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## TAXONOMIC ACCOUNT OF TWO BROWN SEAWEED GENERA *CHNOOSPORA* AND *PSEUDOCHNOOSPORA* (PHAEOPHYTA) IN INDIA

S.K. Yadav<sup>\*1</sup>, Aron Santhosh Kumar Y.<sup>2</sup> and M. Palanisamy<sup>3</sup>

<sup>1</sup>Botanical Survey of India, CGO Complex, Sector 1, Salt Lake City, Kolkata - 700064

<sup>2</sup>Botanical Survey of India, Southern Regional Centre, TNAU campus, Coimbatore - 641003

<sup>3</sup>Botanical Survey of India, Central National Herbarium, Botanic Garden, Howrah -711103

Email: [skyadavbsic@gmail.com](mailto:skyadavbsic@gmail.com)

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**Abstract:** Seaweeds are the marine macro algae and represented globally with about 11,000 taxa, belonging to the division Chlorophyta, Phaeophyta and Rhodophyta. In India, seaweeds are represented with about 865 taxa. The two brown algal genera *Chnoospora* J. Agardh and *Pseudochnoospora* Santiañez, G.Y.Cho & Kogame belong to the family Scytosiphonaceae under the division Phaeophyta. The genus *Chnoospora* includes three taxa in the world and two taxa in India i.e., *Chnoospora bicanaliculata* V. Krishnam. & P.C. Thomas and *Chnoospora minima* (K. Hering) Papenf. Whereas the newly established genus *Pseudochnoospora* is represented with only one species in the world as well as in India i.e. *Pseudochnoospora implexa* (J.Agardh) Santiañez, G.Y.Cho & Kogame. The species *C. bicanaliculata* is endemic to the Indian coast, whereas the species *C. minima* and *P. implexa* are economically very important and have therapeutic potentials. The present paper deals with the detailed taxonomic account of these three taxa in India including its economic potential.

**Keywords:** *Chnoospora*, Endemic, Phaeophyceae, *Pseudochnoospora*, Taxonomy

## IMPACT OF BIOSTIMULANTS & BIOFERTILIZERS ON GROWTH, YIELD AND QUALITY OF CHINA ASTER (*CALLISTEPHUS CHINENSIS* (L.) NEES) CV. ARKA KAMINI

Veeresh<sup>a\*</sup>, Seenivasan N<sup>b</sup>, Laxminarayana D<sup>b</sup> and Praneeth Kumar S<sup>c</sup>

<sup>a</sup>College of horticulture, Rajendranagar, Hyderabad-500030, India.

<sup>b</sup>Sri Konda Laxman Telangana State Horticultural University, Mulugu, Siddipet, Telangana- 502279, India.

<sup>c</sup>Floricultural Research station Rajendranagar, Hyderabad-500030, India.

Email: [veereshpujar686@gamil.com](mailto:veereshpujar686@gamil.com)

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**Abstract:** The present investigation carried out on China aster cv. Arka Kamini to know the effect of Biostimulants and biofertilizers on growth, flowering, yield, and quality. The result indicated that among the treatment plant sprayed with the interaction T<sub>3</sub> Humic Acid (0.5%) combination with Phosphate solubilizing bacteria (PSB) 200 g/lof water + Potassium solubilizing bacteria (KSB) 200 g/lof water was recorded significantly maximum plant height(65.22 cm), number of leaves per plant(115.65), leaf area(1419.76), number of primary branches per plant(10.97) and number of secondary branches per plant(13.05). minimum number of days to first flower bud initiation(59.92 days), minimum days to 50% flowering(71.21 days) and highest duration of flowering(70.00 days), flower diameter(7.38 cm), fresh weight of flower(2.74 g), total number of flowers per plant(69.76), flower yield per plant(295.56 g), flower yield per p lot(20.95 kg), flower yield per hectare(15.19 t/ha), shelf life of loose flowers(69.76 hours) and vase life of cut flowers(8.12 days). Thus, combined application of Biostimulant and biofertilizers could be considered as a suitable treatment for enhanced growth, flowering, yield, and quality of China aster.

