
Restriction and possibilities of aromatic plants and its future

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RESTRICTION AND POSSIBILITIES OF AROMATIC PLANTS AND ITS FUTURE

Abstract

Aromatic plants plays a vital role in our daily life like used in food, as a medicine and in perfumes. Aromatic plants are different in characteristic and peculiar problems like agrotechnology, post-harvest and processing. Aromatic plants can bring socio-economic uplift. Aromatic compound face marketing problems due to:

Lack of internationally approved standards and methods for quality evaluation.

High cost of quality packaging material.

Non-availability of regular market information.

Future research

- Study the photo-chemical reaction in plants.
- Develop new strain of aromatic plants produce high yield and better quality of oil.
- New research is needed to study the chemical reaction like, polymerisation. Hydrogenolysis, Esterification, Decarboxylation, Photosensitised Oxidation, pesticide, the synthesis of pharmaceutical, used in various drugs, in plastic, synthetic rubber, printing and painting additives.

Restriction and possibilities of aromatic plants and its future

Introduction.

All herbs are aromatic under heat these plants releases essential oils although aromatic plants are different characteristics in their peculiar problems like agro-technology, post-harvest technology and processing but aromatic plants are of wonderful range of shapes and colour, they are good for bees and butterflies pleasant small flowers attracts insects and help in cross-fertilisation.

Aromatic plants are many like Mint, *Mentha arvensis*, *Mentha piperita*, *Mentha Citrata*, *Cymbogons*, *Cymbopogon winterianus*, *Eucalyptus*, *Clocimum*, *Cinnamomum*, *Cedarwood*, *Cyperus*, *Moss roses*, *Sweet william*, *Stocks*, *Livenders* and *Theymes*, *Bergamot*, *Bosemary*, *Oleoresins* and *culinary herbs* like: *Culinary herbs*, *Condiments*, *spices*, *mint*. *Aperennial aromatic shrub Clocimum* a new strain evolved by Sobit et al. *Hyssop* (*Hyssopus Officnalis*), *Oregano* (*Origanum Vulgare*), *Anise hyssop* (*Agustache anethiodora*), *Nepata* "Six Hills Giants", *Pot marjoram* (*Origanum Onites*), *Variegated Calamint* (*Calamintha grantiflora Variegata*), *Nepeta grandiflora*, *Greater Calmint* (*Calamintha grandiflora*), *Lavandula angustifolia* "Hidcote", *Cinnamomum Camphora* (*Camphor tree*), *Cinnomomum Verum* (*Tru Cinnamon*), *Cinnamamum Cassia* (*Chinese Cinnamon*) are aromatic plants.

Cymbopogon is a genus of aromatic grasses with about 120 species and many varieties like *Citral*, *Geraniol*, *Citronellal*, *Piggeritene*, *Geranyl acetate*, *Piperitone*, *Terpineol*, *Linaloral*, *Carvone*, *Methyl eugenol*, *sandal wood*, *Basil*, *Rose*, *Mint*, *Ajwain*, *fennel*, *Murjorains*, *Calamints*, *Lemon balm*, *Lemon Verbena*, *Chamomile*, *Creeping Thymes*, *Prostrate Chamomites*, *Spies like*; *Pepper Ginger*, *turmeric*, *Chilli*, *Coriander*, *Cardamon*, *Celery*, there flavouring properly is due to aromatic essential oils, along with terpenes, sesquiterpenes and their oxygenated derivatives, *Eucalptus* species are, *E. Viridis*, *E. Cincorifolia*, *E. Polybroctea*, *E. Macarthuri*, *E. Radiata*, *E. Smithii*, *E. Elacophora*, *E. Sideroxylon*, *E. Straigeriana*, *E. Elata*, *E. Dives*, *E. Lrucoxylon*, *E. Astringents*, *E. Dumosa*, *E. Microtheeca* and *E. Camaldulensis*.

