

# **EFFECT OF ORGANIC FERTILIZER DOSES AND SPRAYED LEVELS OF HB101 ORGANIC SOLUTION ON GROWTH AND YIELD OF BH9 RICE VARIETY**

**Nguyen Thi Loan, Tran Thi Hong Hanh**

## **Summary**

Organic agriculture, including organic rice cultivation, has become increasingly popular as a result of consumer demand. To determine the suitable used rates of organic inputs, the 2 – factorial field experiment was conducted in summer season 2017 and spring season 2018 at Hong Thai – Kien Xuong – Thai Binh on BH9 rice variety. Two factors used in experiment were organic fertilizer rates with three levels: 0 ton/ ha – 4 tons/ ha – 6 tons/ ha in summer season 2017 and 0 ton/ha – 6 tons/ha – 8 tons/ha in spring season 2018; and sprayed level of HB101 organic solution with four levels: 0 ml/ litre of water – 0.15 ml/ litre of water – 0.25 ml/ litre of water – 0.35 ml/ litre of water (0 – 3 – 5 – 7 drops/ litre of water). Experimental results showed that, application of organic fertilizer and solution HB101 dramatically affected total tiller number, effective tiller number, LAI index, yield components and grain yield of rice. Increasing the used level of two experimental factors significantly increased all measured parameters. There was no influence with pest infection between treatments, all treatments were slightly infested, however there was no effect on grain yield. The highest grain yield in summer season 2017 was reached under combination of organic fertilizer formula of 6 tons/ha and sprayed level of 5 drops/ litre of water of solution HB101 (3.03 tons/ha) and in spring season 2018 was reached under combination of organic fertilizer formula of 8 tons/ha and 3 drops/ litre of water of solution HB101/litre of water (4.08 tons/ha). Application of organic fertilizer led to increase the soil quality indicators (pH, organic matter OM, available nitrogen – phosphorus – potassium contents, exchangeable  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  contents) compared to formula of non – fertilization.

**Keywords:** *Organic fertilizer rate, organic solution HB101, rice, grain yield, soil quality indicators.*