As espécies reagiram de maneira diferente dentre os vários tratamentos, com *P. taeda* apresentando maiores incrementos, porém quando comparado com as testemunhas, *P. patula* foi o melhor.

Uma quantidade de inóculo em torno de 25%, com pH acima de 4 5, possibilitou um melhor desenvolvimento das mudas em ambas as espécies.

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ALGUMAS CARACTERÍSTICAS ECOLÓGICAS E SILVICULTURAIS DE QUATRO ESPÉCIES FLORESTAIS DO ESTADO DO PARANÁ

Paulo Ernani Ramalho Carvalho

SUMMARY

The main objective of this study was to define the best procedures for regenerating four forest tree species autochthonous from the State of Paraná, based on ecologiacl and silvicultural aspects. These species were: "dedaleiro" (Lafoensia pacari *St. Hil. ssp.* petiolata *Koehne), "pessegueiro-bravo"* (Prunus brasiliensis *Schott ex Spreng), "imbuia"* (Ocotea porosa *(Nees- L. Barroso) and "pau-marfim"* (Balfourodendron riedelianum *Engl.). Another objective was to provide the Brazilian Institute For Forestry Development (IBDF), with technical information about the possibility of using these species in reforestation programs.*

An orderly and systematic study of these species was conducted including data on:

- *description and botanic classification;*
- *dendrologic and phenologic aspects;*
- *ecologic aspects;*
- *seed handling, storage and germination;*
- *seedling production;*
- *silvicultural systems;*
- *natural regeneration;*
- *insects and disease.*

The work was carried out in the laboratory of the Forestry School in Curitiba (PR) and the Irati National Forest, as well as on study tours through out the State of Paraná. The considered areas are subjected to frequent frost. The study involved the observation of these species under two silvicultural systems: the clearcutting system and the shelterwood strip system, both with artificial regeneration.

Results suggest the possibility of using Prunus brasiliensis *Schott ex Spreng for extensive reforestation after clearcutting for its fast growth and frost resistance. As for the other three species, they could only be planted successfully shelterwood system due to their susceptibility to frost.*

RESUMO

O presente trabalho de pesquisa teve como objetivos principais definir algumas diretrizes ecológicas e silviculturais de quatro espécies florestais autóctones do Estado do Paraná: dedaleiro **(Lafoensia pacari** St. Hil ssp. **petiolata** Koehne), pessegueiro-bravo **(Prunus brasiliensis** Schott ex Spreng), imbuia (**Ocotea porosa** (Nees) L. Barroso) e pau-marfim **(Balfourodendron riedelianum** Engl.), visando fornecer subsídios técnicos ao Instituto Brasileiro de Desenvolvimento Florestal — IBDF para orientar o plantio das mesmas ou algumas delas como alternativa no reflorestamento.

Procedeu-se a um estudo ordenado e sistemático destas quatro espécies apresentando-se dados indicativos que incluem:

— classificação e descrição botânica;
— Aspectos dendrológicos e fenológicos;
— aspectos ecológicos;
— manipulação, armazenamento e germinação das sementes ;
— Produção de mudas;
— sistemas silviculturais;
— regeneração natural;
— pragas e doenças.

O trabalho foi realizado no Laboratório do Curso de Engenharia Florestal — Curitiba(PR), na Floresta Nacional de Irati do IBDF e através de viagens pelo Estado do Paraná.

Procurou-se estudar o comportamento das espécies testadas em área sujeita a freqüente ocorrência de geadas, segundo dois sistemas silviculturais: a céu aberto e sob cobertura (enriquecimento em linhas), recomendando-se o pessegueiro-bravo **(Prunus brasiliensis** Schott ex Epreng) para reflorestamentos extensivos, por ser uma espécie de bom crescimento e resistência à geada, podendo ser plantada à céu aberto.

Pelos resultados deste estudo, sugere-se que as outras três essências sejam plantadas sob cobertura, por serem mais sensíveis à geada.

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VARIAÇÕES ESTACIONAIS DOS TEORES DE UMIDADE E OLEORESINA EM FOLHAGEM DE Pinus elliottii ENGELM, Pinus taeda L. E Araucaria angustifolia (BERT) O. KTZE. E SUA INFLUÊNCIA NO POTENCIAL DE INFLAMABILIDADE DAS COPAS

Regina Rosa Fernandes

SUMMARY

The main objectives of this research were to study the seasonal changes of moisture content and oleoresin in the green foliage of Pinus elliottii *var.* elliottii *Engelm.,* Pinus taeda *L. and* Araucaria angustifolia *(Bert.) O. Ktze., and also to determine the periods when the foliage o fthese species are potencially more combustible.*

The field research was developed in the Rio Negro Forest Research Station of the Federal University of Paraná. The determination of foliage and soil moisture content were carried out in the Forest Schools Silviculture Laboratory and the oleoresin extraction was done in the Organic Technology Laboratory, both from the same University.

Pine leaves oleoresin was extracted through the combination of two metodologies: I) extraction by cold ethylic alcohol and II) by decoction, At the end of the extraction, additional tests were performed in order to investigate the presence of tanins, proteins and reducer and non-reducer sugares.

Results showed that the moisture content average of Pinus taeda *was different, at the 95% level, from the average of* Araucaria angustifolia. *The three species presented a higher moisture content at the begining of growth season, decreasing during the buds elongation period.* Pinus taeda *presented the lowest foliage moisture content, and* Araucaria angustifolia *the highest. Moisture content in terms of oven dry weight ranged from 132.75 to 173.94% in* Pinus elliottii; *from 115.70 to 172.36% in* Pinus taeda; *and from 146.08 to 199.72% in* Araucaria angustifolia.

Pinus elliottii *presented a higher oleoresin content compared to the other two species, although, statiscally, it was only different from* Araucaria angustifolia *during the summer season. Oleoresin content, in terms of oven dry weight, ranged from 3.68 to 19.85% in* Pinus elliottii, *from 2.04 to 15.03% in* Pinus taeda; *and from 2.51 to 13.40% in* Araucaria angustifolia.

Oleoresin content reached the highest values during the summer (January and February) and winter (July) seasons. The three species presented the highest oleoresin