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Agronomic Assessment of Different Rice Hybrids for Sustainable Production through Agronomic Manipulation Under High Rainfall Conditions of Konkan

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Two years research experiment was conducted during *Kharif* season of 2015 and 2016 to investigate the, "Agronomic assessment of different rice hybrids for sustainable production through agronomic manipulation under high rainfall conditions of *Konkan*" at Agronomy Farm, College of Agriculture, Dapoli, Dist. Ratnagiri (M.S.). The field experiment was laid out in split-split plot design comprising 48 treatment combinations replicated thrice. Main plot treatment consisted of four sowing times *viz.*, 23rd metrological week (4th to 10th June) (S_1), 25th metrological week (18th to 24th June) (S_2), 27th metrological week (2nd to 8th July) (S_3) and 29th metrological week (16th to 22th July) (S_4). The sub plot treatment consisted of four rice hybrids *i.e.* Sahyadri (H_1), Sahyadri 3 (H_2), Suruchi 5401 (H_3) and PA 6444 (H_4) while, sub-sub plot treatment comprised of three age of seedling, *viz.*, 15 days after sowing (A_1), 30 days after sowing (A_2) and 45 days after sowing (A_3). The growth characters of rice *viz.*, mean plant height, number of functional leaves hill^{-1}, number of tillers hill^{-1}, dry matter accumulation hill^{-1} yield attributes and yields were significantly enhanced due to sowing during 23rd meteorological week over 25th, 27th and 29thmeteorological week in that descending order of significance. Significantly more growth, yield attributes and yield of rice was recorded in the hybrid Sahyadri 3 (H_2) which were at par with hybrid PA 6444 (H_4) and recorded significantly superior growth parameter over rest of hybrids at all stages of crop growth during both the years of investigation and transplanted with 15

days old seedling recorded more growth and yield during both years of study. 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. In 1976 first rice hybrid was released for general cultivation in China. 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 (Anonymous 2016). 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 lakhs ha with 29.46 lakhs tonnes production. Average productivity of rice is 2.13 tones ha^{-1} in India and 1.68 tones ha^{-1} in Maharashtra, which are far below the world's average of 4.4 tonnes ha^{-1}. 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.

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