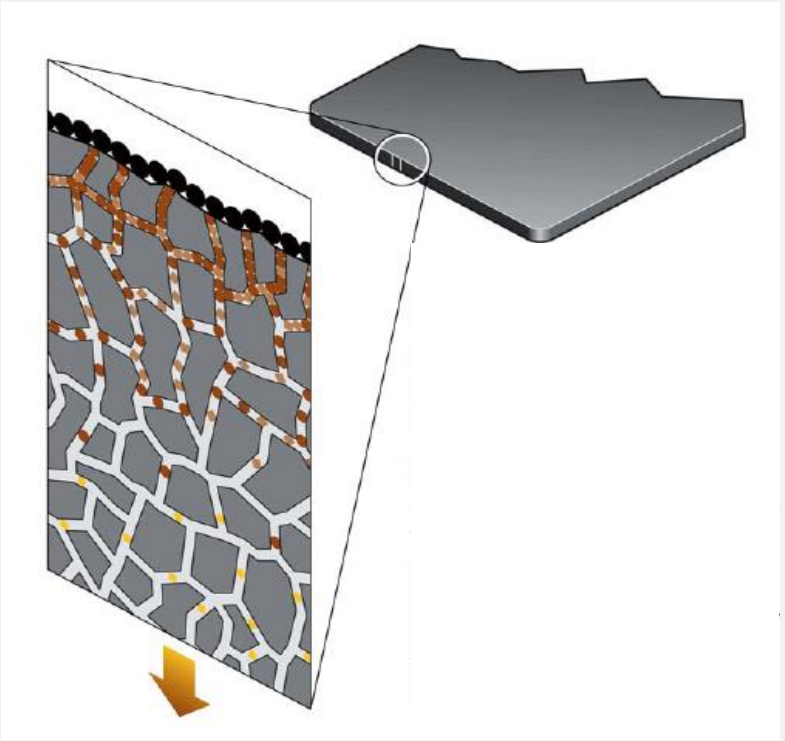
Particulate filtration

Step 1: Skimmer & Crumb Catcher

Particulate filtration

Step 2: Filter Paper

- Size measured in “micron” or “micrometer” (µm)
- 1 µm = 0,001 mm
- Filter-paper: 0,5 - 70 µm



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Adsorbent filtration

Adsorption is the adhesion of atoms, ions or molecules from a gas, liquid or dissolved solid to a surface. This process creates a film of the *adsorbate* on the surface of the *adsorbent*.

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Adsorbent filtration

- Removes soluble impurities
- Attracts and holds FFA and polar compounds for removal by filtration
- Adsorbents:
  - Activated Carbon, Activated Alumina
  - Calcium Silicate, Magnesium Silicate
- Powder to be put into vat or filter-pan
- Impregnated filter pads

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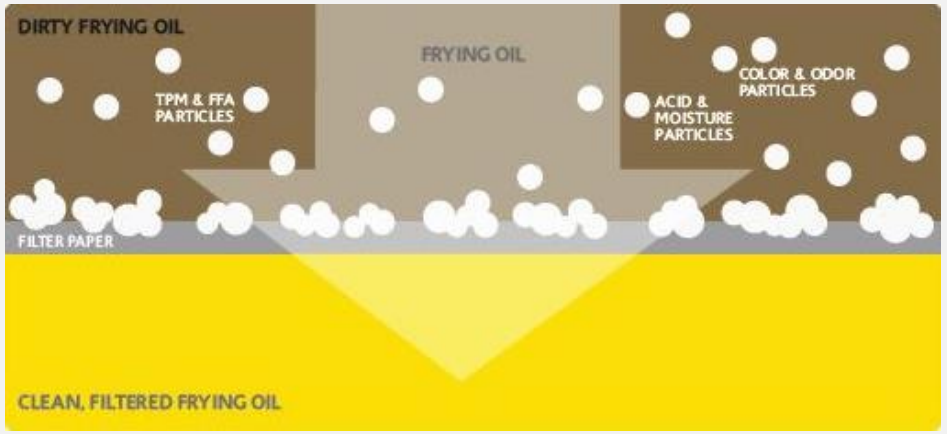
Oil filtration



