



Olive Wellness
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Extra Virgin Olive Oil Health and Nutrition Report



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Extra Virgin Olive Oil - Nature's Liquid Gold

Extra virgin olive oil is widely recognised as one of the world's healthiest oils. In fact, people tend to live longer and healthier lives in regions where extra virgin olive oil is a staple part of the diet.

Extra virgin olive oil (EVOO) is the highest quality olive oil available, extracted from the olive fruit without the use of high heat or chemicals. EVOO is the gold-standard of oils due to its well-balanced fatty acid profile, high biophenol content, natural extraction process and well-researched health benefits. These benefits are attributed to not only EVOO's fat profile, but also its unique combination of phytochemical components: biophenols, squalene, alpha tocopherols and phytosterols. These healthy properties are the focus of hundreds of scientific studies.

EVOO's unique flavour makes it a cherished ingredient for many chefs around the world. EVOO is known colloquially as "liquid gold" for its recognised health benefits and culinary functionality. Including EVOO in the diet can help to reduce the risk of a range of chronic lifestyle diseases including heart disease, stroke, diabetes, and neurodegenerative diseases, among others.

Extra virgin olive oil is the highest quality olive oil available



What is Unique About Extra Virgin Olive Oil?



Extra virgin olive oil (EVOO) is unique due to its fatty acid profile, as well as the natural occurrence of many bioactive compounds, like phenols, phytosterols, tocopherols (vitamin E) and carotenoids. These provide several functional properties including a longer shelf life, thanks to their high oxidative stability function^{1,2}.

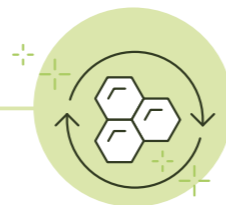
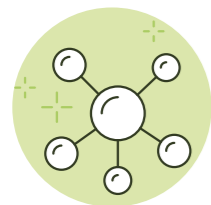


Biophenols and antioxidants

EVOO is obtained by manually crushing and pressing olives. As a result, it contains a high amount of the protective plant phytochemicals.

EVOO contains numerous phenolic compounds — powerful antioxidants that help protect the body against free radical damage that contributes to disease and ageing^{2,3}

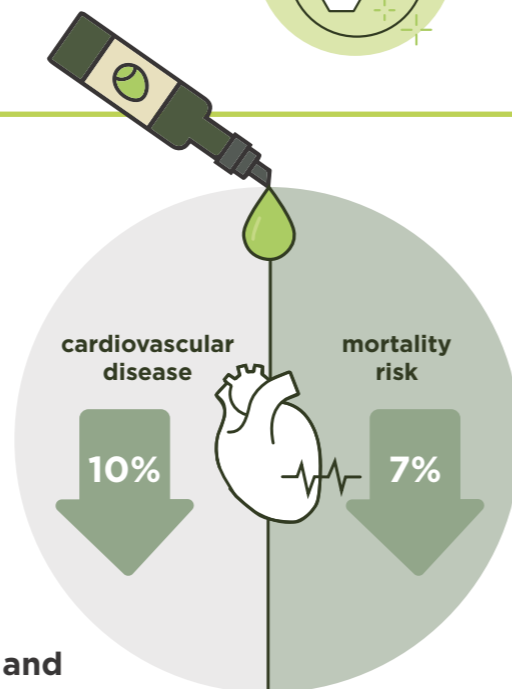
Biophenols found in EVOO have antimicrobial, antioxidant and anti-inflammatory properties⁴



Supports heart health

EVOO may help reduce risk of heart disease⁵. Compounds such as oleuropein derivatives, oleocanthal and hydroxytyrosol contribute to heart health⁷.

The well-known PREDIMED study found that for each 10g/day increase in EVOO consumption (Approximately 1/2 tablespoon), cardiovascular disease and mortality risk decreased by 10% and 7% respectively⁷



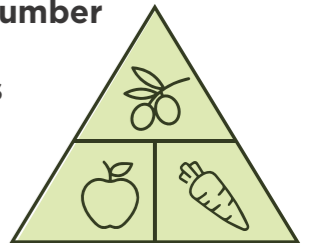
Glycaemic control

The phenolic compounds present in EVOO have been shown to assist with glucose metabolism and improve the sensitivity and effectiveness of insulin⁹



Healthy fats

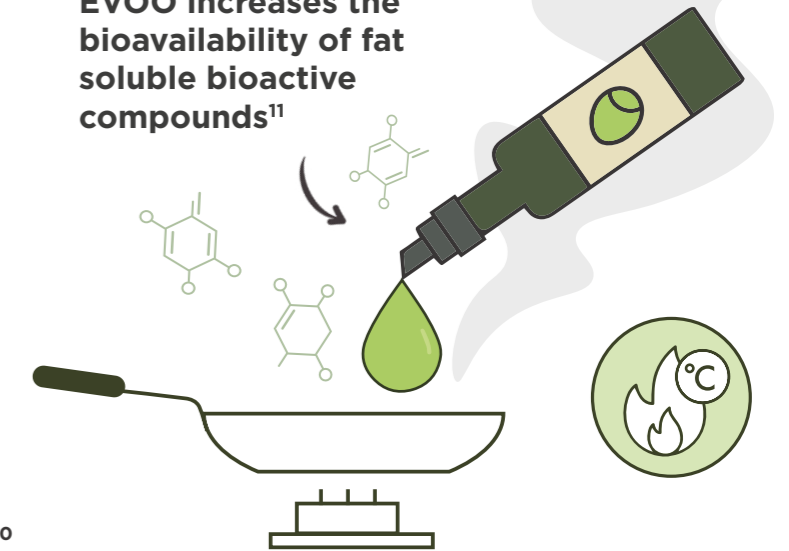
The well-researched health benefits of the Mediterranean diet are due to a number of dietary factors, including EVOO as the main source of fat⁸



Benefits of cooking

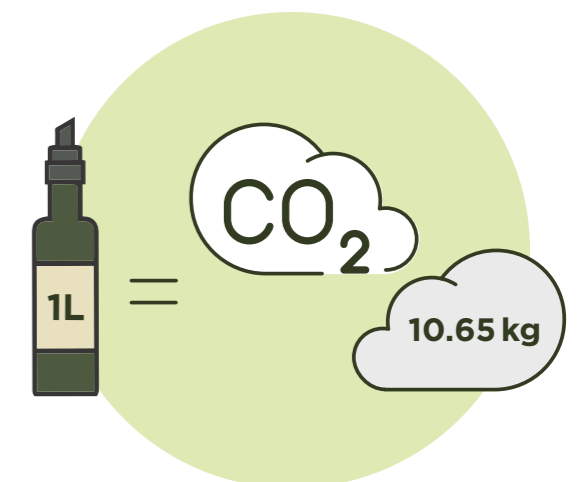
EVOO is a highly heat stable oil. It is less prone to oxidation compared to other cooking oils. It is suitable for all home cooking, including high temperature cooking such as sautéing, frying and baking. This is because EVOO is naturally produced, has not undergone any refining, contains high levels of stable monounsaturated fat (and low levels of unstable polyunsaturated fat), and high levels of natural antioxidants, which help stop these fats from breaking down and forming harmful polar compounds¹⁰

Cooking with EVOO increases the bioavailability of fat soluble bioactive compounds¹¹



Better for the planet

It is estimated that producing one litre of EVOO captures an average of 10.65 kg of CO₂ from the atmosphere, with one hectare of the average olive grove neutralising the annual carbon footprint of a person¹²



Types and Grades of Olive Oil¹³

According to the Australian Standards for Olive Oil and Olive-Pomace Oil, an olive oil label must contain the grade of olive oil (i.e. extra virgin olive oil or Olive Oil)¹⁴. If an oil does not include the term “extra virgin” on the label, it is not extra virgin olive oil (EVOO).

Extra Virgin Olive Oil (EVOO)

The highest grade of olive oil, obtained solely from the fruit of the olive tree (*Olea europaea* L.) by mechanical means with no chemical treatments. This results in a high natural antioxidant content. The natural extraction process used to produce EVOO ensures it retains the nutrients and antioxidants from the olive fruit¹⁵. To be “extra virgin” the oil has to meet certain criteria: a free acidity, expressed as oleic acid, of not more than 0.8 grams per 100 grams as well as other strict chemical parameters and having an excellent and perceptible fruity flavour and odour¹⁶. The oil must show a sensory fruity note higher than zero, which indicates the aroma and flavour, and more importantly, a median of zero defects, which means trained testers cannot detect any defects. If an oil meets these criteria it is eligible for the “extra virgin” label^{17,18}. **Compared to other types of olive oil, EVOO must meet more stringent requirements to be eligible to use the nomenclature “extra virgin”.**

The composition of EVOO is determined by genotypic potential, environmental factors, fruit ripening, harvest time, agricultural factors (irrigation, sunlight, grove management) and also technological factors such as the method applied for oil extraction and storage conditions¹⁹.



