ECPGR MAIZE WORKING GROUP
First meeting 2-3 December 2019, Belgrade, Serbia

STATUS OF THE MAIZE NATIONAL COLLECTION OF THE REPUBLIC OF SRPSKA

University of Banja Luka
Faculty of Agriculture
Danijela Kondić

INTRODUCTION

- Republic of Srpska covers an area of 2.446.780 ha, of which 51.2% is the agricultural land, total arable land is 834.000 ha, and maize is produced on about 140.000 hectares (17%), while in BiH the total area under maize production is approximately 196.000 ha.

- There is only land registered under maize hybrids, but there is no land registered under the maize local populations.

- Maize is the most common in our country in terms of grain indigenous plant material and products from domestic maize in our country represent very distinctive traditional food, which contributed to the local maize population production.

- Thanks to this, we can still find local populations, although they are vulnerable in terms of large presence of maize hybrids.

CURRENT STATUS

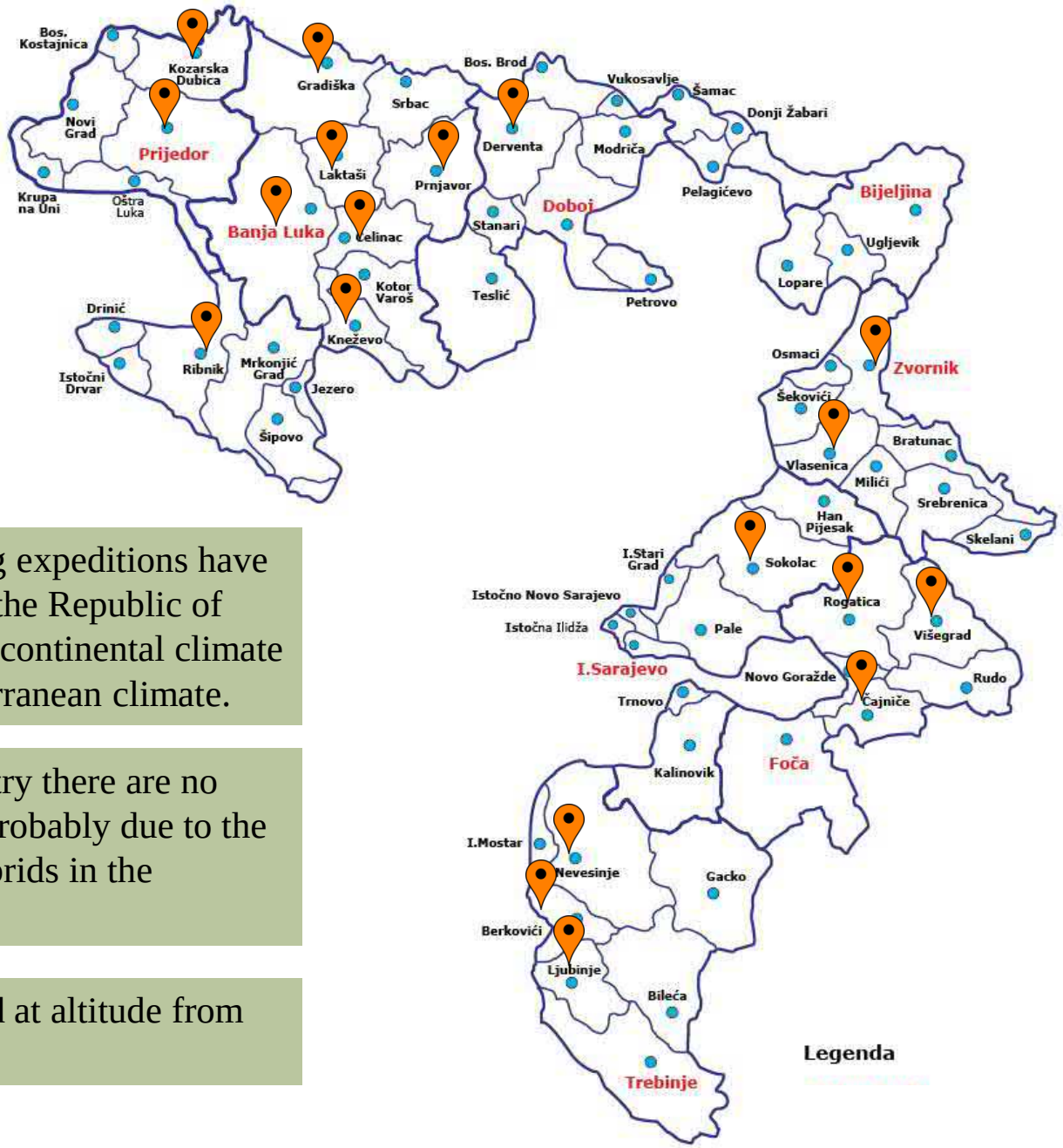
In the Gene Bank of the Institute of Genetic Resources there are 101 accessions of maize local population stored in long term conditions.

Collected local maize populations have different color of grains, and dominant are white and various shades of yellow.

Local names are different: bjelčić, osmak, rosko, bjelac, bosančić, sićurak, bonak, stodanac, tvrdunčić, udikovac, crvenčić...

