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MANAGEMENT OF SHEATH BLIGHT OF RICE USING DIFFERENT SOLVENT-BASED PLANT EXTRACTS

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Abstract: Rice (*Oryza sativa* L.) belong to the Gramineae family is the most extensively grown food crop in the world and about 90 per cent of rice grown in the world is produced and consumed in Asia. Sheath blight is one of the most destructive rice diseases, found throughout the world's rice-growing regions. In present investigation different solvent based plant extracts were evaluated against sheath blight of rice *in vitro* as well as *in vivo*. Results indicated that Hexaconazole 5% SC (100%), Methanol based neem extract(100%), Methanol based plant extract mixture (100%), Ethanol based plant extract mixture (100%) and Ethanol based neem extract (100%) completely inhibited the mycelia growth of *Rhizoctonia solani* at 10 per cent concentration. Cow urine-based plant extracts were found significantly effective in suppressing the sheath blight severity and increasing the yield over control plot. Lowest per cent disease index (PDI) was observed in Hexaconazole 5% SC @0.1% (PDI-8.08%) which was found to be most effective and at par with Hexaconazole 5% SC @0.05% (PDI-8.88%) followed by Pure Cow urine (5%) + Hexaconazole 5% SC @0.05% (PDI-9.35%) and Cow urine-based plant extracts mixture (5%) + Hexaconazole 5% SC @0.05% (PDI -9.60%) over control. Pure Cow urine @10%, (PDI -27.81%) and Cow urine-based plant extracts mixture @10 % (PDI -29.61%) were also found significantly highly effective controlling sheath blight disease and statistically at par with each other. Combination of half doses of Pure Cow urine (5%) + Hexaconazole 5% SC @0.05% (PDI-9.35%) was found significantly effective as compare to control.

Keywords: Rice, Sheath blight, Plant extracts, Cow urine

ASSESSMENT OF NUTRITIONAL STATUS OF ADOLESCENT GIRLS BEFORE AND AFTER IMPARTING THEM NUTRITION EDUCATION

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Abstract: The present study was conducted with the aim to assess the impact of nutrition education on nutritional status of adolescent girls. The main objective of the study was to assess the impact of nutrition education programme on nutritional status of the selected adolescent girls. Hundred and Sixty adolescent girls in the age group of 16-18 years were selected randomly from a junior college of Nagpur city, Maharashtra and surveyed for their nutrient intake by 24 hour dietary recall method for three consecutive days. Nutrition education was imparted to the subjects after assessing their basic nutrition knowledge. Anthropometric profile and socio-economic status of the subjects was collected using a questionnaire cum interview schedule. Knowledge, attitude and practice (KAP) questionnaire was used to assess the impact of nutrition education programme in changing the dietary behaviour of the subjects. Nutrition education improved their mean nutrition knowledge. Significant increase in average daily intake of all the nutrient was found among the adolescent subjects. The average contribution of carbohydrate, protein and fat to total energy also increased after imparting nutrition education. The intake of vitamins and minerals also increased significantly after imparting nutrition education. Thus, nutrition education is an effective measure to bring about favourable changes in adolescent nutrient intake.

Keywords: Nutrition education, Dietary behaviour, Adolescent girls, Knowledge

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A STANDARDIZED MEASURE FOR GERMINATION OF KALMEGH (*ANDROGRAPHIS PANICULATA*) SEEDS UNDER DIFFERENT TEMPERATURES CONDITIONS

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Abstract: Kalmegh (*Andrographis paniculata* Wall. ex Nees, Acanthaceae) stands out as a prominent indigenous medicinal plant, often referred to as the "King of Bitters." Renowned for its therapeutic properties, Kalmegh extract is utilized in the treatment of various ailments, including jaundice, dermatological and anthelmintic disorders. It also serves as an antibacterial, anti-malarial, anti-inflammatory, anti-thrombogenic, and blood purifier. Given that Kalmegh is propagated through seeds, assessing seed quality becomes imperative to ensure successful crop stand and herb production, both of which hinge on the use of high-quality seeds. The percentage of germination is a pivotal characteristic when selecting seeds for cultivation, with three main criteria shaping seed quality standards: ideal germination potential, temperature, and the number of days for the first and final counts. In our study, the Kalmegh variety "Vallabh Kalmegh" underwent germination trials under five constant temperature conditions, maintaining a 16-hour photoperiod of light and an 8-hour photoperiod of darkness. Our findings revealed that a temperature of "25 °C" with high humidity yielded the highest germination rate at 91.5 percent, establishing it as the ideal condition. We concluded that temperature significantly influences the germination percentage in Kalmegh. To validate our objectives, we recorded early seedling growth parameters, including seedling length, root length, shoot length, fresh and dry weight, and Seedling Vigour Index I. Notably, the Kalmegh seeds exhibited the highest germination rate under constant "25 °C" with high humidity, with the peak Seedling Vigour Index I recorded on days 7-8 and day 14 as the first and final count days, respectively. These findings contribute valuable insights to seed quality assessment and cultivation practices for Kalmegh, enhancing our understanding of the optimal conditions for germination and early seedling growth.

Keywords: Germination percentage, Photoperiod, Seed quality standards, Seedling emergence, Temperature

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IMPACT OF CLUSTER FRONTLINE DEMONSTRATION ON ADOPTION OF IMPROVED PRACTICES OF MUSTARD CROP

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Abstract: The level of acceptance of advanced agricultural technology in the innovation diffusion process, is the most important element for encouraging a gain in agricultural production. The goal of the current study was to compare the yield disparities between the farmers' practices and the improved package of practices of rapeseed mustard under Cluster Font Line Demonstrations (CFLD) on mustard crop by KVK Sadalpur (Hisar) during *rabi* 2019–2020 season. The results revealed that the yield of mustard grown in demonstration plots was much higher than that of check plots (farmer's practice). Overall, the output of demonstration plots was 21.92% higher than that of check plots. The 4.0q ha⁻¹ average extension gap brought attention to the need for farmers to receive education through a range of extension approaches in order for them to adopt improved agricultural technology. An average technology index was 22.61% across three clusters. The economic feasibility of the intervention was shown by a good B: C ratio. The aforementioned information suggests that mustard crop productivity may be increased through cluster demonstrations, which encourage farmers to use the types of scientific production methods that were on exhibit in the CFLD plots.

Keywords: Oilseeds, Technology gap, Mustard crop

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**NOTES ON THE TAXONOMY AND ECONOMIC POTENTIAL OF A RED
SEAWEED *MERISTOTHECA PAPULOSA* (MONT.) J. AGARDH (FAMILY
SOLIERIACEAE) IN INDIA**

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Abstract: *Meristotheca* J. Agardh is one of the economically important seaweeds and belongs to the family Solieriaceae of the division Rhodophyta. Although the genus is represented by 18 taxa in the world, in India so far only one taxon *Meristotheca papulosa* (Mont.) J. Agardh has been reported. The present article highlights the taxonomy and economic perspectives of this species in reference to the Indian coast.

Keywords: Economic importance, *Meristotheca papulosa*, Rhodophyta, Solieriaceae, Taxonomy