

Journal of Plant Development Sciences

(An International Monthly Peer Reviewed Journal)

Volume 17

Number 3

March 2025

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INNOVATIVE IMPRESSIONS AND AGRICULTURAL SUSTAINABILITY – A KEY TO FOOD SECURITY

Ram Narayan Meena*

*Department of Agronomy, Institute of Agricultural Sciences, Banaras Hindu University,
Varanasi-22105 (U. P.) India*

Email: ramnarayanbhu@gmail.com

Received-25.02.2025, Revised-16.03.2025, Accepted-27.03.2025

Abstract: Agriculture is the mainstay of India which provides employment to nearly 52 per cent of the population. However, Agriculture contributes only 16 per cent to India's Gross Domestic Product. Increasing agricultural growth is the top priority of our government and will continue to remain, as around 70 per cent of the population lives in rural India. Agriculture plays a vital role in economic growth, such as provision of food to the nation, enlarging exports, transfer of manpower to non-agricultural sectors, contribution to capital formation and securing markets for industrialization.

Keywords: Agriculture, Food security, India

NIDULA SHINGBAENSIS: A NEW GENERIC RECORD FOR ARUNACHAL PRADESH, INDIA

Arvind Parihar^{1*} and Arijit Ghosh¹

Botanical Survey of India, Arunachal Pradesh Regional Centre, Itanagar, Arunachal Pradesh

Email: arvind_peaec@rediffmail.com

Received-02.03.2025, Revised-14.03.2025, Accepted-29.03.2025

Abstract: *Nidula shingbaensis* an interesting species of Bird's nest fungi is reported for the first time from the state of Arunachal Pradesh, India. It is also a first record of Genus *Nidula* from this State. Detailed Macro and Micromorphological characterization coupled with illustrations is provided.

Keywords: Arunachal Pradesh, Bird's nest fungi, New Record, *Nidula*, Taxonomy

EXPLORATION OF SOIL PROPERTIES AND GROWTH OF CHICKPEA, GROWN WITH SOIL MICROBIAL INOCULANT FOR SUSTAINABLE AGRICULTURE

Sadiya Samar, Aditi and Ashok Kumar*

Department of Botany, Chaudhary Charan Singh University, Meerut (U.P) – 250004, India

Email: dr.ashokbotany@gmail.com

Received-01.03.2025, Revised-16.03.2025, Accepted-30.03.2025

Abstract: In this study, we examine the effects of *Rhizobium* and Phosphate Solubilizing Bacterium (PSB) on the attributes of the soil and the growth of *Cicer arietinum* L. (Chickpea). In this experimental work, the *Rhizobium* and PSB were used individually and in two combined inoculations. We measured various morphological, physiological and biochemical parameters using standard protocols. The findings of this field experiment showed that the test crop's biomass, plant height (42.6 %), grain yield (50 %), plant nitrogen (35.14 %), phosphorus, and carbon content (24.62 %), as well as the plant protein content (49.56 %), all had significantly increased (20-40%) by the dual inoculated plant. The soil's nutrient content was also improved. The data obtained from this experimental work indicates that the crops inoculated with a combined

application of *Rhizobium* and PSB had higher yield and growth than single inoculants. So their combined application can be a better substitute for chemical fertilizers.

Keywords: *Rhizobium*, PSB, Dual inoculation, *Cicer arietinum*

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STUDY ON SACRED GROVES IN SARGUJA

Ashish Kumar Soni^{1*} and Dhiraj Kumar Yadav²

¹Department of Farm Forestry, UTD, Sant Gahira Guru Vishwavidyalaya, Sarguja, Ambikapur-497001 (Chhattisgarh), India

²Department of Farm Forestry UTD Sant Gahira Guru Vishwavidyalaya, Sarguja, Ambikapur-497001 (Chhattisgarh), India

