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Traditional knowledge used in paddy cultivation in Raipur district, Chhattisgarh

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The study was conducted in six villages of Dharsiva block of Raipur district of Chhattisgarh. Rice is the main crop being cultivated. The paper describes the indigenous technologies used by the farmers in paddy cultivation. For seed germination, preventing the crop from insect/pest attack in the field and during the storage they apply their rich traditional knowledge. They find the indigenous knowledge very useful, therefore Indigenous technical knowledge possessed by the farmers shall be identified, and farmers shall be helped to understand and exchange the cheaper, viable and reliable technologies in their areas.

Keywords: Indigenous knowledge, Traditional Seed germination, Pest management, Seed storage
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Indigenous technical knowledge (ITK) is the knowledge that people in given community have developed. It is based on experience, often tested over long period of use, adapted to local culture and environment, dynamic, changing and lay emphasis on minimizing risk rather than maximizing profits. Knowledge, skill and survival strategy of farmers operating with low external inputs have often ignored to promote modern agriculture[1]. Farmers-based indigenous/traditional knowledge has scientific rational and great deal of relevance for agricultural productivity and sustainability. Indigenous knowledge is found to be socially desirable, economically, affordable, sustainable and involves minimum risk and rural farmers and producers. The failure of modern chemical farming to deliver prosperity to agriculture communities; increase in pest attack of crops, deteoration of soil and water resources ,cost to human and animal health has forced scientists to examine whether traditional practices of farmers have any answers to the problems of modern agriculture. Thus, the study was conducted to identify the Indigenous technical knowledge in paddy cultivation in Dharsiva block of Raipur district of Chhattisgarh.

Methodology

Based on the objectives of the study, an ex-post facto research design was adopted for the study. The study was conducted in Raipur district of Chhattisgarh state. Dharsiva block was selected purposively because paddy is the main crop being cultivated there. The block consists of 118 villages. Six villages, Serikhedi, Dharampura, Matiya, Mohdi, Tarrra, and Jaroda were selected from the entire block by random sampling method. Twenty farm families were selected randomly thus making the total respondents 120. First hand information was collected from the respondents by interview method.

Results and discussion

Indigenous technical knowledge is possessed by the farmers and passed on from generation to generation. Many of the modern agriculture practices based on indigenous agriculture practices are prevailing in the farming community. The ITK may vary from region to region based on farmer's need[2]. It was found in all the six villages, respondents were making use of the indigenous knowledge for the seed selection. Farmers take 21 seeds, tie them in a cloth and dip the cloth in water over-night. Next day they bury it under soil for 2-3days for germination. After 2-3 days, if all the 21 seeds germinate, it is supposed to be the best for sowing. If 1-2 seeds do not germinate, still it is good but if 4-5 seeds do not germinate then it is not good for sowing. Another method for seed selection is the cleaning of the seed with the help of *supa*. In three villages, Dharampura, Tarra and Serikhedi, farmers had developed various means for protecting the rice crop from insect/pests. To save the paddy crop from the attack of Insect/pests in the field, farmers mix kerosene

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oil with cow dung and straw. Small pellets are made out of this mix and spread in the field[3]. Another ITK used for preventing the crop from pests in the field is to mix the *Mahua* leaves with kerosene oil and cow dung. After making the pellets out of this mixture, these are placed in the paddy field. Farmers were found to store the grains in a structure, called *Kothi* made of mud. The size of the *Khoti* depends upon the amount of the produce[4]. In Tarra village, respondents cleaned the *Kothi* and sprinkled it with salt water before storing the seeds in it. After sprinkling the water, it is allowed to dry and then paddy grains are kept inside it. Jute bags are placed over the stored grains. A paste of dung and ash is prepared and applied on the top of jute bags so as to seal the *Kothi* and thereby preventing the entry of the pests inside it. In Serikhedi village, respondent farmers were making use of neem leaves and dried peel of bitter gourd to protect the paddy grains while storing them in the *Kothis*. Some of the farmers found the ash (obtained from the blacksmith's shop) quite effective in preventing the stored grains from the insect /pest attack.

Conclusion

The farmers in the study area make use of improved rice production technology but at the same time they apply their rich traditional knowledge in paddy cultivation. Farmers find the ITKs used by them very beneficial but for enhancing the authenticity of the same and make this knowledge scientifically rational, it becomes necessary to validate the knowledge scientifically. ITKS are cheaper and locally available. Thus, it can be concluded that Indigenous technical knowledge possessed by the farmers shall be identified and given due importance and recognition.

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