

Antiuro lithiatic herbal drugs - a review

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Abstract: Literature search was conducted for published literature between 1977 to 2006 on urolithiasis and the herbs used against it. It was found that about 20 countries have published 130 herbal formulations through 101 citations. India documented 52 plant species for anti-urolithiatic properties followed by Japan (10); Spain (10) and China (8). The wide diversity of plants was spread across 55 families amongst which Leguminosae recorded the most from seven countries. From India *Tribulus terrestris*, *Crataeva nurvula* and *Bergenia ligulata* documented 10, 8 and 7 citations respectively. From China, *Alismatis rhizome* and *Polyporus umbellatus* were cited 6 and 4 times respectively.

Key words: antiuro lithiasis, *Tribulus terrestris*, *Crataeva nurrula*,
Bergenia ligulata, *Alismatis rhizome*, *Polyporus
umbellatus*

Quality of ginger genotypes grown under open and coconut shade

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ABSTRACT: Performance of ginger genotypes under open and coconut shade was assessed at Agricultural Research Station, Arabhavi, Tq. Gokak, Karnataka to know the quality with particular reference to the content of essential oil, oleoresin and crude fibre in the rhizome. The cultivar *Rio-de-Janeiro* had maximum essential oil content (2.40% in open and 2.35% under coconut shade). The genotypes Humnabad (8.7% and 8.6%) and Rio-de-Janeiro (8.35% and 8.01%) recorded higher oleoresin content when grown in open and as intercrop with coconut respectively. Higher the content of crude fibre lower will be the quality. Higher content of crude fibre was recorded by the genotype Mahim under both the conditions (5.18% in open and 4.95% under coconut shade). The ginger genotype Humnabad is found to be promising with high yield of good quality in both open (24.42 t/ha) and under coconut shade (21.32 t/ha).

Key words: *Zingiber officinale* Rosc., essential oil, oleoresin, fresh
rhizome yield.

Evaluation of genetic stock and methods of extraction for dye yield in Annato(*Bixa orellana*)

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Abstract: Dye crops are newly emerging economically important group of crops. Annatto / Lipstic tree (*Bixa orellana* L.) of family Bixaceae, is the source of bixin and orellin. In the present study, several methods were tried to extract the dye from annatto seeds. The dye yield not only varied with the accessions but also with the methods used for extraction. Hence, in the present study five different methods namely oil extraction, aqueous alkali extraction, plain water extraction and solvent extraction using acetone and chloroform as solvents were tried to extract the dye from annatto seeds of seven accessions available at GKVK, Bangalore. Among these methods, solvent extraction with chloroform resulted in higher dye yield (3.2%) followed by aqueous alkali method (3.0%) and solvent extraction with acetone (2.8%). The least was in plain water extraction (0.9%). The dye yield in different accessions ranged from 101.29 – 255.65 g/tree with an average of 148.62 g/tree.

Key words: *Bixa orellana*, bixin, extraction techniques,

Standardizing propagation techniques for commercially important natural dye yielding plants

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Abstract : An investigation was carried out on dye yielding plants for standardizing the propagation (seed or cutting) using different growth regulators. The experiments were conducted as a part of the JBIC project on dye yielding plants at the Medicinal and Aromatic Section, Division of Horticulture, UAS, GKVK, Bangalore. The plants were collected from dry regions of Karnataka. Growth regulators viz., GA₃ (50-500 ppm), IAA (200-1000 ppm), NAA (100-200 ppm), IBA (50 – 100 ppm), BA (100 – 500 ppm), ethrel (25 – 1000 ppm) and thiourea (250 – 1500 ppm) were used depending on the nature of propagating material (seed or cutting) and the species of dye plant. The results revealed that GA₃ (100-500 ppm) recorded significantly high, early and less time for 50 per cent germination in *Hibiscus sabdariffa*, *Lawsonia inermis*, *Wrightia tomentosa*, *Wrightia tinctoria*, *Tephrosia purpurea*, *Adenantha pavonia*, *Syzygium cumini* and *Tagetes erecta* seeds. While, IBA (250-1000 ppm) showed high rooting percentage, number of roots, root length and number of sprouts in *Hibiscus rosa-sinensis* and *Lawsonia inermis* cuttings.

