



Figure 3: Dendrogram resulting classification of 35 cultivars of sesame from different regions.

The hierarchical clustering based on phenolic compounds, flavonoids, flavonols and the antioxidant activity was carried out (Fig3), the resulting dendrogram puts in evidence a clear separation between the 35 cultivars from different regions to specified groups which means a significant population distribution based on bioactive molecules, this difference may be due also to the effect of environment or genetic variability.

5. Conclusion

This study researched the contents of bioactive compounds and the antioxidants activities of 35 cultivars from different areas in Morocco. A large variability in these contents was observed among the cultivars which allow us to create a differentiation on the groups. Sesame extracts has stabilization efficiency comparable to commonly employed synthetic antioxidants BHT and BHA at their legal limit, they can be recommended as a potent source of antioxidants for stabilization of food systems, especially unsaturated vegetable oils. The phenolic compounds appear to be responsible for the antioxidant activity of sesame seeds, those seeds could be part of the nutritional for human, and may be used successfully as a key ingredient in Halva, Tahini, and in other colourful rice and noodle dishes for its aroma and flavour, although further studies are required to reveal whether they contain other antioxidative constituents.

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