TIP: The fresher the EVOO, the higher the phenol content. Look for the harvest date on the bottle to make sure you are getting new season EVOO. Harvest typically takes place between April and June in the Southern Hemisphere, and between October and December in the Northern Hemisphere.



Virgin Olive Oil (VOO)

Has less stringent limits for many of the analytical parameters compared to EVOO, such as a higher free acidity, expressed as oleic acid, of not more than 2 grams per 100 grams, with reasonably good flavour and odour¹⁶, although some organoleptic defects are present.

Olive Oil (OO)

A blend of refined olive oil and virgin olive oils and typically only contain 5–15% of EVOO or VOO. It contains fewer antioxidants and therefore does not offer the same health benefits as EVOO. The refining process typically involves the use of high heat and/or chemicals that strip the oil of important nutrients and antioxidants. Its sensory properties correspond to virgin olive oil, but may vary depending on individual regulations in each country.

Misleading marketing terms such as Pure Olive Oil or Extra Light Olive Oil are other ways of describing refined olive oil blends.



TIP: How to choose a good EVOO

At an international level, the [International Olive Council \(IOC\)](#) supports international olive oil standards for the best interest of the olive industry.

In Australia, to guarantee an oil labelled as “Extra Virgin” is truly EVOO, look for the Australian certification symbol on the label. This ensures the oil is complying with the Australian standards and passes the markers of quality to be classified EVOO. There are other certification standards around the world. For example, in the USA, the Californian Olive Oil Council (COOC) provides EVOO grade certification and the European ‘Protected Origin of Destination’ certification identifies EVOO products that are produced, processed and prepared in specific geographical areas²⁰.

EVOO COMPARED TO OTHER EDIBLE OILS

The production of extra virgin olive oil (EVOO) is vastly different from most other edible oils, which are made from seeds. Many of these seed-based oils are marketed as 'vegetable oils', which is an umbrella term to include oils such as soybean, canola, sunflower and peanut oil²¹.

In the Australian Food Standards Code, oil seeds are defined as 'seeds from a variety of plants used in the production of edible vegetable oils²².' Seeds are very difficult to extract oil from, so they need to be heated and the oil extracted with solvents and/or high pressure.

Seed oils are then refined before being suitable for human consumption. This means that most of the antioxidants in seeds are lost during production²³, and there can be formation of harmful trans fats and other secondary products of oxidation²⁴. EVOO on the other hand is minimally processed, and produced by simply crushing olives, retaining the most amount of natural antioxidants and without the formation of any trans fats or secondary products of oxidation.



Canola Oil

Canola oil is a seed-based oil that manufacturers use in a variety of foods and other products. Canola oil is generally considered a "healthy" oil because it is very low in saturated fat (7%), and like olive oil it is high in monounsaturated fat (55%), but it also contains 26% polyunsaturated fat²⁵. Canola oil production generally involves heating, pressing, chemical extraction, and refining. EVOO contains up to **120x more** health-promoting biophenols compared to canola oil²⁶.



During heating and cooking, many of the polyunsaturated fats in canola oil are broken down²⁷, whereas the EVOO fats are more protected from oxidation due to a higher presence of biophenols¹⁰.

Research from an Australian laboratory found less unwanted by-products are produced when EVOO is heated compared to canola oil - specifically free fatty acids, polar compounds and secondary products of oxidation¹⁰. Animal studies have linked these polar compound by-products to Alzheimer's Disease and increased inflammation^{28,29}.

Coconut Oil

Coconut oil is stable for cooking at high temperatures, however it contains only trace amounts of antioxidants and is predominantly saturated fat. By comparison, EVOO is rich in beneficial antioxidants such as tocopherols and hydroxytyrosol³⁰.



The high levels of saturated fats in coconut oil can significantly increase LDL cholesterol, with elevated LDL cholesterol levels linked to increased risk of heart disease^{31,32}.

Sunflower Oil

Sunflower oil is low in saturated fat and high in polyunsaturated fats, specifically omega 6 fatty acids such as linoleic acid, which can help to reduce cholesterol levels³³. However, sunflower oil is refined to give the oil a neutral flavour, appearance and smell, and as a result has fewer bioactive compounds than EVOO. Sunflower oil has been shown to produce a higher amount of aldehydes (a carcinogenic chemical found in the fumes from cooking oils) compared to other oils (rapeseed, palm, soybean), regardless of the method of cooking³⁴.



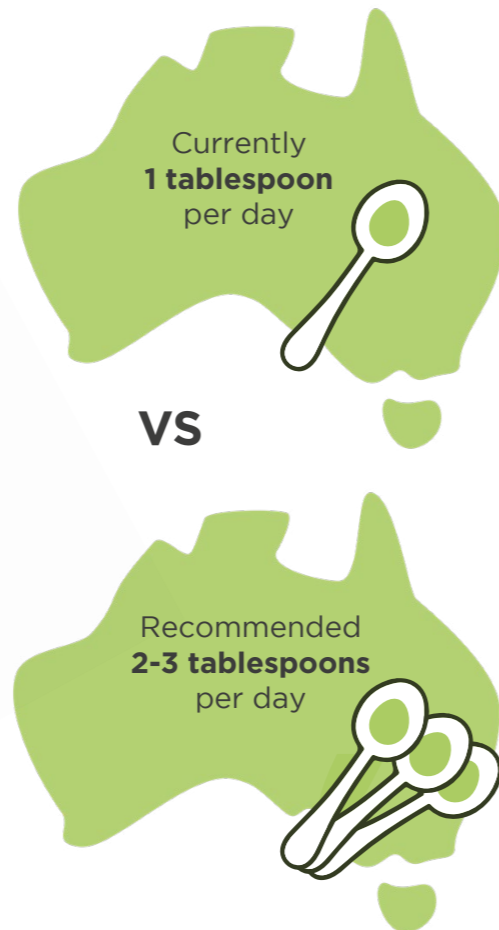
Global Production of EVOO

Growth in global EVOO production over time provides evidence of the greater interest people have in using EVOO. For instance, in 2012/13 global production was 1.947 billion litres, whereas this had grown to 3.085 billion litres by 2021/22³⁵.

EVOO Consumption in Australia

Nearly two thirds (65%) of Australians use EVOO in raw food preparation or savoury cooking. Almost half of those surveyed from July to December 2021 identified the health benefits as the main motivating factor for their choice of oil, followed by sensory preference (47%), versatility (10%) and convenience (9%)³⁶. Similar trends are being seen in the USA, where olive oil is now the most commonly used dietary fat source for cooking and food preparation, followed by vegetable and canola oils³⁷. The COVID pandemic forced more people to cook at home and many consumers opted to purchase higher quality ingredients such as EVOO. The rise in EVOO use in Australian households has the potential to contribute to healthier dietary patterns and positively impact population health due to the myriad of health benefits associated with its high nutritional quality and unique composition.

Australians who regularly use EVOO are consuming approximately one tablespoon per day³⁷. This is markedly lower than the recommended amount of two to three tablespoons per day, which is required to elicit many of the health benefits associated with EVOO. It is therefore necessary for health care professionals to recommend the use of EVOO, particularly for patients at risk of cardiovascular disease and associated co-morbidities. Suggestions on how to add more EVOO to a daily diet are included later in this report.



Affordability Of Extra Virgin Olive Oil



Whilst extra virgin olive oil (EVOO) has a higher price point than other refined oils, it is no different from many food categories where minimally processed healthy foods are generally more expensive compared to highly-processed discretionary foods that use cheaper ingredients. More than 60% of Australians exceed the recommended intake of discretionary foods, which is a risk factor for obesity and chronic disease³⁸. The health benefits of EVOO are numerous and it is important for health professionals and other stakeholders to communicate the health-cost benefit to encourage their patients to invest in long term health outcomes and choose EVOO over cheaper refined oils.

A plant-based Mediterranean style diet, with EVOO as the principal fat, has been shown to be more affordable than an individual's usual eating pattern, especially when compared to a highly processed Western diet³⁹⁻⁴¹.

RECEIPT

A 6-week intervention study in the US in 2013 found that individuals who followed a plant-based Mediterranean style eating pattern, with an emphasis on cooking with EVOO, reduced their usual grocery spend by approximately \$30 USD each week. Additional improvements included a reduction in body weight as well as a reduction in purchases of unhealthy products such as carbonated beverages⁴².

TOTAL SAVING \$30 USD

RECEIPT

A detailed analysis on 20 participants involved in a 2017 randomised controlled trial in Australia found that following a Mediterranean diet was more affordable compared with the participants' baseline diet, and reduced total grocery spend by approximately \$26 AUD per week⁴¹.

