Session 5:

Designing and developing disease and pest resistance in chickpea cultivar

Key biotic constraints identified in order of importance

he biotic constraints were extracted from panel members and the audience during the session.
he priority was arranged per country and region for better targeting

Country priority pests

India

- ✓Fusarium wilt
- ✓Root rot (dry and collar rot)-alarming and emerging
- ✓Ascochyta blight
- ✓Botrytis grey mold

nsect pest

- Pod borer
- Spodoptera

biotic constraints were extracted from panel members statements and audience during the session. priority was arranged per country and region for better targeting

	India	Ethiopia	Turkey	Australia	Canada	West Asia and North Africa	South Asia	East and Southern Africa	Remarks
a root				High					
t & root	High	High	High	Low	Low	High	High	High	
ight	Medium	High	High	High	High	High	Medium	High	
mold	High	Low	Low	High	Low	Low	High	Low	
	Medium	Medium	Low	???	Low	Low	Medium	Medium	Stunt is emerging in Ethiopia and key in Sudan
	High	High	Low	High	Low	medium	High	High	
	High	High					High	High	
	Low		Medium			High			Mainly important for small holder farmers
			Low			Low			
des			High	High		High			

tcomes, activities, time horizon and partners

	Major activities	time horizon (years)	Partners	Funding
nematode resistant eloped and released	Development of root lesion nematodes in Australian breeding lines	**2**	Australia (University of southern Queensland= John Johnson)	Australia
	Development of RIL population from wild accessions	**5**	Australia (University of southern Queensland= John Johnson)	Australia
	Development of multiple disease resistant genotypes	**10**	Australia (University of southern Queensland= John Johnson)	Australia
t of Ascochyta blight types	Pathogen isolate collections and screening-wild lentils	**2**	Curtin University	Australia
	Developing RIL population	**5**	Curtin University	Australia
	Identify pre-breeding line for variety development	**10**	Curtin University	Australia
	Developing dry root rot resistant germplasm	**2**	ICRISAT	CRP grain legum cereals
genetics of Ascochyta arium known	dissecting the virulence of A. rabiei and Fusarium populations from global collections and virulence monitoring	**2-10**	UCDAVIS, Curtin University, ICRISAT, Turkey, ICARDA, NARS	Innovation lab, legume and dry
	Assembling differential lines for pathotyping of Ascochyta blight and Fusarium wilt		ICARDA, ICRISAT, Turkey	Innovation Lab Legume and dry
	GWAS for key pathogens and insect pests	**2-5**	UCDAVIS	Innovation lab
		2-3		
es and resistant ntified	Surveys in East Africa, SA and germplasm screening in Ethiopia, Tunisia and Sudan	**2-5**	ICARDA, ICRISAT, NARS	Innovation lab a legume and dry
	Study on the epidemiology of wilt/root rot	**2-5**	ICRISAT, ICARDA and NARS	Innovation lab a legume and dry
factors affecting wilt/root known p developed and	Modeling of Ascochyta blight and pod borer in future climatic changes scenario	**2-5**	UCDAVIS, ICRISAT, ICARDA	Innovation lab

Other issues raised

ploitation and access of introgressed genetic resources in Phase-I by rtners for pest and disease as well as herbicide tolerance evaluations ng own resources but linked to Phase-II: (ICARDA, ICRISAT).2-5 yrs

sistance breeding for bruchids = 5-10 yrs

M for pod borer, botrytis grey mold and root rot since level of sistance is low= 2-5 yrs (ICRISAT, ICARDA, NARs)= Linked to Phase-II

M approach to manage pod borer? 10 yrs

entifying functional microbes for pod borer management (UCDAVIS, RISAT, ICARDA) 2-5 yrs: Funding: Innovation lab.

nt architecture in disease management= Eg. Botyrtis gray mold= novation lab and partner resources

veloping multiple biotic stress resistance germplasm/cultivar = 10 yrs ll partners= Funding: partners and Innovation lab