

Sweetpotato Speedbreeders

Breeding and disseminating early maturing, vitamin A rich sweetpotato in Burkina Faso



INTRODUCTION

In the Sudano-Sahelian zone like Burkina Faso, the rainy season is shorter with periods of drought of varying lengths, while the prevalence of acute malnutrition is over emergency thresholds. To contribute to building resilient food and nutrition systems suitable sweetpotato varieties are expected to be orange-fleshed and better fit in the agro-ecosystem with yield performance close or higher than this the farmers' varieties as well marketable traits. However, reliable access to elite varieties must be based on well organized seed systems with trained actors.

IMAGE & CAPTION

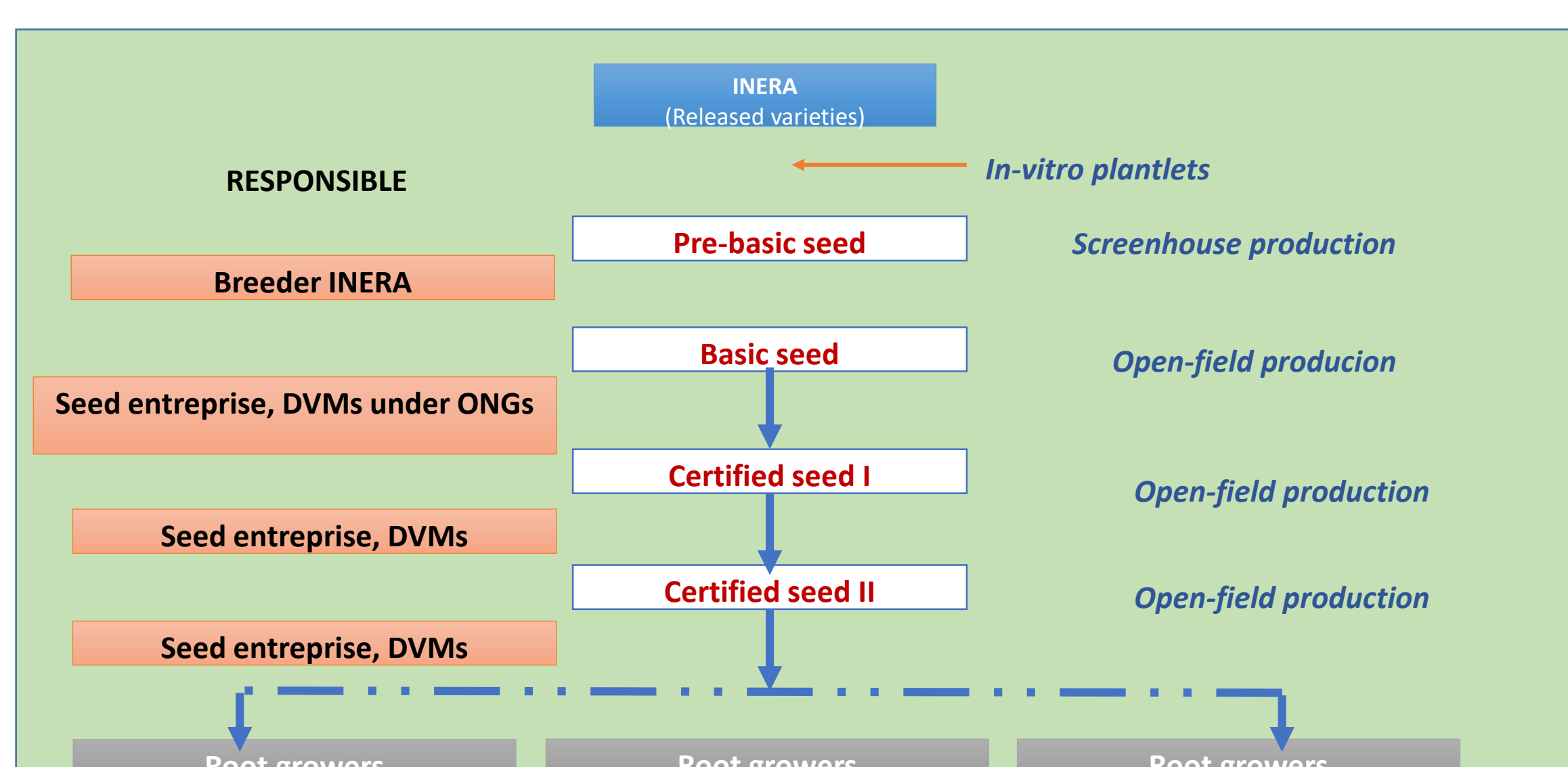


Fig 1. Seed dissemination scheme

METHODS

- Eight sweetpotato varieties evaluated in 4 agro-ecological zones along with local checks with active participation sweetpotato growers.
- All trials harvested between 90 and 105 days after planting
- Field visits organized in each community
- Sweetpotato seed classes defined and validated with seed inspectors
- Pre-basic seed produced in screenhouses on two INERA stations
- Basic seed produced in open-field on-station under irrigation
- DVMs trained and provided with pre-basic and basic material
- One seed company involved in quality seed production (basic and certified seed)
- Meeting organized with Seed inspectors to discuss and validate the seed inspection protocols
- Training of stakeholders

RESULTS

- Five sweetpotato varieties (4 OFSP and 1 Purple-fleshed) early maturing and adapted to the Sudano-sahelian zone (90 – 105 days) submitted for release,
- Seed value chain functioning actively
- OFSP growers have access to quality seed
- OFSP root and product now reaching markets and consumers
- Around 12000 households and almost 1.5 million of people reached with OFSP vines in three years.

Table 1. Varieties submitted for release

| N° | Pedigree | Yield (t/ha) | Colour | DM Cont. (%) | B-carotene (mg/100g of fresh root) | Reaction to SPVD |
