



EFFECT OF HEATED ONION EXTRACT ON WHITE BUTTON MUSHROOM (*AGARICUS BISPORUS*) POLYPHENOL OXIDASE

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<https://doi.org/10.34302/crpjfst/2021.13.4.2>

Article history:

Received:
18 January 2021
Accepted:
18 October 2021

Keywords:

Polyphenol oxidase,
Agaricus bisporus,
Onion extract,
Inhibitor.

ABSTRACT

Heated onion extract exhibited a more potent inhibitory effect towards the browning of button mushroom (*Agaricus bisporus*) compared with the fresh onion. The inhibitions were 65.10% and 25.33% for fresh onion extracts for pyrocatechol and 4-methylcatechol, respectively. The percentage of inhibition increased to 68.51% for pyrocatechol and 42.33% for 4-methylcatechol when added with the heated onion extracts. Onion extracts inhibited the white button mushroom PPO non-competitively. The inhibitory efficiency of the onion extracts increased with increasing heating temperature and time. The percentage of inhibition for the non-heated onion extracts declined drastically from 89% to 50% for pyrocatechol and 77% to 31% for 4-methylcatechol after 9 days of storage at 4°C. Meanwhile, percentage of inhibition declined from 93% to 64% and 83% to 36% for pyrocatechol and 4-methylcatechol for heated onion extracts. Onion extract could be considered as a potential natural inhibitor for preventing browning of fruits and vegetables.