TOTAL SAVING \$26 AUD



EVOO Nutrient Composition

NUTRITION INFORMATION

Serving size: 15mL

	Average Quantity per Serving	Average Quantity per 100mL
Energy	510kJ (121kcal)	3399kJ (809kcal)
Fat, total	13.8g	91.9g
Saturated fat	2.1g	14.3g
Trans fat	0g	0g
Polyunsaturated fat	1.3g	8.4g
Monounsaturated fat	9.7g	64.6g
Cholesterol	0mg	0mg
Vitamin A (retinol equivalents)	0.3ug	2ug
Vitamin E (alpha tocopherol)	2.3mg	15.6mg
Vitamin K	9ug	60.2ug^
Beta carotenes (Beta carotene equivalents)	1.5ug	10ug
Phytosterols	27.7mg	184.7mg
Total Biophenols	4.63mg	30.84mg
Oleuropein derivatives	0.5mg	2.1mg
Oleocanthal	0.56mg	3.74mg
Tyrosol	0.1mg	0.66mg
Hydroxytyrosol	0.14mg	0.92mg
Squalene	88.9mg	592.5mg

g = grams, mg = milligram, ug = microgram

Sources: Australian Food Composition Data 2; Modern Olives Laboratory Services; USDA National Nutrient Database.

Values are averages only and may vary based on season, olive cultivar, climate condition and production processes.

EVOO FATTY ACID PROFILE^{25,42,43}

The fatty acid profile of extra virgin olive oil (EVOO) is also a major contributor to its health benefits.

7-20% saturated fat

53-85% monounsaturated fats - mainly oleic acid, which has been identified as important in the prevention of coronary heart disease^{44,45}

Naturally occurring trans fatty acids are always **below 0.1%**^{2,15, 25}

<3-23.5% polyunsaturated fat

Studies consistently link a diet high in monounsaturated fat with favourable effects on markers of cardiovascular disease (heart disease and stroke)^{46,47}. This includes a reduction in markers of blood pressure⁴⁸, cholesterol levels⁴⁹ and blood glucose levels⁵⁰.

BIOACTIVE COMPOUNDS / PHENOLICS

Like all plant foods, extra virgin olive oil (EVOO) contains natural antioxidants from the olive fruit and is rich in a variety of bioactive phenolic compounds¹⁵. These phenolic compounds in EVOO are responsible for many of its biological properties and sensory attributes, which range from 80 to 1200 mg per kg^{2,15}.

EVOO contains numerous phenolic compounds, depending on genetics, soil, irrigation and climate, as well as processing methods. The phenolic profile of EVOO is one of the key reasons for the health benefits of EVOO when compared with refined oils (which are devoid of, or are very low in natural antioxidants)⁵³. The predominant phenolic compounds found in EVOO are oleuropein and ligstroside derivatives and their hydrolytic breakdown products, hydroxytyrosol and tyrosol⁵⁴, which have anti-inflammatory, antioxidant, neuroprotective, and immunomodulatory properties⁵⁵. Hydroxytyrosol has also been shown to inhibit low-density lipoprotein (LDL) oxidation⁵⁶.

EFSA health claim

In 2011, the European Food Safety Authority (EFSA) approved a health claim related to polyphenols in olive oil and their possible protection of blood lipids against oxidative stress. The panel established that "5mg of hydroxytyrosol and its derivatives (e.g. oleuropein derivatives and tyrosol) in olive oil should be consumed daily, as part of a balanced diet, to protect against oxidative damage"⁵⁷.





Due to large variations in EVOO phenol content, quality standards do not require a minimum phenol content to qualify an olive oil as “extra virgin”, nor do standards classify EVOO as low, medium, or high in total phenols⁵⁸. EVOO with a higher phenolic content will typically have a more robust flavour, including some bitterness, compared to EVOO with lower phenolic content. Phenolic content diminishes with time, and particularly when exposed to heat, light and oxygen. EVOO should be stored in a cool dark place and used within one to two months of opening a bottle or container.

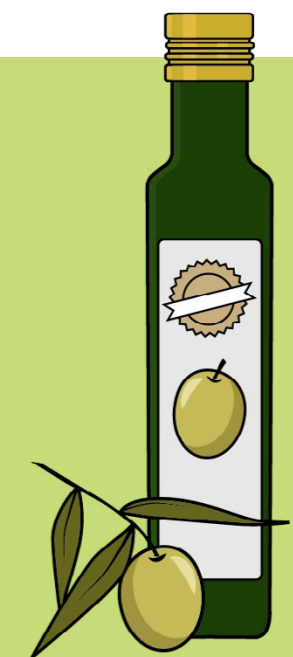
In a healthy balanced diet, the phenolic compounds in EVOO are not consumed in isolation; they are eaten as part of a complex food matrix and can synergistically function together with other compounds in the oil and the food that is consumed.

The healthy fats in EVOO can enhance the availability and absorption of a variety of biophenols in the oil and other foods e.g. salad and vegetables⁵⁹.



Dietary Guidelines

Dietary guidelines around the world provide advice on oil consumption as part of a healthy diet. The 2020-2025 US Dietary Guidelines recommend replacing saturated fats such as butter with oils that are higher in poly and monounsaturated fats (including olive oil), and Spanish dietary guidelines recommend olive oil as a ‘good fat’ to include in the diet^{61,62}. In Australia, the current dietary guidelines suggest to “use small amounts” of edible oils and simply recommend replacing saturated fats for poly and monounsaturated fats, giving olive oil as an example, however there is no specific volume recommendation for extra virgin olive oil (EVOO)⁶³.



TOCOPHEROLS (VITAMIN E)

EVOO is the highest natural source of vitamin E of all olive oils (refined olive oil is stripped of most natural Vitamin E through the refining process). EVOO contains mainly alpha-tocopherol, a well-known antioxidant, which helps to prevent cell damage caused by free radicals, with amounts ranging from 80-200mg/kg⁴².

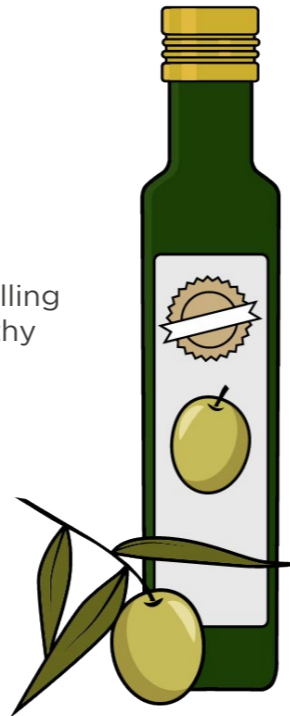
The National Health and Medical Research Council is currently undertaking a review and update of The Australian Dietary Guidelines for release in 2025⁶⁴. This presents a unique opportunity to consider a more sophisticated approach to dietary recommendations for fats and oils, based on the full nutrient and bioactive profile of each edible oil and fat, and supported by potential benefits beyond cardiovascular disease, diabetes, cancer, dementia and mental health^{65,66}.

EVOO and Front of Pack Labelling Systems

Health Star Rating ★★★★★

The Health Star Rating (HSR) system is a voluntary front of pack labelling system in Australia and New Zealand to help consumers choose healthy products in each food category at the point of purchase. Health stars (½-5 stars) are determined using an algorithm which assesses select nutrients (energy, saturated fat, sugars, sodium, protein, fibre and the percentage of fruit/vegetables/nuts and legumes). Edible oils are only assessed for energy and saturated fat.

The HSR system is not suitable for EVOO for the three main reasons outlined on this page.



1. Packaged foods, not single ingredients

The HSR system was not designed for single ingredient foods, and in particular, single ingredient foods that cannot be reformulated to achieve a better nutritional profile and higher HSR. Despite this, edible oils are an included category within the current HSR system.



Designed for this

In contrast, other single ingredient foods such as salt and sugar are exempt from the HSR system.

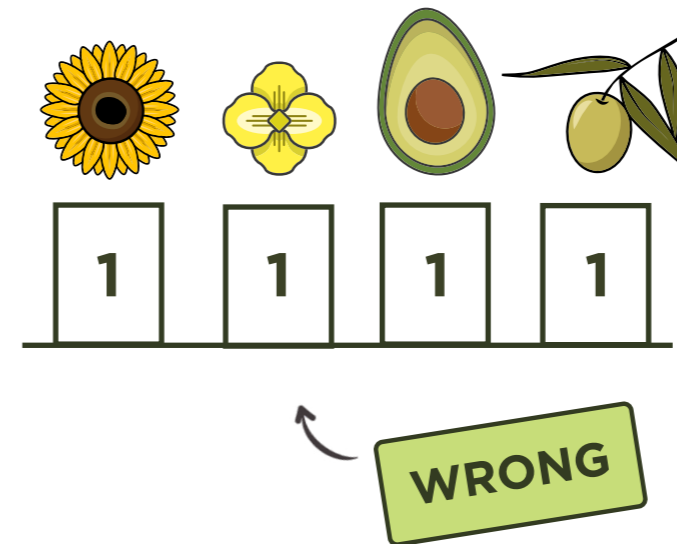


not this

2. Alignment with dietary guidelines



The HSR system aims to align with the Australian Dietary Guidelines, which currently incorrectly rank sunflower oil, canola oil, EVOO and avocado oil as equally healthy.



