

SESSION 5

POST HARVEST TECHNOLOGIES

NUTRITIONAL AND PHYTOCHEMICAL PROFILE OF FREEZE-DRIED FRUITS OF LIPOTE (*SYZYGium POLYCEPHALOIDES* (C.B. ROB.) MERR.) AND DUHAT (*SYZYGium CUMINI* (L.) SKEELS)

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ABSTRACT

Duhat (*Syzygium cumini* (L.) Skeels) and lipote (*Syzygium polycephaloides* (C.B. Rob.) Merr.) are some of the indigenous Philippine berries traditionally used in treating diabetes mellitus and hypertension; however, literature investigating the nutritional and functional properties of these berries grown in the Philippines remain scarce. The present study therefore aimed to evaluate the nutritional and phytochemical profile of freeze-dried duhat and lipote fruits. Vitamin and mineral analysis using HPLC and ICP-OES, respectively, revealed that fully-ripened freeze-dried duhat fruit flesh and peels contains higher vitamin A (1971.5 ± 39.5 IU) while lipote contains higher amounts of vitamins C (23.2368 ± 0.369 mg) and E (0.681 ± 0.010 mg), as well as higher minerals, specifically boron (0.760 ± 0.003 mg), calcium (350.256 ± 1.142 mg), chromium (0.462 ± 0.004 mg), copper (0.414 ± 0.001 mg), iron (9.364 ± 0.026 mg), potassium (450.280 ± 0.529 mg), magnesium (77.967 ± 0.345 mg), manganese (0.047 ± 0.001 mg), nickel (0.112 ± 0.001 mg), lead (0.447 ± 0.002 mg), and zinc (0.200 ± 0.004 mg) per 100 grams freeze-dried sample. Phytochemical screening using hydromethanolic extract of duhat also showed presence of cardiac glycosides, coumarins, flavonoids, phenols, phlobatannins, quinones, steroids, tannins, and terpenoids while lipote extract showed the same phytoconstituents with the addition of saponins. In conclusion, this study showed that lipote provides higher amounts of micronutrients and may be a better source of natural antioxidants than duhat.

Keywords: duhat, lipote, indigenous berries, phytochemicals, *Syzygium*