Effect of ?-tocopherol, ?-tocotrienol and Rosa mosqueta shell extract on the performance of antioxidant-stripped canola oil (Brassica sp.) at high temperature

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The antioxidant effects of tocols (?-tocopherol and ?-tocotrienol) and Rosa mosqueta shell extract added to antioxidant-stripped canola oil (TCO) were evaluated and compared with the non-stripped oil (CO) under the same conditions. Seven oil systems were subjected to thermal treatment at 180 °C for 18 h. Polar compounds formation, degradation of tocols and carotenoid pigments were studied. The addition of Rosa mosqueta shell extract gave a great stability to TCO, similar to CO, with a low polar compound formation and a high retention of ?-tocopherol compared with other TCO samples, which suggested the protective action of the minor components present in the extract. Alpha-tocopherol showed a higher effectiveness than ?-tocotrienol at high temperature. However, an increase in the level of ?-tocopherol did not improve its action.