

RINGKASAN

Padi ketan lusi merupakan varietas unggul yang memiliki tren konsumsi yang meningkat.. Jenis padi ini dapat di budidayakan di lahan subur hingga ekstrem tergenang. Namun, keterbatasan lahan subur menjadi tantangan dalam budidaya padi ketan lusi, sehingga pengembangan di lahan marginal menjadi alternatif yang potensial. Penelitian bertujuan untuk menganalisis efisiensi air dan produktivitas padi ketan varietas lusi di lahan marginal. Luas lahan marginal di Indonesia mencapai 157.246.565 hektar. Namun, potensi lahan yang bisa dimanfaatkan untuk pertanian baru 91.904.643 hektar, atau sekitar 58,4 % saja.

Penelitian dilakukan di lahan marginal Laboratorium Agronomi Fakultas Pertanian. Terletak Desa Kedungrandu, Kecamatan Patikraja, Kabupaten Banyumas. Menggunakan rancangan acak lengkap (RAL) faktorial 2×2, yaitu metode irigasi (konvensional dan *alternate wetting and drying*/AWD) dan jarak tanam (20 cm × 20 cm dan 30 cm × 30 cm) dengan tiga ulangan. Parameter yang diamati meliputi anakan produktif, berat gabah basah dan kering, gabah per malai, bobot 100 butir gabah, dan produktivitas. Data dianalisis menggunakan ANOVA dan uji lanjutan *Duncan's Multiple Range Test* (DMRT) pada taraf 5%.

Hasil penelitian menunjukkan bahwa perlakuan kombinasi metode irigasi AWD dan jarak tanam 30 cm × 30 cm (P2J2) memberikan hasil produktivitas terbaik dibandingkan perlakuan lainnya. Perlakuan P2J2 menghasilkan jumlah rerata anakan produktif sebanyak 15,59 batang, rerata berat basah sebesar 15,07 gram, rerata berat kering sebesar 14,39 gram, jumlah rerata gabah per malai sebanyak 98,27 butir, rerata berat 100 butir gabah sebesar 2,68 gram dan rerata produktivitas 2,84 ton/ha. Penerapan metode *Alternate Wetting and Drying* (AWD) dengan jarak tanam 30 cm × 30 cm menunjukkan potensi sebagai strategi budidaya berkelanjutan dalam meningkatkan produktivitas padi ketan varietas Lusi pada lahan marginal.

SUMMARY

Lusi glutinous rice is a superior variety with an increasing consumption trend. This type of rice can be cultivated in fertile land as well as in areas with extreme inundation conditions. However, the limited availability of fertile land poses a challenge for the cultivation of Lusi glutinous rice, making the development of marginal land a potential alternative. This study aimed to analyze water use efficiency and productivity of Lusi glutinous rice cultivated on marginal land. The total area of marginal land in Indonesia reaches 157,246,565 hectares, yet only 91,904,643 hectares (approximately 58.4%) are potentially suitable for agricultural utilization.

The research was conducted on marginal land at the Agronomy Laboratory, Faculty of Agriculture, located in Kedungrandu Village, Patikraja District, Banyumas Regency. The study used a 2×2 factorial Completely Randomized Design (CRD) was employed, consisting of irrigation methods (conventional and Alternate Wetting and Drying/AWD) and planting spacing (20 cm $\times$ 20 cm and 30 cm $\times$ 30 cm), with three replications. The observed parameters included productive tillers, fresh grain weight, dry grain weight, number of grains per panicle, 100-grain weight, and overall productivity. Data were analyzed using analysis of variance (ANOVA), followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level.

The results indicated that the combination treatment of AWD irrigation and 30 cm $\times$ 30 cm planting spacing (P2J2) produced the highest productivity compared to other treatments. The P2J2 treatment resulted in an average of 15.59 productive tillers, a mean fresh grain weight of 15.07 g, a mean dry grain weight of 14.39 g, an average of 98.27 grains per panicle, a mean 100-grain weight of 2.68 g, and an average productivity of 2.84 tons per hectare. The implementation of the Alternate Wetting and Drying (AWD) method combined with 30 cm $\times$ 30 cm spacing demonstrates potential as a sustainable cultivation strategy to improve the productivity of Lusi glutinous rice on marginal land.