Key words : Dye yielding plants, propagation techniques, growth regulators

Studies on effect of spacing and fertilizer levels on flowering and concrete yield in tuberose (*Polianthes tuberosa*) Cv. Shringar

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Abstract: Field studies were carried out to study the effect of spacing and fertilizer levels on flowering, concrete content and yield parameters in tuberose Cv. Shringar at University of Agricultural Sciences, Gandhi Krishi Vignana Kendra, Bangalore. Three spacing and four levels of fertilizers in all possible combinations were assessed. The results indicated early spike emergence (56.50 days), early flowering (68.75 days), maximum spike length (80.00 cm), rachis length (25.00 cm), weight of spike (122.65 g), number of florets (54.80) per spike, floret length (6.33 cm) and weight of 100 florets (21.67 g), number of spikes (4.39/plant and 3.93 lakh/ha), concrete content (0.158%) and concrete yield (150.30 kg/ha) was found to be maximum at 30 x 30 cm spacing with a fertilizer dose of 250:250:250 kg N:P₂O₅:K₂O /ha compared to 45 cm x 35 cm spacing with only farm yard manure application in obtaining productivity and superior quality flowers.

Key words : Tuberose, spacing, fertilizers, interaction.

Effect of dates of sowing and spacing on growth of Fenugreek (*Trigonella foenum – graecum* L.)

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Abstract: An experiment was conducted to study the effects of dates of sowing and spacing on growth and yield in fenugreek (*Trigonella foenum – graecum* L.). The crop sown on first July responded significantly by recording the maximum plant height (56.27 cm), more number of branches and leaves (10.08 and 126.42, respectively), minimum number of days to 50 per cent flowering (34.11), more dry weight (16.12 g), more number of pods per plant and seeds per pod (50.95 and 15.43, respectively) and significantly increased seed yield (23.88 q/ha) which was followed by 15th July sown crop. Closer spacing (15x15 cm) produced higher seed yield, while wider spacing (30 x 30 cm) recorded the maximum growth and yield parameters except the seed yield per hectare.

Detection of genetic diversity in *Ocimum* species using RAPD markers

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Abstract: DNA based marker technology is extensively used for the plant genome analysis. The present study utilized dominant markers such as Random Amplified Polymorphic DNA (RAPD) for the evaluation of relatedness among six *Ocimum* species. Six *Ocimum* cultivars were screened using RAPD with decamer primer of arbitrary sequence. Out of 80 primers screened 10 were selected which gave clear and bright fragments. A dendrogram was constructed using Euclidean distances by Ward's method. Based on the number of bands all the cultivars were grouped into three clusters and the dendrogram revealed maximum similarity among *O.basilicum* cultivars. The standardized method can identify any of the single hybrid or cultivar tested.

Key words: *Ocimum*, RAPD, genetic diversity

Genetic variability, heritability and genetic advance for yield and yield attributing traits in *Coleus barbatus* Benth genotypes

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Abstract: An experiment was conducted to study the performance of 20 genotypes and to estimate genetic variability, heritability and genetic advance as per cent of mean in *Coleus barbatus*. The genotypes varied significantly from one another for all the traits studied. The maximum fresh tuberous root yield was recorded in genotype SL-2. Whereas, the dry tuberous root yield was maximum in the genotype 17-1 and the forskolin content was found to be maximum in the genotype K8/6. Phenotypic variance was higher than genotypic variance for all the eleven characters studied. Heritability was higher for all the traits except for leaf area, and the genetic advance as per cent of mean was also higher for all the eleven characters studied.

Effect of age of leaf on gymnemic acid content *Gymnema sylvestre* (R. Br) leaves

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Abstract: *Gymnema sylvestre* is known as an antidiabetic plant. The leaves are extensively used in Indian systems of medicine such as Ayurveda, Homoeopathy, Unani and Siddha. The objective of this study was to determine the age of leaf on gymnemic acid content. The leaves were harvested from cultivated plants grown originating from the same mother plant. The leaves were harvested from old leaves (aged between 3- 4 months) and young leaves (aged less than 2 months) in three seasons namely summer (May 2001), rainy (September 2001) and winter (January 2002). The gymnemic acid was determined using HPLC method and the results indicated that the younger leaves possessed the higher gymnemic acid of 7.14, 7.62 and 7.28% during summer, rainy and winter seasons. The older leaves possessed 2.98, 3.06 and 2.86% during summer, rainy and winter seasons. Thus this study indicated that younger leaves contain more than twice gymnemic acid that of older leaves.

Key words: *Gymnema sylvestre*, gymnemic acid, old leaves, young leaves

In vivo propagation studies in scented geranium (*Pelargonium graveolens*) : Efficacy of powder and liquid formulation of IBA

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ABSTRACT: Effect of powder and liquid formulation of IBA at varying concentrations was studied with respect to rooting parameters of scented geranium during December 2001. The objective of the experiment was to compare the efficacy of powder and liquid formulations of IBA on rooting of tip cuttings of scented geranium. The results indicated that the liquid formulations of IBA at 2000 and 3000 ppm as well as powder formulations at all concentrations (500 to 3000 ppm) were effective in obtaining 100 per cent rooting. Powder formulation at 2000 ppm recorded highest number of primary roots.

