ABSTRACT

Soybean is one of the important food commodities in Indonesia. The effect of shading on besides reducing the sunlight that arrives at the surface, it can also affect the microclimate of the plants. Soybean crop production can be increased by improving cultivation techniques through the use of superior varieties. The purpose of this study was to determine the effect of shade on several genotypes of soybean plants, so as to obtain soybean genotypes that are able to produce high yields and are able to adapt to a shaded environment. This research was conducted in Paloh Lada Village, Dewantara District, North Aceh Regency and Agroecotechnology Laboratory, Faculty of Agriculture, Malikussaleh University. This research was conducted from June to September 2024. This study used the method of Split Plots Design arranged in a Randomized Group Design. The main plot factor is the treatment of shade level consisting of 3 types of treatment namely: (N_0) No shade, (N_1) 50% shade, (N_2) 75% shade. The subplot factor is the plant genotype, namely: (G_1) Anjasmoro variety, (G_2) Grobogan variety, (G_3) M.1.1.3 line. The level of shading singularly affects the growth and yield of soybean plants on the observation variables of plant height, number of leaves 2 MST, leaf chlorophyll, harvest age, number of filled pods, dry seed weight per plant, stomatal length, stomatal width, number of upper stomata and production tons/ha. The best treatment was no shade (N_0) and single treatment of soybean genotypes affected the variables of plant height, number of tillers 4 weeks after planting, leaf area, leaf chlorophyll, flowering age, harvesting age, number of productive branches, number of root nodules, number of filled pods, weight of 100 seeds per plant, length of upper stomata, width of lower stomata, number of upper stomata and production tons/ha. The best treatment was Anjasmoro variety (G_1). There was an interaction between the treatment of shade level and genotype of soybean plants.

Keywords: Anjasmoro variety, leaf stomata, shading