EKOFISIOLOGI DAN KUALITAS KOPI (Coffea canephora) PADA AGROFORESTRI PINUS, MAHONI, DAN KEBUN CAMPUR DI LERENG SELATAN GUNUNG POTORONO, MAGELANG

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Intisari

Desa Sambak, Kabupaten Magelang merupakan salah satu Desa Penghasil kopi di Jawa Tengah. Masyarakat Desa Sambak menerapkan model pertanaman agroforestri kopi dengan tiga jenis tanaman penaung naungan berupa mahoni, pinus, dan kebun campur. Agroforesti kopi di bawah tegakan mahoni dan pinus ditanam di Kawasan hutan negara yang dikelola oleh masyarakat dengan skema lahan milik masyarakat. Pengembangan agroforestri kopi pada berbagai penaung tersebut mempunyai potensi untuk dikembangkan dalam skala luas. Akan tetapi sampai saat ini belum pernah dilakukan kajian tentang dampak perbedaan kualitas tampak, iklim mikro terhadap fisiologis dan kandungan kimia tanaman kopi. Untuk itu, kajian tentang struktur vegetasi, karakter ekofisiologis, dan kualitas kopi perlu dilakukan untuk menyusun strategi pengembangan agroforestri kopi dan potensi pemenuhan pangan fungsional dimasa mendatang.

Penelitian ini dilakukan dalam empat tahap, yaitu (1) idenfikasi karakteristik lahan dan vegetasi penyusun agroforestry kopi; (2) identifikasi faktor ekologis yang berpengaruh; (3) analisis kandungan kimia kopi; dan (4) analisis potensi pengembangan agroforestry berbasis kopi. Pemilihan lokasi penelitian dilakukan dengan metode stratified purposive sampling berdasarkan keterwakilan tegakan pada system agroforestri kopi. Jumlah plot adalah sebanyak 27 Plot terbagi dalam 3 kluster dengan masing masing kluster terdapat plot berukuran 20 x 20 meter. Data penelitian yang diperoleh kemudian dianalis untuk mengetahui kualitas lahan, karakter ekologi dan ekofisiologi serta kualitas kopi 3 pada tipe agroforestri.

Hasil penelitian menunjukkan bahwa, nilai evaluasi kesesuaian lahan potensial pada agroforestry kopi – mahoni; kopi – pinus; kopi – kebun campur adalah N1m1; N1m1; S3t1w1, yang mana artinya lahan yang ada di Desa Sambak dapat ditanami dengan tanaman kopi. Tanaman penaung pada agorofrestri kopi – mahoni didominasi oleh mahoni, dan pada agroforestry kopi – pinus didominasi oleh pinus, sedangkan pada agroforestry kopi – kebun campur didominasi oleh tanaman sengon dengan nilai INP sebesar 116,535%. Kondisi ekofisiolgis pada masing-masing model pertanaman agorforestri kopi tidak menunjukkan adanya perbedaan yang nyata. Kandungan kimia kopi di ketiga tempat memiliki kadar yang tidak jauh berbeda, pada biji kopi dari pertanaman agroforestry kopi – pinus memiliki kandungan protein paling tinggi yakni sebesar 8,5% dan kandungan sukrosa pada biji kopi dari pertanaman agroforestry kopi – kebun campur memiliki kadar tertinggi dengan nilai sebesar 0,1%. Prioritas strategi untuk pengembangan agroforesti kopi di Desa Sambak adalah dengan meningkatkan produktivitas dan kualitas kopi, dan diversifikasi prodak.

Ecophysiology and Quality of Coffee (*Coffea Canephora*) in Pine, Mahogany and Mixed Gardens Agroforestry on the Southern Slope of Mount Potorono, Magelang

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Abstracts

Sambak, Magelang Regency is one of the coffee producing villages in Central Java. The farmers are apply a coffee agroforestry model with three types of shade plants, namely mahogany, pine, and mixed gardens. Coffee agroforestry under mahogany and pine stands is planted in State forest areas managed by the community under a community-owned land scheme. The development of coffee agroforestry in these various shaders has the potential to be developed on a wide scale. However, until now there has never been a study on the impact of differences in visible quality, microclimate on the physiological and chemical content of coffee plants. For this reason, studies on the structure of vegetation, ecophysiological characters, and coffee quality need to be carried out to formulate a strategy for developing coffee agroforestry and the potential for fulfilling functional food in the future.

This research was conducted in four stages, namely (1) identification of land and vegetation characteristics that make up coffee agroforestry; (2) identification of influential ecological factors; (3) analysis of the chemical content of coffee; and (4) analysis of the potential for coffee-based agroforestry development. The research location was selected using a stratified purposive sampling method based on the representativeness of the stands in the coffee agroforestry system. The number of plots is 27. The plots are divided into 3 clusters with each cluster having a plot measuring 20 x 20 meters. The research data obtained were then analyzed to determine the quality of the land, ecological and ecophysiological characters and the quality of coffee in the type of agroforestry.

The results showed that, the value of evaluating potential land suitability in coffee - mahogany agroforestry; coffee – pine; coffee – mixed garden is N1m1; N1m1; S3t1w1, which means that the land in Sambak Village can be planted with coffee plants. The shade plants in coffee – mahogany agroforestry are dominated by mahogany, and in coffee – pine agroforestry are dominated by pine, while in coffee agroforestry – mixed gardens are dominated by sengon plants with an INP value of 116.535%. The ecophysiological conditions in each coffee agroforestry model did not show any significant differences. The chemical content of coffee in the three places has levels that are not much different, in coffee beans from coffee agroforestry - pine has the highest protein content of 8.5% and sucrose content in coffee beans from coffee agroforestry - mixed gardens has the highest content with value of 0.1%. The strategic priority for coffee agroforestry development in Sambak Village is to increase coffee productivity and quality, and product diversification.