ABSTRACT

The research purpose to study the effect of treatment matriconditioning plus inoculant on plant growth, yield and quality of seed of black soybean held in the greenhouse Balitkabi Malang and Experiment Garden IPB Bogor. The study was conducted two phases, 1. Rhizobium compatibility of black soybean and 2. Matriconditioning treatment to improve the efficiency of Rhizobium on growth, yield and quality of seeds of soybean black. The first study using two-factor treatments (Factor A: two levels of varieties, and factor B: the five levels of Rhizobium inoculation treatments) arranged in randomized complete block design of four replications. The second study consisted of factor A (two levels varieties) and factor B (four levels of treatment matriconditioning) using a split plot design of four replications. The results showed that Rhizobium inoculant is more compatible to Detam 1 compared Detam 2. The treatment of matriconditioning plus Rhizobium inoculant using rice husk charcoal for 12 hours can increase the natural rhizobium population by 15-fold, increase N content of plant up to 17.9% compared to regular inoculation and 28% compared with no treatment and increase the chlorophyll content of leaves up to 7.8-fold compared with no treatment. Inoculation is performed in matriconditioning can increase Rhizobium infectivity by 17% compared to the normal way, but no effect on the black soybean seed yield and quality of seeds produced.

Key words: black soybean, invigoration, matriconditioning, Rhizobium