Email: ashishaceme@gmail.com

Received-24.02.2025, Revised-12.03.2025, Accepted-26.03.2025

Abstract: Sacred groves are tracts of virgin forest, harbouring rich biodiversity and traditionally protected by local communities. The inextricable link between culture, religious belief, and biodiversity conservation is evident in sacred groves. Many such groves are found in Chhattisgarh and are locally known as Sarna, Matagudi, Devgudi, and Gaondevi. The present study was carried out during the year 2020-21 at different locations in Ambikapur, Sarguja, where six distinct sacred sites were studied. A total of 16 different major species were recorded at the study sites. Among them, one endangered species, *Tanacetum sanguineum*, was recorded, which is listed as an endangered species in Chhattisgarh. The sacrificial system was also noted at two sites, and one sacred grove was found to be associated with temples. Sacred groves, with their rich ecosystems, provide significant biodiversity conservation benefits, supporting rare species and maintaining ecological balance. Moreover, these sites are an important aspect of local cultural heritage and tourism, attracting visitors who seek to experience both the natural beauty and spiritual significance of these areas. However, sacred groves are gradually being altered due to the ever-expanding human population, pollution and biomass extraction. Effective conservation is the need of the hour to maintain their functional values. The study suggests that local community participation not only boosts biodiversity conservation but also helps in preserving central role in their preservation. However, when sacred sites are relatively large, community participation alone is not enough for effective management. Support from external agencies, such as the Forest Department and/or environmental organizations are crucial for sustainable management of these valuable ecosystems.

Keywords: Sacred Groves, Ecosystem, Tribes, Biodiversity, Sarna, Environment

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EFFECT OF ORGANIC MANURES AND LAND CONFIGURATION METHODS ON YIELD AND QUALITY OF MAIZE (*ZEA MAYS* L.) UNDER EASTERN UTTAR PRADESH

Ravi Kumar A¹., Ram Narayan Meena^{2*} and Brijesh Kumar Chaudhary³

M.Sc. Student¹, Research Scholar³, Professor²

Department of Agronomy, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005 (U. P.) India

Email: ramnarayanbhu@gmail.com

Received-26.02.2025, Revised-13.03.2025, Accepted-25.03.2025

Abstract: A field experiment was conducted during *Kharif* season of 2015-16 at the Agricultural Research Farm, Department of Agronomy, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh (India), situated under North East Plain Zone of the country. The experiment was laid out in a split plot design with 16 treatment combinations and 3 replications. The treatment consisted of four different organic sources as a control treatment (T₁- 100% of RDN as FYM, T₂-100% of RDN as Vermicompost, T₃-50% of RDN as FYM + 50% Vermicompost and T₄-100% of RDN as through inorganic source) were plot wise randomly allocated to subplots. The treatments were replicated for sub plot different type of land configuration methods (S₁- Flat method, S₂-Ridge and Furrow method, S₃-FIRB system and S₄.BBF method) The treatment combination (*i.e.* 16) replicated thrice when allocated randomly. The results indicated that treatment, T₃-50% of RDN as FYM+50% Vermicompost among nutrient management and S₄-BBF method of crop establishment among the land configuration recorded significantly higher yield attributes, yield, and quality parameter of maize.

Keywords: FYM, Organic manures, Vermicompost, Land configuration method

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YIELD, ECONOMICS AND NUTRIENT UPTAKE PATTERN OF INDIAN MUSTARD (*BRASSICA JUNCEA* L.) VARIETIES AS AFFECTED BY SOWING TIME AND NITROGEN FERTILIZATION UNDER WESTERN HARYANA

P. Keerthi^{1*}, S.K. Sharma¹, Neelam¹, Kautilya Chaudhary², Nidhi Kamboj² and Neeraj¹

¹Department of Agronomy, ²Department of Soil Science CCS Haryana Agricultural University, Hisar 125004

Email: keerthi26@hau.ac.in

Received-15.02.2025, Revised-08.03.2025, Accepted-24.03.2025

Abstract: A Field experiment was conducted during *rabi*2022-23 to study the effect of sowing time and nitrogen fertilization on yield, economics and nutrient uptake of Indian mustard varieties at research farm, College of Agriculture, Hisar, Haryana. The experiment was laid out in split plot design with three replications comprising two sowing dates viz., timely sown (Oct 20) and late sown (30 Oct) with two varieties RH 1424 and RH 725 and four nitrogen levels viz., 0 (control), 60, 80 and 100 kg N/ha as main plots and sub plots treatments, respectively. The maximum seed yield was obtained with timely sown crop with RH 1424 (26.13 q/ha) which was statically at par with timely sown RH 725 (23.13 q/ha), thereafter the yield decreased with delay in sowing. However, the yield obtained in late sown crop with RH 1424 is statically at par with late sown RH 725. Maximum uptake of nitrogen was recorded with timely sown RH 1424 (82 kg/ha) and 100 kg N/ha (78.4 kg /ha) compared to other treatments. The mustard yield was increased significantly with increased dose of nitrogen. Maximum seed yield (26.21 q/ha), biological yield (175 q/ha) and highest benefit cost ratio of 2.18 was obtained with 100 kg N/ha. However, the seed yield obtained with 100 kg N/ha is statically at par with 80 kg N/ha. The uptake of nitrogen was higher under 100 kg N/ha by 75% over the control.

Keywords: *Brassica juncea*, Nitrogen, Fertilization, Oilseed crops