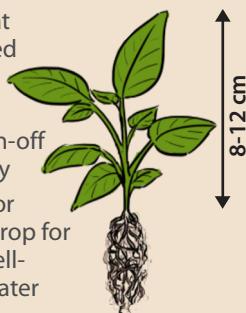


Rooted apical cuttings for on-farm seed production for potato

Authors: Pieter Wauters, Monica L. Parker

Rooted apical cuttings and site selection

- Transplants, like seedlings, that are planted in a small protected plot to produce high-quality seed for on-farm use
- Avoid:** shaded plots; water run-off from higher plots; animal entry
- Ensure:** good sunlight; no prior planting of potato or related crop for 4-5 seasons; loose textured well-drained soil; access to clean water



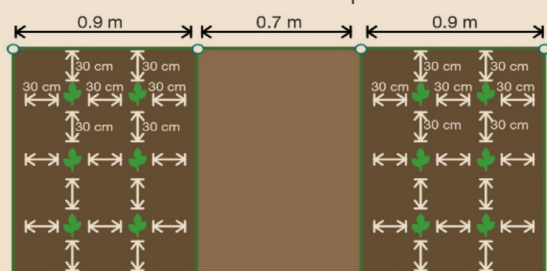
Seed bed preparation

- Work in the seed plot immediately after cleaning and disinfecting tools and boots, then work in other plots
- Plough the plot under the seed beds to a depth of 20-30 cm
- Raise the seed beds up to 5-10 cm high and rake them well to break up soil clumps



Planting of rooted apical cuttings

- Plant the cuttings in 2 rows in beds of 0.9 m wide and spaced 0.7 m from one another
- Space 30 cm between rows, 30 cm to the edge of the bed and 30 cm between plantlets



- Plant on cloudy days or in the late afternoon of a sunny day
- Plant a quarter to a half of the cutting so that only the top foliage is above the ground
- Compact the soil well around the base of the plantlet to ensure good contact between the roots and the soil
- Water immediately after planting
- Then water the seed plot once or twice a day until the cuttings are well-established, yield loss will be high if the crop is not well-watered



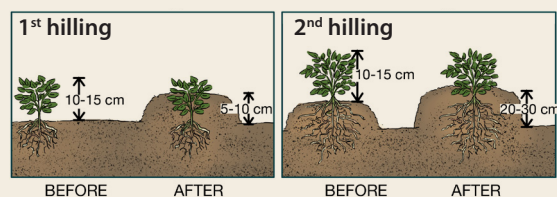
Disease management

- To treat late blight, first spray a contact fungicide, then alternate spraying contact and systemic fungicides
- Always wear protective clothing when spraying
- Bacterial wilt causes potato plants to wilt, even when there is enough soil moisture
- In case of bacterial wilt infection, uproot wilting plants with soil around the roots and dispose of them in a pit as far as possible from potato plots



Hilling/earthing and weeding

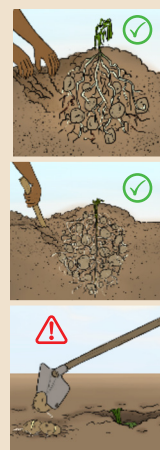
- Hilling increases the number and quality of tubers
- Mound ridges of soil on top of the potato plants to ensure stolons are covered
- The first hilling is done about 2-3 weeks after planting



- Keep the seed plot weed free

Harvesting and storage

- Check the tuber size on a regular basis
- Once 3/4 of the tubers are seed sized (size of a chicken egg), the plants can be dehaulmed
- Destroy the above-ground part, leave the tubers in the soil for 10 to 14 days for the skin to harden
- Harvest when it is not raining and when the soil is moist
- Store only healthy tubers
- If only 1 sprout develops, pinch and remove it to encourage the other eyes to open and sprout



Producing seed on-farm from apical cuttings is economical and produces high-quality seed

