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Produktivitas Genotipa Padi Gogo Adaptif Naungan pada Kondisi Digenangi dan Kering

Productivity of Shade Tolerant Upland Rice Genotypes under Flood and Dry Cultivation

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ABSTRACT

Increase in utilization of upland rice tolerant to shade under plantation and commercial timber canopy, demands significant amount of seed become critical. The objective of this research was to study the productivity of shade-tolerant upland rice genotypes under flooded and dried cultivation. Research was conducted in the greenhouse of the Department of Agronomy, IPB, Bogor from September 1998 to March 1999. Random Complete Block (RCB) Design with two factors i.e. flood-dry and 12 genotypes of upland rice, namely Jatiluhur, Dodokan, TB165E-TB-6, TB13G-TB-2, ITA247, B7291D-SM-12, B6926F-TB-1, B9484-F-TB-3, B9266F-PN-7-MR-2-PN-4, TB177E-TB-30-B-2, B149F-MR-7, and TB35H-MR-3 was used. Genotypes were cultivated in plastic pots containing 10 kg media mix of soil and manure 9:1. Dry cultivation was performed with a two-day interval of watering; while flooding was done as in sawah field. Other maintenance such as weeding and fertilization were applied as in sawah cultivation. Treatments were replicated three times with two pots in each replicate. The result showed that flooding increased the number of tiller by 20% for the genotype B7291D-SM-12 (V_6), B9484-F-TB-3 (V_8), B9266F-PN-7-MR-2-PN-4 V_9), B149F-MR-7 (V_{11}), and TB35H-MR-3 (V_{12}); increased biomass of top part 31.29 ±29.02 % and roots 187.91±74.16% for genotype TB13G-TB-2 (V_4), ITA247 (V_5), B6926F-TB-1 (V-), B9484-F-TB-3 (V_8), B9266F-PN-7-MR-2-PN-4 (V_9), and TB177E-TB-30-B-2 (V_{10}); decreased the shoot root ratio by 53.10±9.70%; affected the number of productive tiller and the number of panicle 18.47 ± 51.04%; and increased the productivity up to 111.34 ± 123.19%. Based on a cluster analysis, three groups were proposed. A first group suitable for flooding were Jatiluhur (V_1), TB165E-TB-6 (V_3), ITA247 (V_5), B6926F-TB-1 (V-), B9484-F-TB-3 (V_8), B9266F-PN-7-MR-2-PN-4 (V_9), and TB177E-TB-30-B-2 (V_{10}). A second group not suitable for flooding were Dodokan (V_2), B7291D-SM-12 (V_6), B149F-MR-7 (V_{11}), and TB35H-MR-3 (V_{12}). A moderate genotype, TB13G-TB-2 (V_4), performed well in both cultivation methods was in the third group.

Key words : Shading, upland rice, Flooding, Dry, Productivity

PENDAHULUAN

Penanaman padi gogo sebagai tanaman sela pada gawangan tanaman perkebunan maupun hutan tanaman industri telah menjadi salah satu kegiatan rutin sebagai wujud kepedulian sosial kepada masyarakat sekitar kawasan lokasi, terutama pada saat tanaman belum menghasilkan baik pada pertanaman baru maupun peremajaan. Penyediaan benih yang saat ini dilakukan untuk memenuhi kebutuhan tersebut adalah dengan menyisihkan sebagian hasil dari pertanaman sebelumnya. Produksi padi gogo untuk penyediaan benih melalui cara tersebut sangat dipengaruhi oleh kondisi lingkungan. Ellis *et al.* (1993) dan Rao dan Jackson (1996) menyatakan bahwa produktivitas padi gogo dipengaruhi oleh kelembaban dimana pada kondisi lembab produktivitas akan lebih tinggi dibandingkan dengan lingkungan yang lebih panas atau kering. Hal tersebut dikarenakan adanya perbedaan dalam akumulasi bahan kering, waktu berbunga, waktu panen, dan kandungan air biji saat panen. Webster dan Gunnell (1996) menambahkan bahwa status air nyata mempengaruhi jumlah anakan, pemanjangan ruas, dan pengisian biji. Status air juga mempengaruhi pembentukan anakan (Tsai dan Lai, 1990), pertumbuhan akar (Mawaki *et al.*, 1990), dan penyerapan mineral (Marschner, 1995).

Berdasarkan pengalaman petani, penyediaan benih padi gogo dapat dilakukan melalui penanaman di sawah. Namun demikian, Yamauchi *et al.* (1993) menyatakan

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