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TOXICITY OF INSECTICIDES AGAINST HONEY BEES IN LABORATORY CONDITION

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Abstract: Insecticides are harmful for all living organism. Many insecticides are harmful to honeybees, with neonicotinoids and some acaricides being particularly harmful, even at low dose, causing mortality, behavioral issues and weakened immune system. On the basis of toxicity, they are categorized in three groups i.e. highly toxic, moderately and nontoxic to honeybees. Toxic insecticides do not used during the flowering of the crop because bees died in the field and also died inside and outside of the hives after coming from the insecticides applied field. Insecticides should be applied during the evening hour or migrate the bee colony for safety of the bees. It has been observed that after 8 to 10 days of application of insecticides *Apis cerana indica* colonies were found mortality but *Apis mellifera* colonies were not observed.

Keywords: *Apis cerana indica, Apis mellifera, stingless bee, bumble bee,* Honey bee

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EFFECT OF ORGANIC MANURES AND LAND CONFIGURATION METHODS ON GROWTH, YIELD AND QUALITY OF *ISABGOL* (*PLANTAGO OVATA* FORSK.) UNDER CUSTARD APPLE (*ANNONA SQUAMOSA* L.) BASED AGRI-HORTI SYSTEM

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Abstract: A field experiment was conducted at Agriculture Research Farm of Rajiv Gandhi South Campus Banaras Hindu University, Barkachha, Mirzapur Uttar Pradesh, during *rabi* season of 2019-20, to explore the effect of organic manures and land configurations practices on growth attribute, yield attributes, quality and economics of *Isabgol* (*Plantago ovate* Forsk.) under custard apple (*Annona squamosa*) based agri-horti system. The investigation was carried out in a sandy clay loam soil in split plot design with 3 replications. The treatment comprised of four treatments of organic manures O_1-100% of RDN as Compost, O_2-100% of RDN as FYM, O_3-100% of RDN as Poultry manure and O_4-100% of RDN as Vermicompost were allotted to main plot. Whereas, four land configurationC_1-Flat bed method, C_2-Ridge and furrow method, C_3-FIRB method and C_4-BBF method were allotted to sub plot. Hence, in all total sixteen treatment combinations (4 main plots × 4 subplots) were replicated thrice. Obtained results proved that vegetative growth characters (plant height, number of tillers plant^{-1}, number of leaves and dry weights) as well as yield(maximum number of seeds spike^{-1}, 1000 seeds weight, seed yield, straw yield, biological yield and harvest index) and quality(protein content of seeds, mucilage content, and swelling capacity of seed) were considerably augmented due to the use of organic manures and land configuration. The best overall results were obtained when *Isabgol* plants were supplied with O_4-100% of RDN as vermicompost and C_4-BBF method which was superior over other practices in terms of growth parameter, yield attributes and quality of crop cultivation.

Keywords: *Isabgol,* Organic manure, Land configuration, Growth, Yield and Quality

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EFFECT OF ORGANIC AND INORGANIC FERTILIZER APPLICATION ON GROWTH, YIELD ATTRIBUTE AND PRODUCTIVITY OF RICE CROP

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Abstract: A field experiment was conducted at Crop Research Centre of SVPUAT, Meerut during *kharif*2024. The study aimed to assess the effects of various combinations of organic manures and inorganic fertilizers on rice growth, yield and yield attributes. The treatments were evaluated, including T_1 (control), T_2 (100% Recommended dose of fertilizer), T_3 75% RDF + 25% N, (Farm yard manure), T_4 75% RDF + 25% N, (Vermicompost),T_5 75% RDF + 25% N, (Poultry manure), T_6 50% RDF + 25% N (FYM)+25% N (VC) T_7 50% RDF + 25% N (FYM)+25% N (PM), T_8 50% RDF + 25% N (VC)+25% N (PM), and T_9 (25% of RDF + FYM+VC+PM). The effect of the different dosesof inorganic sourceswith various organic manureson yield attributes and yield. Application of T_9(25% RDF + FYM + VC + PM) significantly improved yield attributes such as panicle length, filled grains, test weight, and grain and straw yield. T_9 recorded the highest yield, showing a 9% increase over sole RDF application T_2.

Keywords: Farm yard manure, Organic manure, Poultry manure, Recommended dose of Fertilizer, Vermicompost

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INSIGHT INTO THE QUALITY OF NEELAMARI LEAF POWDER: A MARKET-BASED COMPARATIVE STUDY

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Abstract: Neel (*Indigofera tinctoria* L.), commonly known as true indigo and belonging to the Fabaceae family, is a historically known natural source of blue indigo dye. Beyond its dyeing properties, it also possesses notable medicinal value. The leaves of Neelare key components in several Ayurvedic formulations, like *Aravindasavam*, *Neelibringadi oil*, *Neelithulasyadi kashayam etc.* With the increasing commercial demand, numerous branded indigo leaf powders are available in the herbal market, but concerns over adulteration persist. This study, conducted at Kerala Agricultural University, Vellanikkara, Thrissur, aimed to evaluate the quality of marketed Indigo leaf powder samples using High-Performance Thin Layer Chromatography (HPTLC). Samples were collected from herbal outlets across Kerala as well as from online platforms, grouped to nine and compared against a reference standard. HPTLC analysis revealed that while majority of the samples were authentic, certain brands showed evidence of adulteration or mixing. The study underscores the effectiveness of HPTLC as a reliable tool for authenticating herbal powders and highlights the need for stricter quality control in the herbal raw drug market.

Keywords: *Indigofera tinctoria*, Neelamari, Indigo leaf powder, HPTLC, Quality evaluation, Adulteration

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ADOPTION BEHAVIOR OF SOIL HEALTH CARD IN FARMING COMMUNITY OF BETUL DISTRICT OF M.P.

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Abstract: The Government of India launched the soil health card scheme during 2014-15. In this way, the state labels government agencies as well as NGOs, establishes soil health labs and mini soil health labs, and collects soil samples using GPS-based and grid-based methods. After analysis, large numbers of soil health cards (SHCs) are issued. Given the inception of the soil fitness card programme at some point of 2020-21, a good way to grow agricultural production and maintain soil health, a large quantity of soil health playing cards had been distributed to the farmers. This will examine the know-how, adoption and constraints of the soil health card. The existing study was completed. The farmers who were issued a soil health card were comparatively more aware of numerous soil health card aspects like main nutrients (N, P & K), soil pH, soil EC, Soil OC and micronutrients in comparison to farmers without a soil health card. Information suggests that the maximum number of respondents had a medium know-how rating, that is, fifty-six. Ninety-five per cent, according to the cent, followed by respondents with low expertise rating (28.34%), and the best 19.44 per cent respondents had high know-how rating, approximately soil fitness card. Important constraints confronted by the farmers in adoption consistent with the soil fitness card were difficulty in having expertise about the significance of micronutrients, the prices of fertilizers being too high and the non-availability of organic manure.

Keywords: Adoption, Constraints, Farmers', expertise, Soil Health card