

# Agricultural Research Organization-ARO



State of Israel / Ministry of Agriculture and Rural Development

## The Volcani Center



# Agricultural Research Organization-ARO



Established in **1921**  
Turned to be the  
Research Arm of the  
Ministry of Agriculture in **1956**



ARO Represents the largest  
agricultural research  
institute covering the  
**VAST MAJORITY**  
of the agricultural research in  
Israel

# Volcani UNESCO Award



In 2017 The Volcani Center was awarded with the  
**UNESCO–Prize for Research in the Life Sciences**  
in recognition of its valuable contribution to research in  
**THE FIELD LIFE SCIENCES**  
which has led  
**TO AN IMPROVEMENT OF THE**  
**QUALITY OF HUMAN LIFE**





# ARO - Research Institutes



**Post-Harvest**



**Soil and Water**



**Animal Science**



**Plant Protection**



**Plant Science**



**Ag Engineering**



**Neve Yaar:  
Health Food**



**Gilat: Desert Ag**



# ARO – Inter-Institutional Centers

- **Agro-nanotechnology**
- **Genome editing**
- **Medicinal cannabis**
- **Omics (bioinformatics, proteomics & metabolomics)**
- **Microbiology (environmental, plant @ animal, food)**

# ARO – Personnel



- 190 Scientists
- 435 Research assistants, technicians
- 127 Administration
- 250 Graduate students
- 70 Foreign visiting trainees (post docs)
- 40 Israeli post docs

Total of ~1,200 employees and volunteers



# **ARO – Scientific ID**

- **Basic to applied research**
- **Multidisciplinary research**
- **Integration of cutting-edge technologies**
- **Collaborations:**
  - Academia (National & Intl.)**
  - Regional Countries**
  - Extension services**
  - R&D regional centers**
  - Farmers**

**Volcani research is carried out based on a strategic plan covering Agricultural, Environmental and Food Sciences**



# ARO – National Challenges



**Competitive markets**



**Efficient water management**



**Labor cost**



**Landscape preservation**



# ARO – Global Challenges



**Global climate changes**



**Food security**



**Environmental  
sustainability**



**Food safety**

# ARO & AgriPhotonics



- Precision Agriculture
- Machine learning
- Computer vision and imaging
- Remote & proximal sensing & diagnostics
  - Produce ripening & sorting
  - Produce infestation & food losses
  - Crop improvement
  - Weed management
  - Phenotyping
  - Biotic & abiotic stress
  - Irrigation status
  - Decision support systems
  - Air & water quality
  - Soil-plant interactions
  - Plant nutritional status & bio-mass
  - Microbial food safety



# ARO – Tech Transfer Unit - Kidum



**An ARO unit that manages ARO's commercialization related activities**







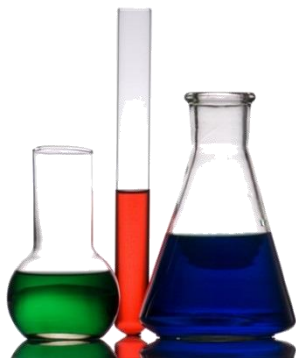
# ARO – Tech Transfer Unit - Kidum



- Evaluation and feasibility studies
- IP protection – patent filing
- Pre-seed investments
- Licensing of rights related to IP
- Joint ARO/Industry R&D projects



# ARO – Global Lab

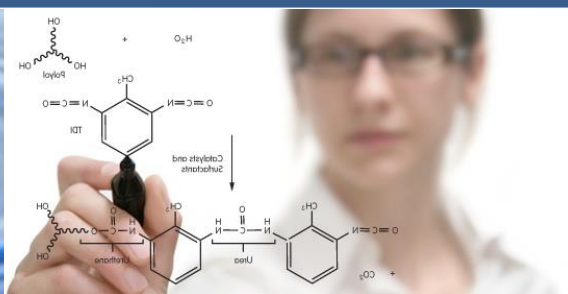


**Need**

**Innovative  
Solutions**

**Local Testing**

**Global  
Scale Up**





# ARO -Innovative Ag Center

Thank You