PENYEBARAN PENYAKIT BUSUK AKAR AKIBAT JAMUR *Ganoderma* spp. PADA BERBAGAI JENIS POHON DI KAWASAN KAMPUS UNIVERSITAS GADJAH MADA YOGYAKARTA

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INTISARI

Universitas Gadjah Mada (UGM) merupakan kampus yang menerapkan konsep *Sustainable Campus* dan membangun tata hijau untuk menerapkan konsep tersebut. Tata hijau ini dimulai sejak tahun 1950-an sehingga saat ini sudah banyak pohon-pohon tua yang rentan terserang penyakit. Salah satu penyakit yang menyerang pohon di kawasan kampus UGM adalah busuk akar yang disebabkan oleh jamur ganoderma. Ganoderma dapat menyebar melalui melalui kontak akar dan basidiospora. Penyakit ini dapat menyebar dengan cepat, terutama pada musim hujan. Penelitian ini bertujuan untuk mengevaluasi penyebaran penyakit busuk akar di sekitar pohon-pohon yang telah terserang jamur ganoderma, mengevaluasi perubahan status kerusakan tajuk pohon yang terserang jamur ganoderma, serta memetakan pohon yang terserang jamur ganoderma di kawasan UGM secara spasial dan temporal dan analisis pola penyebaran penyakit busuk akar.

Penelitian dilakukan di seluruh kawasan kampus UGM yang terbagi menjadi lokasi *Closed System* dan *Open System*, mulai bulan April 2021 sampai April 2022. Pohon yang ditumbuhi badan buah jamur ganoderma diamati jenis dan kondisi tajuknya serta dilakukan pengukuran diameter setinggi dada. Koordinat pohon juga dicatat untuk pemetaan pohon yang terserang jamur ganoderma. Berdasarkan data tersebut, dilakukan analisis terkait pertambahan jumlah pohon yang terserang penyakit, luas dan status serangan penyakit, perubahan status kerusakan tajuk pohon yang terserang penyakit, serta pemetaan dan pola penyebaran penyakit busuk akar akibat jamur ganoderma.

Hasil penelitian menunjukkan bahwa terdapat peningkatan jumlah pohon yang terserang penyakit dari 67 menjadi 125 pohon sehingga luas serangannya pun meningkat. Meski luas serangan meningkat, nilainya yang masih <10% membuat status serangannya tetap, yaitu rare atau jarang. Status kerusakan tajuk juga mengalami peningkatan terutama pada pohon di lokasi *Closed System* dan pohon dari kelompok tanaman legum (famili Fabaceae). Hasil analisis *Average Nearest Neighbor* menunjukkan bahwa pola penyebaran penyakit secara umum adalah mengelompok. Namun, ditemukan pola seragam dan acak pada kelompok tanaman non legum di lokasi *Closed System* serta pola acak di lokasi *Open System*.

Kata kunci: Ganoderma, Busuk Akar, Pemetaan, *Average Nearest Neighbor*

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THE SPREAD OF ROOT ROT DISEASE CAUSED BY *Ganoderma* spp. ON VARIOUS SPECIES OF TREES AT THE CAMPUS AREA OF UNIVERSITAS GADJAH MADA YOGYAKARTA

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ABSTRACT

Universitas Gadjah Mada (UGM) is a campus that applies the concept of a sustainable campus by building a green system to implement the concept. This green system was started in the 1950s, making older trees susceptible to disease. One of the diseases that attack trees in UGM campus area is root rot caused by the ganoderma. The spread of root rot disease can occur through root contact between plants and basidiospores. This disease can spread quickly, especially during the rainy season. This study aims to evaluate the spread of root rot disease around trees that have been attacked by ganoderma, evaluate changes of the status of the damage to the canopy of trees affected by ganoderma, and map trees affected by ganoderma in the UGM area spatially and temporally also analyze the pattern of the disease spread.

The research was carried out throughout the UGM campus area which was divided into closed system and open system locations, starting from April 2021 to April 2022. Species and canopy condition of the tree with fruiting bodies of ganoderma were observed and the diameter at breast height was measured. Tree coordinates were also recorded for mapping trees affected by ganoderma. Based on these data, an analysis was carried out regarding the increase in the number of diseased trees, the incidence and status of the disease, changes in the status of tree crown damage affected by disease, also mapping and distribution patterns of rot disease caused by ganoderma.

The results showed an increase in the number of trees affected by the disease from 67 to 125 trees so that the disease incidence also increased. Even so, the value of disease incidence is still <10%, making the status of the attack constant, that is rare. The status of crown damage also increased, especially for trees in the Closed System location and trees from the legume group (Fabaceae family). The results of the Average Nearest Neighbor analysis show that the pattern of disease spread is clustered in general. However, uniform and random patterns were found in groups of non-legume plants at the Closed System location and random patterns at the Open System location.

Keywords: Ganoderma, Root Rot, Mapping, Average Nearest Neighbor

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