

ABSTRACT

Maftuhah, Luluk. 2014. **Protein Profile of Soybean Plants (*Glycine Max* (L.) Merrill) infected by CPMMV (*Cowpea mild mottle virus*)**. Thesis. Department of Biology. Faculty of Science and Technology Maulana Malik Ibrahim State Islamic University of Malang. Supervisor of Biology: Dr. Evika Sandi Savitri, MP, Supervisor of Religion: Andik Wijayanto, M. Si

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Cowpea Mild Mottle Virus (CPMMV) is one of many factors which result the decline in stability of the soybean yield in Indonesia. Due to CPMMV infection, soybean productivity may decrease to 90% depending on the age when the plant is infected, the virus strain and environmental conditions. To overcome the toxicity of the disease, the plant secretes specific protein as a defend system. This study aimed to determine the differences of protein profiles between normal and infected CPMMV soybean plants, and to determine the difference of protein profiles between resistant and susceptible to CPMMV soybean plants.

This research was a descriptive qualitative research. The sample used is the leaves of soybean plants persist on CPMMV is Tanggamus and Willis varieties, and susceptible to CPMMV soybean varieties is Anjasmoro and Argomulyo which were 17 days after planting. The Stages of research involve planting soybeans, inoculating CPMMV, isolating soybean protein and analyzing protein profile performed through SDS-PAGE electrophoresis method. Identification of the characteristic of protein band profile is established with zimogram.

SDS-PAGE electrophoresis results showed that the profiles of normal soybean and infected CPMMV soybean are different. In infected conditions, there are several proteins that are lost or found to be thinner than normal conditions, the protein with a molecular weight (MW) of 96 kDa, 94 kDa, 23 kDa, 17 kDa, 12-13 kDa and 9-10 kDa. And, a new protein found in infected CPMMV conditions, the protein with MW of 99 kDa and 70 kDa. Meanwhile the differences of protein profiles between resistant soybean and susceptible to CPMMV soybean are visible on the MW of 36 kDa protein found thicker in varieties of resistant soybean plants than that of susceptible CPMMV varieties.