ABSTRACT

THE EFFECT OF APPLICATION TIME AND DOSAGE OF NPK COMPOUND FERTILIZER ON GROWTH AND YIELD SOYBEAN GROBOGAN VARIETY

By

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The objective of this research was to study the effect of timing application and dosage of NPK compound fertilizer on growth and yield of soybean Variety Grobogan. The experiment was conducted in experimental plot, Faculty of Agricultural, Lampung University from October 2011 until January 2012. The treatment design was arranged in factorial design (3x5) on randomized complete design with 3 replication. The first factor was fertilizer application time (t) consisted of 1 week after planting (WAP) (t₁), 1 WAP and 3 WAP (t₂), 1 WAP, 3 WAP, and at full flowering (50% soybean crops in the experimental plot were flowering) (t₃). The second factor was NPK dosage (p) consisted of 100 kg/ha (p₁); 150 kg/ha (p₂); 200 kg/ha (p₃); 250 kg/ha (p₄); and 300 kg/ha (p₅). Data was analyzed by anova and continued by orthogonal comparison and orthogonal polynomial on α 0,05 and 0,01.

The result of this research showed that (1) the twice and third application of NPK compound fertilizer were better than once application on variables total legume number, fill legume number, grain weight per plot harvest, and soybean production (t/ha) with each difference amounting to 5,29 %, 5,51 %, 6,08 %, and 6,21 % meanwhile for the other observation variables were not different. Twice and third application of NPK compound fertilizer were not different on all observation variables, (2) the response in growth and yield of soybean Variety Grobogan increased with increasing dosage of NPK up to 300 kg/ha on all observation variables, except the variable weights 100 grain soybean, and (3) the response in growth and yield of soybean Variety Grobogan to increasing dosage of NPK compound fertilizer was independent on the application time of NPK compound fertilizer that was applied.

Key words: dosage, soybean, application time, and NPK compound fertilizer.