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Prospect on conservation and utilization of *Leucaena leucocephala* in Yunnan

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Key words : Leucaena, germplasm resource, conservation, utilization, application measure

Introduction This article introduces the practice of conserving and utilizing Leucaena germplasm resource of Yunnan. Leucaena is a perennial shrub/tree legume, which belongs to *Leguminosae Mimosoideae*, *Leucaena* Benth. It is widely distributed in tropical and subtropical areas in China. Now, Leucaena is cultivated and utilized in Yunnan, Guizhou, Hainan, Fujian and Guansi Provinces in China. Leucaena is regarded as a valuable fodder plant and regarded as "Protein Source" by FAO (NAS 1984; Shelton & Brewbaker 1994; Walton 2003a). It has wide adaptability. It can provide about 38t/hm² ~ 65t/hm² fresh branches and leaves annually.

The conservation measure of Leucaena germplasm resource of Yunnan According to the conservation measures of germplasm resources, we acquire some measures to protect the Leucaena germplasm resource of Yunnan. First, is in situ preservation, which means protecting Leucaena germplasm resource in situ environment. Second, is ex situ preservation, meaning that we can preserve Leucaena germplasm resource in Gene Bank and Forage Nursery. Third, is National Gene Bank, different germplasm materials with diverse characters will be collected separately in Short Term Storage, Middle Term Storage and Long Term Storage. Fourth, is the Forage Nursery, according to different application and characters of germplasm materials, we can divide Forage Nursery into three kinds of nursery. They are perennial forage nursery, observation and evaluation forage nursery and reproduction and introduction forage nursery.

The application and utilization measure on Leucaena germplasm resource of Yunnan After long term survey and research, we have got the following measure to apply and utilize Leucaena germplasm resource. First, it can be used for animal feed. Leucaena has high yields and the crude protein content of its leaves is 22% ~ 29%. Second, its leaves can be used as green manure and fuel. The nutrient content of nitrogen, phosphorus and potassium of its leaves is 0.91%, 0.097%, 0.608% respectively. It will supply abundant nitrogen, phosphorus and potassium to the soil. The dry trunks and branches have high burning value and their heat value is 19.25MJ/kg. Third, the plant can use for mending forest and reforming soil contaminated by heavy metals. Fourth, the leaves of Leucaena can use as nitrogen source of mushroom cultivation. Fifth, the seeds of Leucaena contain a special substance which can reduce blood sugar. This special substance is flavone. In addition, the leaves of Leucaena contain alkaloid which has protecting liver, Anti-inflammation and anti-hbv effects. Sixth, the dry trunks and branches can use as the raw material of Paper Mill. Finally, the seed of Leucaena has Commercial Value, which can be used as a commodity to sale.

Reference

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