《台湾利用休耕地来发展生物能源的尽

图书基本信息

书名：《台湾利用休耕地来发展生物能源的经济与环境影响评估》

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内容概要

《台湾利用休耕地来发展生物能源的经济与环境影响评估(英文版)》主要内容包括：INTRODUCTION、ECONOMICS OF BIOCHAR PRODUCTION, APPLICATIONS AND GHG OFFSETS IN TAIWAN、ENVIRONMENTAL IMPACT AND ENERGY PRODUCTION:EVALUATION OF BIOCHAR APPLICATION ON TAIWANESE SET-ASIDE LAND、CONCLUSION等。

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章节摘录

版权页： 插图： More specifically, costs for growing, harvesting and moving poplar to the field edge are assumed to equal US$ 64.85 per ton of biomass. This number is calculated by adding the costs of seed, fertilizer, energy and associated machine and labor used to grow poplar where the seed cost is equal to US$156 per hectare, fertilizer is US$ 29.1 per hectare and energy cost is US$ 14.67 per hectare, and the poplar yield is assumed to be 7.6 tons per year, based on the field experiment by Aylott et al. (2009). In addition, the machine plus labor cost is about US$ 285.4 per hectare. We also add US$ 10 per ton of bioenergy feedstock for a payment to thefarmer.Moreover, since we use set-aside land to produce poplar, and farmers can only get the government subsidy when they produce energy crops, the opportunity cost for using the set-aside land is assumed to be zero. That is, if farmers choose to plant other crops, they will also lose the government subsidy on both the set-aside program and energy crop production. Based on these assumptions, each hectare produces 7.6 tons of feedstock at a farm gate price of US$ 74.85 per ton. The use of other feedstocks would raise different issues and calculation procedures. Specifically, when using: Crop residues: one would need to consider the costs of collection and hauling biomass to the field edge, costs on field nutrients loss (cost on additional fertilizers), and benefits/costs on tillage efforts. Logging residues: one would employ essentially the crop residues procedures, examining the extra costs of harvest and hauling to the field edge, but might have to include the cost of on-site chipping and compaction, a differential loss factor in storage and hauling, and a savings in costs for handling residue such as the need for collection and burning, among others. Dedicated energy crops: one would need to consider the opportunity costs of the land in other usages (in this case, we assume it to be zero), such as conventional crop production along with rotation length and differential yields over time.

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