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Oil filtration summary

- Any filtration method is better than none
- Built-in filtration is easier and safer than a mobile filtration unit
- Paper + Powder: particulate and adsorbent
- Accessories:
  - Skimmer
  - Brushes

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Step 4:
Monitoring oil quality

Murray Carlyon
Managing Director, Klipspringer Ltd

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Monitoring oil quality

Why monitor oil quality?

- Maintain product consistency
- Manage costs and wastage
- Ensure product quality and safety

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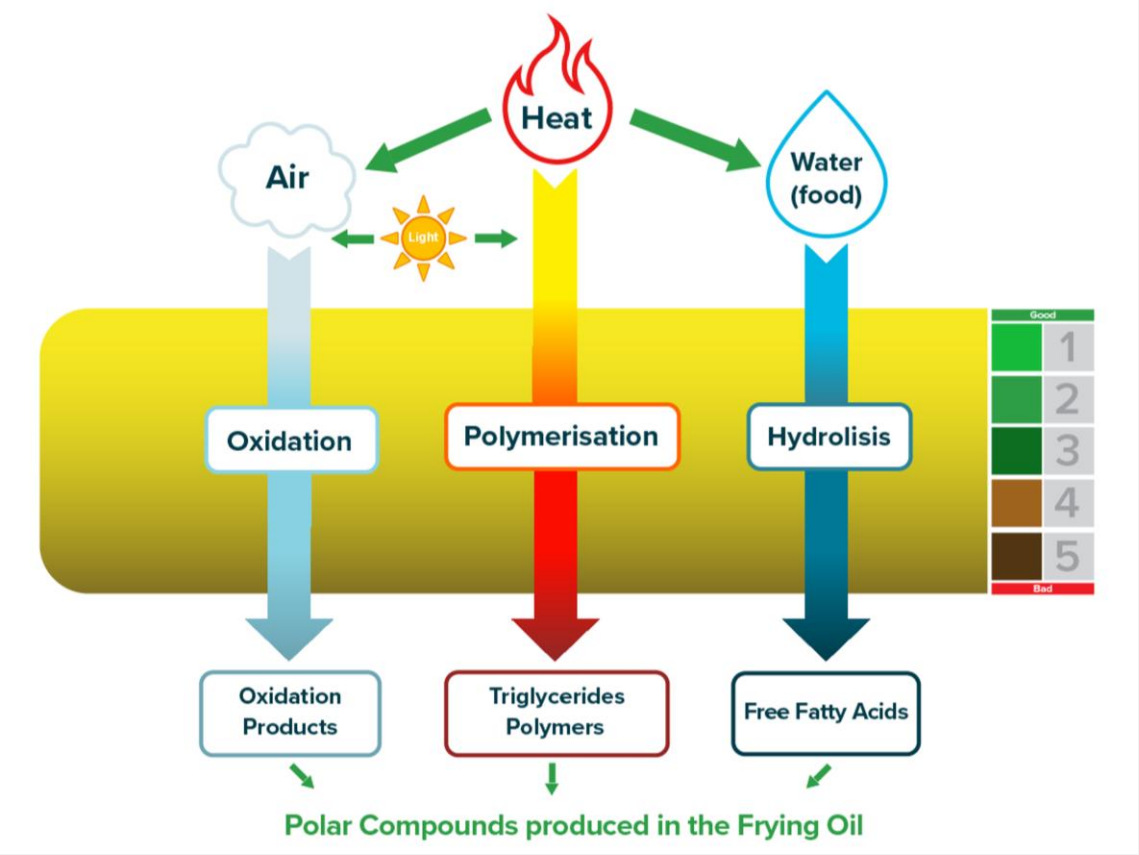
Total Polar Compounds (TPC)



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Total Polar Compounds (TPC)

What are the effects of high TPC %?

