

Technical Bulletin #76:

Silviculture and Assisted Natural Regeneration

Silviculture is the practice of controlling the establishment, growth, composition, health, and quality of forests.

Assisted natural regeneration (ANR) is a method for enhancing the establishment of secondary forest from degraded grassland and shrub vegetation by protecting and nurturing the mother trees and the wildlings that are present.

HARVESTING

Decisions on which trees to cut or leave are based on: spacing, canopy closure, species, shape and health.

SPACING

Spacing is important to reduce above-ground competition for light, and below-ground competition for water and nutrients.

If spacing is too narrow, the trees will grow mostly in height but will not produce large diameter stems (Fig. 1).

If spacing is too large, sunlight penetrates through the canopy, grasses colonize the site increasing the risk of fire in dry season and the forest will lose its functions (nursing wildlings, soil erosion etc.)

Three meters apart is a good tree spacing distance for a regenerating forest.

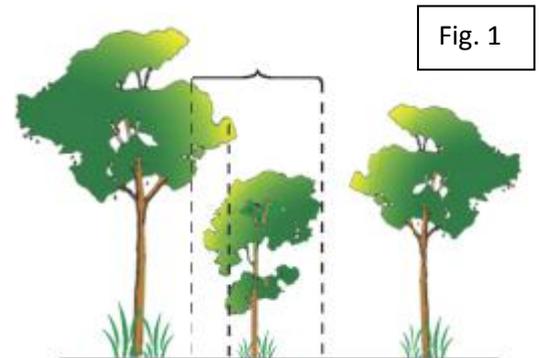


Fig. 1

CANOPY CLOSURE

The canopy provides shade and thus nurses wildlings. Some species need shade in the early stages of their growth.

If there are too many clearings inside the site, grasses will grow and the forest will gradually convert into a savanna.

PREFERRED SPECIES

Some species are more valuable than others. Trees can provide food, construction materials, fuel wood, medicine etc. When two trees are competing, you must compare the products and benefits that each can be produced in order to guide your choice as to which is more important or valuable (Fig. 2).

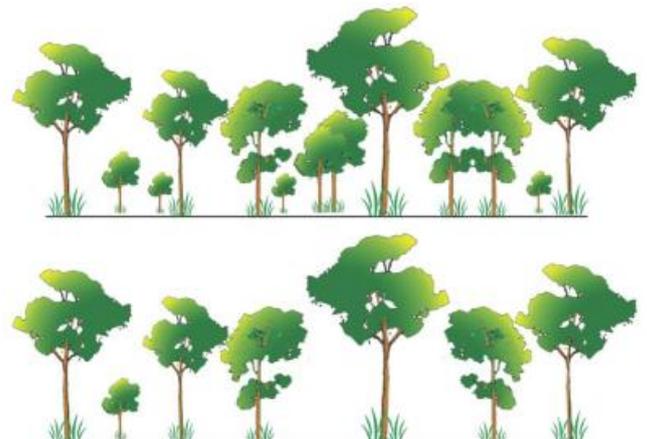
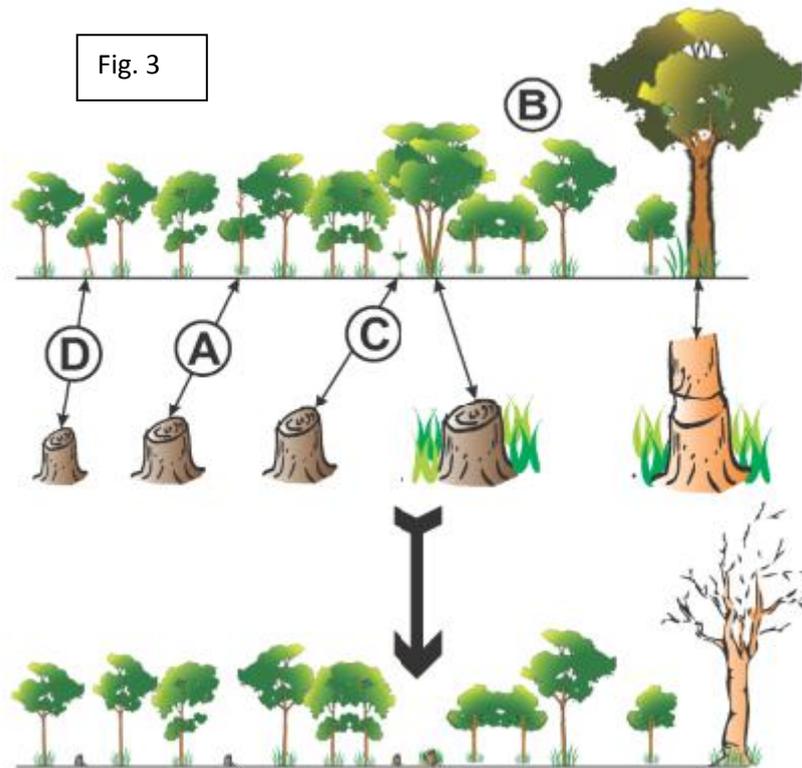


Fig. 2

SHAPE AND HEALTH

Trees that are malformed or sick tend to have lower market value and should be removed first when harvesting. When two trees are competing, look at the one that has the best market potential and continue to let that one grow while removing the one that does not (Fig. 3).



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