

Agricultural Research for Development in Georgia

Lasha Gotsiridze
Agrarian University of Georgia



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Restructuring the Agricultural Education and Research in Georgia

- Merger of Agrarian University of Georgia with the fourteen agricultural research institutions
- Modernized management, structure
- Major Revision of the Educational Program and Syllabuses – high quality education
- Staff Evaluation and Reduction; new hires
- Remodeling of the Main Building for education-research purposes
- Equipment for laboratories

Cooperation Areas with CGIAR

1. Plant Genetic Resources
2. Plant Breeding
3. Natural Resource Management
4. Livestock Research
5. Capacity Building

1) Plant Genetic Resources

AUG is the biggest PGR collection holder in Georgia

- Seed bank of field crops and vegetables – Institute of Farming (> 3000)
- Live collection of grapevine – Institute of Viticulture, Fruit Production and Oenology (> 500)
- Live collection of fruit trees- Institute of Viticulture, Fruit Production and Oenology (> 300)
- Live collection of subtropical fruits and citrus – Institute of Subtropical Crops (> 100)
- Live collection of tea clones – Chakvi Station (> 10)

Plant Genetic Resources

- Establishment of the Genebank of field and vegetable crops at Institute of Farming;
- Replenishment of the Genebank collections through field missions and exchange
- Regeneration, identification, assessment, characterization and utilization of the *ex-situ* collections
- Grapevine, fruit and forest crop collections – involvement of the Institute of Viticulture, Fruit Production and Oenology



2) Breeding of Improved Varieties



Improved germplasm

- wheat, barley, maize, legumes, potato, vegetables
 - received > 15,000 entries



Improved wheat varieties

- Mtskheta-1, 5000 ha in 2004-2007
- Lomtagora 123 and 109 – yield about 7.0 t/ha
- New higher yielding varieties have been selected



Crop pathology research

- Virulence of wheat yellow rust (YR) & stem rust (SR)
- No resistance to SR in local wheat germplasm
- Resistant wheat germplasm through special SR nurseries



Improved maize varieties

- Good combining ability of CIMMYT inbred lines with local material;
- Good adaptation to lowland conditions (long vegetation season 130-140 days)
- Two hybrids have been registered. One has white kernel and good “maize bread” baking and “porridge” quality,



Grain legumes

- Appreciation of grain legumes is increasing in Georgia due to need for efficient rotation;
- Elexir (Chickpea) and Pablo (lentil).
- Unfortunate failure – loss of a 1.3 ha field.
- Commitment to continue



Potato Breeding and virus free potato

- Clones from CIP adapted to longer day light and resistant to phytophthora blight
- Virus free technology to produce mini-tubers
- On-farm trials



Vegetable Breeding

Germplasm from AVRDC

- Sweet pepper
- Eggplant
- Soybean
- Tomato
- Some varieties released
- Difficulties with isolated plots



3) Natural Resources Management



- Reduced tillage research (ICARDA – Institute of Soil Science)
- Raised-bed planting using an Indian-made raised-bed planter (institute of Farming – Lomtagora Farm – CIMMYT)

4) Livestock Research

In cooperation with the scientist of the former Zoovet Academy - Description of local breeds of

- Megrelian Goat
- Tushetian Sheep
- Mountain Cow
- Red Megrelian Cow

5) Capacity Building

- Conferences and workshops – 400
- English language training – 25 students
- Potato seed production – 2
- Wheat breeding – 2
- Management of Plant Genetic Resources – 5
- Farmer days – 10
- Training in Experiment Design - 15

Future Plans

- Integration of education, research and extension at AUG
- Agricultural Research Center (Center of Scientific Excellence)
- Strong PGR and Plant Breeding Research
- Use of Molecular Tools
- Technologies for the Farmers;
- Conservation of Natural Resources

Future cooperation with CGIAR

- Germplasm exchange: wheat, barley, legumes (grain and forage), vegetables, potato and maize
- Joint research on crop management practices
- Efficient use of natural resources
- Training including joint degree programs
- Building regional and international partnerships

Thank you!



I.gotsiridze@agruni.edu.ge