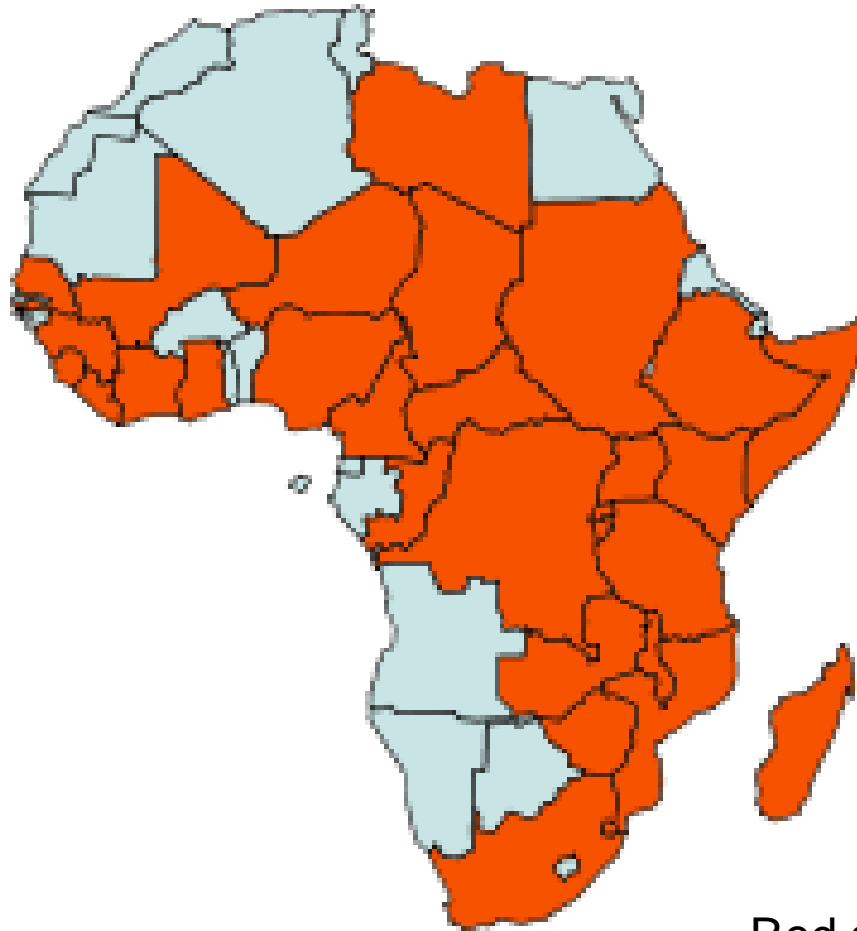


# Young Lady work in Transgenic breeding as a novel solution to Sweetpotato weevil problem

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# Geographic distribution of Sweetpotato weevil in Africa



Red shows Sweetpotato weevil problem in the country



# Why transgenic breeding

- Sweet potato is grown all over S.S. Africa as a staple food
- It is particularly important for food security as a last defense in drought situation
- In the dry period SP is stored in the ground and farmers practice piece meal harvesting
- However, weevils attack the roots during the dry period and can cause significant damage of up to 100%

# Methods for SP weevil control

## Preventive (long term) measures

### Cultural practices

crop rotation, enhancement of soil quality, choice of resistant varieties, water management, monitoring/ screening, fieldsanitation, mechanical barriers, postharvest treatment

### Habitat management

wild flower strips, hedgerows, functional biodiversity (regulation of pests through conservation and enhancing of indigenous natural enemies)

### Biological pest control

introduction of predators and pathogens (e.g. beneficial insects, bacteria, viruses, fungi)

### Biopesticides and physical measures

plant extracts, natural products, pheromones, insect traps and baits

### (Synthetic pesticides)

## Curative (short term) measures

Is there another way to solve this  
problem?

