

Promoting New Plant Varieties for enhanced agricultural productivity and food security

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Presentation outline

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- Zim PBR status
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Introduction

- The world is approaching a critical era in the evolution of our planet and species- and its in a race between growing population and food production.
- Despite the increase in population, the area available for food production has essentially remained constant since 1960 in the sense that, soil erosion and urbanization has offset such gains (Evans, 1998).

Food security

- It exists when all people, at all times have physical and economical access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active healthy life

Zimbabwean Plant Breeders Rights Act

- Enacted in 1974 to enable the protection of new plant varieties bred within or outside Zimbabwe
- System operates on a voluntary basis – it is the innovator's choice to apply for rights.
- It is the duty of the holder of PBR to maintain reproductive material of the new variety

Terms of protection

- 20 years for other crops
- 25 years for trees and vines.
- A breeder can apply for a five-year extension .
- At the expiry of the rights, protected varieties become public material

Applicants

- These include the following :
 - Public institutions
 - Private local seed companies
 - Multinational seed companies
 - Quasi government seed companies
 - International companies

Five year analysis of PBR applications

Local Applications

Year	No. of Applications
2013	9
2014	-
2015	-2
2016	-
2017	-
Total	11
%	28

International applications

Year	No. of applications
2013	-
2014	17
2015	7
2016	2
2017	2
Total	28
%	72

PBR Status in Zimbabwe

Crop	Number
Maize	104
Soyabeans	33
Cotton	4
Wheat	12
Potatoes	2
Tobacco	14
Barley	2
Dry beans	13
Plum	8
Groundnuts	5
Roses	450
Nectarine	7
Blueberries	6

How do new plant varieties enhance productivity and food security in Zimbabwe

- Use of protected varieties as a source developing new and more superior varieties
- Adopted the wide use of hybrids that are high yielding e.g. upto 21mt/ha.
- The breeding and use of new varieties that are pest and disease resistant (GLS, MSV, Rust)
- Varieties that are drought and heat tolerant
- Protection of new varieties from abroad have benefited the horticulture sector.

How do new plant varieties enhance productivity and food security in Zimbabwe

- Job creation
- Participatory plant breeding model
- Extension services back up breeding programmes
- Existing and new agricultural technologies
- Exploitation of new and foreign varieties to meet demands of all markets making farmers economically sound and therefore food secure.

How do new plant varieties enhance productivity and food security in Zimbabwe

- Support by government on:
 - Research on soil management
 - Plant protection
 - Agronomy
 - Variety release and protection
 - The timely availability of other inputs

How do new plant varieties enhance productivity and food security in Zimbabwe

- Use of participatory Breeding approach to:
 - Assures that varieties will produce well under “real life” conditions that are well adapted.
 - PPB ensures greater success of adoption of innovation by the farmers
- The preservation of traditional varieties and landraces, non domesticated species, advanced cultivars, breeding lines and genetics stocks

PBR exemptions in enhancing agric productivity and food security

- All farmers with 10ha and below are allowed to use the harvest from a protected variety for propagation that plant or other plants
- To multiply the seeds
- Exchange with any such farmer
- For the purpose of growing and selling of produce on his household

Reasons for food insecurity

- Limited availability of improved varieties in most parts of the country due to poor awareness creation in promoting the new varieties.
- As such, farmers plant very old varieties and as a result there is low or stagnant agricultural productivity leading to poverty and food insecurity

Solutions

- Continued genetic improvement in crop varieties is very vital i.e. yields and nutrition
- The availability and access to improved varieties is beneficial to
- Adoption of new seed varieties in order to achieve better yields and income for farmers
- Awareness creation in promoting new seed varieties.
- There is need for increased public support for crop improvement efforts for the varieties to be adapted to changing local climatic conditions.

Success story

- As the PBR officer I have been at the helm of the PBR office since 2013 making me the only lady in the Ministry of Agriculture who is into Intellectual Property. My duties :
 - Receiving, examining, facilitating gazetting, processing PBR certificates and updating the database and the register
- My wish is to acquire a scholarship to pursue a Masters programme in the field so as to complement my other qualifications and enhance my service delivery.