

---

## The effects of the reduced sugar on macaron quality

---

Luangsakul, N.\* and Chiralaksanakul, N.

Faculty of Agro-Industry, King Mongkut's Institute of Technology Ladkrabang, Bangkok, 10520, Thailand.

Luangsakul, N. and Chiralaksanakul, N. (2020). The effects of the reduced sugar on macaron quality. International Journal of Agricultural Technology 16(5): xxx-xxx.

**Abstract** Higher levels of sugars affected both firmness and cohesiveness in macaron batter which the latter was more affected. For macaron shell quality, higher levels of granulated and confectioner's sugars caused more fracturability, hardness and cohesiveness of macaron shells. Both sugars showed significantly pronounced effects on textural attributes of macaron shells, especially on its brittleness, hardness, and cohesiveness. The study showed that the amount of granulated sugar could be reduced from 150 g to 130 g and confectioner's sugar from 150 g to 126 g without affecting their acceptability in a professional panel sensory evaluation. The impact of reduced sugar on macaron shells was reduce feet height and increased chewiness. The macarons made from either reduced or non-reduced sugar levels which had similar overall liking scores that were not significantly different ( $p>0.05$ ).

**Keywords:** Macaron, Sugar reduction, Meringue, Confectioner's sugar, Sugar syrup, Healthy

---

\* **Corresponding Author:** Luangsakul, N.; **Email:** [naphatrapi.lu@kmitl.ac.th](mailto:naphatrapi.lu@kmitl.ac.th)