3. Simplistic Scoring Algorithm

When it comes to extra virgin olive oil and the cooking oil category overall, the only component the calculator uses to determine the star rating is the energy and saturated fat content. Unfortunately, the system does not account for overall fatty acid profile, processing methods or minor compounds like biophenols.

This leaves EVOO with a HSR of 3.5 stars, while other refined seed oils like canola oil score 4.5 stars due to a lower saturated fat content. This ranking does not reflect the evidence, which suggests extra virgin olive oil has a myriad of health benefits that can largely be attributed to the bioactive compounds like biophenols⁹⁶.



The HSR system is a simple algorithm, and is not designed to take into account the total nutrient composition of a food and all its health benefits. Assigning a lower HSR to oils that have health benefits supported by strong scientific evidence could lead to consumer confusion and potentially impact health outcomes.



Health Benefits Of Extra Virgin Olive Oil

Extra virgin olive oil (EVOO) has been widely used in the human diet for thousands of years, especially in the Mediterranean region. It has been long renowned for its many health-promoting properties. Modern science is uncovering how it is associated with a reduced risk of several chronic illnesses, including cardiovascular disease, hypertension, diabetes, obesity and some cancers^{69,70}.

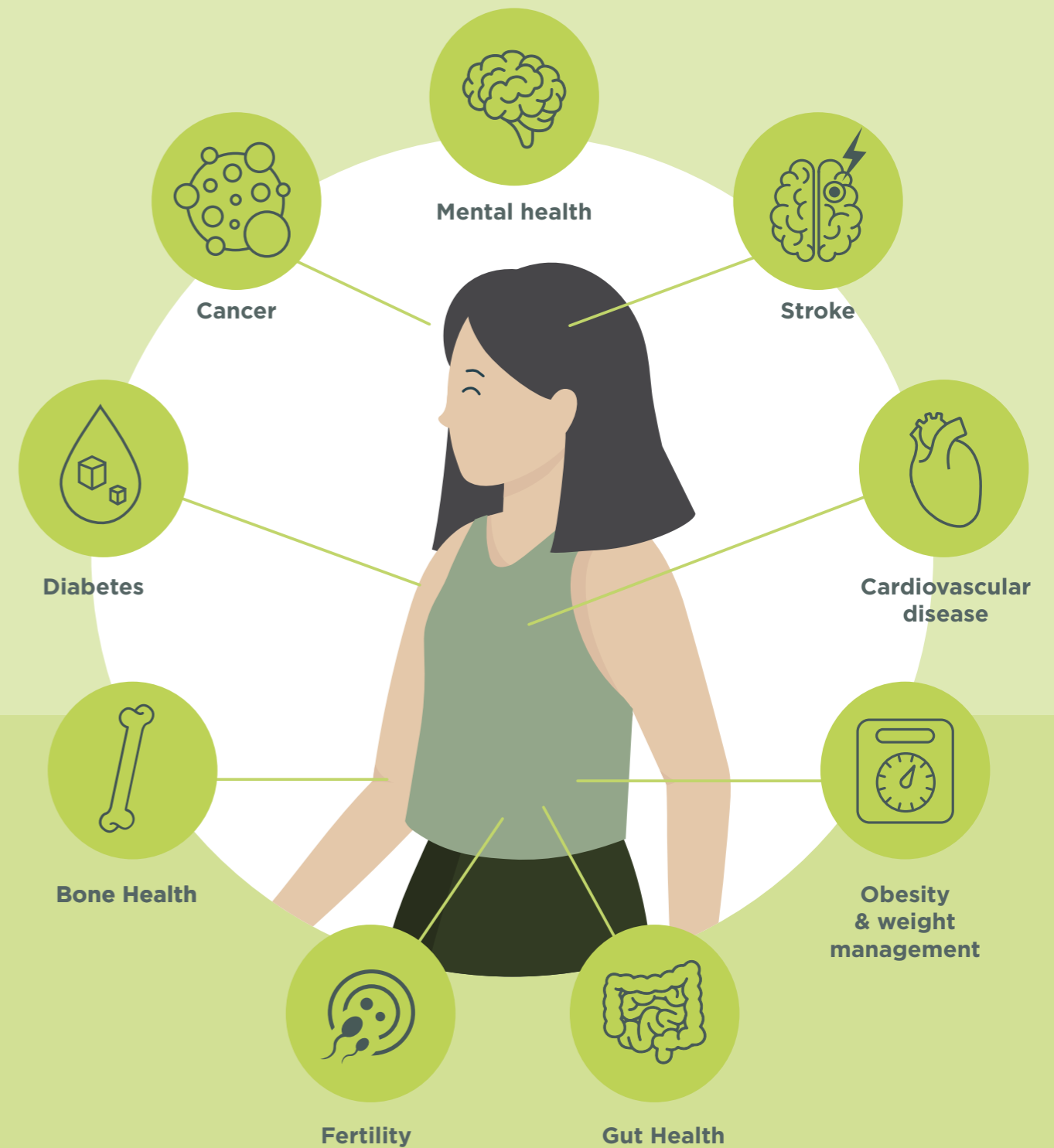
The fatty acid profile of EVOO and bioactive compounds with antioxidant and anti-inflammatory properties has been linked to protective effects against coronary, neurodegenerative, autoimmune and inflammatory disorders, as well as being anti-thrombotic and regulating blood pressure^{17,71-73}.



How Much EVOO to Consume to Achieve Health Benefits?

On average, 25 - 50ml of EVOO per day is most strongly associated with health benefits in healthy populations and those with risk factors including mild hypertension and overweight or obesity⁷⁴⁻⁷⁸. These studies have investigated EVOO as a food, rather than as part of a specific dietary intervention such as the Mediterranean diet.

Research from Australian Mediterranean diet interventions recommend **three to four tablespoons** (60 - 80ml) of EVOO per day, with good effect for pre-existing health conditions including coronary heart disease, type 2 diabetes and fatty liver disease⁷⁹⁻⁸¹. The researchers found that even with higher dosage recommendations, lower end compliance was achieved (subjects consumed an average of two tablespoons at the end of 3-6 month interventions). This could indicate that higher recommendations are useful to ensure minimum beneficial amounts are consumed⁷⁹.



Note: While this report is specifically about extra virgin olive oil, when referring to research studies below the term “olive oil” may be used if the researchers referred to it this way. It may not be possible to determine if the researchers used extra virgin olive oil in their studies or a different quality of “olive oil”.

Diet Quality and Longevity - EVOO Within The Context of The Mediterranean Diet

Extra virgin olive oil is a key component of the Mediterranean diet and is the main source of fat. In Mediterranean regions where extra virgin olive oil is a central part of the diet, people tend to live longer. A large epidemiological study followed over 40,000 Spanish subjects for 13.5 years. Those with the highest olive oil intake were far less likely to die early compared to those consuming the least amount of olive oil⁸. A more recent study of a Spanish population found that daily consumption of one and a half tablespoons of EVOO was associated with a one-third lower risk of all-cause mortality, as well as half the risk of cardiovascular mortality⁸².

Cardiovascular Disease

There is a large body of evidence that explains the mechanisms underlying the prevention of coronary heart disease by Extra virgin olive oil (EVOO)^{83,84}. EVOO is high in monounsaturated fatty acids, which may mediate the prevention and management of cardiovascular disease and associated risk factors through favourable effects on blood cholesterol levels and improvement of insulin sensitivity⁸⁵. A systematic review and meta-analysis of 27 randomised placebo-controlled clinical trials (1089 participants in total) compared olive oil with other high-MUFA oils (e.g. flaxseed oil) and showed better outcomes in low-density lipoprotein (LDL) oxidation, lipoprotein concentration, and LDL particle size with olive oil^{86, 87}.