- Negative impacts on product taste, texture and appearance
- Health impacts
  - Gastrointestinal disorders (short-term)
  - Greater risk of heart disease (long-term)

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TPC legislation

Country	% of polar compounds	Legislated
Austria	<27 %	yes
Belgium	<25 %	yes
Czech Republic	<25 %	no
Finland	<25 %	no
France	<25 %	yes
Germany	<24%	yes
Netherlands	<27 %	no
Hungary	<27 %	no
Italy	<27 %	yes

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Oil checking methods

Visual or No Checks

- Based on appearance or routine
- Quick and easy
- Relies on experience
- Lack of consistency
- Potential oil wastage
- Food quality and safety at risk

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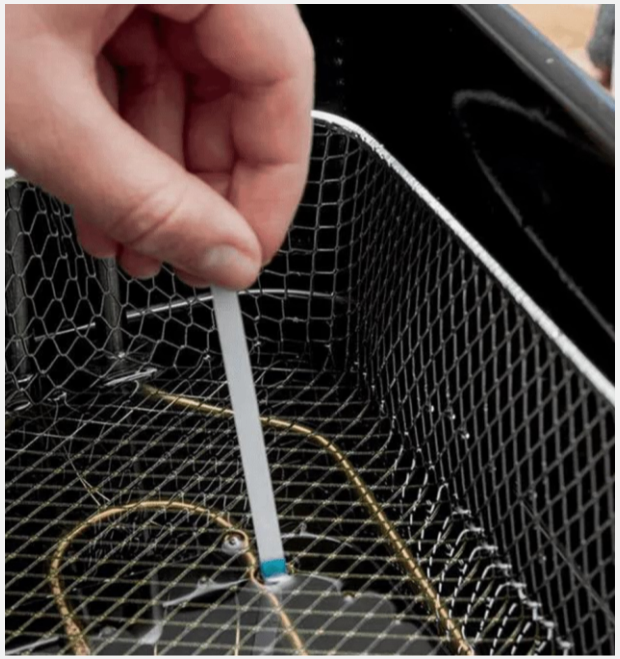
Oil checking methods



Test Strips

- Single-use
- Fast to carry out
- No capital investment
- Significant ongoing costs
- Subjective results – open to user interpretation
- Oil may still be changed too soon or too late

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Oil checking methods

Digital Food Oil Monitor

- Fast and simple visual indicator
- Takes away the guesswork - accurate regardless of skill or experience
- Group-wide consistency
- Calibrated to oil type
- Also verifies temperature
- Up-front capital investment

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Food oil monitor process

Oil monitoring in 5 simple steps

1. Prepare your oil
2. Immerse the sensor
3. Flashing light indicates oil quality
4. Record the results
5. Change oil if necessary

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Setting a TPC% limit

What TPC% should you use?

- Legislated limit varies from 24 to 27%
- Analyse food quality
- Understand your menu
- Ultimately, establish the right limit for your products and processes

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Step 5:
Pumping & Storing Waste Oil

Michael Eyre
Culinary Director, Jestic Ltd

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Pumping & storing waste oil

- How to get oil into your fryer
- Ways to remove waste oil from fryers
- Where to store it
- How to get it collected
- How to monitor waste oil

The next 97 seconds might change how you look at the journey of cooking oil through your establishment...

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Pumping & storing waste oil

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Pumping & storing waste oil

There are many sizes of caddy and tank available.

