Hubungan aktivitas nitrat reduktase pada beberapa fase pertumbuhan dengan komponen hasil dan hasil tanaman kedelai

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Abstrak

The study was aimed to determine a proper time of measuring soybean nitrate reductase activities, and to what extend direct and indirect effect of those traits to the soybean yield and its component.
The experiment was arranged in Randomized Completely Block Design with three blocks as replications. Six soybean varieties: Burangrang, Wilis, Tanggamus, Cikuray, Mallika, and Gamallika were used. In-vivo nitrate reductase activities were measured at seedling stage (14 dap), when root nodule start to be active (25 dap), maximum growth stage (34 dap), flowering stage (42 dap), and grain filling period (63 dap). Correlation and path analysis was applied to the data collected to determine direct and indirect effect of nitrate reductase activity, growth and yield components to the soybean yield.
The results showed that the proper time of measuring nitrate reductase activity was at 42 dap (flowering stage). Large direct effect to grain yield per plant was indicated by seed number per plant, total dry weight, 3-seeded pods per plant and nitrate reductase activity total leaf fresh weight at 42 dap; meanwhile, number of filled pods per plant, number of branch per plant, and number of productive node per plant had a negative direct effect but the indirect effect was larger through seed number. It indicated that the seed number per plant, total dry weight, 3-seeded pods per plant and nitrate reductase activity total leaf fresh weight at 42 dap may be used for soybean yield selection.