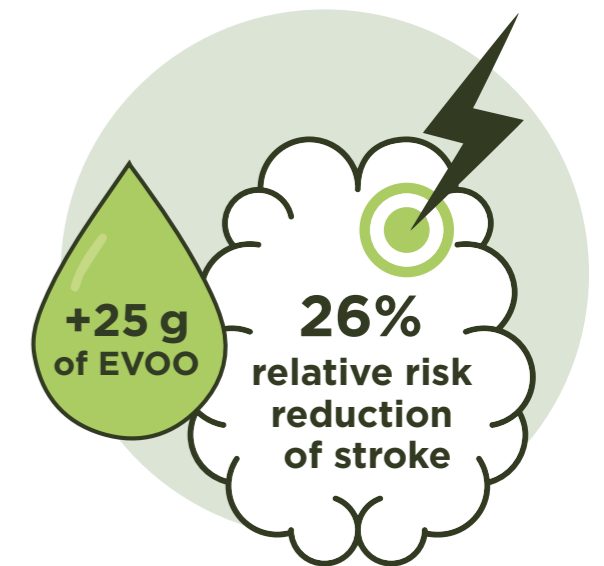
People who live in Mediterranean countries have lower rates of mortality from heart disease, with high EVOO consumption thought to be a major contributing factor⁸⁸. The well-known PREDIMED study, a high quality, five-year, randomised controlled study, compared a Mediterranean diet supplemented with four tablespoons or more of EVOO with a reduced-fat diet. This resulted in a 30% reduction in cardiovascular disease and stroke in the Mediterranean diet and EVOO group⁸⁹. **Researchers found increases of 10g/day in EVOO intake (approximately 1/2 tablespoon) were associated with a 10% reduction in the risk of cardiovascular events⁷.**

The bioactive biophenol compounds in EVOO have powerful cardio-protective properties, by improving the inner lining of the heart and blood vessels⁹⁰, and helping to lower blood pressure and prevent atherosclerosis⁹¹⁻⁹³. A systematic review and meta-analysis of randomised controlled trials suggested that specific biophenol compounds in olive oil improve cardiovascular risk factors, specifically oxidised LDL cholesterol and blood pressure^{92, 94}. One study of over 840,000 people, found that those who ate the most olive oil were 9% less likely to have heart issues and 11% less likely to die early compared to those who ate the least olive oil⁹⁵. A 2020 Australian study in healthy participants with diverse backgrounds and dietary habits found that **consuming four tablespoons of high-biophenol EVOO per day, compared to refined olive oil, can significantly reduce systolic blood pressure⁹⁶.**



Stroke

Cardiovascular diseases also include stroke, which is closely linked to heart disease and shares many of the same risk factors, such as high cholesterol and high blood pressure. In a meta-analysis including three cohort studies, for each increase of 25g of olive oil intake, the relative risk of stroke was reduced by 26%. Those that consumed the highest amounts of olive oil had a 41% lower risk of stroke⁹⁷. Other studies have found similar results⁹⁸, but further research is needed to determine how the components of EVOO help prevent stroke.



Diabetes

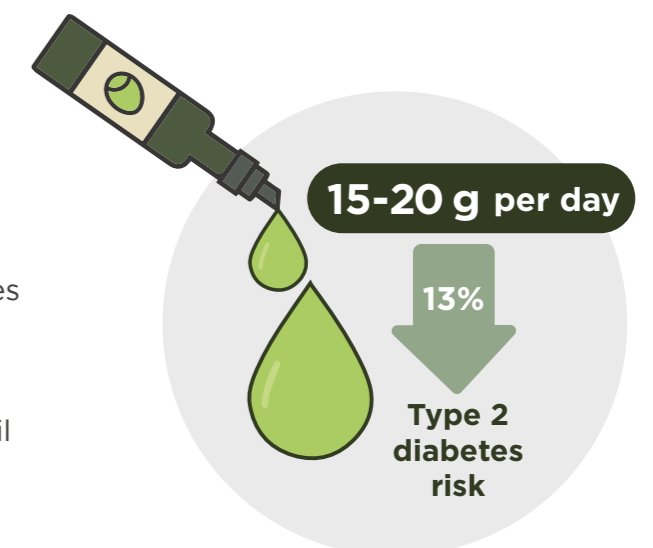
There is substantial evidence that dietary patterns high in EVOO improve cardiometabolic risk factors and reduce type 2 diabetes risk, likely due to its monounsaturated fat content and high amounts of biophenols⁹⁹.

A systematic review and meta-analysis of cohort studies and intervention trials found that 15-20g per day of EVOO could reduce the risk of type 2 diabetes by 13%. In comparison to a low-fat diet, a diet high in olive oil was also found to help normalise blood glucose in people who already had type 2 diabetes¹⁰⁰. Another study of 25 healthy subjects found that 10g of EVOO (compared to corn oil) improves the post-prandial glycaemic control by lowering blood glucose. An unexpected finding was the improvement in the subjects' lipid profiles, specifically the reduction in post prandial serum LDL cholesterol⁹.

In the PREDIMED intervention study, those assigned to a Mediterranean diet supplemented with EVOO had a significantly reduced risk of type 2 diabetes compared with the control reduced fat diet¹⁰¹. Outside of the Mediterranean basin, in a large study of more than 140,000 US women followed for 22 years, total olive oil consumption, as well as substituting olive oil for other types of fats, was inversely

associated with type 2 diabetes risk after adjustment for other dietary and lifestyle factors¹⁰².

The phenolic compounds present in EVOO may assist with glucose metabolism and improve insulin sensitivity and effectiveness¹⁰³. Reducing the risk of type 2 diabetes may be attributed to the antioxidant properties of EVOO¹⁰⁴. Oxidative stress appears to be implicated in β -cell dysfunction, leading to type 2 diabetes¹⁰⁵. The bioactive components of olive oil are associated with reduced oxidative stress¹⁰³, improved endothelial function¹⁰⁶, lipid profile¹⁰⁷, insulin sensitivity, and glycaemic control¹⁰⁶.



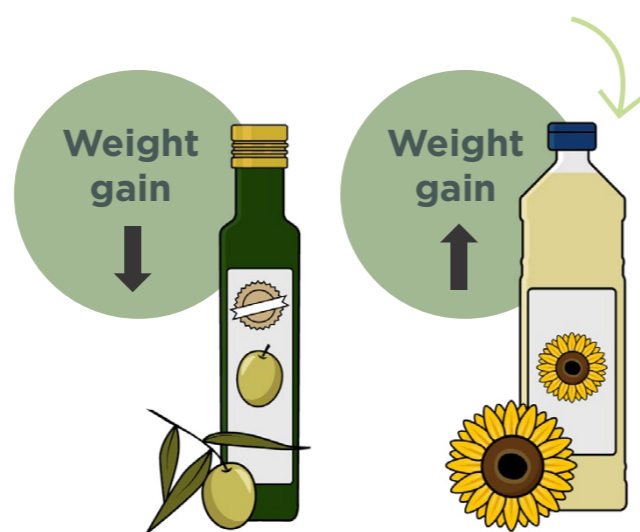
Obesity And Weight Management

The specific contribution of olive oil to weight control was first suggested by results from Mediterranean diet studies, including the SUN study¹⁰⁸ and confirmed in the PREDIMED study¹⁰⁹. Since then, further studies have found that an olive oil-rich diet can facilitate longer-lasting weight loss compared to a low-fat diet¹¹⁰.

A 2018 systematic review of randomised controlled trials (with minimum 12 weeks intervention) investigating the effect of olive oil on weight, body mass index and waist measurements in people with cardiovascular disease, found that diets enriched with olive oil reduced weight more than control diets¹¹¹. One explanation for the role of olive oil in weight reduction is due to its positive thermogenic effect on the body. The higher the thermogenesis, the more kilojoules or calories the body can burn, leading to weight reduction. The monounsaturated fats in olive oil increase the oxidation rate, inhibit body fat production (lipogenesis) and stimulate body fat breakdown (lipolysis)^{112,113}. The high levels of phenols in EVOO also have an antioxidant effect that helps in decreasing oxidative stress, which is higher in those with obesity¹¹⁴.

Although high olive oil consumption may significantly increase energy intake, EVOO is generally not associated with higher body mass index or waist circumference measurements¹¹⁵. Research suggests no significant differences in body mass index and weight circumference between high and low olive oil intakes. Instead, olive oil may modify the body composition of obese individuals by increasing lean body mass and decreasing the percentage of body fat¹¹⁶.

A study investigating the association between the prevalence of obesity and the types of dietary fat consumed in 168 countries found that countries with a higher monounsaturated fat consumption were strongly associated with low obesity prevalence¹¹². Similar results were reported from a six-year cohort study that monitored 613 participants on a diet with a high content of different types of fatty acids. This study found those that consumed sunflower oil had a higher incidence of weight gain than the group that consumed olive oil¹¹⁷.



Cognition And Neurodegenerative Diseases

Extra virgin olive oil (EVOO) and the Mediterranean diet have strong evidence to indicate benefits for brain health. This is primarily due to the anti-inflammatory and antioxidant activity of biophenols¹⁸.

Olive oil could potentially reduce the risk of Alzheimer's disease (AD) and age-related dementia⁷³. Both in vitro and in vivo studies have shown that the anti-inflammatory activity of **EVOO provides neuroprotective effects that could prevent cognitive decline** and the development of AD or elderly dementia^{73,118}. Studies of the Mediterranean diet across the world, where olive oil is the most important unsaturated fat, have observed an association with lower risk of cognitive impairment¹¹⁹. One study compared an EVOO-enhanced Mediterranean diet with a standard low fat diet (95 participants in each group) and found those on the EVOO diet suffered less cognitive decline after a 6.5 year follow up¹²⁰. More recent studies on the effect of EVOO intake on memory function found EVOO improved cognition, as well as AD blood biomarkers^{121, 122}.

In the PREDIMED-NAVARRA randomised trial (522 participants), intake of the Mediterranean diet supplemented with either EVOO (50ml) or nuts (30 g/day) resulted in improved cognition in comparison to a reduced-fat diet, after 6.5 years of the intervention¹²³. In the three-city French cohort study, researchers followed 6947 participants for four years and monitored their olive oil intake and cognitive health using the Mini-Mental State Examination, Benton Visual Retention Test, and Isaacs Set Tests. They found participants with both moderate consumption of olive oil (use in cooking or food dressing), as well as intensive consumption (used for both cooking and food dressing) had reduced odds of cognitive deficit for verbal fluency and visual memory, compared to those who never used olive oil¹²⁴.

