

# Rapid screening method for excess soil moisture, deficit soil moisture and salinity tolerance in Sweetpotato

Identifying crops and crop varieties for cultivation under moisture stress, excess precipitation and saline soil condition is important and can be achieved through utilizing exotic and indigenous germplasm to overcome climate change imposed constraints on food production and availability to help small farming communities mitigate the climate change associated risks to their livelihoods. Under the EuropeAid Id number PG-2009-ENG-1809852755. About 24 selected sweetpotato varieties were screened for their tolerance to drought, excess moisture and salinity. Preliminary results showed 6 varieties were able to produce tubers under such conditions as shown in the photos below. This result was further evaluated on farm only in one crop season and will be further field trailed in the future.



Figure 1. Deficit soil Moisture trial



Figure 2. Salinity trial



Figure 3. Excess soil moisture trial

**Variety: RAB-36**  
**Yield: 5.6-15t/ha**  
**Tube colour: Purple**  
**Flesh: pale yellow**  
**Leaf : light green with purple margins on young leaf**  
**Soil: can grow well under low soil moisture condition with fine loam sandy soil, tolerant to salinity**  
**Maturity: 70-98 days**



**Variety: SIMAT**  
**Yield: 13.5-20t/ha**  
**Tube colour: Dark purple**  
**Flesh: Pale yellow**  
**Leaf : light green with purple margins on young leaf**  
**Tolerant: excess moisture, suitable for dry condition and salinity tolerant**  
**Maturity: 70-98 days**



**Variety: Masung**  
**Yield: 6-12t/ha**  
**Tube colour : Light Pink**  
**Flesh: Yellow**  
**Leaf :Dark green with purple young leaves the forth youngest dew leaf**  
**Tolerant: excess moisture, suitable for dry condition and salinity tolerant**  
**Maturity: 70-98 days**



**Variety: SI-85**  
**Yield:14-115t/ha**  
**Tube colour: Creamy white**  
**Flesh: pale yellow**  
**Leaf : light green with purple margins on young leaf and purple leaf vein**  
**Soil: can grow well under low soil moisture condition with fine loam sandy soil, tolerant to salinity**  
**Maturity: 70-98 days**



**Variety: LPO 3**  
**Yield:120t/ha**  
**Tube colour: pale pink**  
**Flesh: yellow**  
**Leaf : light green with purple margins on young leaf**  
**Soil: can grow well under low soil moisture condition with fine loam sandy soil but susceptible to salinity**  
**Maturity: 70-98 days**



**Variety: Red 2**  
**Yield: 115t/ha**  
**Tube colour: Red wit white patches**  
**Flesh: white**  
**Leaf : light green with purple margins on young leaf**  
**Soil: excess moisture, suitable for dry condition**  
**Maturity: 70-98 days**

