REPUBLIC OF KENYA

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Adaptation for Smallholder Agriculture Programme
ASAP

KALRO
Kenya Agricultural & Livestock Research Organization

NAVCDP
National Agricultural Value Chain Development Project
Transitioning from Subsistence to Commercial Farming

Kenya Cereal Enhancement Programme - Climate Resilient Agricultural Livelihoods Window Plus (KCEP-CRAL Plus)

HOW TO PLAN A SEED POTATO BUSINESS

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I) Introduction

Potato cultivation is an important component of Kenya's agricultural economy, with the production of high-quality potato seeds being the foundational step in this process. Understanding both the costs incurred and the income generated in potato seed production is essential for farmers, policymakers, and other stakeholders.

II) What are the cost and incomes?

With reference to seed potato production:

- **Costs** encompass all expenses associated with producing certified seed potatoes. These include testing for diseases, land preparation, planting, crop management, inspection, harvesting, sorting, grading, packaging, and transportation.

- **Income** is the revenue generated from selling the certified seed potatoes at a certain price per bag, multiplied by the expected yield (number of bags).

III) Cost of producing seed potato

Understanding the cost of producing potato seed has several key benefits:

a) **Financial planning and budgeting**: Helps farmers create accurate budgets and plans, ensuring resources are used efficiently throughout the production cycle.

b) **Profitability assessment**: Allows farmers to evaluate if their operations are financially viable by comparing costs to expected revenues.

c) **Cost control:** Helps identify areas for cost reduction or optimization, maximizing margins and profitability.

d) **Setting competitive prices**: Enables farmers to set prices that cover costs while remaining attractive to buyers, ensuring competitiveness in the market.

e) **Risk management**: Allows assessment of financial risks associated with production, helping to develop strategies to mitigate potential losses.

f) **Improved decision making**: Empowers farmers to make informed choices about crops, inputs, methods, and marketing, leading to better outcomes.

Costs of producing one acre of Certified Seed Potato (CSP)

a) Cost of Testing Field for Quarantine Diseases (Bacterial Wilt & Potato Cyst Nematode)

- KEPHIS transport costs (distance from farm to nearest KEPHIS office and back in Km x Kes 58 per Km)
- Cost of tests (bacterial wilt @3,000 + potato cyst nematode @1,000) per block

b) Cost of preparing land

- Cost of ploughing one acre
- Cost of harrowing one acre
- Cost of making furrows (P_f x D_f x W_f)
    - Total number of people needed (P_f)
    - Total number of days worked (D_f)
    - Daily wage rate (W_f)

c) Cost of planting

- Total cost of basic seed planted (no. of bags x price per bag)

- Total cost of fertilizers used
- Cost of planting labour = $P_p \times W_p$
    - Total number of people planting one acre (Pp)
    - Daily wage rate (Wp)

d) Cost of crop management & inspection

Cost of labour for:

- First weeding = $P_{w1} \times W_{w1}$
    - No. of people needed to weed one acre (P_{w1})
    - Daily wage rate (Kes) (W_{w1})
- Cost of labour for 2nd weeding/hilling = $P_{w2} \times W_{w2}$
    - No. of people needed to weed /hill up one acre (Pw2)
    - Daily wage rate (Ww2)
- Cost of spraying (pest and disease control)

- Cost of chemicals
- Spraying cost = Ts x Ps x Ws
  - ✓ No. of times crop sprayed (T_s)
  - ✓ No. of people spraying (P_s)
  - ✓ Daily wage rate for sprayer (W_s)

- Cost of inspection
  - 3 Field inspection = 3 x Tk x Fk
    - ✓ Transport from KEPHIS to site and back (distance in km x Mileage rate of Kes 58 per km) {T_k}
    - ✓ Field inspection costs at Kes 430 per ha (2.47acres) with a minimum of Kes 1,935 per visit (F_k)

- Cost of labour to dehaulming crop = P_d x W_d
  - No. of people required to dehaulm (Pd)
  - Daily wage rate (Wd)

- Cost of one Bacterial Wilt test (after dehaulming)
  - Transport from KEPHIS to the farm & back (distance in km x Mileage rate of Kes 58 per km)

e) Costs of harvesting

- Cost of harvesting labour = P_h x W_h
    - No. of people needed to harvest one acre (Ph)
    - Daily wage rate (Wh)

- Cost of sorting & grading = P_s x W_s
    - No. of people needed (Ps)
    - Daily wage rate (Ws)

- Costs of packaging material

Costs of packaging labour:

- No. of people needed (Ps)
- Daily wage rate (Ws)

- Cost of one seed lot inspection

Transport from KEPHIS to the farm and back (distance in Km x Mileage rate of Kes 58 per km)

- Cost of labelling and sealing

Transport from KEPHIS to the farm and back (distance in Km x Mileage rate of Kes 58 per km)

IV) Expected Income = $S_p \times N_b$

- Set selling price (Kes/bag) (S_p)
- The expected yield (Number of bags)(N_b)

V) Cash Flow Plan

Activity	**Details**	**Costs** (KES)
Disease test	KEPHIS Transport and cost of tests	
Pre-planting	Fertility test	
Land preparation	Ploughing	
	Harrowing	
	Ridging	
Planting	Basic Seed	
	Fertilizers	
	Planting labor	
Crop management	Labor for 1st weeding	
	Labor for 2nd weeding/hilling up	
	Contact fungicide	
	Preventive fungicide	

	Insecticides	
	Spraying cost	
Field inspection	KEPHIS transport, inspection cost	
	Dehaulming labor	
Bacterial wilt sampling & cost	KEPHIS transport, BW test cost	
Harvesting	Harvesting labour	
	Sorting & grading labour	
Lot inspection	KEPHIS transport	
Postharvest handling	Storage costs	
	TOTAL COSTS	

- Estimate how much money you will need every month
- Plan how you will get the required money

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For More information contact:

Centre Director,
KALRO TIGONI, P.O. BOX 338, Limuru
Tel: 020 20 76915
Mobile: 0727031783
kalro.tigoni@kalro.org

Compiled by: Ng'ang'a N, Oyoo J, Mbiyu M, Otieno S, Nyongesa M, Pwaipwai P, Nyongesa D, Nasirembe W, Esilaba A.O, Mwaniki P and Sila M

Editors: Nyabundi K.W., Maina F.W., Mukundi K.T., Maina P., Wanyama H.N. Ondabu L.K. and Ekadeli J.

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