

## SUMMARY

Chillies are tropical and subtropical plants that have some benefits such as for medicine, flavor, and color of most dishes. Today, market demands for chillies is very high, then the chilli production must follow it. But, there are some problems in chilli production and one of them is wilt disease caused by *Fusarium*.

Vesicular Arbuscular Mycorrhizae (VAM) is an alternative technique to solve this problem. Inoculation of VAM to plants can prevent the attack of *Fusarium* wilt disease. Mycorrhizal fungi have an ability to do competition with *Fusarium oxysporum* such as nutrient competition and colonization competition. Besides, it can also increase the nutrient uptake of plants and make the plants to be more resistant to disease and pathogen.

This research used Completely Randomized Design (CRD) with different dosages of mixed VAM inoculation (0, 10, 15, 20, 25 g of VAM with zeolite carrier /plant). The main parameters observed were incubation period of disease and wilt intensity of disease, while other parameters observed were pH, temperature, room humidity, and degree of infection. Obtained data was analyzed by using Analyses of Variance (ANOVA) and Duncan's Multiple Range Test (DMRT). Based on the result, plants which inoculated by mycorrhizae inoculum is more resistant to *Fusarium* wilt disease. The treatment of M3 (20 g mycorrhizae inoculum/plant) is more effective to reduce the *Fusarium* wilt disease.

Keywords : Chilli, *Fusarium*, VAM.