Oleocanthal is one of the most studied biophenols in EVOO, for its neuroprotective effect. Oleocanthal possesses anti-inflammatory and antioxidant properties similar to the non-steroidal anti-inflammatory drug ibuprofen¹²⁵. Another neuroprotective EVOO biophenol is oleuropein and its derivatives, which have been extensively evaluated and tested in animal models of different brain diseases, including AD, Parkinson's disease, cerebral stroke, anxiety, epilepsy, and depression. In addition, studies have shown that oleuropein reduces neuronal apoptosis (cell death), increases cerebrovascular function, and improves memory¹²⁶. In 2020, research showed that **hydroxytyrosol compounds in EVOO provide brain health benefits**. Hydroxytyrosol is a type of biophenol and has been found to have neuroprotective effects, primarily by improving neuron function in the brain, as well as influencing synapse plasticity, which is essential for memory function¹²⁷. Hydroxytyrosol is anti-inflammatory and has antioxidant properties, both of which are beneficial to reducing oxidative stress and improving cognition^{128,129}.

Oleocanthal is one of the most studied biophenols in EVOO, for its neuroprotective effect.



Mental Health

Extra virgin olive oil (EVOO) in the context of a healthy diet may be considered as an adjuvant therapy for treatment of individuals with severe depression. Several observational studies have reported an inverse association between olive oil consumption and the risk of depression¹³⁰⁻¹³², and the antidepressant and anxiolytic properties of olive oil and EVOO have also been proven in animal studies^{133,134}.

A double blind, placebo controlled trial of 73 patients with severe major depression

were randomly assigned to intervention (EVOO) and control (sunflower oil) groups and consumed 25ml/d of the corresponding oil for 52 days. The study results suggest beneficial effects of EVOO on depression symptoms in patients with severe depression but not in those with mild to moderate depression¹³⁵.

The monounsaturated fats and bioactive phenolic compounds present in olive oil are likely responsible for the biological effects of olive oil against depression and mood disorders^{136,137}. Phenolic compounds such as tyrosol, hydroxytyrosol, and secoiridoid derivatives have been reported to effectively mitigate depressive symptoms^{138, 139}.



Gut Health

Extra virgin olive oil (EVOO) exerts positive effects on gut health by:

- Altering the gut microbiome profile by reducing pathogenic bacteria and stimulating beneficial bacteria¹⁴⁰
- Encouraging intestinal immunoglobulin A (IgA) production, which protects the gut microbiome¹⁴¹
- Supporting production and expression of cytokines and transcription factors involved in reducing inflammation and promoting immune tolerance in the intestine¹³⁸
- Protecting against intestinal oxidative injury via the antioxidant activity of EVOO phenolic compounds¹³⁹
- Increasing the production of short chain fatty acids (SCFAs)¹⁴⁰, which are a major source of nutrition for gut bacteria and play a pivotal role in the regulation of metabolic, endocrine and immune functions¹⁴²

A recent review and meta-analysis of randomised controlled trials showed the prebiotic action of EVOO biophenols is

capable of modulating and improving intestinal microbe populations, which in turn affects cardiovascular disease and colorectal cancer markers¹⁴³.

Many of the health benefits of extra virgin olive oil have been attributed to the metabolism of phenolic compounds by the gut microbiota⁶, as the prebiotic effects of EVOO biophenols promote growth of beneficial bacteria such as Lactobacillus and Bifidobacterium and reduce pathogenic bacteria¹⁴⁴. Whilst there is a lack of human studies, research in animal models found a diet high in EVOO (vs. refined olive oil, which has significantly fewer biophenols) resulted in reduced levels of gut pathogens. The authors concluded the observed antibacterial effects against these pathogenic species likely were involvement of phenolic compounds in the EVOO¹⁴⁵.

Accumulating evidence suggests that consumption of an EVOO-rich Mediterranean diet can promote favourable outcomes on gut microbiota and associated microbial metabolites, supporting the health of the intestinal environment¹⁴⁶⁻¹⁴⁸.



Pregnancy and Fertility

Although extra virgin olive oil (EVOO) is the main source of fat in the Mediterranean diet, to date it is one of the least studied fats in terms of health impact when consumed during pregnancy and lactation.

Maternal olive oil consumption is linked to lower levels of adverse outcomes like gestational diabetes mellitus, pre-eclampsia, and small-for-gestational-age (SGA) or large-for-gestational-age (LGA) infants¹⁴⁹. Olive oil consumption during pregnancy can also protect newborn health, with one study showing a protective effect against wheezing during the first year of life¹⁵⁰. Human research into infant health benefits from EVOO phenolic compounds is lacking, however a study published in 2022 found that diets of pregnant rats enriched with EVOO could modify or even increase the phenolic content of breast milk, with potential health benefits for the offspring. One of the most interesting findings of this study was that some of the phenolic compounds or their metabolites were detected in higher concentrations in the infants' plasma than in the mothers' plasma¹⁵¹.

Current research suggests that EVOO may be beneficial for fertility whether individuals or couples are trying to conceive naturally, have dietary conditions which may impact their fertility and/or are undergoing Assisted Reproductive Treatments (ART) or In Vitro Fertilisation (IVF)¹⁵². EVOO may also play a protective role in endometriosis, which can impact the ability to conceive¹⁵².

A Mediterranean-style diet with EVOO has been shown to be beneficial for clients with Polycystic Ovarian Syndrome¹⁵³. When it comes to ART, studies suggest that olive oil and EVOO may help to improve semen quality and sperm functionality, which may improve ART outcomes^{154,155}. With regards to IVF treatments, studies suggest that adherence to a Mediterranean-style diet, including the use of EVOO, may strengthen IVF outcomes. For example, a study with women consuming a more Mediterranean-style diet, found they were more likely to become pregnant through IVF than those consuming a more 'health conscious' dietary style, which was lower in healthy oils¹⁵⁶. These results were substantiated by research that showed a 5-point increase in the Mediterranean Diet Score resulted in a 2.7 times higher likelihood of pregnancy through IVF¹⁵⁷.



Cancer

The antitumoral and anticancer activities of extra virgin olive oil (EVOO) and its bioactive biophenol compounds have been widely studied and evidenced both in vitro with cell cultures and in vivo with animal models, and through observational cohort studies and clinical trials¹⁵⁸. **The chemopreventative effects of EVOO include inhibition of tumour cell proliferation and increased rates of apoptosis (cell death)**¹⁵⁹.

Observational studies have shown a lower incidence of some cancers in regions where olive oil consumption is high¹⁶⁰, however the evidence is mixed and prospective cohort studies on various cancer types and survivors, as well as large randomised trials are needed. An umbrella review of meta-analyses, observational studies and randomised trials suggested a weak link between adherence to a Mediterranean-style diet and site-specific cancer¹⁶¹.

Yet another large analysis of 19 studies (including 23,340 control participants and 13,800 patients) suggested that olive oil intake is inversely associated with the risk of having any type of cancer and a 34% lower likelihood of cancer for high intakes of extra virgin olive oil. Specifically, this meta-analysis associated higher consumption of EVOO with a lower risk of breast cancer and cancers of the digestive system¹⁶². A more recent systematic review comprising data from 45 studies showed that overall, highest versus lowest olive oil consumption was associated with 31% lower cancer risk. Significant protection was noted for breast, overall gastrointestinal, upper aerodigestive and urinary tract cancer¹⁶³.

The strongest beneficial effects of EVOO have been described in breast cancer prevention. The Spanish PREDIMED study (the largest randomised control trial conducted on the Mediterranean diet) showed that women who ate a Mediterranean diet supplemented with four tablespoons of EVOO had a 62% lower risk of breast cancer compared to women who were advised to eat a reduced fat diet¹⁶⁴. It was also observed that women with an EVOO consumption of at least 15% of their total energy intake showed a significant reduction in their breast cancer risk, compared to women with an EVOO consumption of less than 5% of their total caloric intake. One hypothesis may be that the unique oleocanthal content of EVOO may play a protective role as it induces cancer cell death¹⁶⁵. Oleocanthal is an antioxidant that is only found in EVOO and no other food, not even olives!

EVOO has been shown to contribute to the prevention of malignant melanoma¹⁶⁶. EVOO is one of the only foods to contain high levels of the antioxidant squalene, which in animal studies is reported to have a chemoprotective effect specifically against skin cancer¹⁶⁷. The oleocanthal in EVOO may also inhibit melanoma cell growth in a concentration-dependant manner, i.e. the more the cells are exposed to oleocanthal, the less they proliferate and become cancer causing¹⁶⁸.

Oleocanthal is an antioxidant that is only found in EVOO and no other food, not even olives!



