

Quadrant II – Notes

Programme: BSc. (Hons.) Agri.

Subject: Horticulture

Course Code: HORT-354

Course Title: Production Technology for Ornamental Crops, MAP and Landscaping

Module Name: Processing and value addition in MAP produce

Module No: 30

Name of the Presenter: Gourish Karanjalker Ph.D. Assistant Professor

Notes :

Processing and value addition in MAP produce

Introduction:

- **Indian System of Medicines** is known in the world for its kind of medical treatments
 - **Medicinal plants:** are those plants which are rich in secondary -metabolites and are potential source of drugs
 - **Aromatic plants:** Aromatic plants are those plants which contain essential oils in them
 - 80 percent of the population depends on medicines
 - 30% of the drugs are of plant source
 - Raw materials for medicines, perfumes, flavors and cosmetics
- I. **Value addition in medicinal plants:** As source of Drugs and Nutraceuticals: they are important sources of nutraceuticals such as
- a) Aloe species: laxative
 - b) Kalmegh: antipyretic
 - c) Asparagus: aphrodisiac
 - d) Neem: leprosy, piles

- e) Ashoka: diuretic
- f) *Centella asiatica*: brain tonic
- g) Noni: cardiac problems
- h) Aonla: Vitamin C
- i) Sapagandha: hypertension

Value addition in aromatic plants: Sources of essential oils

- a) Flowers (Rose, jasmine, carnation, clove, mimosa, rosemary, lavender)
- b) Leaves (Mint, ocimum spp., Lemongrass, jamrosa),
- c) Leaves and stems (Geranium, patchouli, petitgrain, verbena, cinnamon)
- d) Bark (Cinnamon, cassia, canella)
- e) Wood (Cedar, sandal, pine)
- f) Roots (Angelica, sassafras, vetiver, saussurea, valerian),
- g) Seeds (fennel, coriander, caraway, dill, nutmeg)
- h) Fruits (bergamot, orange, lemon, juniper)
- i) Rhizomes (Ginger, calamus, curcuma, orris)
- j) Gums or oleoresin exudations (Balsam of peru, myroxylon balsamum)

Distillation of essential oils

- Essential oils are complex mixture of odiferous and steam volatile compounds separated by distilling water
- Types of hydro distillation:
- **Water distillation:** direct contact with boiling water
- **Water-Steam distillation:** The steam can be generated in boiler or within the still.
Advantages of Water and Steam Distillation: good oil yield, Faster than water distillation, energy efficient
- **Direct Steam distillation:** distilling plant material with steam generated outside the still. Steam can be readily controlled. Production of essential oils on large scale

XXXXXXXXXXXXXX