Key words: Scented geranium, powder formulation, liquid formulation, IBA, rooting.

Nutrient uptake and bacoside content in *Bacopa monnieri* as influenced by application of NPK fertilizers

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Abstract: *Bacopa monnieri* is a perennial herb grown for its medicinal properties known to increase memory power, cure nervous disorders and skin affections. The objective of the experiment was to determine the uptake of nutrients at different levels of applied nutrients (control, 10:10:10; 20:20:20;40:20:20;20:20:40 N:P₂O₅:K₂O kg/ha) and the bacoside content. Results suggested that the herb accumulated the highest quantities of potassium followed by nitrogen. The nutrient removal by the herb from soil ranged from 75.5 to174.6 kg/ha for potassium, 28.6 to 52.7 kg/ha for nitrogen and 7.7 to 12.9 kg/ha for phosphorus. The bacoside content significantly increased with the application of fertilizers and it ranged from 2.60 in control to 3.25% in 40:20:20 N:P₂O₅:K₂O kg/ha.

Key words: *Bacopa monnieri*, fertilizer, bacoside, NPK

Anticonvulsant and hypoglycemic activities of Brahmi vati an ayurvedic poly herbo-mineral formulation

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Abstract: In the present study the beneficial effects of brahmi vati, a polyherbal formulation mainly consisting of brahmi was examined. The study confirmed the anticonvulsant property of brahmi vati. The aqueous suspension of the formulation significantly reduced the severity, increased the latency of convulsions induced by metrazole and the effects were found to be dose dependent. The formulation did not show hypoglycemic activity, metrazole, diazepam.

Key words: Brahmi vati, anticonvulsant, hypoglycemic activity, metazole, diazepam

Influence of *Cardiospermum halicacabum* leaves on IgM and IgG immunoglobulins in rheumatoid arthritis induced rats

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Abstract: The main objective of this study was to investigate the influence of leaves of *Cardiospermum halicacabum* on immunoglobulins IgG and IgM in (CFA) induced arthritic rats. The ethanolic fraction (CEF) of the leaves of *Cardiospermum halicacabum* was administered orally and its effect on serum IgM and IgG in CFA induced arthritic rats were studied using Indomethacin as standard reference drug. CEF at 0.4g/kg body weight for 30 days suppressed the elevated blood IgM and IgG levels in arthritic rats. The reference drug did not display restorative activity unlike CEF. Thus our findings indicate that the *Cardiospermum halicacabum* leaves possess anti-inflammatory activity.

Key words: *Cardiospermum halicacabum*, Complete Freund's Adjuvant, IgG, IgM, Immunoglobulins

Synthesis and structure elucidation of resorcylic acid by an enzymatic path way

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Abstract: We found a α -Resorcylic acid decarboxylase (α -RA) as a novel enzyme applicable to carboxylation of resorcinol (RE) to form α -RA; in a bacterial strain *Rhizobium radiobacter* isolated through the screening of α -RA degrading microorganisms. The enzyme catalyzed the regio-selective carboxylation of RE to form α -RA, without formation of α -RA, α -RA and of catechol to 2,3-dihydroxy benzoic acid. The redox reaction of \hat{a} transition metal and 2 α -DHBA implications for wood decay.

Hypoglycemic effect of some marketed polyherbal formulations on alloxan induced diabetic rats

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Abstract: Many Polyherbal formulations are available which are claimed to have anti-diabetic effects. In the present study an attempt has been made to study hypoglycemic

activity of three marketed formulations. Hypoglycemic activity was studied using alloxan induced diabetes on albino rats. Blood sugar levels of normal and diabetic rats treated with sample A, sample B, sample C showed significant reduction on seventh day of treatment. The present study revealed considerable difference in hypoglycemic effects of products.

Key words: Alloxan, Glucose, Diabetes mellitus, Polyherbal Formulations.

Anthelmintic activity of bark of *Hibiscus mutabilis*

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Abstract: Present study reports anthelmintic activity of petroleum ether, ethyl acetate and methanolic extracts obtained from the bark of *Hibiscus mutabilis* Linn. (Malvaceae) against earthworms *Pheretima posthuma*. Amongst three extracts the petroleum ether extract showed potent anthelmintic activity as compared with other extracts and the reference drug albendazole.

