

TYLCV resistant and long shelf life tomatoes for Nigeria



Founders and breeders:

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Introduction

Why tomato in Nigeria?

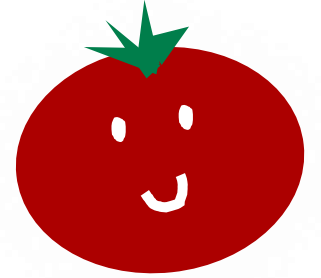
- **14th largest producer** of tomatoes in the **world**
- The **largest** producer in **Subsaharan Africa**
- **1.5 million tons** of tomato per **year**
- **\$500 mil – 1 billion annually** on tomato product-importation mainly **from China**

Tomato

Family: Solanaceae

Genus: *Solanum*

Species: *Solanum lycopersicum* L.



“Nigeria is such a huge market for tomato paste that we will find quite challenging to satisfy”

Dangote factory's general manager, Abdulkarim Kaita

Tomato DEMAND in Nigeria in 2013 was 2.3 million tons

(PYXERA Global)



**35% higher
than SUPPLY!**



Breeding goals

1. Resistance to Tomato Yellow Leaf Curl Virus (TYLCV)

→ Tomato paste

- Economic importance: 80-100% loss
- Transmission by white fly (*Bemisia tabaci*)
- Already existing resistant commercial varieties

How?

- Screening for best unimproved **landrace**
- Introgression of **Ty2** and **Ty3** by BC

Fresh tomatoes ←

2. Long shelf life

How?

- Screening for best improved variety
- Introgression of **rin** from Tomata de Penjar

- 50% loss due to poor post-harvest handling
- Nowadays short shelf life (15 days)
- Excess of production at the end of the wet season and no production in the dry season



Target market

Long shelf life
tomato seeds

Small
scale
farmers



- Sustainable development goal
- Preferred product
- Minimal PHL



Virus resistant
tomato seeds

Large
scale
farmers



- Stable and continuous supply to processing companies



Added value



1. Educational programme

- Efficient agronomic practices
- Agrochemical use
- Integrated Pest Management (IPM)
- Post-harvest handling
- Market provision

2. Use of locally adapted landraces

→ native germplasm maintenance

3. Fertilizers and pesticides provision





SWOT analysis

STRENGTHS

- Local landraces
- High demand in the market
- Value addition
- Known genes and sequences
- Molecular markers database
- Diverse skills in the team

OPPORTUNITIES

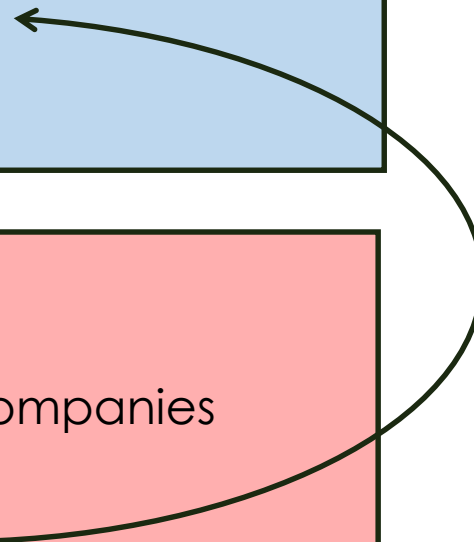
- Population growth
- Health consciousness
- Cosmetic Industry
- New breeding projects

