

**DETERMINATION OF TOTAL PHENOLIC CONTENT  
OF *Portulaca grandiflora***

**JANATUL NAJIHA BINTI MUSTAPAH**

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Universiti Teknologi MARA**

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This Final Year Project Report entitled “**Determination of Total Phenolic Content of *Portulaca grandiflora***” was submitted by Janatul Najiha binti Mustapah, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences and was approved by

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Faikah binti Awang @ Ismail  
Supervisor  
B. Sc. (Hons.) Biology  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah Negeri Sembilan

---

Lily Syahani binti Rusli  
B. of Science (Hons.) Biology  
Project Coordinator  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah Negeri Sembilan

---

Dr. Nor'aishah binti Abu Shah  
B. of Science (Hons.) Biology  
Head of School of Biology  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah Negeri  
Sembilan

Date: \_\_\_\_\_

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## ABSTRACT

### DETERMINATION OF TOTAL PHENOLIC CONTENT OF *Portulaca grandiflora*

*Portulaca grandiflora* is a herbaceous succulent plant that grows widely in many parts of the world especially in temperate climate regions. It is generally planted commercially as an ornament due to its variety of flower colours such as yellow, red, orange and white. However, its other importance is not extensively discovered. Thus the study aimed to determine and compare the phenolic composition of the different parts of the plant that are leaf, stem and root and therefore could help widen the importance of *P. grandiflora*. The study was divided into two parts; qualitative and quantitative. Ferric chloride test was done for qualitative phenolic screening while Folin-Ciocalteu test was done for quantitative phenolic determination. Gallic acid was used for standard curve preparation. The results of former test indicated that leaves and stems extracts showed positive reaction towards aqueous iron (III) chloride through the change of colours from green into greenish black. Root extract indeed reacted positively from brown to greenish black. Other than that, through Folin-Ciocalteu method, it is known that among the three extracts, leaves extract contain the highest phenolic content that is  $85.9222 \pm 0.0192$ . This is followed by stems with  $21.9347 \pm 0.0300$  and roots with  $10.1927 \pm 0.0081$ . Further analysis then proved that there were significant difference between leaves and stems, leaves and roots as well as stems and roots. Thus, it is concluded that different parts of *Portulaca grandiflora* contain secondary metabolites that is phenolic compound with the highest concentration found in leaves.