Key words: *Hibiscus mutabilis*; *Pheretima posthuma*; anthelmintic; albendazole

Antidiabetic property of *Cassia auriculata* root extract

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Abstract: The objective of the study was to determine the glucose lowering potential of *Cassia auriculata* root extract in the diabetic animals. The streptozocin induced diabetic albino rats were given methanolic root extract. A significant (P#0.001) increase in blood glucose level and lipid levels and a significantly decline (P#0.001) in liver glycogen levels was observed. The administration of methanolic root extract of *Cassia auriculata* to diabetic animals for 30 days, reverted the effects of streptozocin, and caused significant decreased blood glucose (81.42% deviation when compared with blood glucose levels) and lipid levels. Along with this, the liver glycogen level also increased significantly (P#0.001) indicating the sugar lowering capacity of the extract.

Key words: *Cassia auriculata*, antidiabetic, lipid, liver glycogen.

Evaluation of herbal toothpaste gel and herbal mouth rinse with commercial formulations - an *In-Vitro* study

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Abstract: Antimicrobial activity of herbal formulations along with commercial formulations like Miswak, Colgate total toothpaste, Chlorhexidin and Colgate Plax mouth rinses, were evaluated for *in-vitro* activity. Six-herbal tooth gel and six-herbal mouth rinse formulations were compared against anticariogenic microorganisms namely *Streptococcus mutans*, *Lactobacillus lactis* and *Actinomyces viscosus* using BHI agar by disk diffusion methods. The results indicated that the antimicrobial activity of herbal formulation-4 was the most active which was nearly equal to commercial formulation of colgate paste. The formulation-4 of herbal tooth paste gel consisted of extracts of *Glycyrrhiza Glabra* and *Phyllanthus emblica* at 15 and 5 mg/g respectively. Among mouth rinse herbal formulations, formulation-4 was the best being almost equivalent to commercial formulations. The herbal mouth rinse formulation-4 consisted of 0.75 and 0.25% extracts of *G. Glabra* and *P. emblica* respectively.

Key words: Herbal toothpaste, Herbal mouth rinse, Anticariogenic, Marketed formulation.

Formulation and evaluation of triphala dispersible tablets by direct compression method

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Abstract: The objective of the study was to develop fast dispersible tablets of Triphala by direct compression method. Different disintegrants like croscopovidone, croscarmellose sodium or by Sodium starch glycolate, binder such as pregelatinized starch was used. Pre and post formulation parameters were studied for all the batches. Croscopovidone was found to be the best disintegrant when compared to croscarmellose sodium and sodium starch glycolate. The results showed that direct compression method was better. The formulation was found to be stable after carrying out the stability studies for two months.

Key words: Dispersible Tablets, Triphala, Super disintegrants, and stability studies.

Shelf life of polyherbal formulation by HPLC and bioassay.

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Abstract : The demand for herbal products has been steadily increasing. It is often a difficult task to verify the validity of herbal products for their quality as well as therapeutic efficacy and safety. One such polyherbal formulation (PHF) has been used for more than 40 years by millions of patients in India for various inflammatory and microbial diseases. This study was undertaken to establish the shelf-life and uniformity in composition of PHF, using high performance liquid chromatography and bio-assay. The methanolic extracts of PHF of 1st, 2nd, 3rd, 4th, 5th, and 6th month old preparation were analyzed qualitatively by HPLC, in chloroform-methanol (8:2) at 324nm. The total AUC of the chromatogram of PHF in different months were 509192±223.16, 529444±125.98; 473365±163; 94,643296±96; 44,626301±267.01 and 142368±233.33. In parallel, the percent anti-inflammatory activity was found to be, 81.27, 78.46, 80.17, 73.41, 72.39 and 47.46 percent anti-inflammatory activity for 1st, 2nd, 3rd, 4th, 5th, and 6th month old preserved PHF respectively. It was found that HPLC method was much simple and easier than bioassay method for evaluating the quality of PHF formulation.

Key Words: Polyherbal formulation, HPLC, Bioassay.

Effect of *Costus speciosus* extracts on liver and kidney of streptozotocin induced diabetic rats

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Abstract: The general observation of diabetic subject is that they lose body weight. However changes in liver and kidneys is less studied. In this study, the effect of *Costus speciosus* on body weight, liver and kidneys in normal and STZ induced diabetic rats were studied. The results suggested that the reduction in body weight was maximum (27.54%) in STZ induced diabetic rats that did not receive any drug for 21 days. Changes in liver and kidneys weight *per se* across diabetic and normal rats were non-significant. However changes were significant when the values were converted to 100 gram body weight basis. There was increase in liver weight by 3.46g/100g body weight in untreated STZ induced diabetic rats and 3.06g/100g body weight in *C. speciosus* treated rats. Similarly there was increase in kidneys weight 1.70 g/100 g body weight in untreated STZ induced diabetic rats and 0.89g/100g body weight in *C. speciosus* treated rats.

Key words: liver, kidneys, body weight, STZ induced diabetes