

## DUS TESTING; THE EXPERIENCE OF KENYA

Presented at;  
USPTO/UPOV Train The Trainer Course,  
Geneva  
SWITZERLAND  
4<sup>TH</sup> – 8<sup>TH</sup> MAY, 2015

Edwin Nyamwaya,  
Plant Examiner,

Kenya Plant Health Inspectorate Service (KEPHIS)  
(*website: [www.kephis.org](http://www.kephis.org)*)



## Distinctness Uniformity and Stability (DUS Testing)

- The examination, or "DUS Test," is based mainly on growing tests, carried out by the authority competent for granting plant breeders' rights.
- Kenya benefits from UPOV membership in many ways including but not limited to providing guidance for DUS Examination.

## DUS Testing for Agriculture Crops in Kenya

- DUS testing is done for;
  - Cereals e.g. maize, wheat, Grain amaranth, Barley, Sorghum, Finger millet
  - Pulses e.g. dry beans, cowpeas, lablab bean, Pigeon pea, French beans
  - Forage crops: Buffel grass, Lucerne
  - Root crops e.g. cassava, potatoes
  - Oil crops e.g. Sunflower, rape seed, safflower, soybeans, groundnuts
  - Industrial crops e.g. cotton, pyrethrum, coffee, tea
  - Fruit and tree crops e.g. macadamia, eucalyptus

## DUS Testing Purposes

- To establish variety identity
- Release of new varieties for commercialization
- Generate descriptor for use in seed certification & variety maintenance
- Grant of Plant Breeders Rights

## DUS Testing to establish variety identity

The examination generates a description of the variety, using its relevant characteristics (e.g. plant height, leaf shape, time of flowering).

## DUS Testing to Generate descriptor for use in seed certification

- Field inspection is the first step in seed certification.
- Before field inspection commences the seed merchants must provide proof of origin of the parental materials of the varieties registered for inspection and the descriptor.

## Release of Varieties

- Kenyan variety system ensures release of varieties that are new and improved.
- The variety Release Committee only considers varieties which have undergone Distinctness Uniformity and Stability testing successfully.
- The varieties are then included in the National List; a list of varieties of agricultural, vegetable and fruit plant species whose seed can be legally produced and marketed in Kenya.

## DUS Testing to Grant Plant Breeders Rights

- Distinctness, Uniformity and Stability (DUS) test is a requirement for the protection of new plant varieties.

## DUS testing arrangements

- DUS testing of new varieties is done by KEPHIS on case by case basis.
  - Carried out by KEPHIS
  - Under special cases, there is testing on breeder's premise.
  - International cooperation in DUS testing among UPOV member states.

## DUS Testing by KEPHIS

- The location of trial sites depends on the agro ecological requirements of the crops.
- Exceptions to this are provided in protected conditions and when environmental differences are not a major factor of consideration.

| DUS Testing Centre | Crops  |
|--------------------|--|
| Kisumu             | Finger Millet, Traditional Vegetables                                |
| Nakuru             | Wheat, Traditional Cereals, Soybeans, Other Small Cereals, Sunflower |
| Nairobi            | Maize, Sorghum, Beans, Vegetables                                    |
| Embu               | Maize, Rice  |
| Kitale             | Maize, Lucerne, Sunflower  |



## DUS Testing *with* Clients/Breeders

- ✓ reduces the risks of conducting the test.
- ✓ improves the quality of the output as a result of improved competencies
- ✓ promotes sharing of knowledge.

## International cooperation in DUS testing among UPOV member states.

- Kenya protects applications for mostly ornamental varieties from breeders in Netherlands, Germany, France, Israel, United Kingdom, Japan Australia, New Zealand, USA, republic of South Korea among several other countries based on DUS reports from UPOV designated authorities.

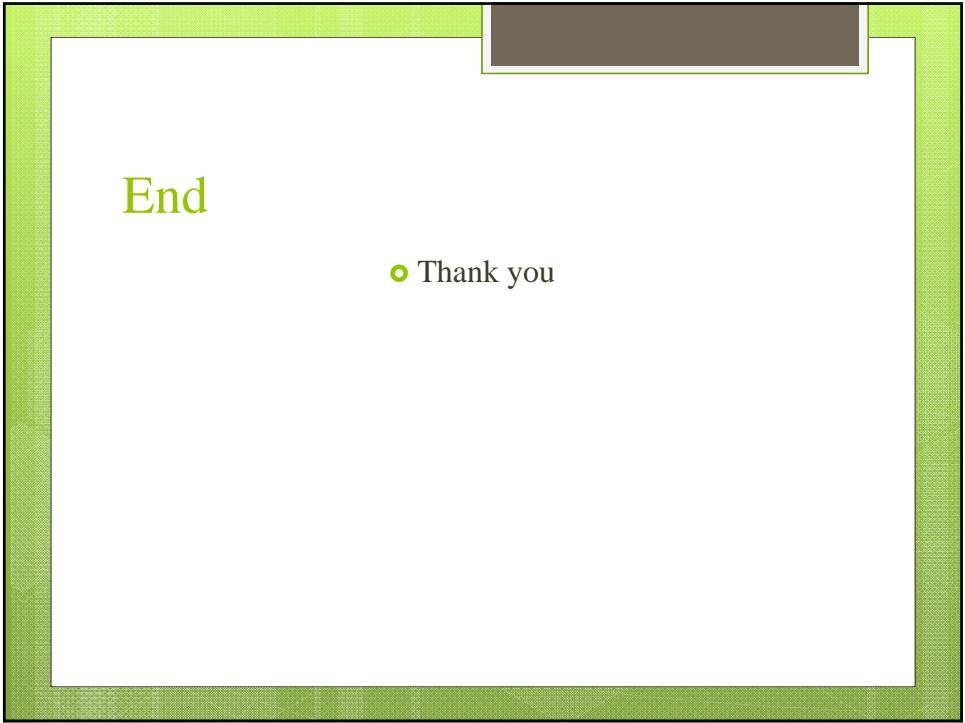
## Impact of Capacity Building in DUS Testing

- The increase in domestic breeding of crop varieties in the country is as a result of enhanced variety description made possible by readily available UPOV test guidelines for most of the Agricultural crops.
- International training offered by UPOV has provided KEPHIS staff with the much needed experience and exposure in DUS testing.
  - Trained personnel have embarked on the development of national test guidelines for various vegetables, pulses and forage crops. (Spider Plant, Vine Spinach, Jute Mallow, Dolichos, Black Night Shade, Buffel Grass) and preparing a revision of Lucerne TG.
  - Kenya has assisted/is assisting the development of Cassava and Macadamia UPOV TGs.

## Challenges

- Kenya is a regional leader in matters of seed certification and plant variety protection in the East and Central Africa. There's need to upgrade our skills to meet the expectations'.
- There is need for better facilities and equipment for DUS testing and for molecular characterization.
- There's need to build capacity of DUS testers in description of ornamentals varieties especially for varieties that have been bred in Kenya..





End

- Thank you