The present paper is concerned with the following objectives:

1. To know about some important medicinal plants with antioxidant property and
2. To collect information on some potential plants/herbs for the benefit of the society as a whole.

Examples of some plants having antioxidant activity

1. *Emblica officinalis* Linn.
   *Emblica officinalis* Linn. (Family: Euphorbiaceae) are used in Ayurveda as a potent rasayanas, a class of plant-derived drugs reputed to promote health and longevity by increasing defense against disease. For many years the therapeutic potential of the fruits was attributed to their high content of acorbic acid: about 1 g of vitamin C per 100 ml of fresh juice. Study showed that the administration of *E. officinalis* significantly prevents the restraint-stress-induced oxidative stress and this may be due to its strong antioxidant property.

2. *Andrographis paniculata* (Burm.f.) Nees
   *Andrographis paniculata* (Burm.f.) Nees (Family: Acanthaceae) is a perennial herb widely cultivated in tropical and subtropical areas, south-east Asia and India. In India it is known as ‘Kalmegh’ and in China it is called ‘Chuan Xin Lian’ and traditionally used as febrifuge, tonic, stomachic and anthelmintic. In a study the diterpenes andrographolide (I), andrografside (II) and neandrographolide (III) isolated from *Andrographis paniculata* were investigated for their protective effects on hepatotoxicity induced in mice by carbon tetrachloride or tert-butylhydroperoxide (tBHP) intoxication. It was determined that the greater protective activity of II and III could be due to their glucoside groups which may act as strong antioxidants.

3. *Curcuma domestica* Valet
   In another work the turmeric anti-oxidant protein (TAP) had been isolated from the aqueous extract of *Curcuma*. The anti-oxidant principle was found to be a heat stable protein. The present paper is concerned with the following objectives:

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effect of *Curcuma longa* extract, suppression of oxidative stress and improved ventricular function are correlated\(^3\).


Fenugreek (*Trigonella foenum-graecum*, (Family: Leguminosae))

An investigation shows ground beef patties (75% lean) containing synthetic antioxidants, or Fenugreek (*Trigonella foenum-graecum*) extracts were cooked to internal temperature 70°C, and evaluated for storage stability at 4°C. Samples with Fenugreek extracts showed better oxidative stability and it was claimed that Fenugreek may be a promising natural antioxidant source\(^4\).

5. *Camellia sinensis* assamica (Masters) Kitomura (Family: Theaceae)

Green tea (*Camellia sinensis*) is consumed daily between the meals or after meals in Japan and other Asian countries. In recent years, green tea and its major polyphenolics have been demonstrated to prevent chemically induced tumors in a variety of experimental animal models system. The exact mechanism(s) of its anticarcinogenic activity remains to be elucidated, but green tea polyphenolics have demonstrated antiinflammatory, antiproliferative, antioxidant, and antipromotional effects, including inhibition of Phase I and inducing Phase II enzymes\(^5\).

6. *Centella asiatica* (L.) Urban

*Centella asiatica* (L.) Urban, Synm. *Hydrocotyle asiatica* Linn. (Family: Apiaceae). *Centella asiatica* L. has been used as a medicinal herb for thousands of years in India, China, Sri Lanka, Nepal and Madagascar\(^6\). Asiaticoside derived from the plant *Centella asiatica* is known to possess good wound healing activity. Enhanced healing activity has been attributed to increased collagen formation and angiogenesis. Crude extract of *Centella asiatica* as well as asiaticoside derived from *Centella asiatica* showed good wound healing activity in both normal and delayed-type healing models\(^7\).

7. *Mangifera indica* Linn. (Family: Anacardiaceae)

An extract of *Mangifera indica* Linn. (Vimang) was tested in *vitro* for its antioxidant activity using commonly accepted assays. It showed a powerful scavenger activity of hydroxyl radicals and hypochlorous acid and acted as an iron chelator\(^8\).

8. *Hypericum perforatum* L. (Family: Hypericaceae)

In another study, several extracts were prepared, with different solvents, from a single stock of plant drug, collected from the wild. They were HPLC analyzed, and results were coupled with an evaluation of the antioxidant activity in vitro of each extract. Water extracts maintained a good activity, although they were obviously lacking hypericin and hyperforin. It was remarkable that extract (V), obtained by decoction, and possessed a good antioxidant activity, with an IC50 value comparable with usual reference compounds\(^9\).


Leaves of *Cymbopogon citratus* (Family: Gramineae). The radical scavenging activity of five Thai medicinal plants used in primary health care namely; *Curcuma longa* (Zingiberaceae), *Cymbopogon citratus* (Gramineae), *Coccinia grandis* (Cucurbitaceae), *Psidium guajava* (Myrtaceae) and *Cucurbita pepo* (Cucurbitaceae) was determined. When measured the scavenging effect on DPPH radical, methanolic extract of *C. longa* rhizome exhibited the highest radical scavenging activity with EC50 of 0.34 mg/mL. The result reveals that higher concentration of phenolic content is associated with a higher radical scavenging activity\(^10\).

