



Innovation profile to scale apical cuttings of potato

With an average of 6 to 15 t/ha, smallholder potato farmers in sub-Saharan Africa (SSA) have significantly lower yields than reasonably expected within their resource capacity (20-30 t/ha). Limited access to clean planting material is a major barrier to increasing productivity. Critical to seed production is starter material used for onward multiplication in the field. Minitubers normally serve as starter material for seed production producing 5-10 tubers per unit. Rooted apical cuttings (RAC) are an alternative and accelerate seed production producing 10-20+ tubers per unit. RAC are rooted transplants produced from tissue culture plants. There are two stages in RAC systems: production of RAC in a screenhouse, then change of hands to a seed producer or farmer to plant RAC in the field to produce high numbers of seed tubers. With seed being available for farmers after few field generations of multiplication, seed produced from RAC can be saved on-farm for a further few seasons without significant risk of quality loss provided good agricultural practices are followed, thereby maintaining high yields and ensuring consistent access to quality seed. RAC offers opportunities for seed production in areas with insufficient land for traditional seed bulking and crop rotation. RAC accelerate disseminating novel varieties, and at the moment appear as the most feasible option to deliver hybrid 2X varieties once they are developed. Farmers can also plant RAC directly to produce seed on-farm.

Used by:

- Professional nurseries
- Small-scale nurseries
- Seed producers
- Smallholder and large-scale farmers
- Project and institutional Interventions (and Delivers)

Delivered by:

- Seed experts
- Capdev and technical experts

Helps with:

- Increasing options for starter material for seed production
- Accelerating seed production
- Increasing access to seed
- Accelerating access to new varieties
- Improving farmer yields

Pros:

- Strongly accelerates seed production
- Significantly higher productivity at lower unit cost
- Highly demanded by stakeholders: users, enablers and service providers
- Being adopted at a rapid pace due to RAC being appreciated by stakeholders

Cons:

- More labor intensive
- Delicate to handle compared to minitubers
- Requires irrigation to establish
- Organized transport system needed

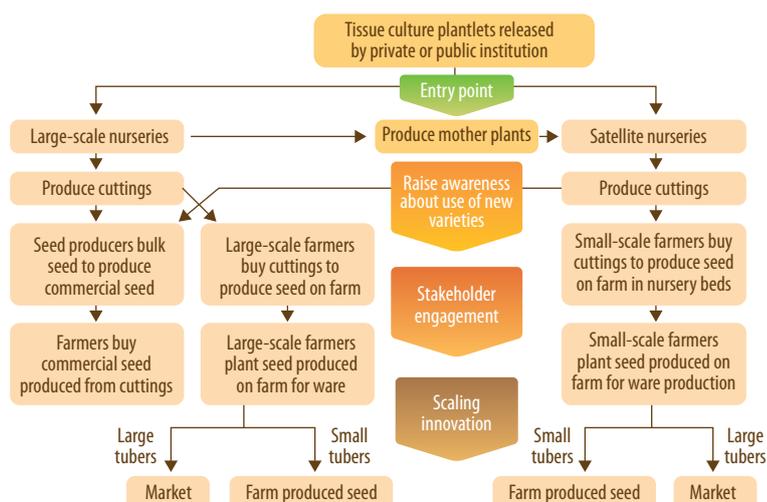
Used in:

- Vietnam and other countries in South-East Asia

Being currently scaled in:

- Kenya, Uganda, Tunisia, Madagascar, Georgia
- India: [Timesofindia_RAC](#) [Outlookindia_RAC-revolutionize-seed](#)

Scaling Pathway for rooted apical cutting and Scope of CIP Intervention



- ✓ Form scaling partner team
- ✓ Identify a nursery capable to produce cuttings of new varieties
- ✓ Support seed multipliers and nurseries to produce seed of new varieties
- ✓ Distribute seed tubers produced in year 1 and cuttings produced by small-scale nurseries to farmers to evaluate new varieties
- ✓ Enables
- ✓ Stimulate further demand for the innovation
- ✓ Officially recognize the technology of cuttings for certified seed production
- ✓ Stakeholders support the scaling of the innovation
- ✓ Nurseries and businesses take up the innovation
- ✓ Regulatory units officially recognize cuttings
- ✓ License nurseries and seed multipliers
- ✓ Farmers use cuttings to save seed on-farm

CIP VIDEOS

- Cecinta's story
- New technology bridging the seed potato gap

VIDEOS

- Rapid Multiplication of Clean Planting Materials for Potato Production in Vietnam

MEDIA

- Kenya.Nation_The-business-in-seed-potato
- Kenya_Standard_Cecinta and RAC_Sept 2020



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