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Conservation and chemical properties of local edible yam (*Dioscorea* spp.) in the immediate vicinity of Nakhon Ratchasima, the northeast of Thailand

Prachit Yuwang, Ruttanachira Ruttanaprasert, Luis Ernesto Garcia Garcia and Thananun Yuwang

Rajamangala University of Technology Isan, Thailand

There are a number of local edible yam varieties in Thailand, especially in its Northeastern region. Each of them has a unique texture and taste. At present, some of them almost at the state of distinction and hard to find in the market, while some are abundant and over supply for cultural consumption. This indicates that the latter is of high potential for commercial production. The purpose of this research was to survey in the area of the lower northeast of Thailand to find varieties of local edible yams that are of high quantities and are of high potential for commercial food product production. The survey was conducted in the area of Nakhon Ratchasima, Buriram, Surin, Srisaket, and Chaiyapoom provinces. The samples were planted in the field experiment at the Plant Science Department, Faculty of Agriculture and Technology, Rajamangala University of Technology, Surin Campus, Thailand and collected at the harvest date in November, 2018. The records were made for physical appearance of edible parts, proximate composition and the amount of phenolic and flavonoid compounds. This survey found 30 accessions of yam. Among these, 17 of them were different in morphology. It can be classified to

5 species, namely *Dioscorea bulbifera*, *Dioscorea alata*, *Dioscorea daunaea*, *Dioscorea esculenta*, and *Dioscorea pentaphylla*. All of them appeared to have white fresh, except *D. pentaphylla* and *D. esculenta* which had a violet and yellow flesh respectively. In proximate analysis, all yam from 17 accessions contained moisture content in range of 62.0533-77.1067%. *D. bulbifera* and *D. esculenta* had the lowest moisture content while *D. alata* had the highest moisture content. All of the sample had less than 1% of lipid (dry basis). It was found that all of 17 accessions had protein in range of 2.9067-11.9733% (dry basis). For the average protein content, *D. alata* had a high level than the other samples, and that from Chaiyapoom province had a significant higher protein content. The amount of ashes from all sample were similar in the range of 1.4700-4.6933% (dry basis). Ash contents of *D. alata* from Chaiyapoom and from Srisaket provinces were significantly higher than the other (4.3400 and 4.6933%, respectively). For the proximate analysis for higher nutrition it appeared that *D. alata* had a high potential for commercial processing.

Biography

Prachit Yuwang had completed her Ph.D on Food Technology from Suranaree University of Technology, Thailand in 2017. She is an Assistant Professor within the field of Food Science and Technology and a food technology expert in the food industry entrepreneurship development program of Thailand. Her research interests include cereal, yam, and local fruit. She had 2 articles published in international journals and 2 articles in Thai journals.

sprachit@hotmail.com

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