



PHYSICO-CHEMICAL CHARACTERIZATION OF OLIVE OIL OF INTRODUCED AND LOCAL VARIETIES



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INTRODUCTION

The olive tree (*Olea europaea* L.) is a widely cultivated species for the production of oil and table olives. During the ripening process, several physical and chemical changes occur, many of which are crucial for the production of olives and olive oil (Menz and Vriesekoop, 2010).

Olive oil is a real fruit juice with excellent nutritional, sensory and functional qualities. It is a typical lipid source of the Mediterranean diet, the consumption of which has been associated with a low incidence of cardiovascular disease, neurological disorders and breast and colon cancer (Gimeno et al, 2002).

The aim was to compare the oil of the local cultivar *Chemlal* with that of the introduced cultivars *Verdale*, *Cornicabra*, *Picual* and *Arbequina*, in order to determine which of the five olive oils studied had the better physico-chemical characteristics.

MATERIALS & METHODS

The study involved samples of olive oil from different regions of the country: *Abir दौर* (*Khemis Miliana*), *Chelef*, *Lamtar*, and *Benhar* (*Djelfa*). These samples were collected from two producers during the olive season 2020-2021.

Different physicochemical parameters were measured: acidity, peroxide value, absorbance at 232 and 270, total polyphenols, and fatty acid profile.