|----|-------------|--------------|---|--------------|------------------------------------|--|
| 1 | BF59X CIP-4 | 20-25 | Flesh: Deep Orange Skin: Yellow | 29 | 8.32 | Good resistance to potato virus disease (SPVD) |
| 2 | BF59X CIP-1 | 15-20 | Flesh: Orange Skin: Pink | 27 | 4.00 | Moderate resistance to SPVD |
| 3 | BF13XCIP-3 | 15-20 | Flesh: Light Orange Skin: Light Pink | 26 | 1.76 | Moderate resistance to SPVD |
| 4 | TU-Or | 15-20 | Flesh: Light Orange Skin: Light Pink Good shape | 26 | 7.12 | Susceptible |
| 5 | TU-Pourpre | 25-30 | Flesh: Purple Skin: Purple | 31 | Rich in antioxidant | Moderate resistance |

Table 2. Beneficiaries of OFSP varieties dissemination under the Jumpstarting project

| Indicator Variables | Year: 1 | | Year: 2 | | Year: 3 | | | | | | | | Total |
|------------------------------------|---------|--------|----------|--------|---------|--------|----------|--------|--------|--------|----------|--------|---------|
| | Direct | | Indirect | | Direct | | Indirect | | Direct | | Indirect | | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | |
| Households reached with OFSP vines | 750 | 20 | 150 | 10 | 2400 | 75 | 2660 | 1250 | 4250 | 150 | 300 | 20 | 12035 |
| Number of people reached | 2250 | 130 | 200000 | 100000 | 12000 | 375 | 400000 | 150000 | 21250 | 750 | 500000 | 20000 | 1406755 |
| DVMs | 72 | 13 | 19 | 1 | 72 | 1 | 45 | 0 | 16 | 0 | 4 | 0 | 243 |

RELEVANCE FOR DIFFERENT FOOD SYSTEMS

- Adapted OFSP varieties available to address recurrent malnutrition in the Sudano-sahelian while also contributing in food security and in poverty alleviation.
- Processing units on OFSP base starting-up and new products and dishes promoted
- OFSP food value chain reinforced



Fig. 2. Screenhouse multiplication of pre-basic seed and farmers OFSP field

CONCLUSIONS

Demand-led varieties when available can constitute a good stimulation of a whole value chain. However, getting the stakeholder informed and involved can help in reaching targets