WEAKNESSES

- Funding
- Geographical challenges

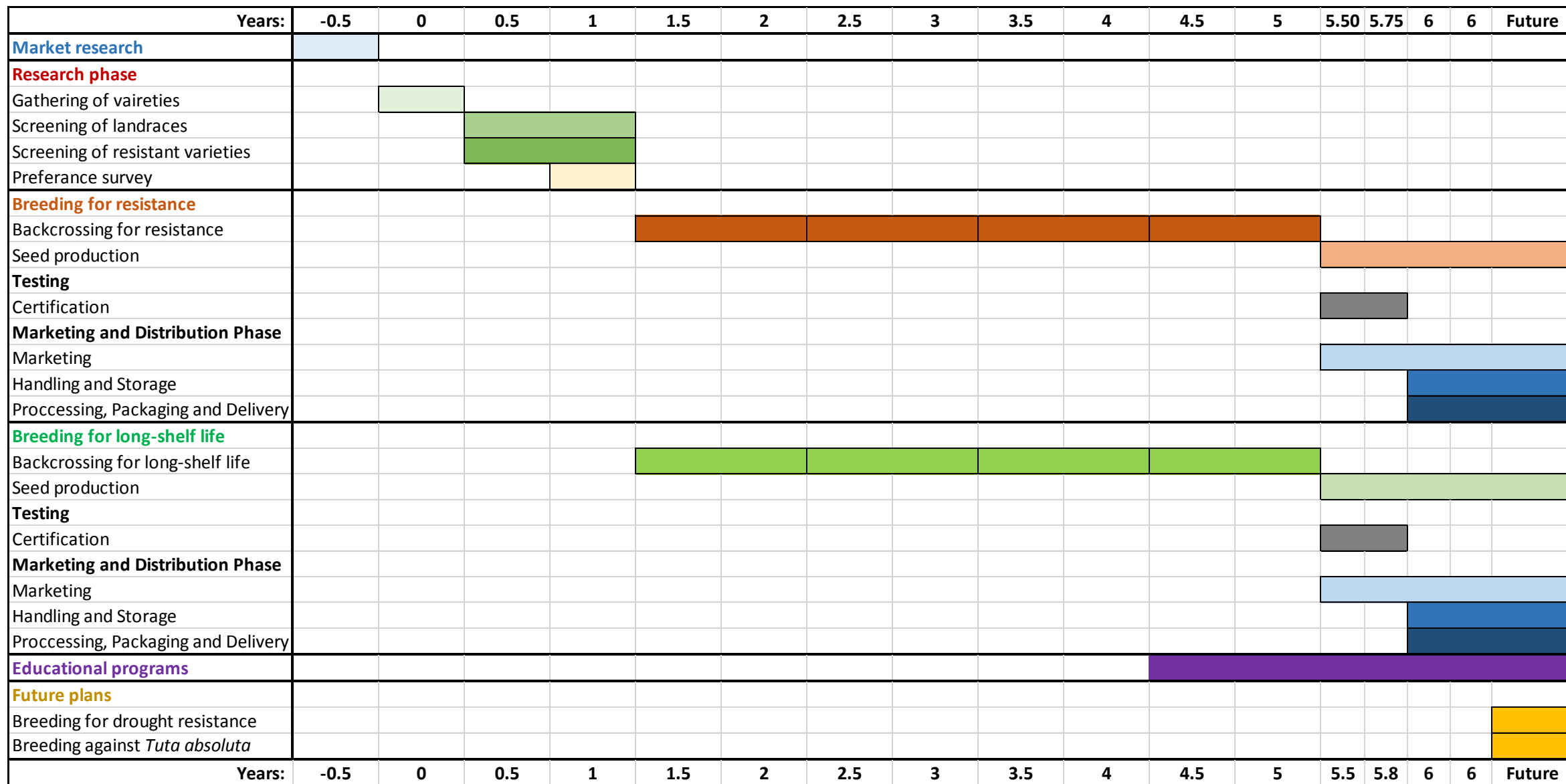
THREATS

- Competitors from big companies
- *Tuta absoluta* pest
- Draught
- Climate change





Gantt chart - draft





Thanks for your
attention!



“Sustainable breeding for food
security and improved livelihood”



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- **3. TUTA ABSOLUTA**

- Economic importance: 80-100% loss
- Current situation: prizes of the fruit is 15times higher in the local market
- Projects in the world underway on the same.