RESULTS AND DISCUSSION

1. Acidity

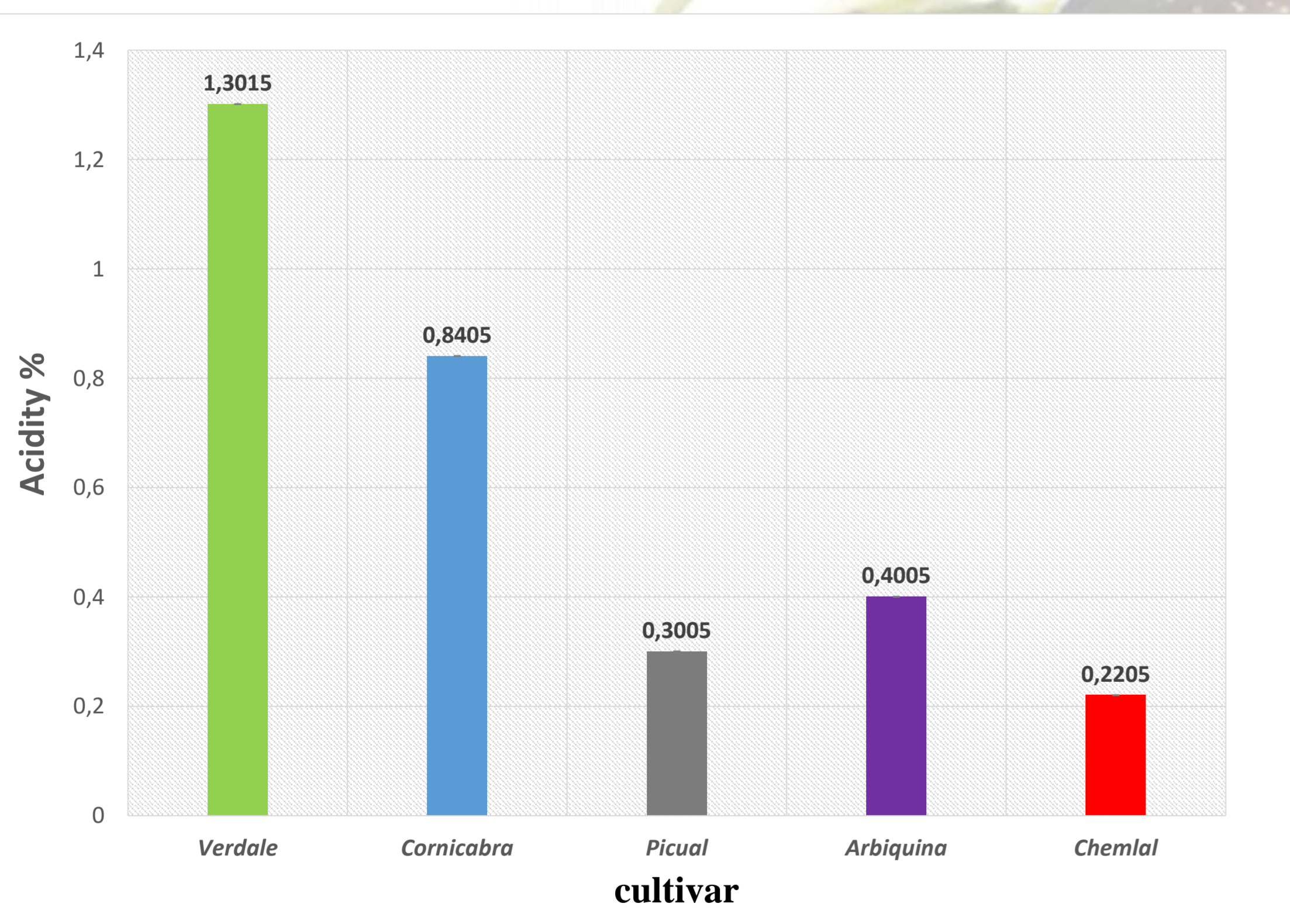


Figure 01 : Variation in acidity levels of olive oils of the cultivars studied

2. Peroxide values

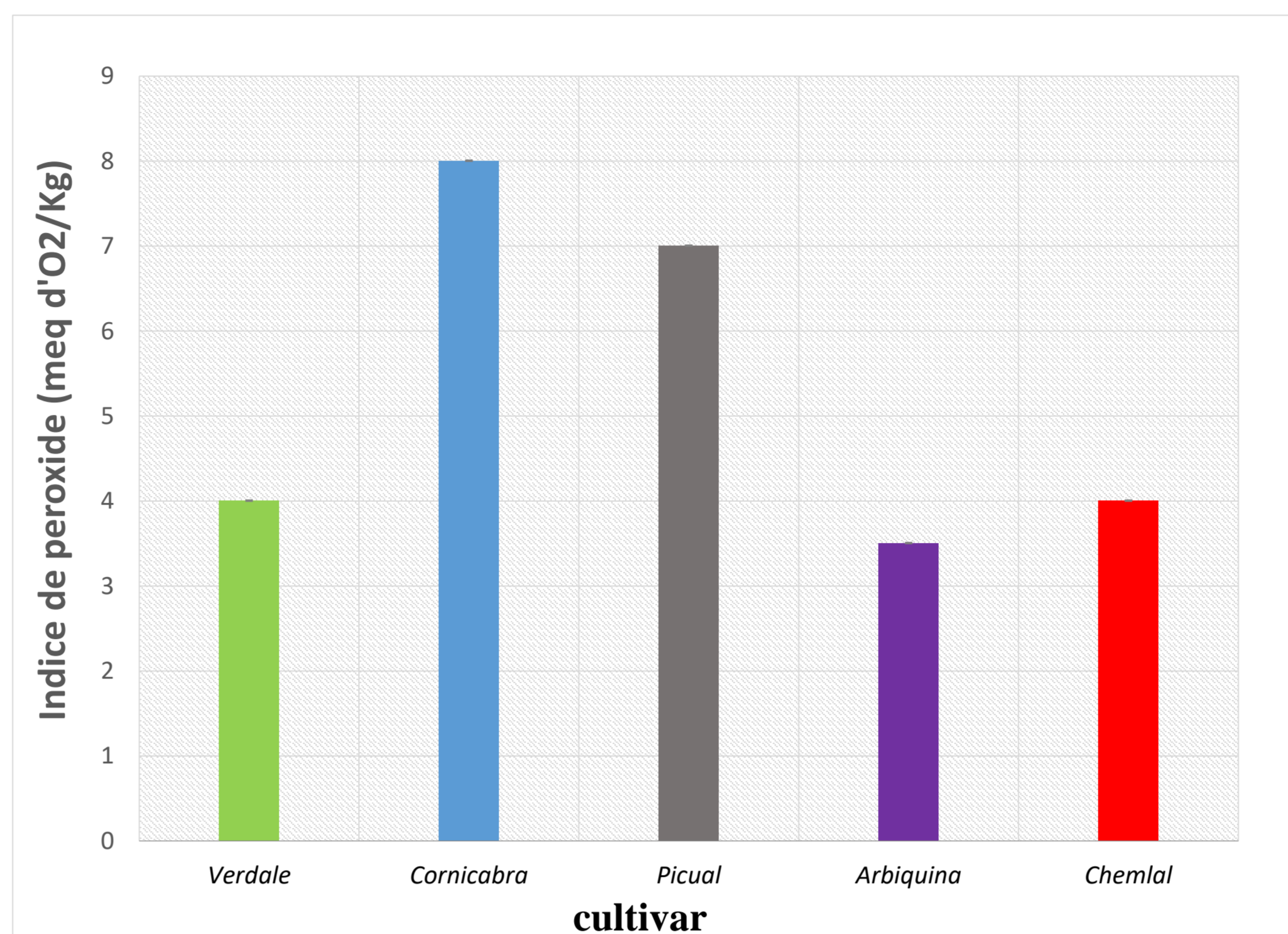


Figure 02: Average variation of peroxide values of olive oils from the different samples

