Bee Forage Establishment and Management

The establishment of bee forages has a similar agronomic/Silvi-cultural practices like other plants/ crops as described below;

1. **Seed bed preparation**: prepare fine seedbed for crop based forages such as cereals and legumes. Tree seedlings can be planted in rough seedbed.
2. **Sowing**: it is vital to sow most seeds in the nursery seedbed for proper germination and establishment. This is with exception of crops.
3. **Transplanting**: Tree, shrub, herbaceous and weedy potted/bare root seedlings must be transferred to the apiary site. Care must be taken to minimize root shock
4. **Weeding**: Just like other crops, bee forages need weeding until they have established
5. **Pruning**: prune off excessive branches for quick and straight growth



Extracting Bottle Brush Seeds

6 **Thinning**: Carry out thinning to crowded forages to reduce competition and produce strong remaining forages

7 **Coppicing:** This is cutting the tree/shrub at 30cm height from the ground to allow regrowth. This should be done on coppicing trees/shrubs once they have aged and become weak. Examples of such species include; *calliandra, eucalyptus, moon flower and leucaena.*

8 **Watering:** This is mainly done to seedlings in the nursery when the moisture is no enough. The beekeeper can save the expense of watering transplanted seedlings by synchronizing the maturing of seedlings with the onset of first season rains.



Eucalyptus citriodora seedlings at NaLIRRI



A bottle brush tree flowering at NaLIRRI



Extracting Bottle Brush Seeds

Bee Forage Identification, Establishment, Qualities and Management



A four month *Eucalyptus citriodora* at NaLIRRI

Prepared by
National Livestock Resources Research Institute (NaLIRRI)
National Agricultural Research Organisation (NARO)
P.O. box 96, Tororo, Uganda
Tel: 045-444-8360, 045-4437297, 045-4437480
Email: naliri@gmail.com, liridir@hotmail.com, lirridir@yahoo.co.og
Website: www.nalirri. go.ug

BEES AND BEE FORAGE MANAGEMENT

Background

The National Livestock Resources Research Institute (NaLIRRI) is one of the National Research Institutes that constitute the National Agricultural Research Organization (NARO). It stands on a 777-hectare piece of land in Osukuru Parish, Osukuru Sub– County, Tororo District.

NaLIRRI Mandate in Relation to Apiculture Research

NARO mandated NaLIRRI to undertake, promote and coordinate Research in all aspects of Apiculture and ensure dissemination and application of research results. NaLIRRI has a well developed National Strategic plan for Research and Development in Apiculture

Having been mandated, NaLIRRI Apiculture Programme conducts a number of researches on Bee Botany (Pollen Sources, Nectar Sources, Propolis Sources, Bee Calendar, Pollination of Agricultural Plants, forest trees, herbs and shrubs



Bottle brush nursery at NaLIRRI

Identification of bee forage

Bee forage plants can be identified in the following ways:-

1. Observing bees foraging on trees/plants
2. Microscopic observation of pollen collected by bees
3. Observation of nectar/honey under the microscope

Establishment of bee forage plants

- Direct seed planting
- Transplanting of seedlings
- Transplanting the wild plants
- Protecting the wild plants

Qualities of a good bee forage plant

- Fast growth rate
- Drought resistant
- High pollen and nectar production
- Should be insect pollinated
- Long life span
- Multipurpose
- Locally available/easy establishment
- Pest and disease free
- Non repellant to bees



Calliandra seedlings in NaLIRRI Nursary

- Non poisonous nectar and pollen
- Ability to regenerate/coppice
- Attractive scent and color to bees

Examples of good bee forage plants

A. plants / Trees

Examples:- *Mangoes, Comberetum molle, Vitex doniana, Trema orientalis, Moringa oliefera, Citrus sp, bottle brush, Calliandra, Eucalyptus sp*

B. Crops

Legumes are mostly preferred to cereals because most cereals are pollinated by wind. Some of the recommended crops include: simsim, sunflower, field peas, beans, etc.

Management / protection of bee forage plants

- Thinning
- Weeding
- Pruning
- Coppicing (cutting tree 30cm from ground to allow re-growth)
- Pollarding (cutting branches from crown)
- Creating fire line



Citrus (oranges) nursery at NaLIRRI