



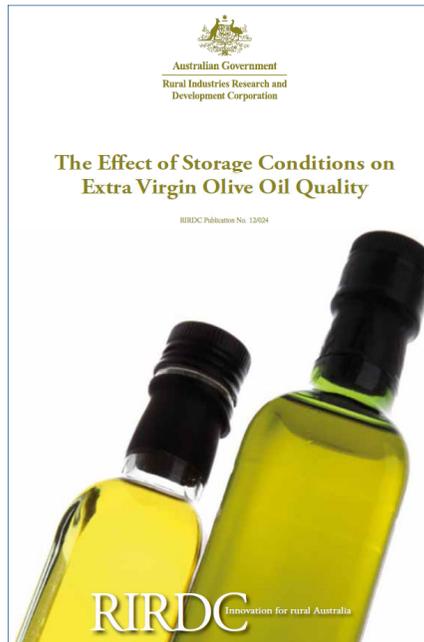
Department of
Primary Industries

Maintaining olive oil quality during storage

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The Australian Olive Research Laboratory (AORL) has studied the effect of storage conditions on olive oil over a number of years.



From these studies and continued research work there are three major factors that affect extra virgin olive oil.

❖ Exposure to oxygen



❖ Exposure to light



❖ Exposure to increased temperature



Exposure to oxygen

Significant effect on:

- ❖ Peroxide value
- ❖ UV
- ❖ Pyropheophytin a
- ❖ α -tocopherols
- ❖ FAPs
- ❖ Induction time
- ❖ Sensory



Exposure to light

Significant effect on:

- ❖ UV – K₂₆₈
- ❖ Pyropheophytin a
- ❖ Chlorophyll
- ❖ Sensory



Exposure to high temperature

Significant effect on:

- ❖ Peroxide value
- ❖ UV – K₂₆₈
- ❖ Free fatty acid
- ❖ Pyropheophytins a
- ❖ 1,2-diacylglycerols
- ❖ Polyphenols
- ❖ α -tocopherols

- ❖ Colour
- ❖ Induction time
- ❖ Sensory



Production issues



- ❖ Quality of fruit – bruised, mouldy, long-term storage
- ❖ Oil stored under inappropriate conditions
 - Oxygen and light exposure
 - Uncontrolled temperature
- ❖ Storage temperature too high
- ❖ EVOO stored in incorrect containers
- ❖ Containers not full

Production improvements/solutions

- ❖ Fast turn around in processing fruit
- ❖ Clean equipment
- ❖ Store EVOO in temperature controlled environment (bulk and bottled oil)
- ❖ Stainless steel containers
- ❖ Eliminate air gap
- ❖ Use dark glass bottles when decanting



Supply chain issues

- ❖ EVOO quality faces it's biggest challenge through the supply chain
- ❖ Harder to maintain good oil quality once it leaves the producers' hands
- ❖ Warehouses, supermarkets, transporters, cargo holds on ships do not always have suitable storage conditions
- ❖ Promote recommended storage information through the supply chain to ensure highest quality possible.



Consumer issues

- ❖ Use senses when purchasing
- ❖ Store near heat sources
- ❖ Decant into other containers for presentation
- ❖ Tend to use sparingly



Consumers – improvement/solutions

- ❖ Buy Australian certified EVOO
- ❖ Use it within a reasonable timeframe
- ❖ Choose EVOO in dark bottles
 - Read label for description
- ❖ Leave in original bottle if possible
 - Decanting adds unnecessary oxygen
- ❖ Store in cool, dark conditions
 - Away for heat sources ie. stoves, windows



Recommendations

FFA, PV, UV – simple chemical tests that can give a quick overview of oil quality.

Sensory, PPP and DAGs - can give an indication of the freshness and ageing of olive oil.

Producer/consumer – year of harvest can help determine oil quality.



Final thought:

Olive oil is not like wine –
It doesn't improve with age.

Use it!!!



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