

# Agricultural Research at Ninevah

Prof. Dr. Adnan H. Adary  
Department of Agricultural Research  
Mosul

# Area and Climate

- More than 2.5 millions of agricultural land are in Ninevah governorate with diversity in soils, climate and topography.
- Soils are: clay, clay loam, sandy clay loam, sandy soil, gypsum soil and calcareous soils etc.
- Salinity excite in several areas but most of the land with less than 1 mmohs/cm. Fertility is low with low organic matter.
- Fertilizers are needed especially N and P

# Rainfall and Irrigation

- Limited rainfall zone (200-350 mm) which is the largest areas of Ninevah Governorate
- Moderate rainfall zone (350-450 mm) with an area of 500 thousand hectares with good soils for cereal and legume production.
- High rainfall zone (>450 mm) with 70 thousand hectares.
- Supplementary irrigation system to provide 100 to 150 mm of water to 50 thousand ha in the limited and moderate rainfall areas.

# Cropping Systems

- Barley/ fallow system
- Barley/fallow/wheat
- Barley /barley
- Wheat/fallow
- Wheat/food legumes
- Wheat/feed legumes and medicinal legumes
- Wheat/potatoes or tomatoes

# Tillage and equipments

- One way disc for land preparation and mechanical broadcasting equipment
- Mole board plow for vegetable land preparation – potatoes and tomatoes etc
- Chisel plow
- Deep tillage plow
- Modern planting machine - problems

# Crops to tackle with

- Bread and Durum wheat: Cultivars, Abu-ghraib-3, chame-6, Hamra, IPA99, cham-4, waha, omrabi-5, cham-3, cham-5, garonia, bezer jahesh, Senator Capelly etc.
- Barley: two-row black barley, 6-row black (G1),G2, Tadmora, Arta, Zambaka etc.
- Lentils, Baraka, Chickpea; Dijla and Rafidian
- Vetch (common vetch 715) , Narbon vetch

# Research Stations

- Al-Rasheedya Field Crops Station: 12 technicians, 25 ha of good land under rainfed and irrigation system. Moderate rainfall with supplemental irrigation for cereal, legumes (food and feed legumes) and industrial crops. Forage crops (alfalfa) and potatoes. Main Cereal and Legume Station.
- Problem assessment and investment needs:
  - a rehabilitation program and security reinforcement, technician training and breeding equipment supply, agronomy, seed and genetics laboratories with complete equipments and chemical supply. Tissue culture facility. Complete chemical analysis laboratory. Technological evaluation for bread and durum wheat. Seed storage facility for germplasm conservation. A green house with screened field for early generation evaluation

# Al-Rasheedya Station, cont.

- Equipments: single seed drill, plot drill, plot combine, single head thresher, single plant thresher, large bundle thresher, air blast cleaning machines.
- Rehabilitation of warehouse for seed storage.
- Moderate seed drill for elite seed increase.
- Double compartment truck for personnel transportation
- Large truck for seed and fertilizer transportation.
- Computer facility with complete secretarial training for data handling and analysis. (Training two persons in computer and statistical package use)
- Rehabilitation of the library by providing furniture and books, journals and others. Providing the library with copying machines.

# Telafer Rainfed Station

- This station is located at 65 km of Mosul nearby Telafer district. The area is around 25 ha. The soil is mostly shallow and calcareous with low organic matter. It is in the limited rainfall zone (200-350 mm).
- Number of personnel : three agricultural engineers and a store officer. The office was build by the Australian Project (80-84).
- Problem assessment and investment needs:
  - complete rehabilitation because of looting. Needs to have new trained personnel in the area of crop breeding, agronomy and statistics, techniques for experiment field execution and data collection (4 persons needed). A station director with training in an advanced experimental station. Computer training is needed for all personnel.
  - Seed storage building needs to be rehabilitated.
  - Seed drill, plot combine, head thresher, single plant thresher, bundle thresher and air blast cleaner.
  - Tractor, seed drill, one way disc plow or chisel plow are needed.
  - One hectare field fencing is needed for early generation selection for drought (to protect the genetic materials from bird damage).
  - Fencing of the station is necessary for protecting seed increase plantings from sheep grazing.
  - Double compartment truck for transportation and large truck for supply transport.

# Rabiaa Station

- The area of this station is 200 ha of very good land. It is located at a distance of 100 km north west of Mosul.
- It is a rainfed station (350-450 mm of annual rainfall) with supplementary irrigation with two linear move system to deliver irrigation water the Northern Al-Jazeera Irrigation project (who serve about 60 thousand ha).
- It is the main station for the Ministry of Agriculture in the area and served fundamentally the research advancement in the areas of cereals and food and feed legume and supplementary irrigation studies. Many wheat and barley cultivars were developed in the station. Number of personals are two agricultural engineers.
- Problem assessment and investment needs:
  - Now the station is under the control of some shammer tribe personal and needs to be removed urgently from the station by force to return this important experimental farm under government control.
  - It needs a complete rehabilitation program for the office, and houses in the station.
  - It needs a director with good training in agronomy and agricultural machinery and equipment. It needs 8 personals in the areas of Agronomy, breeding, soil, irrigation, seed specialist weed control and plant protection officers. Four drivers and mechanical engineers.
  - Computer facility with trained personals (2) with computers
  - Fencing of the station and one hectare of screen for early generation testing of breeding materials.
  - Double compartment trucks (4), and trucks (2) for transportation of personals and supplies
  - Seed drills (2), Plot drill and plot combine. Large harvesters (2). For large scale harvesting
  - Warehouses for seed storage.
  - Agronomy laboratory for sample study of cereals and legumes.

# Agricultural Research

## Rainfed Area

- Wheat Breeding (both bread and durum wheat) for different ecological zones:
  - > Limited rainfall zone
  - > Moderate rainfall zone
  - > High rainfall zone
  - > Supplementary irrigation zone
- Barley (low and moderate rainfall areas)
- Food legumes (lentils, chickpea, faba beans)
- Feed Legumes (*vicia sativa* and *v. narbonensis*)

# Agricultural Res., con.

- Agronomy (for all mentioned crops):
  - > Planting dates, depth of seeding, methods of planting, zero tillage
  - > Weed Control (for all crops)
  - > Pest control
- Supplementary irrigation studies for both cereals and legumes
- Crop rotation
- Fertilization
- Quality
- Storage and marketing for all crops

# Agricultural Research Dept. Ninevah

- The Agricultural Research Dept. of Ninevah have the following units:
  - >Cereals and Legumes
  - >Soil and water Laboratory
  - >Animal Production
  - >Poultry
  - >Seed and Technology Transfer
  - >Rasheedya station
  - >Telafer Rain Fed Station
  - >Rabia Station