**Keywords:** China aster, Biostimulants, Biofertilizers, Humic acid, Vase life

## CLONAL PROPAGATION OF *BIXA ORELLANA* L. FOR QUALITY PROPAGULE PRODUCTION

S.Vennila<sup>1\*</sup>, K. Kumaran<sup>2</sup>, P. Radha<sup>2</sup> and M. Mathivanan<sup>2</sup>

<sup>1</sup>Agricultural College and Research Institute, Vazhavachanur

<sup>2</sup>Forest College and Research Institute, Mettupalayam  
Tamil Nadu Agricultural University, Coimbatore

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**Abstract:** The present investigation was targeted to conduct the study of clonal propagation of *Bixa orellana*. This experiment consisted three types of cuttings viz., Leafy shoot cuttings, Soft wood cuttings and Semi hardwood cuttings and various concentrations of IBA viz., 1000 ppm, 2000 ppm, 3000 ppm, 4000 ppm, 5000 ppm, 6000 ppm and control. The experiment was replicated thrice with 50 cuttings in each treatment and was tested. The cuttings were planted in polythene bags (10 x 15 cm). The percentage of sprouting, rooting and survival differed significantly between treated and untreated cuttings. Semi hard wood cuttings treated with 4000 ppm of IBA maximized sprouting (92.05%) and rooting (78.34%) along with increased survival (68.13%). Survival and growth of the clonal plants were best when using improved techniques like types of cuttings with proper concentration of IBA and also combined with suitable rooting media. However, there was significant variation in shoot length, root length of cuttings due to IBA treatments. The results suggested that it could be possible to produce clones of high yielding superior genotypes of *Bixa orellana* on large scale through stem cutting for popularization and establishment of commercial forestry and agroforestry.

**Keywords:** Natural dye, Eco friendly, *Bixa orellana*, Clonal propagation, Mass multiplication

## RURAL LIVELIHOOD OF FARM HOUSEHOLDS OWING COVID-19 PANDEMIC: A SOCIO-ECONOMIC ANALYSIS IN NORTH-EASTERN REGION (NER) OF INDIA

Johns Tiyndel G<sup>1\*</sup>, Daya Ram<sup>2</sup>, Jitender Kumar Bhatia<sup>3</sup> and Pradeep A.<sup>4</sup>

<sup>1</sup>Department of Agricultural Economics, COA, CCS HAU, Hisar, Haryana -125004

<sup>2</sup>Department of Extension Education, COA, CAU (Imphal), Manipur -795004

<sup>3</sup>DHRM, CCS HAU, Hisar, Haryana -125004

<sup>4</sup>Agricultural Economist, CHF, CAU (Imphal), Pasighat, Arunachal Pradesh -791102

Email: [johnstiyndel@gmail.com](mailto:johnstiyndel@gmail.com)

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**Abstract:** The North-Eastern Region (NER) of India has a rural population of 327.71 lakh, with agriculture being the state's primary source of subsistence. Manipur, one of the NER states, has a rural population of 70.79 percent. The study investigates the socioeconomics of agricultural households in the Manipur district of Imphal West. The research involved 109 respondents from four rural villages, focusing on age, caste, household head's educational attainment, family type, family size, dwelling type, job, and family status. The study reveals that rural farm households in the Northeastern region of India are predominantly educated (87.16%), with joint and nuclear families having higher secondary education. They have substantial housing and employment diversification, with 55.05% employed in non-farm and on-farm activities. The study also examines the economic status and security of these households, focusing on land holding and farming experience. The COVID-19 pandemic has significantly impacted rural farm households in the Northeastern region of India, with 36.70% of households affected. The average recovery period was 20 days, with an infected household spending about ₹11555 on COVID-19 treatment. The lockdown has affected employment activities, with 38.53% of households reporting that male members' employment was affected, followed by female members (32.11%). Mass media exposure to COVID-19 information has increased, with television being the most popular source.