The database of the Gene Bank consists of following categories: nicode, instcode, accenumb, collnumb, collcode, genu, species, spauthor, cropname, accename, acqdate, origcty, collsite, lattitude, longitude, elevation, etc.

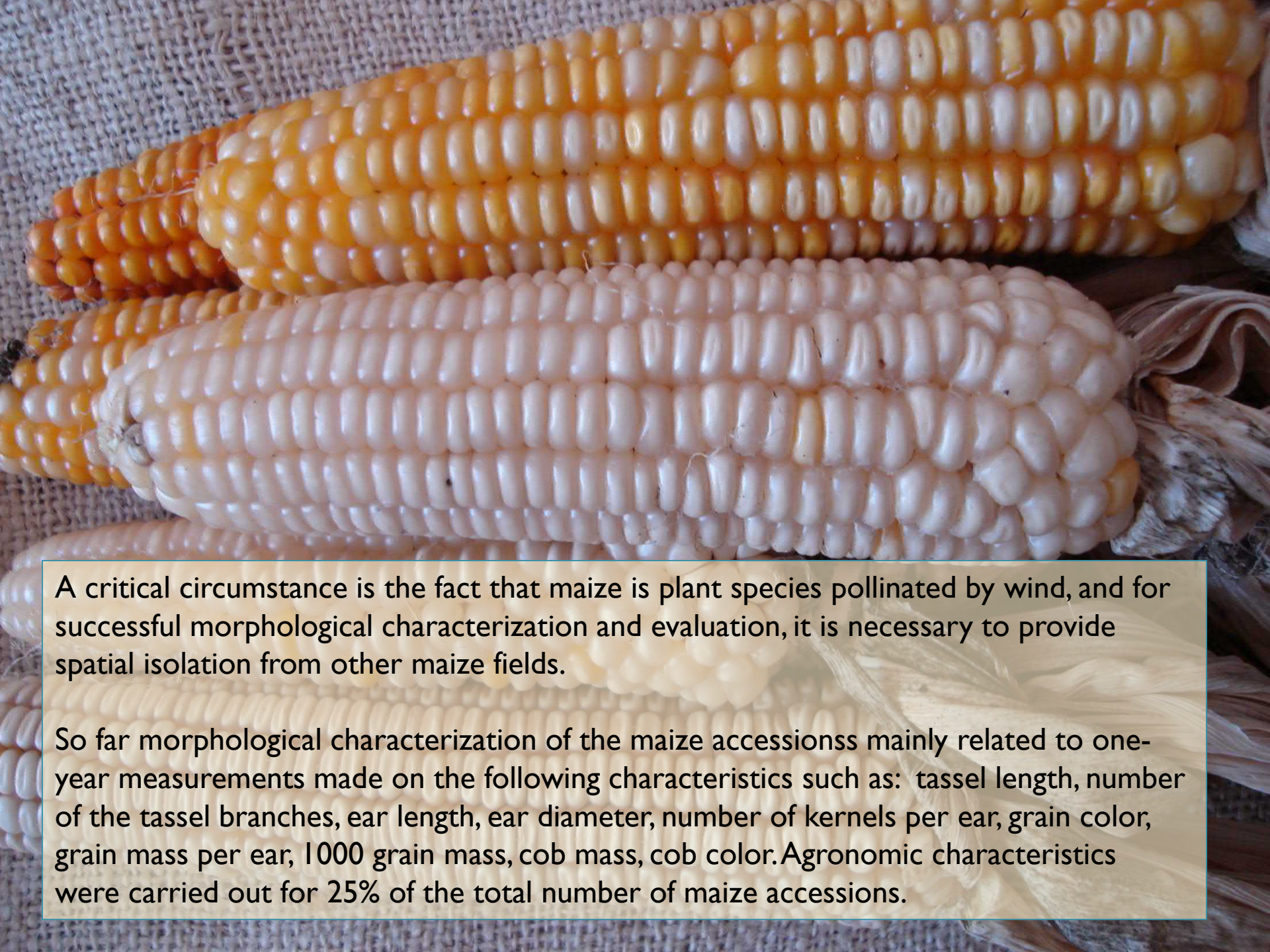
ACTIVITIES



In previous years collecting expeditions have included the entire area of the Republic of Srpska, i.e. north part with continental climate and south part with mediterranean climate.

In the east part of the country there are no known local populations, probably due to the high presence of maize hybrids in the production.

Maize accessions are found at altitude from 105 to 880 m.



A critical circumstance is the fact that maize is plant species pollinated by wind, and for successful morphological characterization and evaluation, it is necessary to provide spatial isolation from other maize fields.

So far morphological characterization of the maize accessionss mainly related to one-year measurements made on the following characteristics such as: tassel length, number of the tassel branches, ear length, ear diameter, number of kernels per ear, grain color, grain mass per ear, 1000 grain mass, cob mass, cob color. Agronomic characteristics were carried out for 25% of the total number of maize accessions.

Different maize populations sown in rows with isolation of male and female inflorescences.

Test of artificial pollination with pollen mixtures of different plants from the same plant population.

Mature ears with incomplete and complete grain formation.


Thank you for the attention!