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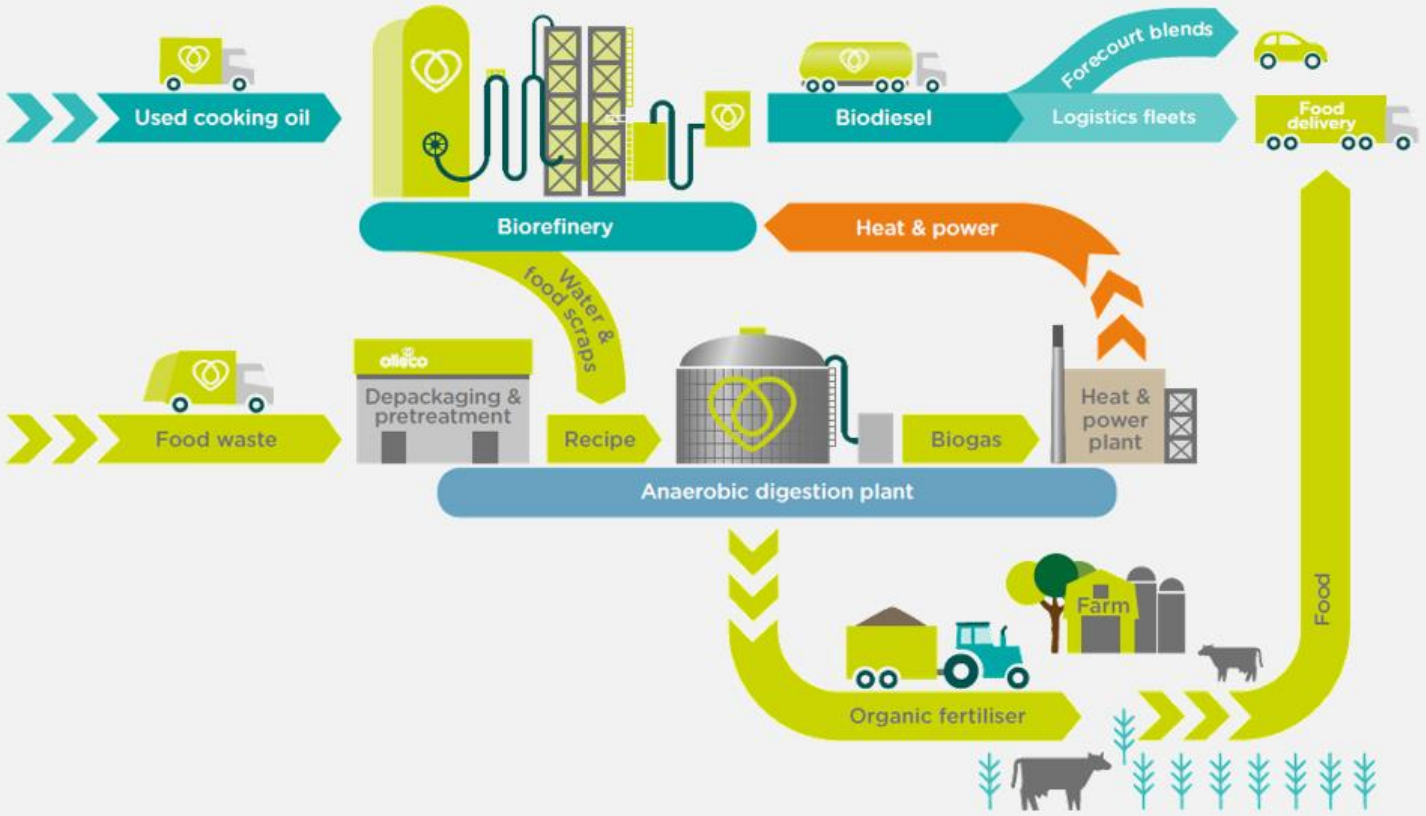
Step 6:
Recycling used oil

Vincent Igoe
MD Scotland, Olleco Ltd

Returning used oil

- Tailor the container for the kitchen
- More space as there is no need for drums by reusing containers
- Reduce risk of slips and falls from spillage
- Less chance of theft

Recycling used oil



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Not sure if this slide is required?

Surrendra Yejju
Executive Chef, Wagamama

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Q&A

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Further information & support

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Thank You.

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