PHYTOCHEMICAL INVESTIGATION OF BIOACTIVE CONSTITUENT OF SOME MEDICINAL PLANTS

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Medicinal plants and their derivatives are looked upon not only as a source of affordable healthcare but also as an important commodity item of international trade and commerce. In this way it is very necessary to investigate constituents of Medicinal plants.

Method and Material. Phytochemical analysis involve methods for extraction, separation, purification and identification of many different constituents present in plants. Combination of PC and TLC, TLC and HPLC or TLC and GLC is used for separating a particular class of plant compound after purification identification is done by UV, IR, NMR and MS measurements.

1. Jivanti – (Holostemma ada-Kodien F. Asele piadaceae) Chemical composition- Its roots contain moisture 10.8%, Protein 4.07%, Suger 24%, Starch 32.54 %, Fiber 12.2%, ash 3.07% ash contained Ca and P 2.50% ethanol extract of roots contained six amino acids viz alanine, glycine, serine, aspartic acid, threonine and valine, and benzene extract contained á amyrin, lypeol and â sitosterol.

Uses – Root preparations are used for relief in gonorrhoea, diabetes, cough and stomach ache It cures ulcers, biliousness. diseases of blood worms, itching, leucoderma and for vesicular calculi, leaves are rich in vitamin A.

2. Arrow Root (Maranta arundina- ceae F. Mqrantaceae)

Chemical Composition – A typical analysis of fresh rhizome yielded moisture (70%, crude protein,1.9%, fat 0.2%, starch 20% crude fiber 1.2%, ash 1.3% and dextrin and sugars 2.1%, as its components.)

Uses – It is used against dysentery diarrhoea, brouchits and cough and is taken as a tonic, suitability of arrow root starch as a replacement to agar in plant tissue culture media, starch can also be used as raw material for glucose syrups.

3. Safed Musli (Chlorophytum boriviliaum F. Liliaceae)

Chemical Composition- The major chemical constituents are carbohydrates 42% Proteins 8% fiber 3% and Saponins 15% The tuber are rich in minerals and the dried tubers contains sodium .04mg/g, K .80mg/g Ca 6.6mg/g Mg 1.9mg/g P 3.2mg/g Zn .002mg/g and Cu .148mg/g.The moisture content 70%.

Uses- Safed musli is a rasayana drug .It is sweet, bitter, virigenic, easily digestible, diuretic and tonic, It improves complexion and is useful in general debility, cough, asthma, piles, skin diseases, importance, jaundice, urinary diseases, leucorrhoea, The pharmaceutical significance is due to the aphrodisiac and sex tonic properties.

4. Satavari (Asparague racemosus F. Liliaceae)

Chemical Composition – Asparagus roots contain protein 22%, Fat 6.2% Carbohydrate 3.2%, Vitamin B 0.36%, Vitamin C 0.04% and traces of vitamin A. It contains several alkaloids, Leaves contain rutin, diosgenin and a flavonoid glycoside.

Uses- Tuber is demulscent, diuretic, tonic, antiseptic, antidysentric, galactogogue and antispas modic, Its root juice helps curing hyper acidity and peptic ulcer, Its preparations in milk help in increasing breast milk in lactating women. Its proper use helps in avoiding excessive blood loss during periods.

5. Velvet Bean- (Mucuna pruriens F. Legu minosae)

Chemical composition – Seeds contain ash 5%, oil 5.3%, protein 26%, L-dopa 4%, Trypsin 38 mg./g. Chymotrypsin in hibitor activity 23 mg/g Fatty acid composition had total unsaturated acids 55%.

Uses – Due to presence of L-Dopa in seeds, it is

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used for treatment of parkinson's disease and hypertension. Leaves are applied to ulcers. An ointment prepared from roots is applied for elephantiasis.

6. Sweet Flag (Acerus Calamus F. Acoraceae)

Chemical Composition – Rhizomes, roots and leaves yeild a ugut brown to brownish yellow volatile oil known as calamus oil. Sweet flag leaves rhizomes and roots contain 0.77, 6.8, 3 ml./ 100 gram. dry matter respectively. Important constituents of Indian calamus oil are asarone upto 82% and its â isomer. Other constituents are calamenol calamene, calamenone and methyl eugenol. Acorin is also isolated from the plants.

Uses – Rhizomes are useful in improving digestion, clearing speech and curing diarrhoea, dysentry, abdominal obstruction and colic. It is also useful in infantile fever, cough, bronchitis and asthma. -In India, Medicinal plant sector has traditionally occupied and important position in the socio-economic, cultural and spiritual arena of rural and tribal lines. About 8000 flowering plants, 650 Lichenes, 650 algae, 200 pterido phytes and 150 bryo phytes are attibuted with medicinal properties. Its need to know their bio active components by phytochemical investigation through Chemical measurements.

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