

INTERNATIONAL CONFERENCE ON FOOD, AGRICULTURE AND NATURAL RESOURCES

Strengthening Food and Natural
Resources Technology and Policy for
Sustainable Agriculture

PROGRAM BOOK



Jember, Indonesia
August 31 - September 1, 2015

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of
International Conference on Food, Agriculture and Natural Resources
(IC-FANRes)

August 31st – September 1st 2015
Jember – Indonesia

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silica gel G-60 as the stationary phase, and resulted in five fractions. The antioxidative activities was determined by DPPH free radical scavenging, ferrous ion chelating, and singlet oxygen quenching. Results showed that the fourth fraction had the highest total phenolics and flavonoids content of 297.43 ± 0.48 mg GAE/g extract and 117.31 ± 0.38 mg quercetin equivalent / g extract, respectively, and showed the highest antioxidative activities.

FSAE016 Encapsulation of Antioxidant from Coffee Cherries Extract using Arabic Gum Combined with Oxidized Tapioca as Encapsulan Material : Application on Kentik Oil

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ABSTRACT: Natural antioxidant from coffee cherries extract was encapsulated with 25% suspension, with the ratio of oxidized tapioca and gum arabic at 10:90 as encapsulation material. Further research on the molecular shape and its application to kentik oil which was stored for six weeks in light and dark bottles compared with synthetic antioxidant, BHT. Observation by SEM (Scanning Electron Microscope) showed that antioxidant capsules shape was round with a smooth surface. Encapsulated antioxidant with dosage of 1 % was added to the kentik oil and stored for six weeks in the light and dark bottle. It showed that could inhibit defect of kentik oil. Increasing of peroxide value (AP) and free fatty acid value (FFA) used as parameter to detected its defect. The following was the changes in AP and FFA at kentik oil which was added with encapsulated antioxidant; AP: 3.625 meq/1000 g (light bottle), 2.65 meq/1000 g (dark bottle) and FFA : 1.19% (light bottle), 1.206% (dark bottle). Kentik oil which was added with BHT is AP : 2.55 meq/1000 g (light bottle), 1.89 meq/1000 g and FFA : 1.213% (light bottle) dan 1.118% (dark bottle).

FSAE024 Antioxidant Activity and Physicochemical Properties of Kecombrang Fruit Extract Nanoencapsulan (Nicolaia speciosa Horan)

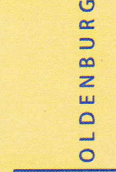
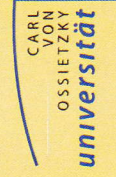
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ABSTRACT: Kecombrang (*Nicolaia speciosa* Horan) contains bioactive compounds such as polyphenols, alkaloids, flavonoids, steroids, saponins and essential oils. This compounds considered as an antioxidant. The weakness of extract kecombrang fruit are volatile and unstable to light and oxygen. Therefore the extract should be modified into nanoencapsulan powder. The results showed that the proportion of encapsulan (gelatin-cyclodextrin) (w/w) did not significantly affect the antioxidant activity, but the proportion of encapsulan (gelatin-cyclodextrin) 1:1 (w/w) provided the highest antioxidant activity i.e. 49.54%. The proportion of concentrate : encapsulan (w/w) did not significantly affect the antioxidant activity, but the proportion of concentrate : encapsulan 1:2 (w/w) provided the highest antioxidant activity (49.53%), while the highest total phenolic (454.5 mg/100g) were obtained from the proportion of concentrate : encapsulan 1:1 (w/w). Nanoencapsulating method provided higher total phenolic (368.8 mg/100g) and higher antioxidant activity (49.77%) than without nanoencapsulating method. The highest total phenolic and antioxidant activity resulted shelf-life 0 week that is 447.8 mg/100g and 53.1%. Antioxidant activity during 6 weeks of storage decreased by 19.38% compared to 0 week. Interaction of four factors did not significantly affect antioxidant activity and physicochemical properties of nanoencapsulan powder. However, the combination of treatments (proportion of encapsulan 1:1 (w/w), the proportion of concentrate : encapsulan 1:1 (w/w), with nanoencapsulating method and a shelf-life 0 weeks) resulted the highest a total phenolic and the highest antioxidant activity that is of 635.8 mg/100g and 59.34%.

CERTIFICATE



This is to certify that

Nurul Isnaini Fitriyana

has attended

International Conference on Food, Agriculture and Natural Resources (IC-FANRes 2015)

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August 31st - September 2nd 2015

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