3. Specific absorbance at 270 nm and 232 nm

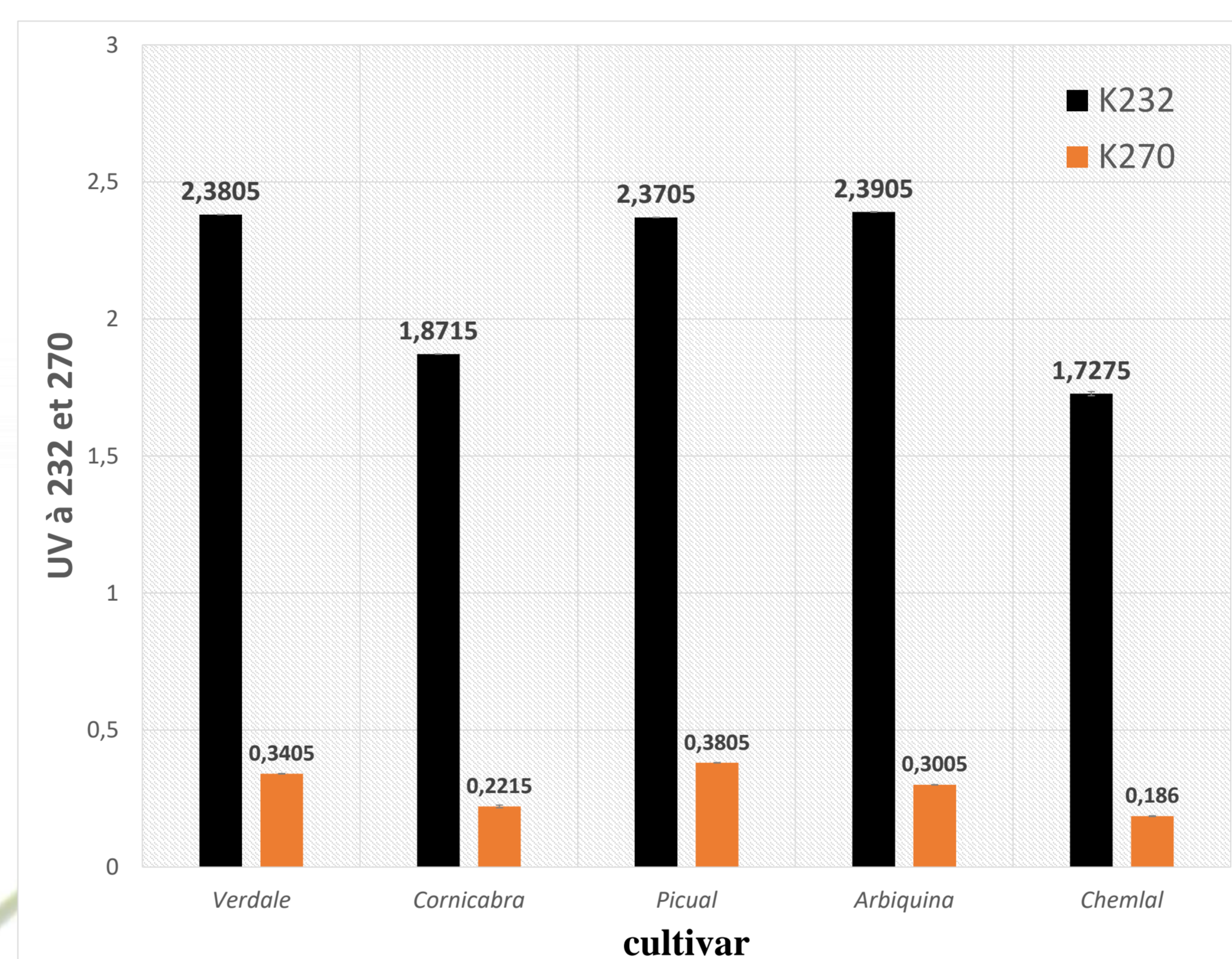


Figure 03 : Specific absorbance at 270 nm and 232 nm of the oils of the studied cultivars