10. *Vitex negundo* Linn. (Family: Verbenaceae)

*Vitex negundo* produced significant (P<0.05) reduction in MDA levels after 14-day treatment in only the higher dose (500 mg/kg/po) which has indicated that *Vitex negundo* can produce reduction of oxidative stress mainly by reducing lipid peroxidation, which needs to be substantiated by a detailed study\(^11\). During screening of antioxidant activity, total phenolics and GC-MS study of Vitex negundo leaf extract, it was found that the extract was rich in antioxidants, phenolics flavonoids and many phytochemicals which contributes the activities like antimicrobial, antioxidant anticancer, Hypercholesterolemic, Antiulcerogenic and other activities\(^12\).


*Symm. Hemidesmus indicus* R.Br. (Family: Asclepiadaceae) This medicinal plant is being widely used, either as single drug or in combination in health care delivery. Indian Sarsaparilla, *Hemidesmus indicus* (family: Asclepiadaceae) is a commonly known Indian Medicinal Plant, which is widely recognized in traditional systems of medicine\(^13\). The results of methanolic extract of *H. indicus* were comparable with the standard hepatoprotective agent silymarin (100 mg/kg). Their results suggest that methanolic extract of *H. indicus* roots possesses a potential antihypertensive activity\(^14\).

12. *Catharanthus roseus* (Linn.) G.Don

*Catharanthus roseus* (L.) G.Don. (Family: Apocynaceae) is used for treating many fatal diseases, and has good antioxidant potential\(^15\). Antioxidant responses were analyzed in Catharanthus roseus (L.) G.Don.with peroxidase (POX, EC 1.11.1.7) activities. The changes found in catalase (CAT, EC 1.11.1.6) activities may be of great importance in the H2O2 detoxification mechanism under oxidative stress\(^16\).


*Euphorbia hirta* (Family: Euphorbiaceae). The antioxidant activity of extracts were evaluated by various antioxidant assays, including DPPH free radical scavenging activity, superoxide anion radical scavenging, nitric oxide scavenging and reducing power assay. The various antioxidant activities were compared to standard antioxidants such as butylated hydroxyl anisole and ascorbic acid. All the extracts showed antioxidant activity in all the tested methods\(^17\). First *in vitro* report showing *E. hirta* L. as potent source of natural antioxidants suggests *E. hirta* L. as promising plant source in health, food and cosmetic industry\(^18\).

14. *Prunus persica* (Linn.)Stokes, (Family: Rosaceae). This economically important fruit crops such as apples (genus *Malus*), pears (genus *Pyrus*), raspberries/blackberries (genera *Rubus*), strawberries (genus *Fragaria*), and stone-fruits such as peaches, plums, cherries, almonds, apricots (genus *Prunus*) \(^19\).

In a study on peach, the HPLC analysis of phenolic compounds showed that rutin, (−)-epicatechin gallate, hydrocinnamic acid, sinopinic acid, dithiothreitol and caffeic acid were major constituents. The results suggested that peach kernel oil is a good source of the unsaturated fatty acid, phenolic compounds with strong antioxidant activity, and has the potential to be used as nutrient rich food oil, also their results verified that peach kernel meals contained higher amounts of total phenolic and stronger antioxidant activities than oils, enabling their application as ingredients for functional or enriched foods\(^20\).

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A study on evaluating antitumor and antioxidant activity of *Oxalis corniculata* Linn. against Ehrlich Ascites Carcinoma (EAC) - induced in swiss albino mice revealed the presence of several phytochemicals viz. phytosterol, glycosides, flavonoids and tannins. It was observed in this study that the administration of EEOC at different doses increased CAT levels in a dose-dependent manner, which might be indicating the antioxidant and free scavenging property of EEOC. A review mentioned the botany, photochemistry, biochemistry, traditional knowledge, pharmacological and therapeutic application of the plant *Oxalis corniculata* Linn.

A study showed that *Withania somnifera* possesses good immunomodulatory anti-inflammatory, anti-tumor, antioxidant, anticancer properties and many pharmacologically and medicinally important chemicals, they protect the cells from oxidative damage and diseases. In one more study antioxidant activity of *Withania somnifera* glycowithanolides was reported.

In an experiment the aqueous extract of roots of *Garcinia cowa* Roxb. (Family: Guttiferae) has shown the antioxidant action in alloxan diabetes rats. Apart from this sustainable utilization of plant resources is a must in the present context and more survey work is required to gather information on antioxidant, anticancer and immunomodulatory effects of medicinal plants for the benefit of society as a whole.

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