

## Chapter 3: Ethnopharmacological and Traditional Uses

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**Abstract:** *Celosia argentea* L. (Amaranthaceae) is a valuable medicinal and nutritional herb traditionally used in Ayurvedic, Chinese, and African folk medicine. The plant is well known for its dual role as a herbal nutraceutical and therapeutic botanical, offering both nutritional and pharmacological advantages. Traditionally, plants containing diverse biochemical molecules, in the plant parts, including seeds, leaves, and flowers, are used for treating disorders such as diarrhoea, inflammation, diabetes, fever, and hepatic disease. Ethnopharmacological studies have validated these traditional claims, revealing that *C. argentea* is rich in bioactive compounds, including flavonoids, saponins, alkaloids, tannins, and phenolic acids, which exhibit antioxidant, antidiabetic, anti-inflammatory, antimicrobial, and hepatoprotective activities. The edible leaves and seeds are also a source of essential amino acids, vitamins, minerals, and fatty acids, supporting their inclusion as a functional food and nutraceutical ingredient. Allied species functions, ethnobotanical uses and phytochemical compositions, reinforcing their collective potential in traditional and modern herbal healthcare. This study highlights the traditional knowledge, ethnomedicinal value, and nutraceutical potential of *Celosia argentea* and allied botanicals, aiming to bridge traditional approaches for standardisation, isolation, and formulation of development for therapeutic applications.

**Keywords:** *Celosia argentea*, ethnopharmacology, herbal nutraceutical potentials, allied botanical functions, traditional phyto medicine.

### 3.1 Introduction

Herbal nutraceuticals have attracted a lot of attention globally over the last 10 years as possible enhancers and replacements for conventional therapies. Nowadays, medicinal herbs are developed into a million herbal products. According to estimates from the World Health Organisation (WHO), 80% of people worldwide currently utilise herbal nutraceuticals. Herbal remedies are reasonably priced, readily accessible, undamaged, and free of side effects [1-4]. Around the world, natural products have been crucial in assessing and preventing a variety of human illnesses. These nutraceuticals, sourced from plants and