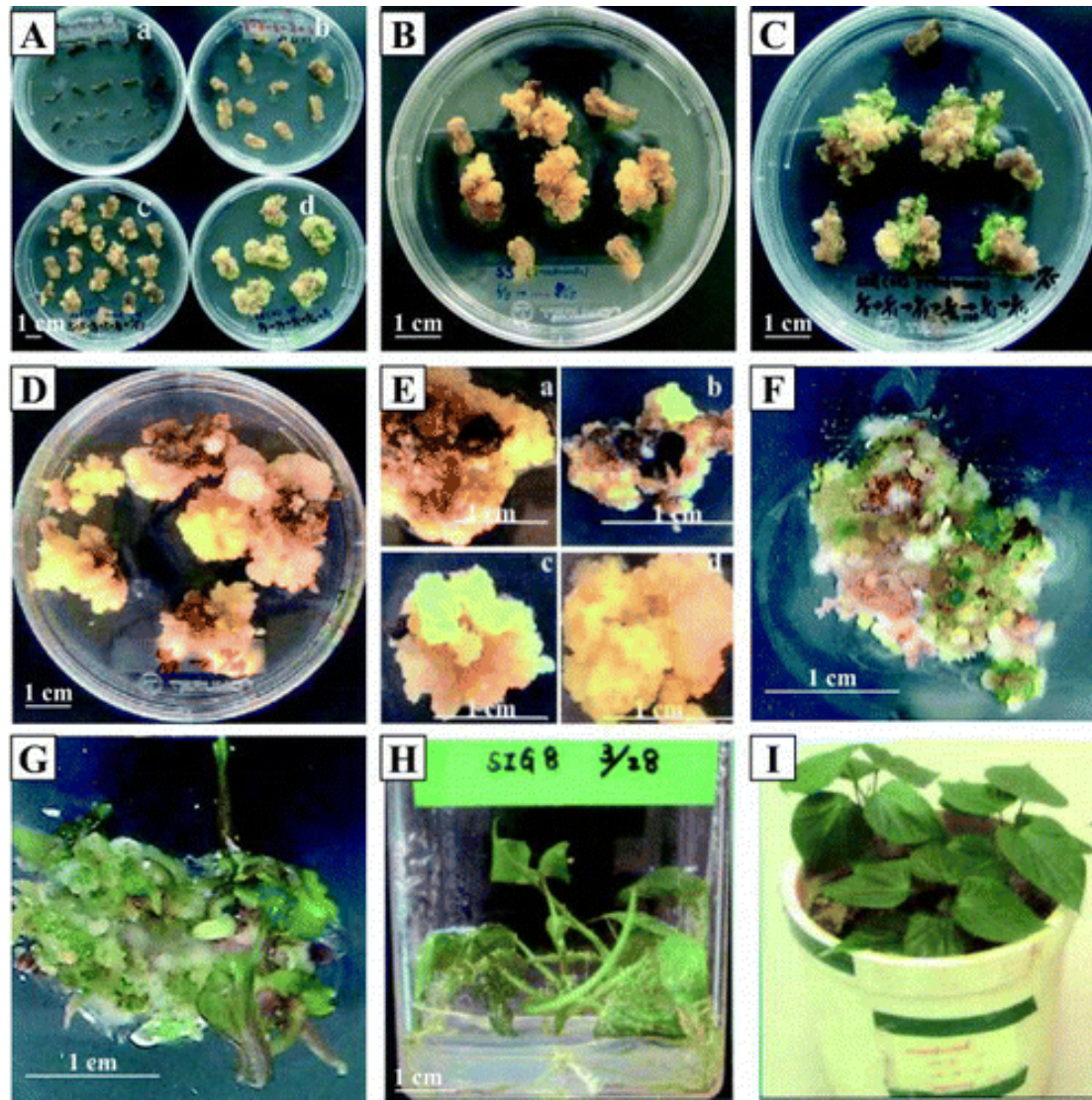
Yes

Transgenic transformation



Transgenic breeding

# Transformation, selection, and regeneration of transgenic plants for sweet potato



Plant  
Transformation  
Center, Department  
of Horticulture,

# Transgenic breeding work

- Using already transformed jewel material from Lima, research work will involve
- Checking for the gene presence
- Then using the transformed variety to cross with other varieties in the region and hope that the genes are expressed in the F1
- Select material that show sufficient resistance to SP weevil prevalent in the region
- Leave the work for other scientist to continue from F1

Here is an opportunity to shorten the period  
it takes to have certain traits to a variety  
combining transgenic method and  
conventional breeding