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SELECTION OF COMMON EDIBLE HERBS WHICH INHIBIT AFLATOXIN PRODUCTION OR FUNGAL GROWTH

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Aflatoxin is a toxic secondary metabolites producing by certain strains of *Aspergillus flavus*. The contamination of aflatoxin occurred in a wide varieties of food and feed, and have been implicated in a range of human and animal diseases. Because it is mainly concerning with human consumption, hence the method used for controlling aflatoxin should be safe to human. The aim of this studies was to select the varieties of edible herbs which commonly grow in Thailand and can inhibit aflatoxin production or fungal growth in order to use as aflatoxin control agent in food and feed. Generally, most herbs were known to inhibit fungal growth. In this studies we tried to select herbs which directly do inhibit aflatoxin production aside from growth inhibition.

Sixteen varieties of edible herbs which commonly grow in Thailand were selected for the tests. Tip culture method was employed to characterize the efficiency of herb extracts to inhibit aflatoxin production or mycerial growth. Amount of aflatoxin production and mycerial weight of each treatment were determined as percent inhibition from control. Six varieties of herbs were found to cause high percentage of aflatoxin production inhibition (64-99%) whereas percent inhibition of mycerials weight was low or no inhibition. They were *Pluylanthus amarus*, *Zingiber officinale*, *Thuybergia taurifolia*, *Occimpum basilicum*, *Boesenbergia pandurata* and *Tumaric sp.* The other 5 varieties *Syzyglum aromaticum*, *Occimum tenuiflorum*, *Cymbopogon citrates*, *Alpinia nigra* and *Allium sativum* gave high percentage of mycerial weigh inhibition (50-70%) which enhance to have high percentage of aflatoxin inhibition (80-99%). The effectiveness of these common herbs can be utilized as biological control of aflatoxin production or fungal growth in food and feed.