

STUDY ON CHEMICAL AND BIOLOGICAL ACTIVITIES OF HYDNOPHYTUM FORMICARUM EXTRACTS AND THEIR SUPPLEMENTAL APPLICATIONS IN BISCUITS

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Tóm tắt bằng tiếng Việt:

Hydnophytum formicarum is a medicinal plant that has a variety of bioactive compounds and has been traditionally used for therapeutic purposes. Hydnophytum formicarum lives on the stems of large trees and in a symbiosis with a type of ants. This study investigates the effects of technological factors on the extraction process of Hydnophytum formicarum in n-hexan, ethyl acetate, and ethanol solvents by using the Soxhlet method. Our study also identifies the best extraction conditions for each solvent. Several major constituents presented in the above extracts were identified by using the gas chromatography mass spectrometry GC-MS method. In addition, investigation results about the biological activity show that all of the three extracts have high antioxidant and antimicrobial activity. Therefore, in order to produce new biscuits that would be healthy for adults and have long preservation duration, we added Hydnophytum formicarum ethanol extract during production. We used ratio of Hydnophytum formicarum ethanol extract for biscuits is 1 gram condense extract/100 grams dough.

Từ khóa: Sensory evaluation; antioxidant activity; antimicrobial activity; identification; acceptance test

Tóm tắt bằng tiếng Anh:

Hydnophytum formicarum is a medicinal plant that has a variety of bioactive compounds and has been traditionally used for therapeutic purposes. Hydnophytum formicarum lives on the stems of large trees and in a symbiosis with a type of ants. This study investigates the effects of technological factors on the extraction process of Hydnophytum formicarum in n-hexan, ethyl acetate, and ethanol solvents by using the Soxhlet method. Our study also identifies the best extraction conditions for each solvent. Several major constituents presented in the extracts were identified by using the gas chromatography mass spectrometry GC-MS method. In addition, investigation results about the biological activity show that all of the three extracts have high antioxidant and antimicrobial activity. Therefore, in order to produce new biscuits that would be healthy for adults and have long preservation duration, we added Hydnophytum formicarum ethanol extract during production. The proposed ratio of Hydnophytum formicarum ethanol extract for biscuits is 1 gram condense extract/100 grams dough.

Key words: Sensory evaluation; antioxidant activity; antimicrobial activity; identification; acceptance test