

STRATEGIES FOR REDUCTION OF RESIDUES GENERATION IN WOOD FLOOR INDUSTRIES

ESCOLA SUPERIOR DE AGRICULTURA “LUIZ DE QUEIROZ”
 Pedro Henrique Martins Alves Pinto, Adriana Maria Nolasco, Lis Rodrigues Uliana
 Funding Agency: ITTO – International Tropical Timber Organization

INTRODUCTION AND OBJECTIVES

Residues are materials that have passed through the production process consuming inputs, wearing machinery and tools, using manpower, participating in the company's fixed costs, although have not been converted into products. They require spending on storage, transportation, treatment and final disposal; reduce company profitability; increase risks; promote damage to corporate image, and can stay for long periods as environmental liabilities. The National Policy on Solid Waste predicts that from 2012 all industries must submit their plans for waste management at the time of application or renewal of the operating license. The wood floor industry generates large amounts and diversity of residues. Losses along the industrial production are reflected in the entire production chain leading to increased exploitation of forest areas due to transformation processes inefficient and it compromises the sustainability chain. This study aimed to identify the factors that generate and select strategies to minimize the amount of residues generated in the manufacture of wood floor.

METHODOLOGY

A case study was conducted on an industrial wood floors located in the municipality of Tietê - SP. After characterization of the industry, products, raw materials, suppliers and markets, observation was made "in situ" to prepare flowcharts for each production sector. Accompaniments were performed in each stage of production and interviews with officials of the sectors of receiving, preparation of raw material, machining, finishing and packaging to identify the types of residues, generating operations and generating factors. The yield determination was based on the reports of the company itself .

RESULTS AND DISCUSSION

The yield of the wood floor production is approximately 60%, and 40% is residue (Tableau 1).

Tableau 1. Alternatives for reducing residues production

Generating factor	Proposal
Raw material quality	Make control and select the best suppliers
Types of products	Invest in the developing new products using the residues generated (panels, engineered floors, and briquettes etc.).
Tools and equipments qualities	Use tools and equipment of good quality and keep them always in good repair; make regular maintenance on tools and equipment, invest in technology in tools and equipment.
Manpower quality	Make trainings aiming improvement of the knowledge and skills of employees; make control teams analysis of quality ; make a work of incentive to keep the employees motivated.

Tableau 2. Type od residue x Generating operation x Generating factor

Generating operation	Type of residue	Generating factor	Yield
Wood pre-preparation (production of S4S)	*Sawdust; *Small pieces	*Raw material quality; *Wood specie; *Type of product; *Wood preparation operation; *Tools qualities; *manpower quality	35% - First class product 30% - Second class product 25% - Third class product 10% - Residues
Machining	*Sawdust; *Small pieces	*Raw material quality; *Wood specie; *Type of product; *Machining operation; *Tools qualities; *manpower quality	65% - First class product 20% - Second class product 10% - Firewood 5% - Sawdust
Finishing and packing	*Smaller pieces	*Raw material quality; *Wood specie; *Type of product; *Finishing operation; *Equipments qualities; *manpower quality	95% - Products 5% - Residues



CONCLUSIONS

The reducing generation is the main strategy in the management systems of industrial waste. Considering the main factors generating residues in the manufacture of wood floor, it is recommended that the management plans for the sector prioritize the inclusion of quality control actions of raw materials and suppliers; product line diversification, and investment in training of manpower and technological modernization.

REFERENCES

ULIANA, L.R. Diagnóstico da geração de resíduos na produção de móveis : subsídios para a gestão empresarial. Piracicaba: Escola Superior de Agricultura Luiz de Queiroz, Universidade de São Paulo, 2005. Dissertação de Mestrado em Recursos Florestais

