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Diploma in Pharmacy 1st Year
Pharmacognosy
Important Questions
Chapter 8 : Medicinal and Aromatic Plants

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Chapter 8

Medicinal and Aromatic Plants

IMPORTANT Questions

Q1. Discuss briefly about the role of medicinal and aromatic plants in national economy.

Ans.

- Role of Medicinal and Aromatic plants in National Economy and their Export Potential
- Plants are the chief and cost-effective source of various drugs and several chemical intermediates (essential in the manufacturing of various drugs).
- About 25% of current medications are obtained from plant components directly or indirectly.
- Morphine, codeine, papaverine, quinine, emetine, quinidine, digoxin, caffeine, hyoscyne, hyoscyamine, xanthotoxin, psoralen, senna glycosides, vincristine, vinblastine, ergot alkaloids, papain, nicotine, strychnine, brucine, colchicine, rutin, pyrethroids, and berberine are some of the plant-based medications being produced at the current time.
- Products of aromatic plants are widely utilised as spices, flavouring agents, perfumes, and medicines.
- They also provide raw ingredients for manufacturing various essential industrial chemicals.
- Ajowain, cedar wood, celery seed, citronella, eucalyptus, lemongrass, mentha, palmarosa, patchouli, turpentine, and vetiver are the essential oils produced in India.
- Some of these compounds are used as raw materials to manufacture industrial chemicals, e.g., B-ionone from lemongrass oil, which is used to make vitamin A.
- India has been dubbed as the World's Botanical Garden, with over 2200 species of medicinal and essential oil-producing plants, because of its diverse climatic conditions and geography.

Q2. Explain the current Indian Scenario in trading of Medicinal and Aromatic Plants.

Ans.

- Indian Scenario
- Currently, Kerala is at highest position in production of black pepper, cardamom, and ginger; and also produces considerable amount of long pepper, and turmeric.
- Andhra Pradesh is alone producing more than half of the country's turmeric and chillies.
- The spices export during April-December 2008 was estimated to be 3,34,150 tonnes valued 3,810.95 crore (U.S. \$ 860.40 million) as against 3,25,320 tonnes valued 3,320.00 crore (U.S. \$ 821.45 million) in the corresponding period of the last financial year.
- During April-December 2008, export of most of the major spices has increased in terms of quantity and value, compared to the same period of last year.

- During April- December 2008, the export of pepper from India has been 19,100 tonnes valued at 317.77 crore as against 27,580 tonnes valued 400.20 crore of last year.
- The average export price of pepper has gone up from 145.11 per kg in 2007 to R166.37 per kg in 2008.
- During the period, India has exported 1,41,000 tonnes of chilli and chilli products valued R793.18 crore as against 1,49,755 tonnes valued 7807.03 crore of last year.
- Export of seed spices has increased in terms of quantity and value, compared to last year.
- Export of coriander seeds during April-December 2008 has been 19,600 tonnes valued at 137.23 crore as against 19,150 tonnes valued at 77.69 crore of last year, showing an increase of 77% in value.
- The unit value of export has increased to 70.01/kg in 2008 from 40.57/kg in 2007.
- The export of value-added products (curry powder, spice oils, and oleoresins) has substantially increased in terms of quantity and value, compared to last year.
- During April-December 2008, a total quantity of 10,500 tonnes of curry powder and spices valued 124.45 crore has been exported as against 8,375 tonnes valued at 81.10 crore of last year.
- The During April-December 2008, the export of spice oils and oleoresins has been 5,550 tonnes valued at 574.23 crore as against 4,815 tonnes valued at 404.04 crore of last years, showing an increase of 42% in value and 15% in volume. Against the export target of 4,25,000 tonnes valued 4,350.00 crore (U.S. \$ 1,025.00) for the year, the achievement of 3,34,150 tonnes valued F3,810.95 crore (U.S. \$ 860.40 million) up to December 2008 is 79% in quantity, 88% in rupee value, and 84% in dollar terms of value.

Q3. Export potential of Medicinal and Aromatic Plants.

Ans.

Export Potential of Medicinal and Aromatic Plants

Many medicinal plants are exported to other countries:

- 1) Seed husk and seed of Isabgol (*Plantago ovate*)
- 2) Opium alkaloids (*Papaver somniferum*)
- 3) Leaves, pods and total sennoside concentrate of Senna (*Cassia angustifolia*)
- 4) Root and root alkaloids of Periwinkle (*Catharanthus roseus*)
- 5) Quinine and quinidine alkaloids (*Cinchona officinalis* and allied species)
- 6) Ipecac root alkaloids (*Cephaelis ipecacuanha*)
- 7) Solasodine (berries of *Solanum viarum*)
- 8) Diosgenin/16 DPA (*Dioscorea floribunda* and allied species)
- 9) Menthol and mint oil (*Mentha arvensis*)
- 10) Celery seed (*Apium graveolens*)
- 11) Citral and ionones from oil of lemon grass (*Cymbopogon flexuosus*)
- 12) Gudmar herb (*Gymnema sylvestre*)
- 13) Kuth root and essential oil (*Saussurea lappa*)
- 14) Mehndi leaves (*Lawsonia alba*)
- 15) Sindura fruits (*Bixa orellana*)
- 16) Papain (*Carica papaya*)
- 17) Podophyllum (*Podophyllum hexandrum*)

- 18) Rauwolfia (*Rauwolfia serpentina*)
- 19) Valerian (*Valeriana wallichii*)
- 20) Cassia tora
- 21) Guar gum (*Cyamopsis tetragonolobus*)
- 22) Gudmar (*Gymnema sylvestre*)

The essential oils are also exported regularly:

- 1) Jasmine otto and absolute (*Jasminum grandifloru*)
- 2) Agar wood oil (*Aquillaria agallocha*)
- 3) Sandal wood oil (*Santalum album*)

