



Don state technical University

Technology of
post-harvest processing of
Maize

MTAP-11
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Rostov-on-don
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Aim

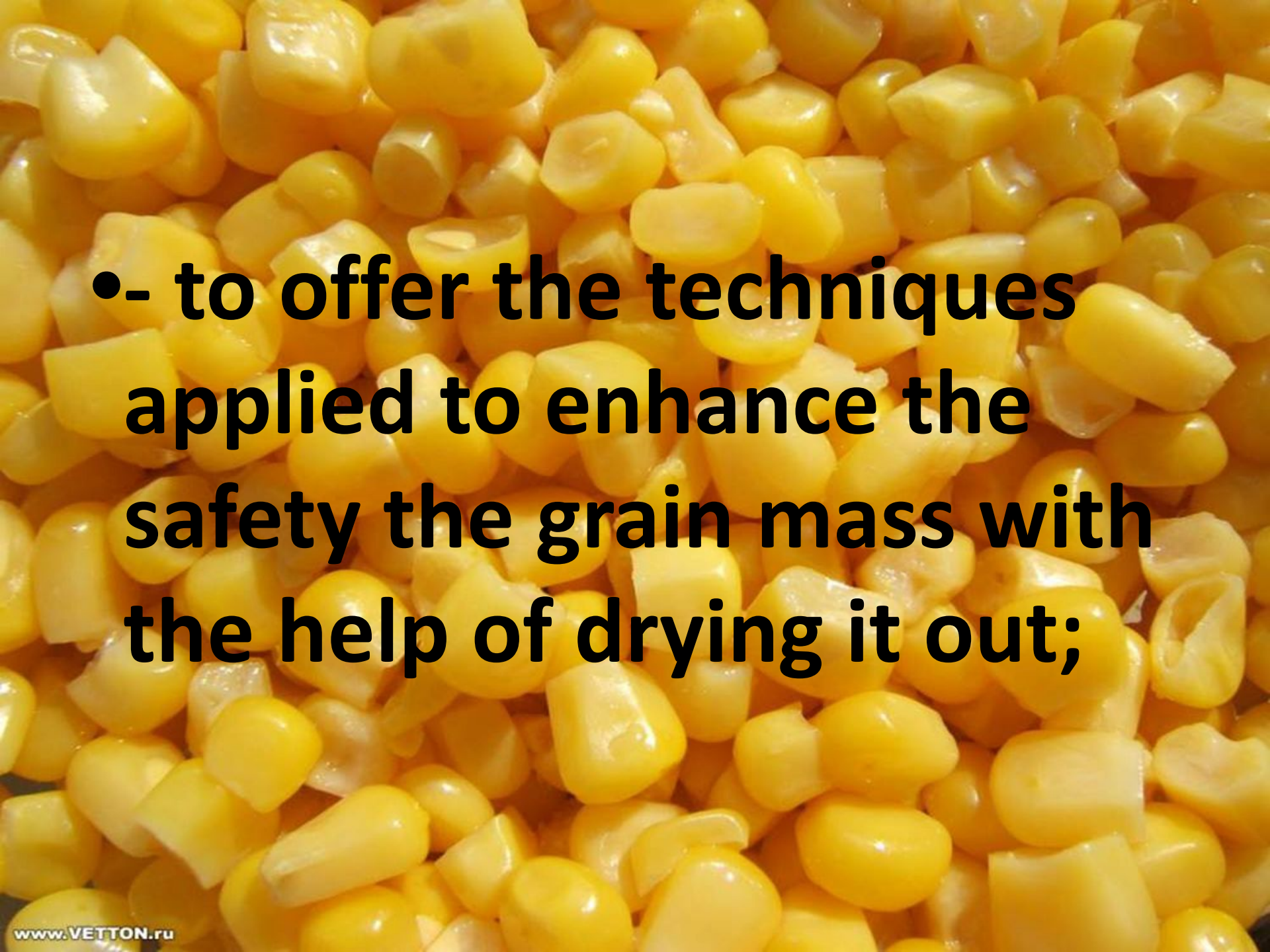
- The main aim of my research work is increasing of the grain resistance in the process of post-harvest period



The Objectives

- to study methods and techniques applied to increase the life and resistance of Maize;



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- to offer the techniques applied to enhance the safety the grain mass with the help of drying it out;

Losses in Maize of two types:

Losses in Maize can be of two types:

Quantity Loss	Quality Loss
<ul style="list-style-type: none">· Improper time of harvesting	<ul style="list-style-type: none">· Change in colour, smell or taste
<ul style="list-style-type: none">· Inconsistent Harvest technology	<ul style="list-style-type: none">· Contamination with toxins
<ul style="list-style-type: none">· Improper drying methods	<ul style="list-style-type: none">· Pathogen
<ul style="list-style-type: none">· Spillage during storage	<ul style="list-style-type: none">· Insect excreta
<ul style="list-style-type: none">· Damage caused by pest organism (Aflatoxin)	<ul style="list-style-type: none">· Reduction in nutritional value
<ul style="list-style-type: none">· Poor handling	
<ul style="list-style-type: none">· Damage caused due to rodents	

Drying of Maize

- ❖ **low moisture content and low storage temperatures reduce the opportunity for deterioration and microbial growth**



Storage

- ◆ The efficient conservation of maize depends basically on:
 - the ecological conditions of storage (relative humidity, temperature, etc.);
 - the physical, chemical and biological characteristics of the grain;
 - the storage period;
 - the type and functional characteristics of the storage facility;



