

Variety of Rice Hybrids for Sustainable Production

Balaram M*

Department of Hybrid Breeding, Senior Scientist, Acharya N.G. Ranga Agricultural University, India

Introduction

Rice is the most important staple food grain crop of the world which constitutes the principle food for about 60 per cent of the world's population. In India, rice cultivation contributes to the total food grain production by 43 per cent and to the total cereal grains production by 46 per cent. The Asia Pacific region produces and consumes more than 90 per cent of the world's rice. Rice based production system provides the income and employment for more than 50 million households [1]. Therefore rice is not only a staple food of the region but also a way of life. There is an urgent need to adopt some innovative technologies to break the yield ceiling in rice. Among the available technological options to enhance rice production and productivity, hybrid rice is the most practically feasible and readily adoptable technology. Potential of this technology in boosting rice production has been well demonstrated in the peoples, Republic of China during last three decades [2]. In 1976 first rice hybrid was released for general cultivation in China.

Discussion

In China hybrid rice cultivated about 55 per cent of rice growing area with 66 per cent of the total rice grain production. Rice is cultivated on about 163.1 million hectares area with total production of 722.56 million tonnes with average productivity of 4.4 tonnes ha⁻¹ at world level. India is the world's second largest rice producer and consumer next to China. Total area under rice in India was 44.11 million hectares with annual production of 108.50 million tonnes during 2015 (Anonymous, 2015). In Maharashtra, area under rice is 15.51 lakh ha with 29.46 lakh tonnes production. Average productivity of rice is 2.13 tonnes ha⁻¹ in India and 1.68 tonnes ha⁻¹ in Maharashtra, which are far below the world's average of 4.4 tonnes ha⁻¹ [3]. The major rice growing districts in Maharashtra are Thane, Raigad, Ratnagiri, and Sindhudurg along with the west coast and Bhandara and Chandrapur in the eastern parts of the states. Rice is also grown in minor areas of Tuljapur, Parbhani, Western Ghat of Pune, Satara, and Kolhapur. In Konkan, rice is cultivated over an area of 4.20 lakh hectares with an annual

production of about 10.73 lakh tones with average productivity of 2.40 tonnes ha⁻¹. Rice based agriculture is the largest source of livelihood of majority of rural mass in Konkan, about 80 per cent of rice crop is a low land, spreading over a 40-60 km in width and stretching to a length of 700 km all along the west-coast. But the yields are highly variable due to aberration in weather like late onset of monsoon, heavy continuous rains, intermittent dry spell and heavy rains at the time of harvesting, etc. continuous adoption of puddling and transplanting for rice cultivation has been reported decline soil and crop productivity [4]. The present production level of rice needs to be increased in order to meet the ever growing population pressure on the land to reach self-sufficiency in food grain production in the country. Since there is little scope for expanding the rice area, it is necessary to increase the rice productivity from unit land area. Therefore, hybrid rice is practically feasible and readily adaptable genetic option to increase the rice productivity. The rice hybrids perform well under well managed conditions and have higher yield potential [5].

Conclusion

Hybrid rice cultivation is recommended in situations where yield levels have reached a plateau and further increase in yield are not possible through conventional varieties.

References

1. Virmani SS, Ahmed I (2008). Rice breeding for sustainable production. John Wiley & Sons US: 141-456.
2. Rout D, Jena D, Singh V, Ahlavat MK, Arsode P, et al. (2020). Hybrid Rice research: current status and prospects. BOD EU: 23-258.
3. Nadir S, Xiong HB, Zhu Q, Zhang XL, Xu HY, et al. (2017). Weedy rice in sustainable rice production. A review. Agron Sustain Dev NY 37:1-46.
4. Papademetriou MK (2000). Rice production in the Asia-Pacific region: issues and perspectives. FAO UN: 4-229.
5. Bhuiyan MSH, Zahan A, Khatun H, Iqbal M (2014). Yield performance of newly developed test crossed hybrid rice variety. IJAAR EG 5:48-54.

***Corresponding author:** Gaballah Md, Department of Rice Breeding and genetics, Senior Researcher Rice Research and Training Center, Field Crops Research Institute, Agricultural Research Center, 33717, Sakha, Kafr Elsheikh, Egypt, Tel: 02047225099, E-mail: m.m.gaballah@gmail.com

Received: 24-Feb-2022, Manuscript No. rroa-22-57847; **Editor assigned:** 25-Feb-2022, PreQC No. rroa-22-57847(PQ); **Reviewed:** 11-Mar-2022, QC No. rroa-22-57847; **Revised:** 16-Mar-2022, Manuscript No. rroa-22-57847 (R); **Published:** 21-Mar-2022, DOI: 10.4172/2375-4338.1000293

Citation: Balaram M (2022) Variety of Rice Hybrids for Sustainable Production. J Rice Res 10: 293.

Copyright: © 2022 Balaram M. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.