

**COMPARATIVE NUTRITIONAL QUALITY ASSESSMENT OF  
DATE FRUITS VARIETY CULTIVATED IN BANGLADESH  
WITH DIFFERENT VARIETIES AVAILABLE IN THE  
MARKET IMPORTED FROM ABROAD**



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Examination Roll No. 0117/06

Registration No. 409

Session: 2017-2018

**A thesis submitted in the partial fulfillment of the requirements for the degree  
of Master of Science (MS) in Food Chemistry and Quality Assurance**

**Department of Applied Chemistry and Chemical Technology**

Faculty of Food Science and Technology

Chattogram Veterinary and Animal Sciences University

Khulshi, Chattogram-4225, Bangladesh

June 2019

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This is to certify that we have examined the above Master's thesis and have found that the thesis is complete and satisfactory in all respects and that all revisions required by the thesis examination committee have been made

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## List of abbreviations

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PRTC.....	Poultry Research and Training Centre
ML.....	Mili Litre
ADI .....	Acceptable Daily Intake
IU.....	International Unit
MRL.....	Maximum Residue Limit
<sup>0</sup> C.....	Degree Centigrade
CAC.....	Codex Alimentarius Commission
µg.....	Microgram
FAO .....	Food and Agriculture Organization
DNA.....	Deoxyribonucleic acid
e.g.....	Example
et al.....	And his associates
OIE.....	Office International des Epizootics
% .....	Percentage
i.e. ....	That is
Sig. ....	Significance
Ref. ....	Reference
MS .....	Master of Science
WHO.....	World Health Organization
TDL.....	Test Detection Limit
PPM.....	Parts Per Million

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## Abstract

The Phoenix dactylifera L. is a monocotyledonous woody perennial belonging to the Arecaceae family. The aim of the study was to determine the chemical composition of dates experimentally cultivated in Bangladesh and dates that are imported from abroad to assess their nutritional composition such as carbohydrate, crude protein, crude fat, ash, sugar contents and amino acid composition. Fruits are rich sources of carbohydrates, dietary fibers, certain essential vitamins and minerals. Date fruit offers a wide range of essential nutrients and potential health benefits. The dates were rich in sugar (68.37–73.83% dry weight), while ash represented 1.58–2.33%; they contained low concentrations of protein and lipid (2.36–3.38% and 0.22–0.57%, respectively). The predominant mineral was potassium (494mg/100g), and the main sugars were glucose and fructose. These results show that dates are nutritious and can play a major role in human nutrition and health. They also serve as a good source of many vitamins, dietary fiber, minerals, phenolics, carotenoids and antioxidants. Nutritional and medicinal activities of date fruit are related to its chemical compositions, mainly phytochemicals. Due to these important functional compounds, dates exhibit various health benefits by preventing various diseases. The experimental date fruits cultivation is a new horizon for the economy of the country as the country spend huge money importing dates fruits every year. If the production comes in optimum level this will lessen our extra money that are spent from abroad. Also it will create our employment as our country is largely populated so we can create our concentration towards date fruits cultivation in our country.

**Keywords:** Nutritional properties- Date fruit, proximate composition, sugar, mineral