❖ ***A good storage structure should:***

- **not allow re-wetting of grain by either moisture migration or rain;**
- **offer reasonable protection from thieves, nature's vagaries or any other factor of physical damage;**
- **allow aeration as it helps in keeping down the relative humidity of interstitial gases;**
- **proper sanitization and fumigation to prevent growth of pathogens;**

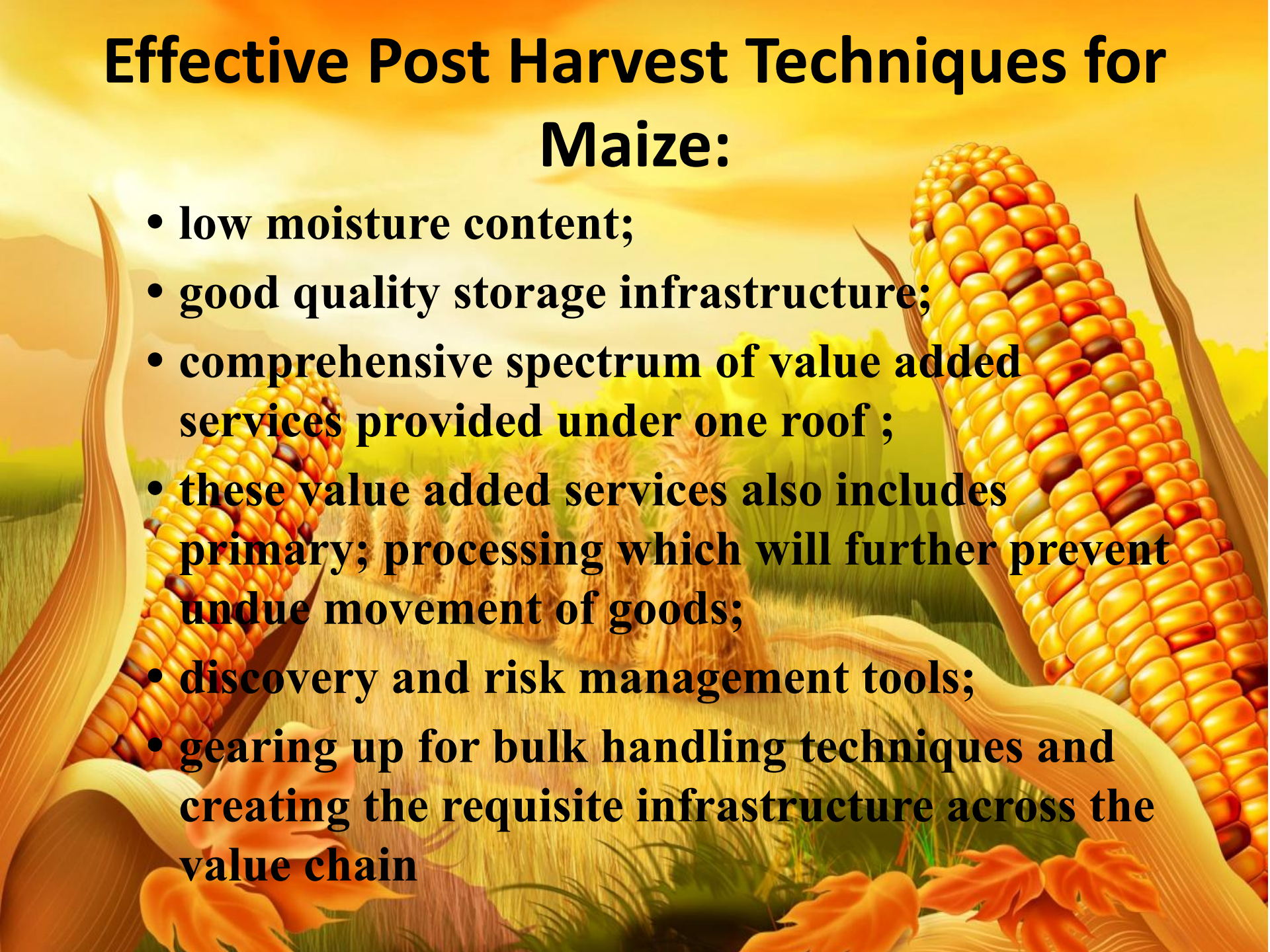
Bulk Handling - Silos

- the principal advantages of bulk handling are:
 - great saving in time and cost of handling the grain
 - saves the cost of providing hags every season;
- ◆ silos form an integral part of bulk handling of commodities;



Effective Post Harvest Techniques for Maize:

- low moisture content;
- good quality storage infrastructure;
- comprehensive spectrum of value added services provided under one roof ;
- these value added services also includes primary; processing which will further prevent undue movement of goods;
- discovery and risk management tools;
- gearing up for bulk handling techniques and creating the requisite infrastructure across the value chain





Conclusion

- **analysis of about 40 scientific literature confirmed that there are a lot of techniques allowing to increase the life and resistance of Maize;**
- **a major outcome of the research work is that we have managed to develop the method technology appeared to enhance the safety the maize the help of drying it out**

A close-up photograph of three ears of yellow corn. The corn cobs are arranged diagonally from the top-left to the bottom-right. The kernels are bright yellow and appear plump. The green husks are partially peeled back, revealing the rows of corn. The background is a soft, out-of-focus green.

• Thank you for your attention