INTISARI

Suatu kajian telah dilaksanakan untuk meneliti peranan rhizobakteri osmotoleran pada pertumbuhan padi varietas Cirata di lahan pantai pada kondisi cekaman kekeringan. Percobaan dilaksanakan pada kondisi kekeringan terkendali dalam rumah kaca dan di lapangan.

Percobaan di rumah kaca dilaksanakan dalam pot dengan medium tanah pasir pantai steril dan non steril. Padi ditanam pada kondisi lengas 80 % dan 40 % kapasitas lapangan dan diinokulasi dengan rhizobakteri osmotoleran. Perlakuan inokulasi diuji meliputi : (1) isolat A-82, (2) Al-19, (3) campuran A-82 dan Al-19, dan kontrol (tanpa inokulasi).

Pada kondisi lapangan, padi ditanam pada lahan pantai di Pantai Bugel, Kulon Progo. Perlakuan inokulasi sama dengan percobaan di rumah kaca. Tanaman padi disiram dengan interval penyiraman tiap hari dan selang sehari.

Hasil percobaan rumah kaca menunjukkan bahwa secara umum, inokulasi rhizobakteri osmotoleran mampu memperbaiki pertumbuhan padi hingga fase vegetatif maksimum. Hasil padi tidak mampu dipengaruhi secara signifikan oleh inokulasi rhizobakteri. Disebutkan pula bahwa inokulasi dengan rhizobakteri osmotoleran cenderung memperpanjang fase pertumbuhan, tetapi memperpendek periode pembungaan.

Pada kondisi lapangan, hasil percobaan menunjukkan hal yang sama bahwa inokulasi dengan rhizobakteri osmotoleran mampu memperbaiki pertumbuhan padi varietas Cirata. Inokulasi juga memperbaiki hasil padi yang sama dengan hasil tanaman padi tanpa inokulasi.

ABSTRACT

A Study has been conducted to investigate the role of osmotolerant rhizobacteria on the growth performance of rice (Cirata variety) under drought stress on coastal land. The experiment was performed under controlled drought condition in green house as well as under field condition.

The green house experiment was conducted in pot filled with sterilised and non-sterilised coastal soil. Rice was planted under 80 % and 40 % of field capacity and inoculated with osmotolerant rhizobacterial isolates. Inoculation treatments were performed using the following isolates : (1) A-82, (2) Al-19, (3) mixture of A-82 and Al-19, and (4) Control (uninoculated).

Under field condition, the rice was planted on coastal land of Bugel Beach, Kulon Progo. The inoculation treatments were similar to green house experiment. Rice was irrigated based on : (1) daily irrigation, and (2) a two day irrigation period.

The result of green house experiment demonstrated that, in general, osmotolerant rhizobacteria inoculation improve the growth performance of rice up to maximum vegetative growth phase. The grain yield, however, was found not significantly affected by inoculation treatment. It was also observed that inoculation using osmotolerant rhizobacteria demonstrated tendency to lengthen the growth phase, but shortened the flowering period.

Under field condition, it was similarly observed that inoculation using osmotolerant rhizobacteria also improved the growth performance of rice. Inoculation was also found to improve the grain yield as compared to non-inoculated.