APPLICATION OF CHARCOAL HUSK LIQUID SMOKE ON EDAMAME

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ABSTRACT

Edamame (*Glycine max* L. Merill) is a legume type of vegetable plant which is an important crop in various countries. Japan has a demand value of 100,000 tons per year. However, Indonesia is only able to meet Japan's demand of 3%. One factor is the level of residue contained. So it is necessary to apply vegetable pesticides, one of which is the use of liquid smoke. The diversity of arthropods on land will also impact the quality and quantity of crop yields. If the abundance of arthropods that act as pests and natural enemies is stable, then the pest is said to be harmless. Based on these problems, a plant-based pesticide is needed that does not kill non-target arthropods, namely by using liquid charcoal husk smoke. This research applied liquid smoke from husk charcoal grade 3, grade 2, and Imidacloprid for positive control. The variety used is ryoko. The research results show that the LC90 test for grade 3 is more toxic with a value of 3%, while grade 2 requires 4%. The compound content of grade 3 is 35, Grade 2 is 17. The total area percentage of grade 3 acids is 68.19%, Phenol 19.36%. the total percent area of grade 2 acid is 14.19%, Phenol 50.90%. Grade 3 and grade 2 do not contain Benzo(a)pyrene. Grade 2 pest populations are lower than grade 3 or Imidacloprid. The population of grade 3 and grade 2 predators is higher than Imidacloprid. Diversity of grade 3, grade 2 and Imidacloprid is in the medium category, the ecosystem is balanced, both species do not have dominance. The weight of grade 2 soybean pods is higher than grade 3 or imidacloprid.