The use of aroma chemicals in perfumes : *Phynyl alcohol*, *General ester extract from roses*, *Bensyl acetate extract from jasmin*, *Linal alcohol extract from lavender*, *Phenol*, *diphenyl oxidxe extract from Geranium* and the extract of other chemicals than perfumes are:

1. Alcohol

Carveol, *Cedrol*, *Citronellol*, *elemol*, *eudesmol*, *Farnesol*, *Fenchol*, *Geraniol*, *Guiol*, *Linalool*, *Menthol*, *Myrthenol*, *nerdidol*, *Perillyl*, *Alcohol*, *Rhodinol*, *Vetiverol*.

2. Aldehydes

Anisaldehyde, *Citral*, *Citronella*, *Cumin aldehyde*.

3. Ethers

Anethole and *safrole*

4. Hydrocarbons

Caryophyllene, Cedrene, X Pinene, P-Piene.

5. Ketones

Atlantoene, Carvone, Menthone, Piperitone, Plugone and Thujoen.

6. Phenols

Carvecrol, Eugenol, Isoeugenol, Thymol.

Aromatic compound face marketing problems due to:

- Lack of internationally approved standards and method for quality evaluation.
- High cost of quality packaging material.
- Non-availability of regular market information.

Aromatic plants their oil and uses

- Jasmine constitute a group of fragrant flowers comprise of 200 species, contain volatile oil.
- Spicy scented hyssop is one of the ingredients in eau-de-cologne.
- Aromatic French marjoram, it is used to make small scented bags and toilet waters.
- New strain of mentha is RRL-118/3 contain higher content of menthol than Mentha arvensis.
- Pynanthemum flexurosum contains Linalool, Linalyl acetate and Germacrene.
- Evernia prunastri and Evernia furfuracea produce aromatic resinoids used in perfumes and cosmetics.
- Pelargonium produce oil of geranium.
- Vetiveria Zizanoides stapf (Graminae) roots are used to get perfume oil called vetver oil.
- New hybrid strain of ocimum is Clocimum and its oil is Clove accented.
- Mentha oil contain 17 isomers of menthol.
- Cyperus rotundus and Cyperus Sacrisus aromatic plants contain Cyperiol oil.
- Saussurea lappa Clark, biennial or perennial herbs its roots Kutch (Costus) contain Resinoik, Essential oil, alkaloids, tannin and other oils.
- Turpentine, a pinene, B-piene are derived from Khasi pine, pinus longifolia, pinus excelson, pinus merkusier, pinus gerardine.

- Alleppey Greans, Riodejeinero, Wynak, Dill, Fennel, Celery, Kallyvally and Arikottan produce good quality of oil.
- Matricaria Chamomilla contain essential oil constituent Chamazsulene.
- Lavender oils extracted from flowers and stalk of, Lavender Angustifolia “Hicote”, Lavneder Royal Purple, Lavneder Jean Davis, Lavender Twickel Purpl,e, Lavender Munstead, Lavender Ana Alaba, Lavender London Pink, Lavneder Vera or Lavendula Spica, is used as popular scent also used in potpourris and scented cushions.
- Lemon bark have fresh fragrance, leaves are used in making of refreshing tisanes, a scented bath or add them in salad, sauces and fruits.
- Aquilaria agallocha contain patches of fragment resinous wood which contain acetone, ketone, hydero-cinnamic acid.
- Skimmia laureola twigs contain linalool-linalyl acetate used in perfumery, flavouring, consentic and soap industry.
- Dill (Anethum graveoles) is used as carminative aromatic stimulant and diuretic.
- Oils of standsalwood, lemon grasses and palmarosa are also important.

Future Research

- Study the photo-chemical reaction in plants.
- Study should be done on proper date of plantation, row spacing, fertilisation and pruning of aromatic plants.
- Develop new strain of aromatic plants produce high yield and better quality of oil.
- Develop a cheaper distillation units so the small farmer can afford and use it.
- Harvesting at proper time.
- New research is needed to study the chemical reaction like: Polymerisation, Hydrogenolysis, Esterification, Decarboxylation, Photosensitised oxidation.
- Future research introduction of germplams from different geographical regions.
- Poly crossing of selected plants in each race.

Research is needed to study the used of aromatic oil in agriculture as pesticide, fungicide, hormones, used as chemicals for the synthesis of pharmaceutical, used in various drugs, in plastic, synthetic rubber, printing-ink and painting additives.

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