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## Yield potential of diverse yam accessions for food security in Thailand

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In human history, insect pests, plant diseases and natural disasters such as drought and flooding caused crop losses of major crops and famine. Growing minor food crops such as yam, taro and others is an important issue for food security. The Northeast of Thailand is known as the driest parts of the country, where drought and soil salinity are the major problems of crop losses and this region is at the risk for food shortage and malnutrition. Yam can be grown as an upland crop with minimum inputs in a wide range of environments. The objective of this research was to evaluate the yield potential of thirty yam accessions collected from five provinces in Thailand. These accessions were planted in a randomized complete block design with two replications at the Plant Science Department, Faculty of Agriculture and Technology, Rajamangala University of Technology, Surin Campus,

Thailand. Yam accessions were significantly different for tuber fresh weight, number of tubers per plant, tuber length and tuber width. Tuber fresh weights ranging from 2.94 to 45.66 tons ha<sup>-1</sup> were observed among yam accessions, and numbers of tubers were between 1-25 tubers per plant. Tuber lengths were between 3.58 and 19.12 cm, whereas tuber diameters were from 4.00 to 14.13 cm. These accessions were classified into five species including *Dioscorea daunaea*, *Dioscorea alata*, *Dioscorea esculenta*, *Dioscorea bulbifera* and *Dioscorea pentaphylla*. *Dioscorea daunaea* had the highest yield potential followed by *Dioscorea pentaphylla*, *Dioscorea alata*, *Dioscorea bulbifera* and *Dioscorea esculenta*, respectively. Yam has the great potential as a source of carbohydrate and nutrition for food security especially in the remote rural areas in Thailand.

### Biography

Ruttanachira Ruttanaprasert had completed her Ph.D on Agronomy (Plant Breeding) from Khon Kean University, Thailand in 2015. Her research interests include tuber crops such as yam, sweet potato and Jerusalem artichoke. She had 7 articles published in international journals and 8 articles in Thai journals. She has also been a peer reviewer of an academic journal.

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