

RINGKASAN

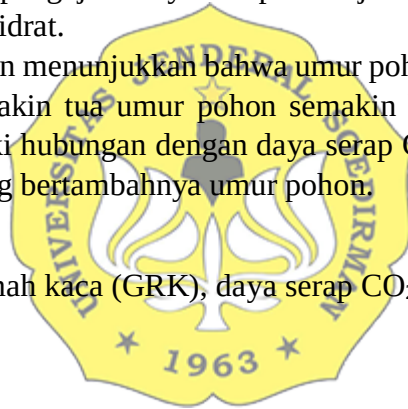
Konsentrasi gas rumah kaca (GRK), khususnya karbon dioksida (CO_2) di atmosfer terus meningkat, sehingga perlu ada upaya untuk menurunkan konsentrasi gas CO_2 di atmosfer. Pengembangan tanaman merupakan salah satu upaya untuk mengurangi CO_2 di atmosfer karena tanaman dapat mereduksi CO_2 melalui proses fotosintesis. Pengembangan tanaman bisa dalam bentuk hutan, tanaman pertanian, maupun tanaman perkebunan. Jenis tanaman perkebunan yang sedang dikembangkan oleh masyarakat salah satunya adalah jambu biji (*Psidium guajava*).

Banyak faktor yang dapat mempengaruhi suatu tanaman dalam menyerap CO_2 . Faktor tersebut diantaranya adalah sifat genetik, intensitas sinar matahari, dan umur tanaman. Umur tanaman tampaknya lebih mudah digunakan sebagai variabel penduga daya serap tanaman terhadap CO_2 dibanding faktor lain. Oleh karena itu tujuan dari penelitian ini adalah untuk mengetahui pengaruh umur pohon jambu biji terhadap daya serap CO_2 dan mengetahui hubungan antara umur pohon jambu biji dengan daya serap CO_2 .

Sampel penelitian ini adalah tanaman jambu biji umur 1 tahun, 4 tahun, dan 8 tahun. Pengambilan sampel tanaman jambu menggunakan teknik *stratified random sampling*, sedangkan pengujian daya serap daun jambu terhadap CO_2 menggunakan analisis massa karbohidrat.

Hasil penelitian menunjukkan bahwa umur pohon memiliki pengaruh terhadap daya serap CO_2 , semakin tua umur pohon semakin besar CO_2 yang diserap. Umur pohon jambu memiliki hubungan dengan daya serap CO_2 dan terjadinya peningkatan daya serap CO_2 seiring bertambahnya umur pohon.

Kata kunci : Gas rumah kaca (GRK), daya serap CO_2 , jambu biji.



SUMMARY

Concentration of greenhouse gas (GHG), especially carbon dioxide (CO₂) in the atmosphere increase continuously, so there is a need to reduce the concentration of CO₂ in the atmosphere. Intensification of plant is one of the efforts to reduce CO₂ in the atmosphere, because plants can reduction CO₂ through the process of photosynthesis. Plant intensification can be done in the form of forest, agricultural plant, or plantation plant. One of plantation plant that are being developed nowadays by the community is guava (*Psidium guajava*).

Many factors can affect a plant in absorbing CO₂. Those factors include the genetic characteristic, intensity of sunlight, and age of the plant. The age of plant seems to be easier to use as a variable for estimating the absorptive capacity of plant against CO₂ than other factors. Therefore, the purpose of this research is to determine the influence of age of guava trees on CO₂ absorption and determine the relationship between the age of the guava trees with the absorptive capacity of CO₂.

Plants to be sampled in this research were guava trees with different ages, each of them is 1, 4, and 8 years. This research was conducted using survey method using stratified random sampling technique, meanwhile the absorptive capacity test of guajava leaves toward CO₂ was conducted using mass carbohydrate analysis.

The result showed that the age of guava tree has an influence on the absorption of CO₂, the older of guava tree showed greater CO₂ absorption. The age of guava tree has a relationship with the absorption of CO₂ and the increase of CO₂ absorption occurs as the age of the tree increases.

Keyword : greenhouse gas (GHG), CO₂ absorption, guava.