4. Total polyphenol content

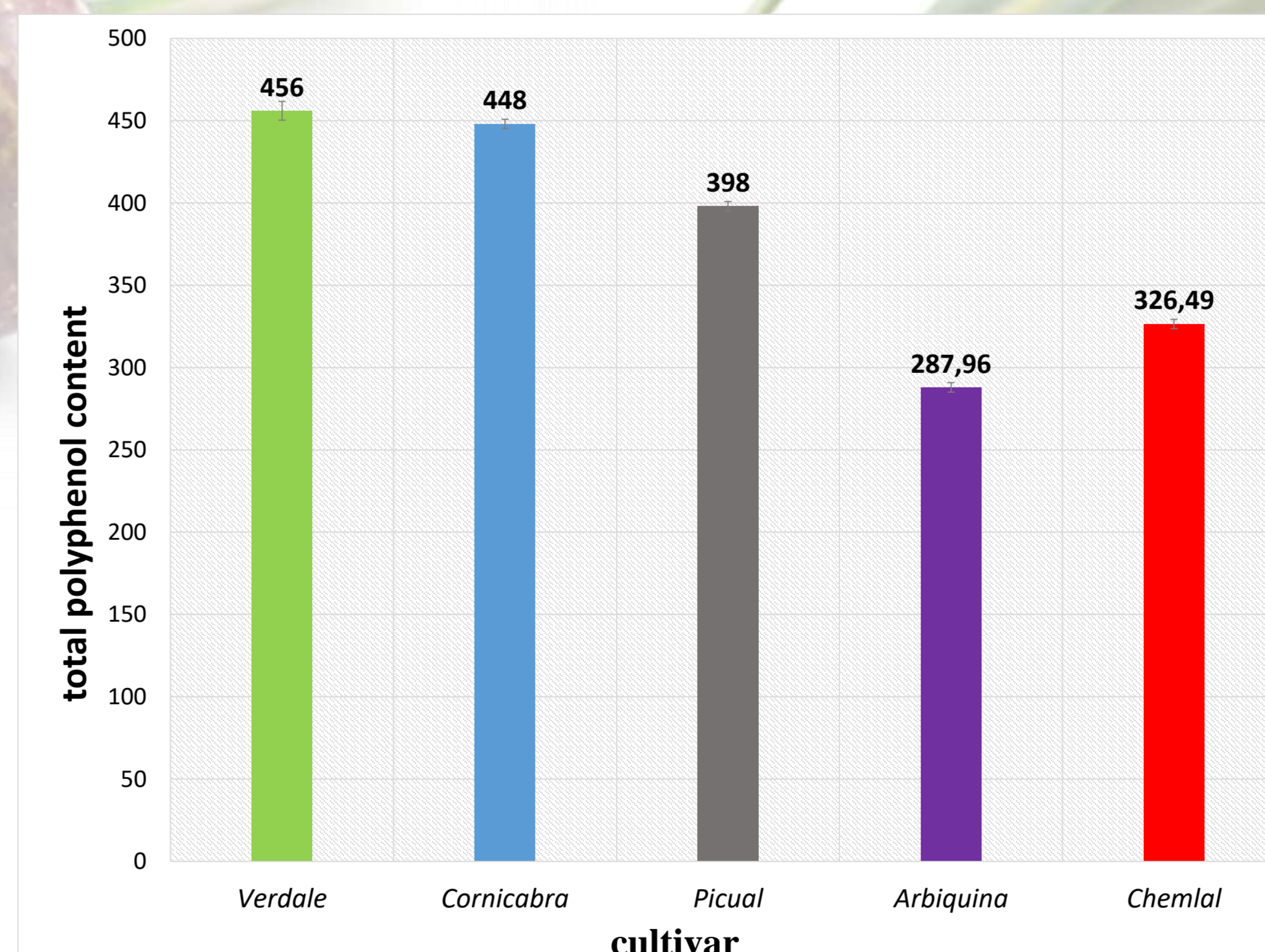


Figure 04 : Variation in the total polyphenol content of the oils of the cultivars studied

