

How pullulanase affects resistant starch and antioxidant activity in purple sweet potato powder?

ABSTRACT

Purple sweet potato (PSP) serves as a potential source for dual functionalities of resistant starch (RS) and antioxidants. This study aims to evaluate the effects of pullulanase enzyme on these functionalities. Results showed that the incorporation of pullulanase into PSP powder could significantly increase the RS content from 3.06 g/100g to 7.11 g/100g. However, total anthocyanin content and DPPH radical scavenging activity reduced significantly, due to the interference from RS fragments on anthocyanins. Securing both functionalities (RS and antioxidant) within the same sample is seemingly impossible. A compromise between RS and antioxidant properties in coloured, starchy plant powders is recommended.

Keyword: Anthocyanin; Antioxidant; Pullulanase; Resistant starch; Sweet potato