

DISTRIBUSI SPASIAL DAN TEMPORAL PENYAKIT JAMUR UPAS PADA PERTANAMAN NANGKA UMUR 4 TAHUN DI WANAGAMA, GUNUNG KIDUL, YOGYAKARTA

INTISARI

Oleh:
Tito Ardiyan¹

Penyakit jamur upas (*pink disease*) yang disebabkan oleh jamur *Corticium salmonicolor* merupakan salah satu penyakit yang berbahaya pada berbagai jenis tanaman kehutanan, perkebunan, serta tanaman buah. Jamur membentuk 4 stadium pada seluruh siklus hidupnya, dengan stadium 3 (*corticium*) dan 4 (*necator*) merupakan stadium yang mematikan. Di tahun 2016, pertanaman uji keturunan F2 nangka umur 4 tahun di Hutan pendidikan Wanagama 1 mulai menunjukkan kematian akibat serangan jamur upas, serangan tersebut belum pernah terlihat sebelumnya. Dalam rangka monitoring keberadaan penyakit jamur upas tersebut, maka dilakukan penelitian dengan tujuan untuk: 1) Mengevaluasi peningkatan intensitas gejala penyakit jamur upas selama 3 bulan pada musim penghujan 2) Mengevaluasi pola penyebaran spasial dan temporal penyakit jamur upas pada pertanaman nangka umur 4 tahun. Penelitian survei dilakukan dengan pengamatan langsung menggunakan metode sensus pada 6 blok pertanaman uji keturunan F2 nangka yang dilakukan pada bulan Maret sampai Mei 2016. Data pengamatan yang diambil meliputi koordinat pohon terinfeksi, persentase bagian tanaman yang menunjukkan gejala, stadium jamur upas yang nampak, kondisi lingkungan, serta data sekunder berupa data meteorologi (kelembaban, suhu, dan curah hujan). Pengambilan data dilakukan 4 minggu sekali selama 3 bulan. Keberadaan penyakit jamur upas meliputi luas serangan dan intensitas penyakit dihitung dengan modifikasi rumus Chester (1959), dengan bantuan perangkat lunak *Microsoft Excell 2016*. Persebaran spasial jamur upas dianalisis menggunakan rumus *Nearest Neighbor Analysis* (Clark dan Evans, 2003) dengan bantuan perangkat lunak *ArcGIS 10.1*.

Hasil penelitian menunjukkan bahwa luas serangan (LS) jamur upas pada pertanaman uji keturunan nangka di petak 17, Wanagama, Gunungkidul pada bulan Maret (0,9%) hingga Mei (3,3%) mengalami peningkatan sebesar 2,4%. Adapun intensitas penyakit (IP) juga mengalami peningkatan, dari bulan Maret (0,7%) hingga bulan Mei (3,3%) sebesar 1,6%. Luas serangan maupun intensitas jamur upas dari bulan Maret ke bulan April menunjukkan peningkatan yang lebih tinggi (1,4% dan 1,1%) dibanding peningkatan dari bulan April ke Mei (1% dan 0,5%), dimungkinkan karena rerata curah (14,28 mm) dan jumlah hari hujan (18 hari), serta kelembaban relatif (73,9%) pada bulan April menunjukkan angka lebih tinggi dibandingkan dengan bulan Mei. Pola spasial serangan jamur upas dari bulan Maret hingga Mei adalah *random*. Secara temporal, terjadi peningkatan luas serangan maupun intensitas penyakit jamur upas secara konsisten yang ditunjukkan dengan peningkatan stadium jamur upas, meskipun peningkatan stadium yang ditunjukkan antar individu sangat bervariasi, tergantung pada kondisi lingkungan disekitar tanaman nangka berada.

Kata Kunci: Jamur upas, nangka, curah hujan, penyebaran, monitoring

¹ Mahasiswa Fakultas Kehutanan Universitas Gadjah Mada

SPATIAL AND TEMPORAL DISTRIBUTION OF PINK DISEASE ON FOUR YEARS OLD JACKFRUIT PLANTS IN WANAGAMA, GUNUNG KIDUL, YOGYAKARTA

ABSTRACT

By:
Tito Ardiyan¹

Pink disease caused by the fungus *Corticium salmonicolor* is one of the dangerous diseases in various types of forestry trees, plantations trees, and fruit trees. The fungus forms 4 stages throughout its life cycle, with stage 3 (corticium) and 4 (necator) as its deadly stage. In 2016, the 4-year-old jackfruit F2 progeny trial plants in Wanagama 1 educational forest began to deaths from pink disease attacks, which never seen before. In order to monitor the presence of pink disease, a research was conducted with the aims to: 1) Evaluate the increasing intensity of pink disease symptoms for 3 months in the rainy season; 2) Evaluate the spatial and temporal distribution pattern of pink disease at 4 years old jackfruit plant. The study was conducted by direct observation using census method on 6 blocks of jackfruit trial plants in March to May 2016. The data that were taken during the observations includes the coordinates of infected trees, percentage of plant parts showing the symptoms, visible pink disease stage, environmental conditions, and secondary data in form of meteorological data (humidity, temperature, and rainfall). Data collection was done every 4 weeks for 3 months. The presence of pink disease i.e. the extent of the attack and the intensity of the disease was calculated by the modified Chester formula (1959), with the help of Microsoft Excel 2016 software. Spatial distribution of pink disease was analyzed using the Nearest Neighbor Analysis (Clark and Evans, 2003) with the help of ArcGIS 10.1 software.

The results shows that disease incidence of pink disease on jackfruit progeny test trial in compartment 17, Wanagama, Gunungkidul in March (0.9%) to May (3.3%) increased by 2.4%. The disease severity also increased, from March (0.7%) to May (3.3%) by 1.6%. The disease incident and disease severity from March to April shows a higher increase (1.4% and 1.1%) than the increase from April to May (1% and 0.5%), possibly due to the average precipitation (14, 28 mm), the number of rainy days (18 days), and relative humidity (73.9%) in April were in a higher rate compared to May. Spatial pattern of pink disease from March to May was random. Temporally, there was an increase in the disease incidence and disease severity consistently as indicated by increasing pink disease stages, although the increase in the staging shown among individuals varies, depending on the environmental conditions around the jackfruit trees.

Keyword: Pink disease, jackfruit, precipitation, spread, monitoring

¹ Under graduate student of Forestry Faculty Universitas Gadjah Mada