THE TECHNOLOGY ADVANTAGE

6 December 2018 18:30 - 20:00
Bug Room, COP24 official side event

Next generation technologies to tackle climate challenges in agriculture
COMBINING CROP ROTATION, CROP IMPROVEMENT AND NEW TECHNOLOGIES IN THE DESIGN OF CLIMATE-SMART CEREAL PRODUCTION IN THE DRYLANDS

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The Dry Areas are big loosers of Climate Change

Chronic water scarcity

Water resources in danger

Drier, Warmer and more Variable

16.5%
20.4%
26.3%
36.8%
Crop and food systems are and will remain driven by cereal production (especially wheat).

Can we close the Production Gap?

30% of the 22 millions ha of Wheat in MENA are irrigated

How does technology enhance sustainability of wheat-based agrifood systems?

Breeding for Yield, Heat, Pests and Disease

Policies
Biotechnical innovations need to be assessed in a nexus ...

... and combined with the proper policies and markets.
We already have Climate Smart Crops for the Drylands

- Bread Wheat
- Durum Wheat
- Barley
- Faba bean
- Chickpea
- Lentils
Production Gap of cereals will not be “sustainably closed” without food and forage legumes in rotations.
Technologies and Institutions for “de-risking” rainfed sustainable intensification

- **Traditional Rainfed**
  - low input → no economic loss in dry years
  - no gain in wet years

- **Irrigated Intensified**
  - low production gap every year
  - not sustainable under climate change

- **Adaptive Rainfed Cropping**
  - Management and rotations adapted to soil and rainfall of the year and markets
  - Need more knowledge (bio-physical and socio-economical)
Multi-scale Knowledge on Climate variability (spatial and temporal) and Crop Responses (yield, water, soil carbon, pests-diseases...)

International Agencies

3 billion ha

Governments

3 million ha

Farmers

1.3 ha

Advisors

30 k ha

Agro-Food industry

300 k ha
Towards a New CGIAR Interface to support Research and Development Investments in the Drylands

Enabling Context

Innovations

Climate Change

The Dry Arc

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