

## Abstract

The use of medicinal herbs for the treatment of the history of human life has been simultaneous. Although chemical and synthetic drugs have been widely used in the last half century, they have been re-introduced to medicinal herbs due to their harmful effects on life. *Plantago* has long been available to mankind. The herbs used in traditional medicine are a *major* species. The *lanceolata* species also has similar properties. Mucilage, saponin, ocubin, choline, tannin, coumarin, apigenin, salts, and vitamin C are important compounds of *Plantago*. The most prominent drug properties reported are: Alzheimer's disease, arteriosclerosis, bacteria, virus, cancer, intestinal worms, inflammation, internal wounds, cough, as well as antioxidants, antipyretic, laxative, expectorant, hemorrhoids remission, wound healing, especially burn wound. In this study, total phenol content by Folin-ciocaltue, total flavonoid by aluminum chloride colorimetry, antioxidant activity by DPPH inhibitor, soluble carbohydrates by Dubois, photosynthetic pigments by Lichtenthaler, anthocyanin by Wagner's, proline by Batis and mucilage by Kalyasundaram method in leaves, roots and seeds of two species *major* and *lanceolata* in the stage of vegetative, flowering and seedling was measured. The results were analyzed by various statistical methods. The highest rate of each index was obtained: Total phenol 15.25 mg in *lanceolata* vegetative roots, flavonoids total 137.51 mg in *major* flowering leaf, antioxidant activity 94.79 mg in *major* flowering leaf, carbohydrates Solubility 603.56 µg in *lanceolata* vegetative roots, chlorophyll-a 23.64 mg in *major* seedling leaf, chlorophyll-b 15.08 mg in *lanceolata* seedling leaf, carotenoids 5.71 mg in *major* vegetative leaf, Anthocyanin 1.88 mg in *lanceolata* flowering leaf, Proline 0.96 mg in *lanceolata* seedling leaf and Mucilage 80.01 mg in *major* seeds. Therefore, it can be concluded that there is no significant difference between the two species in the studied species. The amount of phenolic and flavonoid compounds and, as a result, the antioxidant properties in the leaves of the two species is higher than the root, and also in the *Plantago major* is more than the *Plantago lanceolata*. The highest level of antioxidant activity is in the leaf stage of flowering.

**Key Words:** *Plantago*, Total Phenol, Flavonoid, Antioxidant, Mucilage, Soluble Carbohydrates, Photosynthetic Pigments, Proline, Anthocyanin.



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