THE ROLE OF PVP IN PROMOTING DEVELOPMENT OF CLIMATE-SMART IN KENYA

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Introduction

• The Kenyan economy is largely dependent on agriculture for raw materials, food security, employment and general livelihoods.

• Climate change has resulted in increased temperatures, changes in seasonal trends and patterns.

• In recent years, Kenya has witnessed extended dry periods and rainfall outside the normal seasons.

• With the changing climatic conditions, the country has witnessed emergence of new pests and diseases such as maize Lethal Necrosis (MLN), Fall Army Worm (FAW) among others.

• It is therefore very important for breeders to develop varieties that are resilient to harsh agro-ecological conditions.
• The office to administer the PVP was established in 1997 and has functioned under KEPHIS since 1998
• Kenya acceded to UPOV under the 1978 Convention in 13th May 1999
• The Seeds and Plant Varieties Act was amended in 2012 to incorporate aspects of the 1991 Act of the UPOV.
• In May 2016, Kenya acceded to the 1991 Act of the UPOV Convention.
• Kenya grants PBRs for all plant genera and species
Plant Variety Protection in Kenya

• Establishment of a PVP office and subsequent membership to UPOV, conferred the following advantages:
  • Readily available UPOV test guidelines for most of the Agricultural crops
  • Trained personnel through cooperation with UPOV and UPOV members on development of national test guidelines.
  • Collaboration and cooperation between the breeders and the testing authority on variety description.
• KEPHIS engaged in sensitization of breeders to develop new varieties and benefit from the PVP system.
• This led to increased introduction of crop varieties
Development of Climate Smart Varieties

• During the last 10 years, breeders have embarked on development of drought tolerant varieties of maize, sweetpotato, cassava, sorghum, pigeon peas, amaranth, rangeland grasses among others.

• There are also efforts to release pest and disease tolerant varieties to counter emerging pests as a result of climate change.

• Sixteen (16) Maize Lethal Necrosis (MLN) and 3 Fall Army Worm (FAW) tolerant varieties have been released.
Comparison of drought tolerant varieties released during the periods 1980-1999 and 2000-2019

<table>
<thead>
<tr>
<th>Period of release</th>
<th>Number of varieties released</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980-1999</td>
<td>34</td>
</tr>
<tr>
<td>2000-2019</td>
<td>230</td>
</tr>
</tbody>
</table>
Development of Climate Smart Varieties

Comparison of drought tolerant varieties released during the periods 1980-1999 and 2000-2019

<table>
<thead>
<tr>
<th>Crops</th>
<th>Number of varieties released</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIZE</td>
<td>127</td>
</tr>
<tr>
<td>SW. POTATO</td>
<td>28</td>
</tr>
<tr>
<td>CASSAVA</td>
<td>16</td>
</tr>
<tr>
<td>SORGHUM</td>
<td>35</td>
</tr>
</tbody>
</table>

Number of varieties released
Development of Climate Smart Varieties

Comparison drought tolerant varieties released during the periods 1980-1999 and 2000-2019

Development of Climate Smart Varieties

Increased production through breeding of better yielding and drought tolerant varieties

Legend
- New drought tolerant varieties
- Check Varieties

Source: KEPHIS VCU Data - 2017
Development of Disease Tolerant Varieties: Food Security

• Development and release of MLN tolerant varieties thus improved yields

Legend:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKMLN150074</td>
<td>6.09</td>
</tr>
<tr>
<td>DH04</td>
<td>5.18</td>
</tr>
<tr>
<td>DKB031</td>
<td>5.49</td>
</tr>
<tr>
<td>DKC80-33</td>
<td>5.28</td>
</tr>
<tr>
<td>SC DUMA 43</td>
<td>5.44</td>
</tr>
</tbody>
</table>

Source: KEPHIS VCU Data; 2015
Conclusion

• There is considerable development of climate resilient varieties following introduction of plant variety protection in Kenya.

• This has come as a result of:
  • Breeders having assurance on return of investment following development of new varieties.
  • Enhanced capacity for testing of new varieties through cooperation with UPOV and UPOV members.
  • Collaboration and cooperation between the breeders and the testing authority on variety testing.
Thank you for your kind attention!

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