5. Fatty Acid Composition

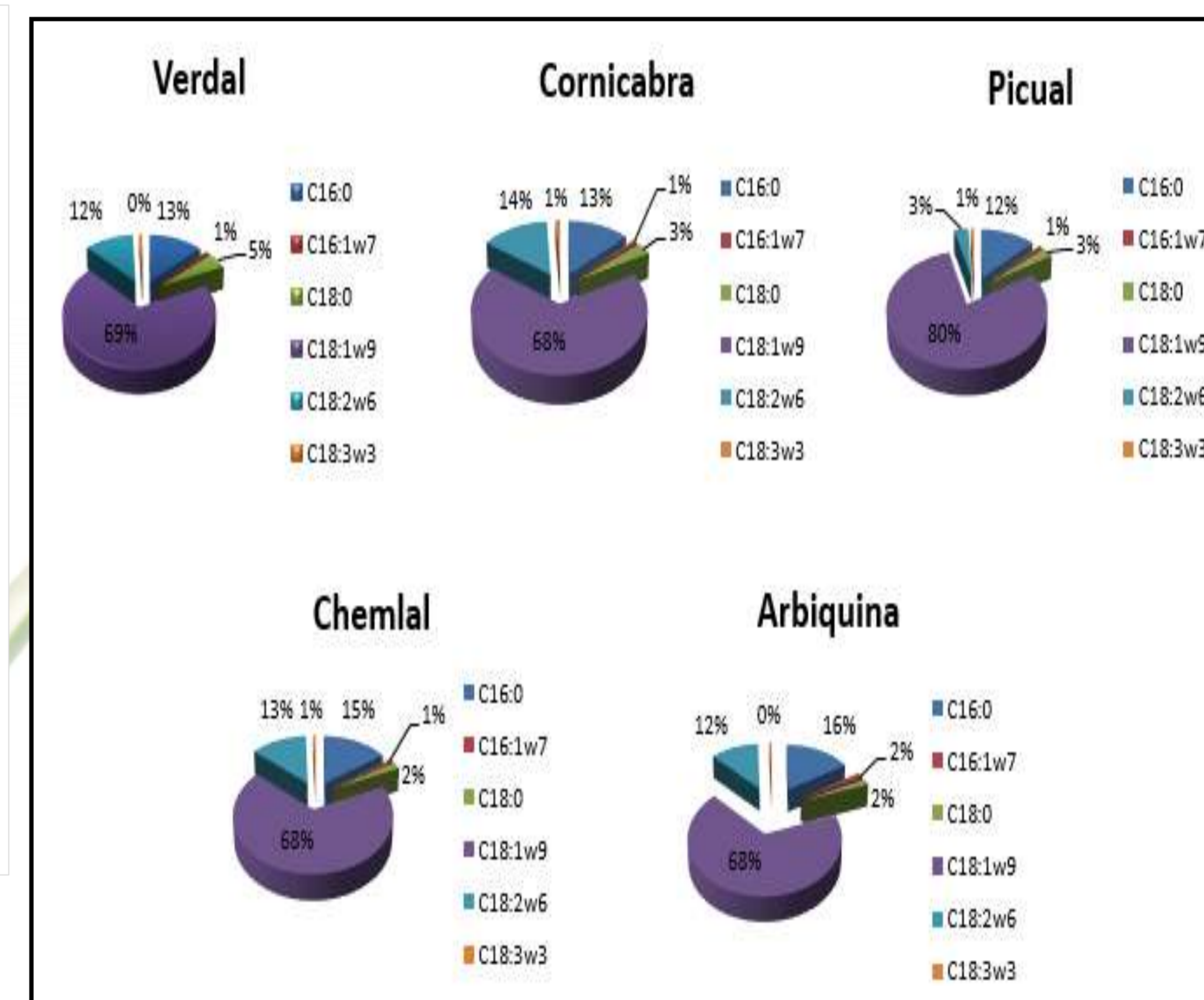


Figure 05 : Fatty acid composition of the oils of the different cultivars studied

CONCLUSION

The degree of ripeness of the olives, the type of variety, the storage conditions (duration, temperature, packaging ...) and transport, the harvesting system, the extraction system, pedoclimatic, geographical, climatic factors, and the soil are all factors that influence the quality of olive oil.

Therefore, in order to obtain a quality oil that meets the standards, it is necessary to respect the technical itinerary, to optimise the harvesting conditions and to eliminate the storage of olives in plastic bags in air-conditioned boxes for a period that should not exceed 48 hours before crushing.

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