

**Fita Khoirul Umah. 2012. The Influence of Applying *Biofertilizer* and Using Different Media on Growth and Productivity of Chili (*Capsicum frutescens* L.) in *Polybag*. This study is under guidance by Drs. Agus Supriyanto, M. Kes. and Dr. Ir. Tini Surtiningsih, DEA. Department of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.**

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### ABSTRACT

This research is aimed at knowing the effect of giving various doses of *biofertilizer*, using growing media, and combining *biofertilizer* and growing media on growth and productivity of chili (*Capsicum frutescens* L.). This research is conducted at the Microbiology Laboratory Faculty of Science and Technology Airlangga University and at the greenhouse of UPT Development of Food Crops and Horticulture Agribusiness in Lebo, Sidoarjo, for six months from February 2012 until July 2012. This research uses factorial design namely 2x5 pattern and with repetition three times. The first factor is the dose of fertilizer (D) consisting of D- : 0 ml dose of *biofertilizer*/ plant, D +: 10 g NPK fertilizer/ plant, D5: 5 ml dose of *biofertilizer*/ plant, D10: 10 ml dose of *biofertilizer*/ plant, and D15: 15 ml dose of *biofertilizer*/ plant. The second factor is the growing media (M) consisting of M1 (soil) and M2 (soil : compost with ratio 1:1). Growth parameter applied is the number of leaves (sheet) and plant height (cm), while the productivity parameter used is the number of fruits (fruit) and fruit weight (g). The data of observation were descriptively analyzed and base on the value of its RAE (*Relative Agronomic Effectiveness*). Based on result of research, *biofertilizer* doses have effect on the growth and productivity of chili, with the highest growth in doses D- and D15 (number of leaves), D+ (plant height), and the highest productivity in dose D10 (number of fruits and fruit weight). Growing media have affects on the growth and productivity of chili, with the highest growth in M1 growing media (number of leaves and plant height), and the highest productivity in M1 growing media (number of fruits and fruit weight). The combination of *biofertilizer* and the media have effect on plant growth and productivity of chili, with the highest growth in combination of *biofertilizer* and the media M1D- (number of leaves), M1D15 (plant height), and the highest productivity in combination of *biofertilizer* and the media M1D+ (number of fruits), M2D10 (fruit weight). Based on value of its RAE, the doses that effective to substitute chemistry fertilizer are D15 on M1 and D10 on M2.

**Key words:** *Capsicum frutescens* L., *Biofertilizer*, growing media, growth, productivity