

SUMMARY

NUR AULIANI LESTARININGRUM. 0610460026-46. Pest and Diseases on Dragon Fruit's Plant (*Hylocereus* sp.) in Sabila Farm Yogyakarta. Supervised by Ir. Abdul Cholil and Dr. Ir. Retno Dyah Puspitarini, MS.

Dragon fruit plant is a crop that have several advantages for human such as medical and equipment offering in the new year celebration of China. This plant has been cultivated in Indonesia because Indonesian climate is suitable for dragon fruit growth. Dragon fruit species which many cultivated in Indonesia are white and red dragon fruit. One of centers of dragon fruit cultivation in Yogyakarta is in Sabila Farm, Pakem sub district.

The aim of this research were to know pests and diseases on two kinds of dragon fruit. This research was done in Sabila Farm garden in Pakem, Sleman Yogyakarta, started from September until November 2010. Pests population obtained from installation of yellow trap, pitfall trap and light trap. Pests population is then calculated based on the number and intensity of attacks. Kind of pathogens obtained by making observations on parts of plants of symptoms followed by a test Koch's postulates. After kind of pathogens was known, intensity of their attack on dragon fruit plant are calculated. The number of population and intensity of pests and diseases in plants of white and red dragon fruit was analyzed by T test level of 5%.

The research found insects on stem and branch, there were *Valanga nigricornis* (Acrididae) and Molusca was *Acatina fulica* (Achatinidae). Insect on fruit were *Drosophila melanogaster* (Drosophilidae), *Formica* sp. (Formicidae), *Planococcus* sp. (Pseudococcidae) and *Diphucephala* sp. (Scarabaeidae).

Statistically, average the population level of *A. fulica* on stems and branches of white dragon fruit plants did not differ significantly than the red dragon fruit plants. Population of *V. nigricornis* only found on stems and branches of white dragon fruit plants (0,25 individuals per plant). T-test results showed that the average population of *Formica* sp. significantly higher on red dragon fruit (34 individuals per plant) than on white dragon fruit (24,63 individuals per plant). The average population of *D. melanogaster* on white dragon fruit was higher than on red dragon fruit 24,25 and 21,38 individual per plant respectively. *Diphucephala* sp. and *Planococcus* sp. only found on white dragon fruit were 0,5 and 0,5 individuals per plant respectively. T test results showed that the average attack intensity of *A. fulica* on stems and branches of red dragon fruit plants was significantly higher than on stems and branches of white dragon fruit plants were 11,88% and 9,38% respectively. While the average attack intensity of *V. nigricornis*, *Formica* sp., *D. melanogaster*, *Planococcus* sp., and *Diphucephala* sp. on white and red dragon fruit were 0%.

Pathogen caused by fungi of *Colletotrichum gloeosporioides* (Glomerellaceae) only found on stem and branches of white dragon fruit plants with average attack intensity was 11,10%. Bacteria *Pseudomonas* sp. was found on stem and branches of white and red dragon fruit plant. T test result showed that the average attack intensity of *Pseudomonas* sp. on stem and branches of red dragon fruit plant was significantly higher (31,25%) than on stem and branches of white dragon fruit plant (18,17%). On white and red dragon fruit weren't found symptoms that caused by fungi or bacteria pathogen.