Abstrak

Erwin Hasiholan Panjaitan. "PEMETAAN SEBARAN HAMA PENGGEREK BUAH KOPI (*Hypothenemus hampei* Ferrari) DAN UPAYA MENGATASINYA MELALUI APLIKASI JAMUR ENTOMOPATOGEN *Beauveria bassiana* Balsamo DI LABORATORIUM (Studi Kasus di Sentra Pertanaman Kopi Arabika Kabupaten Humbang Hasundutan)" dengan komisi pembimbing Ibu Ir. Azwana, MP selaku Ketua Pembimbing dan Bapak Ir. H. Gusmeizal, MP selaku Anggota Pembimbing.

Penelitian bertujuan untuk memetakan sebaran hama penggerek buah kopi pada sentra pertanaman kopi arabika di Kabupaten Humbang Hasundutan serta menguji efektifitas penggunaan jamur entomopatogen *Beauveria bassiana* Balsamo dalam mengendalikan Hama Penggerek Buah Kopi (*Hypothenemus hampei* Ferr.*)* yang diperoleh dari beberapa lokasi sentra pertanaman kopi arabika di Kabupaten Humbang Hasundutan.

Pengambilan sampel buah kopi dilakukan pada pertanaman kopi di tiga Kecamatan, yaitu Kecamatan Dolok Sanggul (Desa Aek Lung, Lumban Batu, dan Sihite I), Kecamatan Lintong Ni Huta (Desa Sibutuon Partur, Siharjulu dan Nagasaribu), dan Kecamatan Paranginan (Desa Paranginan Selatan, Desa Lobu Tolong dan Desa Pearung Silali). Untuk uji efektifitas aplikasi jamur *B. bassiana* terhadap hama *H. hampei* diperoleh dari sentra pertanaman kopi dan dilakukan di Laboratorium Agroteknologi Fakultas Pertanian Universitas Medan Area. Penelitian dilaksanakan pada bulan April hingga Juni 2015.

Parameter yang diamati adalah persentase serangan (%) dan populasi hama *H. hampei*, pola sebaran hama, serta persentase mortalitas hama *H. hampei* (%).

Hasil penelitian menunjukkan bahwa rata-rata persentase serangan buah kopi tertinggi terdapat di kecamatan Dolok Sanggul yaitu 13.2 - 14.6 persen diikuti kecamatan Parangian 10.9 - 15.3 persen dan kecamatan Lintong Ni Huta yaitu 11.6 - 14.9 persen. Rata-rata populasi hama *H. hampei* pada buah kopi tertinggi terdapat di kecamatan Paranginan yaitu 146 - 151.5 ekor, kecamatan Dolok Sanggul 98.75 sampai 147.75 ekor dan kecamatan Lintong Ni Huta yaitu 102 - 134.5 ekor. Populasi *H. hampei* terendah terdapat di desa Aek Lung yaitu 98.75 ekor dan tertinggi terdapat di desa Lobu Tolong yaitu 151.5 ekor.

Berdasarkan peta sebaran persentase serangan, Kecamatan Lintong Ni Huta termasuk kategori serangan rendah, Kecamatan Dolok Sanggul dan Paranginan termasuk kategori serangan sedang. Sedangkan populasi hama *H. hampei* Ferrari pada tiga kecamatan tersebut termasuk dalam kategori populasi tinggi. Persentase serangan di desa Lumban Batu (A2), Sibuntuon Partur (B1), Siharjulu (B2), Nagasaribu (B3), Paranginan Selatan (C1) dan Lobu Tolong (C2) termasuk kategori serangan rendah dan desa Aek Lung (A1), Sihite I (A3), dan Pearung Silali (C3) termasuk kategori serangan sedang sedangkan desa Aek Lung (A1) termasuk kategori populasi rendah dan desa lainnya termasuk kategori populasi tinggi.

Aplikasi jamur entomopatogen *Beauveria bassiana* nyata efektif terhadap mortalitas *H. hampei* dibandingkan dengan perlakuan kontrol di Laboratorium.

Kata Kunci : entomopatogen, Persentase serangan, Aplikasi

Abstract

Erwin Hasiholan Panjaitan. "MAPPING DISTRIBUTION of COFFEE BERRY BORER (*Hypothenemus hampei* Ferrari) and EFFORTS ABOUT IT BY APPLICATION of ENTOMOPATHOGENIC FUNGUS *Beauveria bassiana* Balsamo LABORATORY (Case Study at Center of Planting Arabica Coffee Regency of Humbang Hasundutan)" with the supervising commission Ir. Azwana, MP as the Chief Advisor and Mr. Ir. H. Gusmeizal, MP as members of the supervisor.

This research aimed to map out the distribution of Cofee berry borer in the center of plantation arabica coffee in Regency of Humbang Hasundutan and to test the effectiveness of using entomopathogenic fungus *Beauveria bassiana* Balsamo to control pests Cofee Berry Borer (*Hypothenemus hampei* Ferr.) Obtained from a few locations center of planting of Arabica coffee in Regency of Humbang Hasundutan. Sampling of the coffee fruit done on coffee planting in three districts, namely District of Sub Dolok Sanggul (the village of Aek Lung, Lumban Batu, Purba Manalu and Sihite I), District Lintong Ni Huta (the village of Sibutuon Partur, Siharjulu and Nagasaribu), and the District Paranginan (the village of South Paranginan, Lobu Tolong and Pearung Silali). Testing the effectiveness of the application of the fungus *B. bassiana* against pests Hypothenemus hampei obtained from center of coffee planting and done at the Laboratory of Agrotechnology Faculty of Agriculture, University of Medan Area. The experiment was conducted from April to June 2015.

Parameters observed are percentage attacks (%) and pest populations H. hampei Ferrari, distribution patterns of coffee berry borer, and pest mortality percentage of *H. hampei* Ferrari (%).

Research results show that the average percentage of coffee fruit attacks was highest in districts of Dolok Sanggul are 13.2 - 14.6 percent and then Parangian 10.9 - 15.3 percent and Lintong Ni Huta are 11.6 - 14.9 percent. In the higher regions such as South Paranginan Village (1533 m asl) the percentage of the coffee fruit attack is very low at 10.9 percent. The average number of pest populations of *H. hampei* in coffee fruit highest in districts Paranginan are 146 to 151.5, Dolok Sanggul 98.75 to 147.75 and Lintong Ni Huta are 102 to 134.5. The lowest population of *H. hampei* found in the village of Aek Lung (A_1) is 98.75 and the highest in the Lobu Tolong (C_2) is 151.5.

Be based on mapping distribution of *H. hampei* infestation, Lintong Ni Huta including low infestation category, Dolok Sanggul and Paranginan including medium infestation category. Pest population in three districts into centers of arabica coffee plantations in Regency of Humbang Hasundutan including high infestation category. *H. hampei* infestation in Lumban Batu (A2), Sibuntuon Partur (B1), Siharjulu (B2), Nagasaribu (B3), Paranginan Selatan (C1) and Lobu Tolong (C2) including low infestation category, Aek Lung (A1)), Sihite I (A3), and Pearung Silali (C3) including medium infestation category, Aek Lung (A1) including low population category, and another village including high population category.

Application of entomopathogenic fungus *Beauveria bassiana* real effective to *H. hampei* Ferrari mortality compared with the control treatment in the laboratory.

Key word : entomopathogenic, pest percentage, application