**Keywords:** Rural Livelihood, Farm households, Socio-economic, COVID-19, Northeast, Manipur

## SYMPTOMATOLOGY AND PATHOGENECITY OF *FUSARIUM OXYSPORUM* F. SP. *CICERI* IN CHICKPEA VARIETY GNG-1958

Nitika Kumari<sup>1\*</sup>, C.B. Meena<sup>2</sup>, Chirag Gautam<sup>3</sup>, P.K.P. Meena<sup>4</sup>, Yamini Tak<sup>5</sup> D.S. Meena<sup>6</sup>  
and R.K. Meena<sup>7</sup>

<sup>1,2,3</sup>Department of Plant Pathology, College of Agriculture, Agriculture University, Kota-324001, Rajasthan, India

<sup>4</sup>Department of Genetics and Plant Breeding, Agricultural Research Station, Agriculture University, Kota-324001, Rajasthan, India

<sup>5</sup>Department of Biochemistry, Agricultural Research Station, Agriculture University, Kota-324001, Rajasthan, India

<sup>6</sup>Department of Agronomy, Agricultural Research Station, Agriculture University, Kota-324001, Rajasthan, India

<sup>7</sup>Department of Agronomy, College of Agriculture, Agriculture University, Kota-324001, Rajasthan, India

Email: [nitikakumari0505@gmail.com](mailto:nitikakumari0505@gmail.com)

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**Abstract:** *Fusarium* wilt is a serious disease of chickpea in India and world. It is a serious soil borne disease. Pathogenicity of the fungus was carried out on a chickpea variety GNG-1958, which exhibited wilting after 25 days of inoculation. Observations of symptomatology and pathogenicity were recorded. Further, on the basis of morphological and cultural characteristics of the pathogen, it was confirmed that the pathogen was *Fusarium oxysporum* f. sp. *ciceri*. Further the pathogen was identified from ITCC (Indian Type Culture Collection) Lab, IARI, New Delhi.

**Keywords:** Chickpea, *Fusarium oxysporum* f. sp. *ciceri*, Variety

## UTILIZATION PATTERN OF SMARTPHONE APPLICATIONS IN GETTING AGRICULTURAL INFORMATION BY THE FARMERS OF JAIPUR DISTRICT

Tribhuwan Singh Rajpurohit<sup>1\*</sup>, Ishaq Mohammed Khan<sup>2</sup>, Jitendra Kumar<sup>3</sup>  
and Sita Ram Bijarnia<sup>4</sup>

<sup>1</sup>Department of Agricultural Extension Education, CCSHAU, Hisar, Haryana

<sup>2</sup>Department of Extension Education, SKNAU, Jobner, Rajasthan

<sup>3</sup>Department of Agricultural Extension Education, MPUAT, Udaipur.

<sup>4</sup>Department of Agricultural Extension and Communication, SKRAU Bikaner

Email: [Trisingh27@gmail.com](mailto:Trisingh27@gmail.com)

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**Abstract:** The study focuses on the growing role of Smartphone's in the agriculture sector in India. It emphasizes that Smartphone's have become crucial for farmers in accessing information related to various aspects of agriculture. The government has initiated multiple efforts to disseminate this information through different media, including radio, television, and mobile apps. This study was conducted in Jaipur district, Rajasthan, with two blocks, Govindgarh and Bassi, selected as they represented the highest and lowest produce arrivals in the market. From these blocks, four villages each were randomly chosen, totaling eight villages for the study. In these villages, 10 farmers from each were selected randomly, resulting in a sample of 80 farmers. Key Findings were most smartphone-using farmers (58.75%) have low utilization of agricultural information-seeking smartphone applications, while 40.00% have medium use, and only 1.25% have high use. Farmers in Govindgarh primarily obtain information by calling other farmers or relatives, while in Bassi, they rely more on contacting retailers. Overall, farmers gain the most information by calling other farmers or relatives, followed closely by contacting retailers.

**Keywords:** Agriculture, Smartphone Applications, Utilization pattern, Information access, Farmers