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CASSAVA FARMING

As an adaptation to climate change

Introduction

Cassava is one of the most climate - resilient crop because of its ability to tolerate drought conditions. Cassava is the second most important crop for famers in the Mara Region for both household consumption, as it has strong nutritional value, and to support household income since it grows well in those climatic conditions. In 2015, E-Link Consult Ltd with support from USAID/Kenya and East Africa, conducted a community climate change adaptation assessments (C3A2) in four communities in Butiama district. The results from the assessment emphasized the importance of cassava as a staple crop and highlighted the need to educate farmers on 'climate-smart' techniques for growing cassava.

The most preferred cassava species in the area is known as "Mkombozi" *(Manihot esculenta*). This is due to the fact that the variety is resistant to diseases especially cassava mosaic and cassava brown streak diseases, it matures early, has high starchy content, its branchy type (branches gives more cuttings) and has ecological adaptation.

Stored cassava stems under the shade

Preparing Healthy Cassava Stems for Planting

- Obtain "Mkombozi" stems for planting from mature plants 08 – 12 months old.
- Store under the shade for 2 – 5 days (never more than 2 weeks) before cutting and planting. This makes the stems sprout faster than when they are planted freshly cut from the field.
- Stems should be stored vertically on the soil under the shade. The bottom part of the stems should touch the soil, which is moistened regularly, with the surroundings kept free from weeds.
- Handle the stem carefully not to destroy the nodes that may result in losses.
- Cut stems, with sharp tools into 20 – 25cm cuttings with 5 – 7 nodes.

How to Plant Cassava Cuttings

- Cassava cuttings can be planted in a slanting or angular position (45º). One – third is above the soil surface and ensure that the buds point upwards.
- Cassava cuttings can also be planted horizontally in which the cuttings are completely buried in the soil to a depth of 5cm.
- Plant the cuttings at a spacing of one by one metre (1 x 1m) on the crest of ridges or mounds.

Preparation of cassava cutting for planting at Kirumi Village

How to Control Weed

Biological method: Biological weed control refers to any technique that involves the use of natural enemies of weed plants to control the germination of weed seeds or the spread of established plants. Biological weed control techniques suppress weed growth. Biological control has been used successfully as a practical and economically affordable weed control method in many situations.

Cultural method: Cultural weed control refers to any technique that involves maintaining field conditions such that weed are less likely to become established and/or increase in number. A strong and competitive crop offers less opportunity for weed. All crop management techniques that contribute to good growth can be considered weed management tools. It includes: cropping system such as cover crop, mulching, hand/hoe weeding and tillage.

Guidelines on Proper Cassava Harvesting

- Harvest cassava roots when they are matured to have accumulated enough starch but have yet become fibrous.
- The optimum age when the starch and dry matter yields are highest is 9 – 12 months after planting, depending on the climate.
- Harvesting too early results in a low yield while delaying could reduce yield.
- Harvesting cassava when the soil is slightly soft but has no excessive water so that easily remove soil from the roots.
- Cassava roots are harvested by pulling the stem which carries the roots out of the ground.

How to Transport Cassava Roots

- Use a suitable container e.g. wheel barrow to transport roots in small quantities and short distances such as from farm to road side
- Load, off load gently the roots from your container without causing bruises or damage to the roots.
- Vehicles transporting cassava a long distance should be covered with tarpaulin to avoid rapid moisture loss from the roots.
- Do not seat or put heavy objects such as vehicle tyres on roots after loading.

Transporting Cassava Roots

Storing Cassava Roots

- Cassava roots start deteriorating soon after harvesting. Internal discoloration and loss of marketing value occur if they are not cooked or processed within 24 – 48 hours after harvesting. Secondary fungi and bacteria infection may cause rot in untreated roots. So, it is important to process the cassava roots within the specified time after harvesting.

Why Cassava is Processed

- Increase shelf life of roots and prevent spoilage or food loss, reduce bulkiness and ease transportation, remove the toxic compounds in cassava, create varieties of food with acceptable taste, aroma and texture, and produce industrial materials.

Website: www.elinkconsult.com

The Planning for Resilience in East Africa through Policy, Adaptation, Research, and Economic Development (PREPARED) Project, the central component of USAID Kenya and East Africa's PREPARED Program, works to strengthen the resiliency and sustainability of East African institutions, by targeting three key development challenges of East Africa that are likewise high priority areas for the U.S. Government (USG): climate change adaptation, biodiversity conservation, and sustainable access to water supply, sanitation, and hygiene (WASH).

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e-Link Consult Ltd
"Embracing Future"

P.O. Box 35813 Dar es salaam
Tegeta Bagamoyo Road, 2nd Floor Wema Twins House
Tel: +255 22 2630684
Email: info@elinkconsult.com/elinkconsult3@gmail.com
Website: www.elinkconsult.com

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