



world congress on integrated
crop-livestock-forest systems

3rd International
Symposium on Integrated
Crop-Livestock Systems

towards sustainable intensification
brasilia • brazil • 2015

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Socio-economic benefits and impacts of change to diversified systems

Wood production in silvopastoral system: diversification and growth of income in livestock breeding

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Introduction Integrated crop-livestock-forest systems enable a revenue increase compared to the individual production systems. The afforestation of pastures is a form of productive integration that provides benefits to the agriculture, including the generation and diversification of income per hectare and increased regional supply of forest products for energy generation (firewood) (PORFÍRIO-DA-SILVA et al., 2009).

Material and Methods

In 2010 a silvopastoral system Demonstrative Unit was deployed in the city of Olympia, in the state of São Paulo. On 9.5 ha of Yellow-Red Argisol, 4,360 seedlings of *Eucalyptus* spp. GG100 (*urograndis*), VM58 and VM01 (*urocam*) were planted in *Brachiaria decumbens* pasture. The seedlings were planted on existing terraces, arranged in six rows with three lines of trees and spacing of 2 m between plants and 3 m between lines of trees (density of 459 plants / ha). Fertilization, irrigation in the initial period and control of insects (ants) and weeds was carried out. The protection of trees was accomplished with an electric fence, dividing the area into six paddocks. In the period from March to July 2014 the trees were clear cut and sold for firewood. According to IEA (2015), the average price of eucalyptus paid to farmers in São Paulo in the period from March to July 2014 was R \$ 46.55 / m³.

Results and Conclusions

The activities were undertaken as part of the daily flow of work on the property, using existing physical and human resources. In addition to the increase in revenues in the wooded pasture area (Fig.1), other benefits related to better utilization of grass production and the welfare of animals were observed during this period.

Fig 1. Revenue earned with timber production in the Silvopastoral System Demonstrative Unit in Olympia - SP, in the period 2010-2014.

Total production of wood in area (m ³)	Average price of wood in March-July 2014 (R\$/m ³)	Total Revenue from area (R\$)	Revenue per ha (R\$/ha)	Annual revenue per ha (R\$/ha/yr)
950.00	46.55	44,220.60	4,654.80	1,163.70

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Acknowledgements

To Embrapa for execution of actions under Macroprogram 4 and to Embrapa Forests, CITA and SPAAT for partnership in the discussion and conduct of activities.

 **Carlos Eduardo Silva Santos**

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