Emerging Research - Bone Health

Extra virgin olive oil (EVOO) phenols may prevent the loss of bone mass. The phenolic compounds help to promote bone cell growth (osteoblasts) and inhibit bone cell breakdown (osteoclasts)¹⁶⁹⁻¹⁷¹.

Higher consumption of EVOO is associated with a lower risk of osteoporosis-related fractures in middle-aged and elderly Mediterranean population at high cardiovascular risk. The results of a study in 870 participants found that people who consumed the highest amount of EVOO had a 51% reduced risk of bone fractures¹⁷². Another study found that a Mediterranean diet enriched with olive oil was associated with increased levels of bone formation markers compared to a non-enriched diet in elderly men¹⁷³, and animal studies have shown the potential of EVOO in treating osteoporosis following menopause¹⁷⁴. Whilst the research indicates that EVOO could potentially be a bone protective agent, further randomised controlled trials are warranted to determine the therapeutic use for osteoporosis prevention and management.

870 participants



51% reduced risk of bone fractures



Cooking With Extra Virgin Olive Oil

Health Benefits of Cooking With EVOO

Studies show that cooking with extra virgin olive oil (EVOO) can increase the nutrient content of food. When cooking with any oil, there is an exchange between the food and the oil, and many foods that are cooked in EVOO will contain a higher proportion of monounsaturated fats than the original food^{11, 175}. In addition, EVOO reacts with the cooked food to produce new compounds and enriches it with different constituents such as antioxidants from EVOO that transfer to the cooked food¹⁷⁶. One study showed that when broccoli was cooked with sunflower oil or refined olive oil, several beneficial compounds in the broccoli (such as vitamin C) were reduced. However, when cooked in EVOO, the levels of those beneficial compounds remained unchanged¹⁷⁷. **In addition, EVOO can enhance nutrient bioavailability from plant cell walls that are broken during the cooking process**¹⁷⁸.

The EVOO antioxidants that protect heated oil from thermal oxidation have a similar effect on cooked food. For example, canned tuna, being rich in polyunsaturated fatty acids, is highly prone to oxidation. However, this is inhibited if EVOO is used in the canning process¹⁷⁹. In a similar study, cod was significantly protected from lipid oxidation when fried in EVOO, an effect not observed in salmon, which as a fatter fish absorbs less oil¹⁸⁰.

Extra Virgin Olive Oil is Highly Stable When Heated

Due to its high levels of monounsaturated fatty acids, phenolic compounds and other antioxidants, EVOO undergoes less degradation during cooking than other edible oils. Studies have also shown that canola and sunflower oils are more likely than EVOO to break down and form potentially harmful compounds (known as polar compounds) during cooking, which is attributed to the production method used to produce these oils, as well as the polyunsaturated fat content^{10, 181-183}.

Did you know?

EVOO undergoes less degradation during cooking than other edible oils.



MYTH BUSTER: “Smoke Point” and its Impact on Cooking

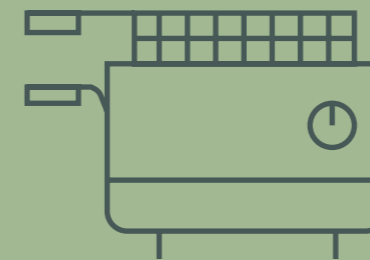
There is a common myth that extra virgin olive oil (EVOO) cannot be used for high temperature cooking, due to its lower smoke point compared to some other cooking oils. Smoke point is the temperature at which an oil begins to smoke, usually seen as bluish smoke and would indicate chemical breakdown¹⁸⁴.

This myth is not supported by any published evidence and smoke point does not predict when an oil starts to lose stability. On the contrary, oxidative stability of oils and the production of by-products when cooking oils are heated has a greater impact on cooking performance and health impact, as opposed to smoke points. EVOO is considered one of the best oils for frying, as it is rich in more stable monounsaturated fatty acids and low in unstable polyunsaturated fatty acids, and because its antioxidant compounds exert a protective effect against degradation during cooking^{10, 185, 186}.

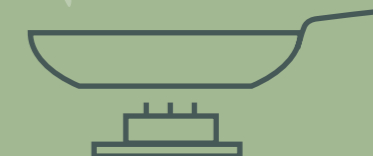
EVOO is a highly heat stable oil. In a 2018 study, ten of the most commonly used cooking oils were selected from the supermarket and heated in two different trials. In the first trial, all ten oils were heated for about 20 minutes until they reached 240 degrees Celsius. In the second trial, the oils were heated for six hours in a deep fryer to 180 degrees Celsius - the standard deep-frying temperature. Both these tests are well above regular home cooking conditions. In both tests, EVOO displayed the greatest oxidative stability, producing lower levels of polar compounds (harmful products produced when edible oils are heated), trans fats and other by products when compared with other cooking oils with higher smoke points like canola and sunflower oil¹⁰.

This study reaffirmed that smoke point is not a good indicator of how stable an oil is when heated.

It also supports the evidence for the heat stability and health benefits of cooking with EVOO¹⁸⁷⁻¹⁹⁰.



6 hours
180°C



20 minutes
240°C

What About Polar Compounds from Heated Oils?

When oils breakdown (e.g. when exposed to heat) there are a variety of degradation by-products produced, generically known as polar compounds. Evidence shows that polar compounds may be detrimental to health and have been linked to the development of neurodegenerative conditions such as Alzheimer’s and Parkinson’s Disease¹⁹¹⁻¹⁹³. In the 2018 study testing ten supermarket oils, for all oils tested, the formation of polar compounds

tended to increase with time. However, out of all oils that were tested, EVOO produced the lowest percentage of polar compounds after heating. Refined seed oils showed higher amounts of polar compounds (see table below). Production of polar compounds was more pronounced for refined oils, which are higher in unstable polyunsaturated fat, such as canola oil, grapeseed oil and rice bran oil.

Top three factors that correlate with oil breakdown and formation of harmful polar compounds:



Level of processing - a highly refined oil already contains secondary products of oxidation, which can readily break down when heated during cooking

Amount of natural antioxidants - the less antioxidants present in an oil, the more likely it is to break down and form harmful compounds

Level of polyunsaturated fat - oxidation occurs more readily in polyunsaturated fat oils due to their less stable chemical structure

Table: Percentage of polar compounds produced after heating¹⁰

Oil Type	Polar compounds percentage
Extra virgin olive oil	8.5%
Coconut oil	9.3%
Virgin olive oil	10.7%
Olive oil	11.7%
Rice bran oil	14.4%
Sunflower oil	15.6%
Grapeseed oil	19.8%
Canola oil	22.4%

Flavours and Cooking Profiles of EVOO

The overall flavour of an extra virgin olive oil is influenced by a combination of sensory factors, including the aroma, the taste and the ‘mouthfeel’. The flavour of extra virgin olive oil can vary significantly between different products and may range from mild/light through to robust. Different olive varieties are used to produce different flavour profiles, with the production method largely remaining the same for all types of extra virgin olive oil.

There are typically three types of EVOO to suit all types of meals and recipes:



Mild/Light/Delicate

This type of EVOO is made with olives that are carefully selected to be mild in flavour due to the variety and ripeness. Mild EVOO is delicate, subtle and versatile with low levels of bitterness and pungency. It has an aroma of ripe fruit and tropical notes, which allows the flavours of food to really sing! Perfect for stir-frying, barbecuing, baking (as a butter replacement) and sautéing, or when you want the flavour of other ingredients in the dish to be the star.



Medium/Classic

This type of EVOO is usually brimming with fresh fruity aromas and balanced levels of pungency and bitterness, which are more pronounced than in light varieties. Medium or Classic EVOO has an aroma of a mix of ripe and green fruit. It is a good all-rounder and can be used for every day cooking including sautéing, grilling, roasting vegetables, dressing salads, or simply dipping with crusty bread to enjoy its balanced flavours.



Robust

Packed full of flavour and with firm pungency and bitterness, this EVOO has a peppery aroma and provides real flavour depth on the palate. It is perfect for hearty dishes such as roast meats, stews and casseroles, or for generously drizzling on salads, and a welcome addition to marinades.

Did you know?

EVOO is perfect to use in baking as a butter replacement



Tips to Add EVOO to Every Day Meals

Extra virgin olive oil (EVOO) is extremely versatile and can be used in so many sweet and savoury dishes across all meals and snacks throughout the day. These tips can encourage everyone to enjoy more EVOO in their diets and consume the recommended minimum amount of 2-3 tablespoons a day to reap the health benefits.

Cook seasonal vegetables with EVOO

which will not only enhance the flavour of the vegetables, but will also help to increase nutrient bioavailability. A good rule of thumb is to use one tablespoon of EVOO for one cup of vegetables



Swap butter

for a mild flavoured EVOO in baking. One teaspoon/cup of butter can be replaced with 3/4 teaspoon/cup of EVOO



For a healthy sweet snack,

dress fresh citrus fruit slices with a mild flavoured EVOO and dust with cinnamon



As an alternative to butter or margarine,

spread EVOO across a favourite bread when making a sandwich, or simply dip a crusty sourdough baguette in a bowl of EVOO for a classic starter to any meal



Make silky scrambled eggs

by gently whisking EVOO into eggs instead of milk



Replace commercial salad dressings

with a homemade dressing of EVOO, lemon juice, crushed garlic and fresh or dried herbs



EVOO is a perfect base ingredient

in marinades for a variety of meats and seafood.



