GENETIC RESOURCE UTILIZATION AND DELIVERY PIPELINE

OBJECTIVE: IMPROVE ABIOTIC STRESS ADAPTATION AND YIELD POTENTIAL IN A CHANGING CLIMATE

Crop Design
Determine traits/genes needed to adapt crops to specific target environments

Genetic Resources
Expand gene pool:
- Landraces
- Transgenics
- Interspecific and intergeneric hybridization

Phenotyping
Develop/fine tune phenotyping protocols:
- High throughput remote sensing, including aerial platforms
- Precision phenotyping

Pre-breeding
Make strategic crosses to combine complementary traits
Select best progeny using state-of-the-art phenotyping and molecular screening tools

Breeding
Novel traits combined with agronomic traits:
- Wide adaptation
- Disease resistance
- Quality

New lines distributed to farmers through national systems