THE EFFECT OF FERTILIZER LEVELS AND TRANSPLANTING DENSITIES ON GROWTH AND GRAIN YIELD OF DCG66 RICE VARIETY COMPARING TO KHANG DAN 18 VARIETY IN GIA LAM, HANOI

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Summary

The field experiment with 3 factors (rice variety, N: P_2O_5: K_2O combination and transplanting density) arranged split-split-plot design was conducted in summer season 2017 and spring season 2018 at Gia Lam, Ha Noi to evaluate the effect of three NPK levels (kg/ha) with N1 (90 N: 90 P_2O_5: 70 K_2O), N2 (110 N:110 P_2O_5:85 K_2O), N3 (130 N: 130 P_2O_5: 100 K_2O) and three transplanting densities: M1 (50 clump m^{-2}), M2 (40 clump m^{-2}), M3 (33 clump m^{-2}) to growth and yield of DCG66 rice variety as compare to KD18. The results showed that if increasing fertilizer from N1 to N2 level, SPAD index at maturing stage, crop growth rate (CGR), number of spikelet per panicle increased, but increasing fertilizer level from N2 to N3 these parameters did not increase significantly at both seasons. Decreasing transplanting density from M1 to M3, SPAD index, number of primary branch, number of spikelet per panicle tended to be increased, whereas canopy index decreased. However, at high density transplanting levels (M1) the number of panicle per square meter and CGR was significant difference to that of M2 and M3 level. Grain yield of DCG66 was 4.4-6.7% higher than that of KD18 in both season. Overall N2 fertilizer level (110 N: 110 P_2O_5: 85 K_2O kg/ha) combined with M2 density (40 clump m^{-2}) gave the highest grain yield of DCG66 with 69.7 quintal ha^{-1} and 71.0 quintal ha^{-1} in summer 2017 and spring 2018 season, respectively, significant difference to other treatments of DCG66 and KD18.

Keywords: *Canopy index, DCG66 rice variety, fertilizer levels, grain yield, transplanting density levels.*