



Forestry and pastures

The system integration pastures / forests contributes to more efficient use of fertilizers and agrochemicals demands for smaller , due to the breakdown of pests , diseases and weeds cycle. Thus reflected in increased productivity, lower costs of production.

The shape and intensity of adopting the set of technologies that comprise this system depends, among other factors, the objectives of the producer and the infrastructure available in each property. The farmer may decide to use the system for the establishment of pastures or for their recovery if they are damaged. You can also deploy the hiss pastoral system in order to exploit timber and non- timber products, in addition to livestock products.

The most planted tree species in Brazil belong to the genus *Eucalyptus*. Then come the *Pinus*, *Acacia* and *Tectona*.

Tree planting also serves destinations such as production of fruits, seeds, resin, latex and oils. It also promotes increased diversity, nutrient cycling, and improved microclimate for livestock or soil protection.

The choice of species should lie preferentially over those with fast initial growth. Thus, it is possible to reduce the time lag between the implementation of the system and the introduction of animals.

Among the reasons for increased planting of eucalyptus species are in adapting to different climatic conditions, rapid growth potential for timber production for multiple uses, availability of seedlings silvicultural knowledge and existence of improved genetic material.

In conventional forest plantations are the most common spacing: 2m x 2m, 2.5mx 2.5m , 3m x 1.5m and 3m x 2m . In this system, the spacing is increased from 9 to 10, 12, 14 or more feet between rows and 2 to 4 m between plants.

The wider spacing results in fewer plants in the area. The benefit is improved access to machines at time of planting and cultivation. Likewise, it facilitates the removal of the wood,

employs less labor for planting and cultivation. The disadvantages are the need for greater cultural practices and natural minor pruning.

Integration planting can be done in single line , double , triple or quadruple in stands with larger spacing to allow more light incidence between the lines , according to the need of the project . I.e., the group of more or fewer trees will be decided according to the activity developed in partnership with livestock or agriculture.

One way of planting pasture may be the distribution of seeds broadcasted before planting corn or sorghum with reduced spacing. The intercropped with crops of grass can be done using the Santa Fe System , developed by Embrapa , mixing the seed with compost grass planting these crops . Another alternative for the planting of grass is to make the distribution of seeds during topdressing with nitrogen. This occurs 25 to 30 days after planting the beans. The farmer should mix the seed of grass to nitrogen fertilizer, which can be urea or ammonium sulfate. This fertilizer should be incorporated into the soil at a depth of about 3 cm.

It is desirable to divide the pasture, to adopt rotational grazing using electric fence. The electricity costs about a third to a fifth of the price of traditional fence.

The indications of division of pasture with about must happen according to stocking rate of animals per hectare. The number of animals per hectare should consider offering material in different periods or seasons (dry season or rainy season).

Over the years, the pasture may be affected by shading from trees, which reduces the production of grass, but this reduction is offset by the possibility of maintaining quality forage during the offseason.

Thus, a further advantage is that the IAFP, due to shade provided by the trees, the grass suffers less in the dry months. Likewise, the recovery of grass is faster when the rainy season begins. I.e., year-round cattle will rely on a better offer best quality pasture.

Calculating the rate (animals x ha)

This calculation is done considering an animal unit (AU) = 450 kilos of live weight. During the rainy season (October / April), one hectare behaves 3-6 AU; during the dry season (May / September), the same hectare behaves 1.5 to 3 AU.

The producer must remember to do the calculation considering the maximum that animals can behave in the dry season. Unless it available to other possibilities to feed livestock.

Considering the IAFP located in the spacing of 10 x 4 meters (single row) , the area is occupied by 80 % grassland and 20 % forest . The stocking density of grazing will be 2.4 to 4.8 AU / ha in the wet season and 1.2 to 2.4 AU / ha in the dry season.

Source information: Integrating livestock farming and forestry. Foundation Bank of Brazil.