

## Characteristics and challenges of reference technology units in agroforestry system in Paraná State, Southern Brazil.

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**Introduction** The aim of this work was to present a diagnosis of reference technology units (RTU's) in agroforestry system, implemented on farms in the Paraná State, Southern Brazil. The diagnosis may provide support for the establishment of new technology transfer (TT) action plans by describing the models, the technical conditions and the demands identified in each region.

### Material and Methods

The current diagnosis was carried out in May 2011, at RTU's installed with methods described by Dereti et al. (2009) and Porfírio-da-silva & Baggio (2003). In some farms, technical visits were used to collect data from each system, highlighting issues of current technical conditions and management of agro-ecosystems. A specific questionnaire about the different system components and the main technical problems was performed in order to get data. The georeferencing and areas mapping were also accomplished.

### Results and Conclusions

Table 1. Challenges to integration of crop-livestock-forestry system and demands for forestry technologies identified in RTU's diagnoses in the Paraná State, Southern Brazil.

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| <ul style="list-style-type: none"><li>• Planning in agroforestry system</li><li>• Spacing (in simple lines, double and triple) and orientation of the rows</li><li>• Quality of seedlings and planting (how to identify quality seedlings)</li><li>• Recommended species (forest and fodder)</li><li>• Recommended species in frost occurrence areas</li><li>• Pruning and Shading intensity</li><li>• Time of first thinning</li><li>• Forest inventory to determine thinning intensity (methodology for sampling in integration systems)</li><li>• Ant control</li><li>• Management between rows: planning and proper management of ground cover, winter and summer pastures, with improvements in fertilization practices, crop density and decreased erosion</li><li>• Planting of forest species in order to environmental suitability of the property</li></ul> |
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There are main demands related to planning, especially to the management of agroforestry system over time (Table 1). One of them is how to proceed and which methodology for pruning and thinning is adequate when systems are in a more advanced state (high age). There are demands for economic analysis and use of technology for degraded areas' recovery. There is a great demand for technological information about the agroforestry system management, which can be developed through the Technology Transfer Programs (technical publications, training and visits on the field).

### References cited

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Porfírio-da-Silva & Baggio (2003). Como estabelecer com sucesso uma unidade de referência tecnológica em sistema silvipastoril. Colombo: Embrapa Florestas, 26p. (CNPQ, Documentos, 83).

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