Many potato farmers save seed from previous harvests for own re-planting or buy poor quality seed from local markets

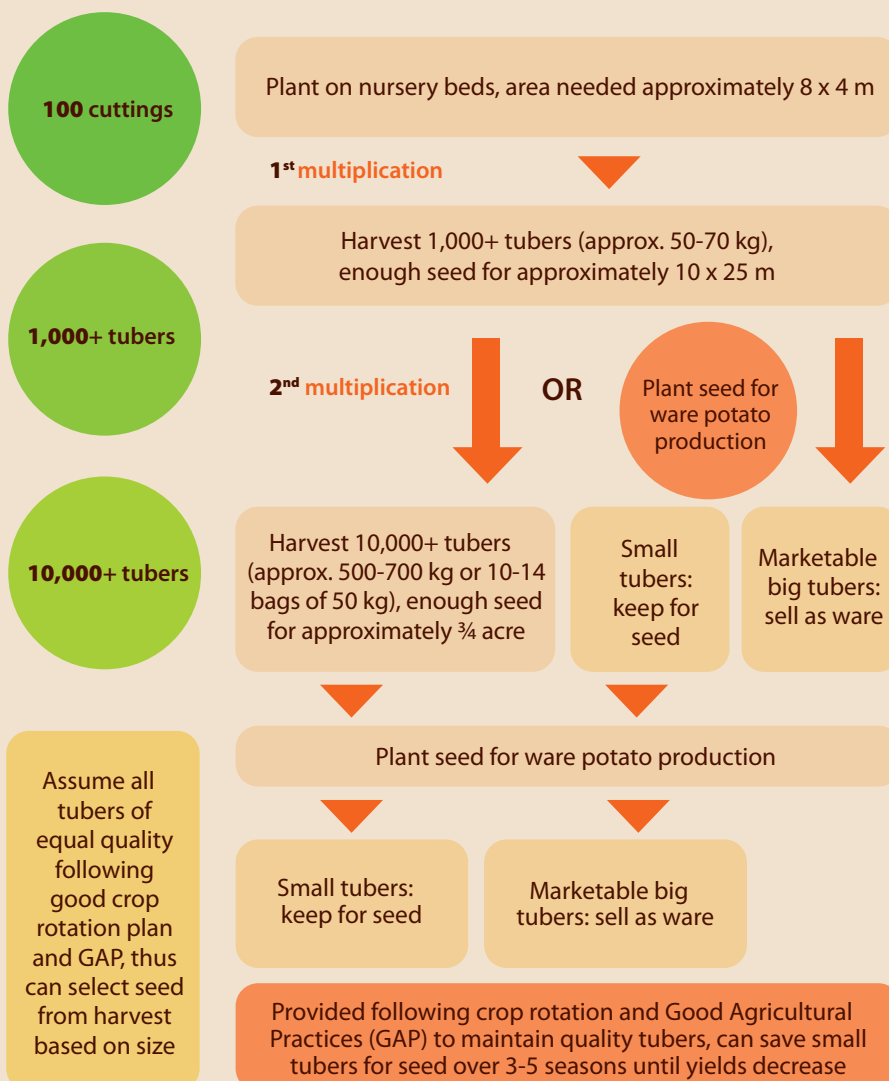
This seed is generally degenerated and leads to low yields and income

Rooted apical cuttings enable potato farmers to access high-quality early generation seed/super elite planting material, which can be of better quality than purchased seed

How producing seed on-farm works

Investment in the purchase of rooted apical cuttings is relatively low and the subsequent saving on seed by producing seed on-farm is highly valuable

- 100 cuttings cost KES 1,000
- 10 bags of 50 kg of seed cost KES 28,000
- Thus, saving money by producing seed on-farm
- This seed will be of better quality and higher yielding than purchased seed, if following crop rotation and GAP



Farmers can plant rooted apical cuttings to produce seed on-farm
This seed is only for on-farm use, and not to be sold as seed



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