Top cleft: An appropriate technique for grafting of shea butter (*Vitellaria paradoxa* subspecies *nilotica*) trees in Uganda for reduced fruiting age and enhanced yield

Family scientific name: Sapotaceae

Scientific name: *Vitellaria paradoxa* subspecies *nilotica*

Synonyms: *Butyrospermum niloticum, Butyrospermum parkii* variety *niloticum, Butyrospermum parkii* subspecies *niloticum, Butyrospermum paradoxum* subspecies *niloticum*

Common English name: Shea butter tree or shea tree





Local names: Madi: *awa*; Akarimojong: *ekungurit*; Ateso: *ekunguru*; Lugbara: *kamiro* or *komere*; Lugwere: *kinakongole*; Kakwa: *kumoro* or *komure*; Acholi: *yaa* or *yao*; Lango: *yao*

General distribution: The shea-butter tree is a light demanding species of open sites and range land savannah which grows in areas ranging from 100 to 1600 metres above sea level, with mean annual rainfall of 600 to 1400 mm, and mean annual temperature of 25 to 29° C. It grows in the districts of Abim, Adjumani, Amolatar, Amuria, Amuru, Apac, Arua, Budaka, Bukedea, Buliisa, Dokolo, Gulu, Kaabong, Kaberamaido, Kapchorwa, Katakwi, Kitgum, Koboko, Kotido, Kumi, Lira, Maracha-Terego, Masindi, Moroto, Moyo, Nakapiripirit, Nakasongola, Nebbi, Oyam, Pader, Pallisa, Soroti and Yumbe.

Nutriceutical uses: Nuts are highly rich in oil, fatty acids, vitamins such as ascorbic acid and minerals like iron and calcium. Ugandan shea nuts are very rich in oleic acid. Shea oil used in cooking. The oil can be used as a sun screen and for treatment of many skin diseases. Leaf decoctions are used for stomach-ache, headache and as an eye lotion. The roots and root bark are used to treat jaundice, chronic sores, diarrhea and stomach-ache.

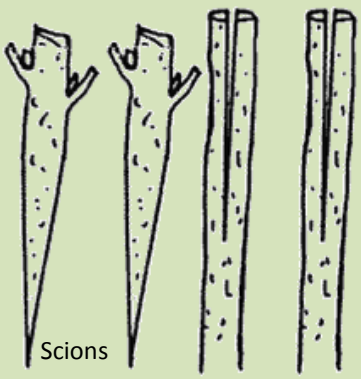
Propagation goal: Appropriate propagation techniques to enhance fruit production and shorter rotation ages.

Grafting method: Top Cleft Grafting

Time to healing of joint: 3 months (90 days)

Scion specification: Collect scions by harvesting from recently flushed branches on mature plus trees. Trim the scions to approximately 7.5 cm long. Collect only in the morning hours to reduce on desiccation and keep the scions moist/ cool at all times by placing them in cool boxes or a basin of water.

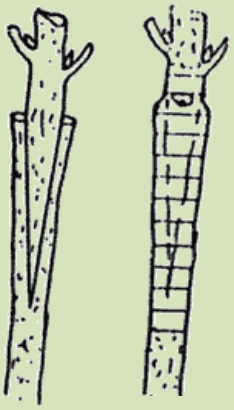
Scion/rootstock processing:



The scions should be cut to 5 – 10 cm long before grafting. Continue to keep the scions in water while preparing the root stocks for grafting. Nursery seedlings may be used as rootstocks. However, to cut down the period within which the grafted seedlings take to establish after planting, it is more economical to use wildlings. Select wildlings on the basis of vigorous growth (ranging between 50 and 150 cm in height with a collar diameter of between 1.5 and 3 cm) and absence of parasites.

Grafting practices:

Both the root stocks and the scions are grafted by joining them with grafting tape. They are then covered with transparent polythene bags to reduce on desiccation. These transparent polythene bags may only be removed after the emergence of the first leaves.







After 3 months (90 days), remove all the polythene bags and allow the graft union as well as the grafted plant to harden off. Flowering can commence 2 years after grafting.









Citation:

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For further information, contact:
Tree Improvement and Germplasm Research Programme,
National Forestry Resources Research Institute,
P. O. Box 1752, Kampala, Uganda.
Telephone: +256-712-161-161.
Email: naforridir@infocom.co.ug

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