How To Store Extra Virgin Olive Oil

The amount of bioactive compounds in EVOO is directly proportional to its ability to resist degradation. To ensure the quality and health benefits of EVOO are preserved for as long as possible, it's essential to store EVOO in optimal conditions in order to maintain its quality. Oxygen, temperature, light and time are the four key factors that impact EVOO's quality. Packaging material also impacts quality as it effects how much light exposure occurs.

In general, the shelf life of EVOO is between 9 to 18 months unopened, depending on other factors such as chemical composition and storage temperature¹⁸. Once a bottle of EVOO has been opened and therefore exposed to oxygen, it is best to use the bottle within one to two months to maintain quality and freshness of the oil.

TIP: An oil is no longer considered 'extra-virgin' if you can taste rancidity, mustiness or winey-vinegar-ness or the oil coats the mouth rather than having a crisp clean feel¹⁹⁵.



TIP: Always store EVOO in tightly sealed containers and place it in a cool, dark place away from heat or light.

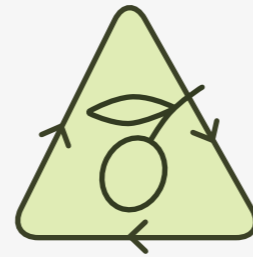


TIP: To best preserve EVOO quality and retain nutrient benefits, choose EVOO that is sold in dark glass or cans.



Sustainability

From a sustainability perspective, EVOO is highly favourable to all other edible oils when comparing quantifiable targets for sustainable food production, and is the only mainstream cooking oil to act as a carbon sink.



How is EVOO Produced?

Extra virgin olive oil (EVOO) is produced from an evergreen perennial crop, which is highly efficient in the use of water, as well as fertilisers. Olive trees originated in warm conditions and are relatively hardy, they can tolerate dry conditions, low water conditions and droughts. Olive trees can survive dry conditions without dying and will recover once more water is available, but the quality of the fruit will be affected. When directly compared to other crops, olive trees need 30% less water through irrigation than the benchmark crop (close cut grass)^{196,197}.

The by-products of EVOO production have a number of uses. Pit, pomace and organic materials from tree pruning can be used as fertilisers, animal feed and even renewable energy. Olive leaf extract is also marketed as a supplement¹⁹⁸.

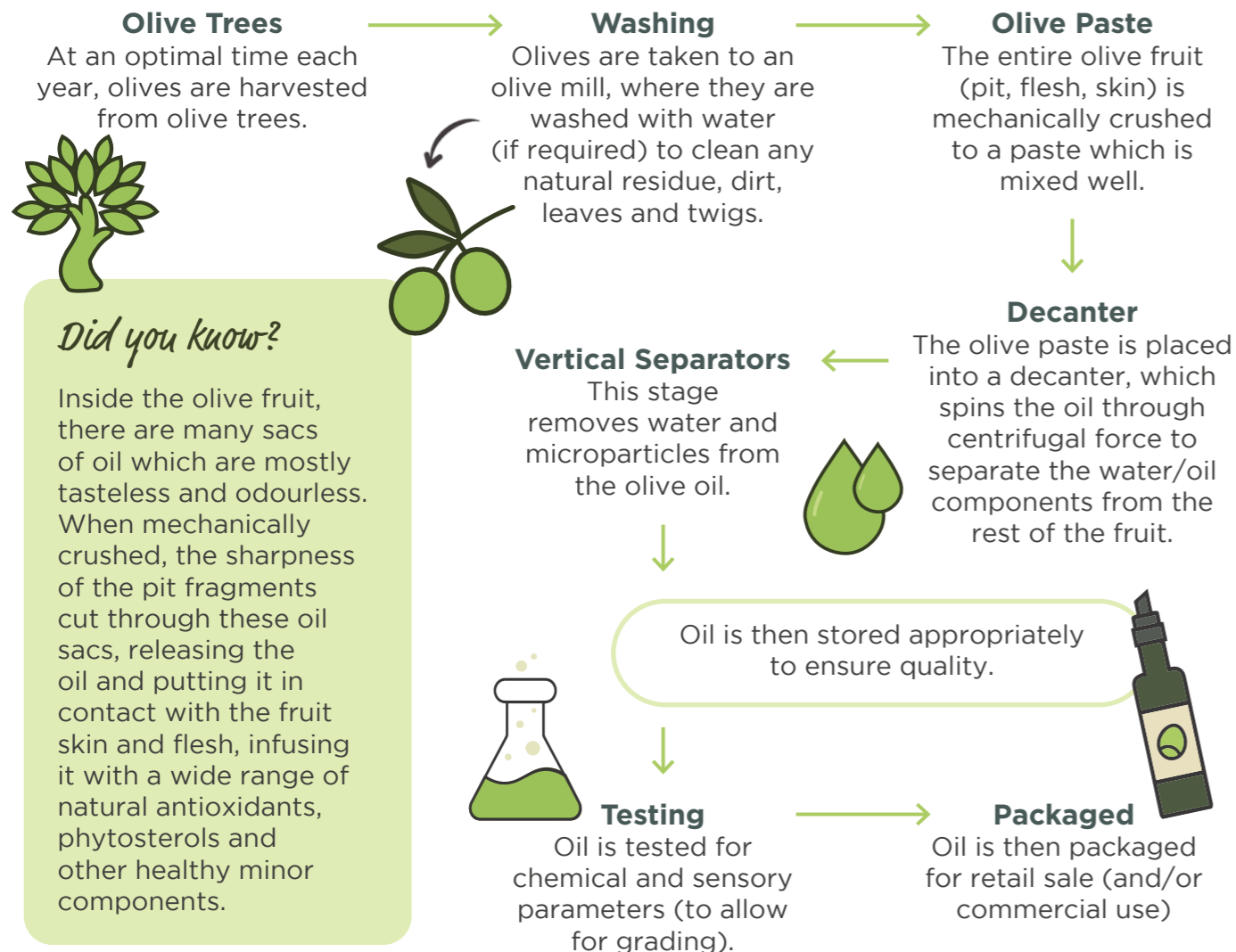
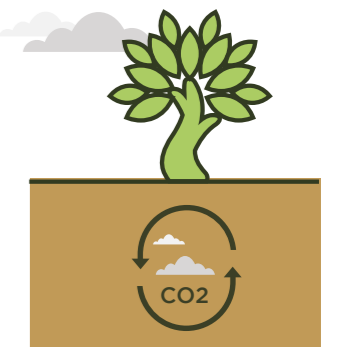
The Impact of EVOO Farming on The Environment

Research shows EVOO production plays an important role in capturing atmospheric carbon dioxide and fixing it in the soil¹⁹⁹⁻²⁰⁵. Olive trees act as a carbon sink, meaning they trap more carbon from the atmosphere than they release²⁰⁶.

In other words, the worldwide olive industry absorbs the emissions of a city of 9 million people every year¹². In contrast, global refined oil production has a negative net effect on atmospheric CO₂^{207, 208}.

The ability to fix carbon varies from olive grove to olive grove, however the International Olive Council has estimated that producing one litre of EVOO captures an average of 10.65 kg of carbon dioxide (CO₂) from the atmosphere. **One hectare of the average olive grove neutralises the annual carbon footprint of a person.**

Extra virgin olive oil is the only mainstream cooking oil to act as a carbon sink, which is better for the environment.



EVOO and Sustainable Dietary Patterns

Sustainability and planetary health are increasingly important considerations for public health dietary recommendations and guidelines. EVOO is a desirable source of unsaturated and saturated fat from a sustainable food production perspective.

The Mediterranean diet is similar to the EAT-Lancet report reference diet, with a focus on unprocessed plant foods, moderate consumption of fish and low consumption of meat, dairy and animal fats. EVOO is the main source of fat in the Mediterranean diet and has been shown to facilitate vegetable and legume consumption, both prominent features of the EAT-Lancet reference diet²¹⁰.

The well-publicised EAT-Lancet report includes recommended volumes of different foods each day, based on extensive literature on foods, dietary patterns, and health outcomes. Within these guidelines, unsaturated plant oils are a prominent feature, with a recommendation of 20-80g per day²⁰⁹.

In conclusion, **extra virgin olive oil is recognised as one of the world's healthiest and most popular cooking oils.** It has a unique chemical composition that provides a myriad of health benefits from heart health, mental health, brain function, gut health, and diabetes and weight management. All it takes is just 2-3 tablespoons or about 50ml per person each day. EVOO is an excellent replacement for less healthy fats and can be used in many savoury and sweet dishes. With a variety of different flavour profiles, there's an EVOO to suit all culinary styles.



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