

## NOTE

**Study of Percentage of Moisture and Ash Content of *Argemone Mexicana* and Solubilities in Different Solvents**

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The percentage of ash and moisture in roots and flowers along with the solubilities of *Argemone mexicana* in different solvents are described.

**Key Words:** *Argemone mexicana*, Solubilities, Moisture, Ash contents.

Papaveraceae is a small family possessing above 28 genera and 200 species. *Argemone mexicana* belongs to papaveraceae family and is widely distributed in the warmer parts of the world. Most of the plants are herbs with leaves and fruits.

Many plants from this family possess ornamental, medicinal, pharmaceutical and agricultural values<sup>1-5</sup>. The drugs isolated from these plants possess sedative, antidote to snake-bite, painkiller and anxiolytic properties. The excess and continuous use of these drugs causes mental depression and paralytic attack, coma and sometimes death also. From the seed of *A. mexicana*, an oil is extracted which is used as illuminant, lubricant and medicine for external application for skin diseases. It is also used to adulterate mustard oil and is probably responsible for the outbreak of epidemic dropsy. The oil cake is utilized as fertilizer. In Memdabad (near Ahmedabad) an industry is extracting oil from seeds which is used for the manufacture of toilet soap. The latex which is isolated from this plant is used as eye drops for cleaning the eyes during eye diseases. Root of *A. mexicana* is used for curing jaundice.

It is observed from literature survey that very little research work has been carried out on the chemistry of *A. mexicana*. As *A. mexicana* possesses harmful as well as useful properties, hence it is useful to explore the organic chemistry of this plant by analyzing some of its physico-chemical parameters, viz., percentage of moisture and ash content, in root (A) and flower (B) and also to determine their solubilities in cold water, hot water, NaOH and HCl.

All chemicals used were of pure analytical grade as required. The samples, i.e., root (A) and flower (B) were collected at 8 am.

**Moisture content:** The moisture content of (A) and (B) was carried out at room temperature (34°C). 1 g of each dried sample (A) and (B) were kept in an oven at 105°C for 2 h. It was weighed and kept in the oven till it showed constant weight.

**Ash content:** The ash content of (A) and (B) was carried out at room temperature (35°C). 1 g of each dried sample (A) and (B) were taken in previously

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weighed silica crucible and heated over Bunsen flame. Further, it was placed in desiccator and weighed till it showed constant weight.

**Cold water solubility:** 1 g of each dried sample (A) and (B) was put in 100 mL distilled water for 48 h. It was filtered through a sintered glass crucible, washed with distilled water, dried in an oven at 105°C and weighed till it showed constant weight.

**Hot water solubility:** 1 g of each dried sample (A) and (B) was put in 100 mL distilled water and was heated over boiling water bath for 2 h and filtered through a sintered glass crucible. The residue was washed with hot water, dried in an oven and weighed till it showed constant weight.

**Solubility in 1% NaOH:** 1 g of each dried sample (A) and (B) was put in 1% 100 mL sodium hydroxide. It was heated over a water bath for 2 h and filtered through a sintered glass crucible washed with hot water, then by 10% aqueous acetic acid followed by cold water. The residue was dried and weighed till it showed constant weight.

**Solubility in 1% HCl:** 1 g of each dried sample (A) and (B) was put in 1% 100 mL HCl solution. It was heated over a water bath for 2 h and filtered through a sintered glass crucible, washed with hot water, then by 10% aqueous ammonium hydroxide followed by cold water. The residue was dried and weighed till it showed constant weight.

The observed results are summarized in the following Table:

Samples	Mmoisture (%)	Ash content (%)	Cold water solubility (%)	Hot water solubility (%)	1% NaOH solubility (%)	1% HCl solubility (%)
Root: (A)	27.6	2.9	19.01	22.04	91.00	97.3
Flower: (B)	20.8	16.1	54.72	7.23	23.48	54.4

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