

INTISARI

Tanah merupakan salah satu media penyimpan cadangan karbon. Vegetasi penutup tanah dapat memengaruhi jumlah karbon yang dapat disimpan di dalam tanah. Penelitian ini bertujuan untuk mengetahui estimasi jumlah cadangan karbon di kebun teh berdasarkan umur pangkasan dan kemiringan lereng yang berbeda. Lokasi sampel penelitian berada di kebun teh afdeling Pagilaran, PT Pagilaran dengan titik sampel berjumlah 24. Titik sampel dipilih secara *purposive sampling* pada umur pangkasan tanaman teh tahun pertama, kedua, ketiga, dan keempat, serta pada kemiringan lereng 0-15%, 15-30%, dan >30%. Perhitungan biomassa tanaman teh dilakukan dengan model alometrik menggunakan data tinggi tanaman dan diameter batang tanaman. Hasil menunjukkan estimasi cadangan karbon total berdasarkan umur pangkas tanaman teh tahun pertama hingga keempat adalah 138,78 ton/ha, 137,96 ton/ha, 130,23 ton/ha, dan 125,61 ton/ha sedangkan berdasarkan kemiringan lereng dari yang paling landai berturut-turut adalah 143,05 ton/ha, 116,36 ton/ha, dan 140,02 ton/ha. Penyumbang cadangan karbon terbesar di kebun teh afdeling Pagilaran adalah tanah dan biomassa tanaman teh, sedangkan serasah, nekromasa, dan tumbuhan bawah tidak terlalu memengaruhi karena nilainya yang sangat kecil yaitu kurang dari 1 ton/ha. Cadangan karbon tanah berdasarkan umur pangkas tanaman teh berturut-turut adalah 89,92 ton/ha, 75,69 ton/ha, 83,11 ton/ha, dan 80,16 ton/ha, sedangkan cadangan karbon tanah berdasarkan kemiringan lereng berturut-turut adalah 82,41 ton/ha, 77,06 ton/ha, dan 83,44 ton/ha.

kata kunci: alometrik; biomassa; karbon; tanah; tanaman teh

ABSTRACT

Soil is one of the major media for carbon storage. Ground cover vegetation can influence the amount of carbon that stored in the soil. This study aimed to estimate total storage carbon in the tea plantation based different on tea pruning age and slope gradients. The sampling location conducted at Pagilaran Section tea plantation, PT. Pagilaran, with a total of 24 sampling points. The sampling points were selected using purposive sampling across tea plantation pruning age of the first, second, third, and fourth years, as well as slope gradients of 0-15%, 15-30%, and >30%. Tea plant biomass estimated using allometric model based on plant heigh and stem diameter data. The result showed that total carbon stored estimates based on tea plantation pruning age from the first to the fourth year were 138,78 ton/ha, 137,96 ton/ha, 130,23 ton/ha, and 125 ton/ha, respectively. Meanwhile, total carbon stocks based on slope gradients from the gentles to the steepest were 143,05 ton/ha, 116,36 ton/ha, and 140,02 ton/ha. The largest contributors to carbon stored in the Pagilaran Section tea plantations were soil and tea plant biomass, whereas litter, necromass, and understory vegetation had minimal contribution. With values of less than 1 ton/ha. Soil carbon stocks based on tea plantation pruning age from the first to the fourth years are 89,92 ton/ha, 75,69 ton/ha, 83,11 ton/ha, and 80,16 ton/ha, while at different slope gradients from 0-15% to >30% are 82,41 ton/ha, 77,06 ton/ha, and 83,44 ton/ha.

Keywords: allometric; biomass, carbon, soil, tea plantation