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“Can agroecological farming feed the world?
Farmers’ and academia’s views”

Silvopasture in the Amazon is more productive and profitable than grass only monocultures

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Abstract

Unsustainable cattle ranching in the Amazon leads to land degradation and incentivizes deforestation. Planting trees in pastures (‘silvopasture’ or ‘silvopastoral systems’) is a novel approach that has the potential to increase the sustainability of cattle production in the Amazon. Trees provide additional feed whilst also enhancing biodiversity, capturing carbon and improving soil quality. We measured the potential contribution of tree forage to pasture-fed cattle at a trial farm in Peru. Three leguminous tree species (*Erythrina berteroana*, *Inga edulis* and *Leucaena leucocephala*) were planted with grass, and their productivity was compared to plots containing only grass. We compared destructive and non-destructive methodologies that estimated intake of tree forage by browsing cattle. We found that fresh tree foliage of the three tree species was palatable to cattle and could be directly browsed. Cattle mostly foraged below 1.6 m and consumed 99 % of available foliage from *E. berteroana*, 75 % of available forage from *I. edulis* and 80 % of available forage from *L. leucocephala*. Plots containing trees and grass produced more forage biomass (mean > 2.2 Mg ha⁻¹) than grass only plots (mean = 1.5 Mg ha⁻¹). This research highlights the potential for sustainable intensification of livestock production in the Amazon. The talk will also highlight the key findings of extension and practical work in silvopastoral systems carried out in Peru, Bolivia, Brazil and Guyana over the past decade, consider the challenges to implementing silvopasture at scale and what steps can be taken to promote the adoption of silvopasture among farmers across the Amazon.

Keywords: Adaptation, agriculture, agroforestry, Amazon, cattle, climate, livestock, mechanisms, methodologies, mitigation, Peru, silvopastoral, silvopasture