

Improvement of Plant Disease Resistance: Response in the greenhouse vs crop production areas

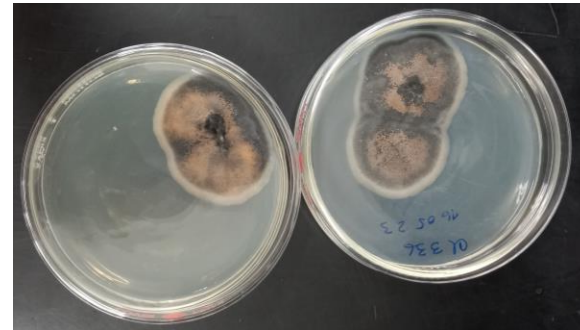


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Greenhouse Phenotyping is one of the first steps toward selection of disease resistant germplasm

- Pathogen collections



- Virulence characterized

- Constant source of Pathogens

- Strains can be selected for Phenotyping by artificial inoculations



Main challenges of Artificial infections:

- Are Pathologists using strains that are found at farmers field?
- Resistant genotypes under artificial inoculation behaves similar at production regions?
- Resistance discovery at Breeding hubs is useful for growers?

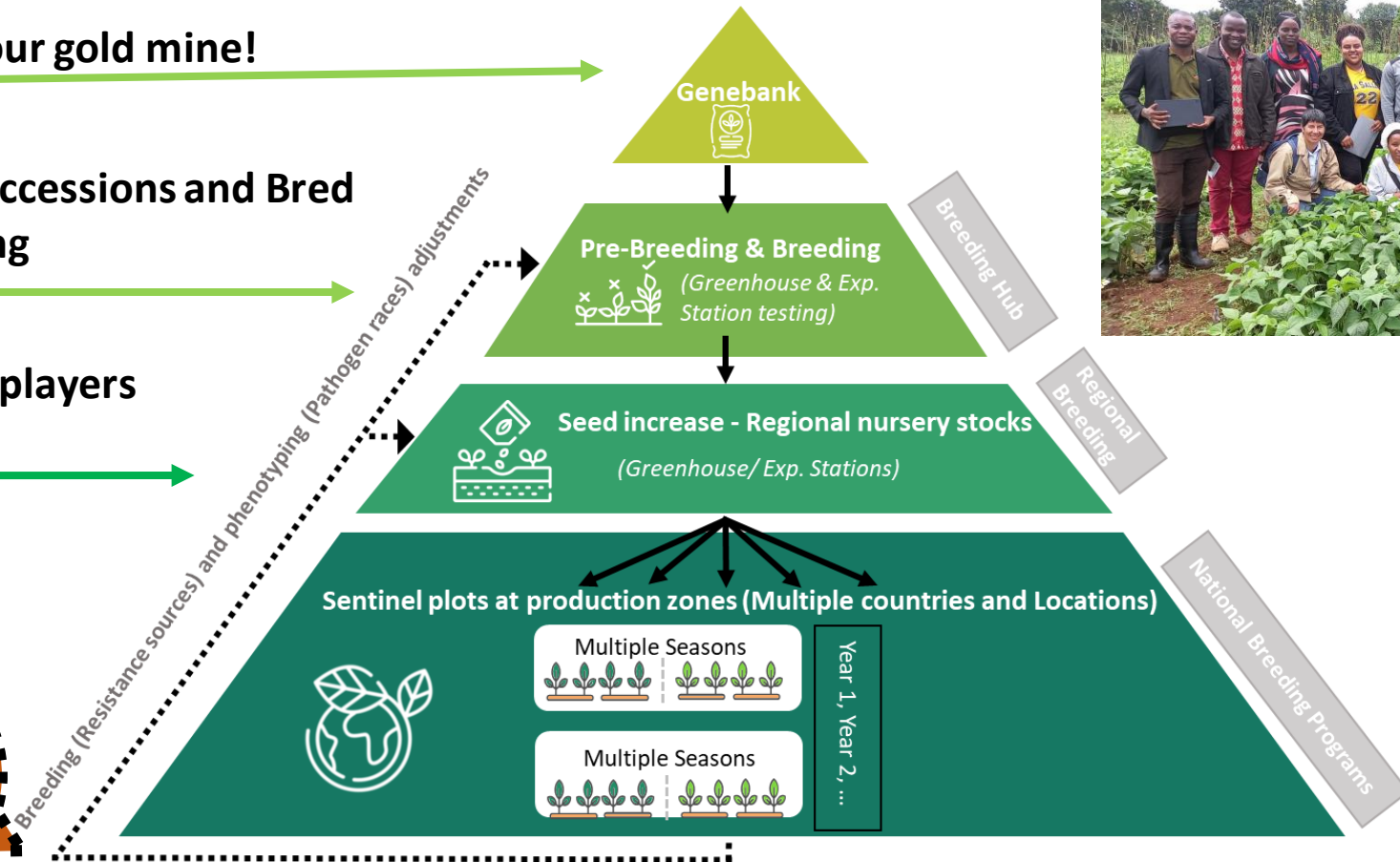


Linking Phaseolus genetic resources with Production areas

Germplasm diversity, our gold mine!

Pathology main role: Accessions and Bred germplasm phenotyping

Regional partners, key players for validation.

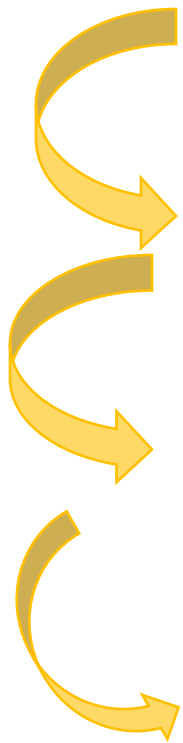


Common Data using harmonized evaluation System, analysis, results socialization



Key Messages for optimizing the use of genetic diversity :

- Phenotyping for disease resistance is complex due to the genetic of the host and the pathogen (Plant-Strain interaction)
- Artificial inoculation is useful for generating resistant candidate lists
- Resistance from artificial inoculations should be validated at production regions under natural inoculum. Regional Partners are necessary for validation.
- Natural Infection should be an input for artificial inoculation adjustment



Bean Team!

