

Review Form 1.6

Journal Name:	International Journal of Plant & Soil Science
Manuscript Number:	Ms_IJPSS_87325
Title of the Manuscript:	Performance of Submergence Tolerant Shallow Lowland Rice Variety Swarna sub-1 under Frontline Demonstrations in East and South Eastern Coastal Plain Zone of Odisha, India
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>The authors proceeded from the need to provide food for the growing population of the country. In fact, the main product in India is rice, which is grown on an area of 43 million hectares. The harvest exceeds 112 million tons of rice with a yield of 2.6 t/ha. Consequently, increasing productivity and meeting the growing demand for food with minimal environmental impact has become a challenge for farmers and scientists. Odisha is one of the largest rice producing states in East India, but the state's average rice yield is lower than the national average. Most of this crop is grown on small plots of land under environmental conditions with varying management practices and constraints such as drought and floods affecting rice yields and the need for additional nutrients. It also requires adaptation to natural conditions. A scientific study was carried out as part of the University Extension Program of the Odisha Agricultural and Technological University. This program in the flood-prone and shallow low-lying areas of the eastern and southeastern coastal plains of the state of Odisha aimed to promote/introduce the stress-tolerant variety Swara.35. In local control plots, farmers followed the existing practice of transplanting Swarna rice. A complete package of practices demonstrated in agricultural fields, including improved variety, recommended seeding rate, seed treatment, seeding method, fertilizer dosage, weed control and plant protection, are classified and processed using scientific tools. During the rice growing season, various educational activities such as farmer education, diagnostic tours, soil health day, field days, etc. were held. These activities benefited the farmers of the area. The result showed that the average yield of rice through FLD over three years was 45.68 c/ha-1 in the demonstration plots compared to 37.84 c/ha-1 in the practice plots. This result clearly showed that the higher average return on demonstration plots over the years, compared to farmers' practices, has been associated with the knowledge and implementation of improved methods. Yield increases due to improved methods ranged from 12.0 to 30.9 percent compared to farmers' practices. The cost-benefit ratio (B : C ratio) for rice cultivation using improved methods was found to be 1.42, 1.60 and 1.80 compared to 1.31, 1.38 and 1.39 for the management methods. Agriculture. The study showed that the increase in net profit compared to the practice of farmers ranged from 39.99 to 105.88 percent. The improved practice showed a maximum net profit increase of 105.88 percent compared to farmers' practice in the 2018 Kharif season. Based on three years of demonstrations, it is concluded that the yield potential of a rice variety under stress conditions has increased significantly due to the introduction of proven technology demonstrations. The work was performed using modern techniques and complies with international practice. The authors provide evidence base, draw conclusions. I consider relevant and timely the proposals of the authors of the manuscript to support farmers, in particular: - it is recommended to promote improved methods to reduce the technology gap, knowledge gap, technology index and yield gap in order to increase farmers' incomes; - I note the high importance for the farmers participating in the demonstrations to support UEBP scientists in acquiring new competencies in field work, such as timely planting seedlings in the garden, transplanting seedlings, spraying with herbicides and insecticides, harvesting; - Relevant for science and practice are activities to disseminate knowledge, such as training farmers, diagnostic trips, soil health day, field days, etc.</p>	
Minor REVISION comments		
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

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