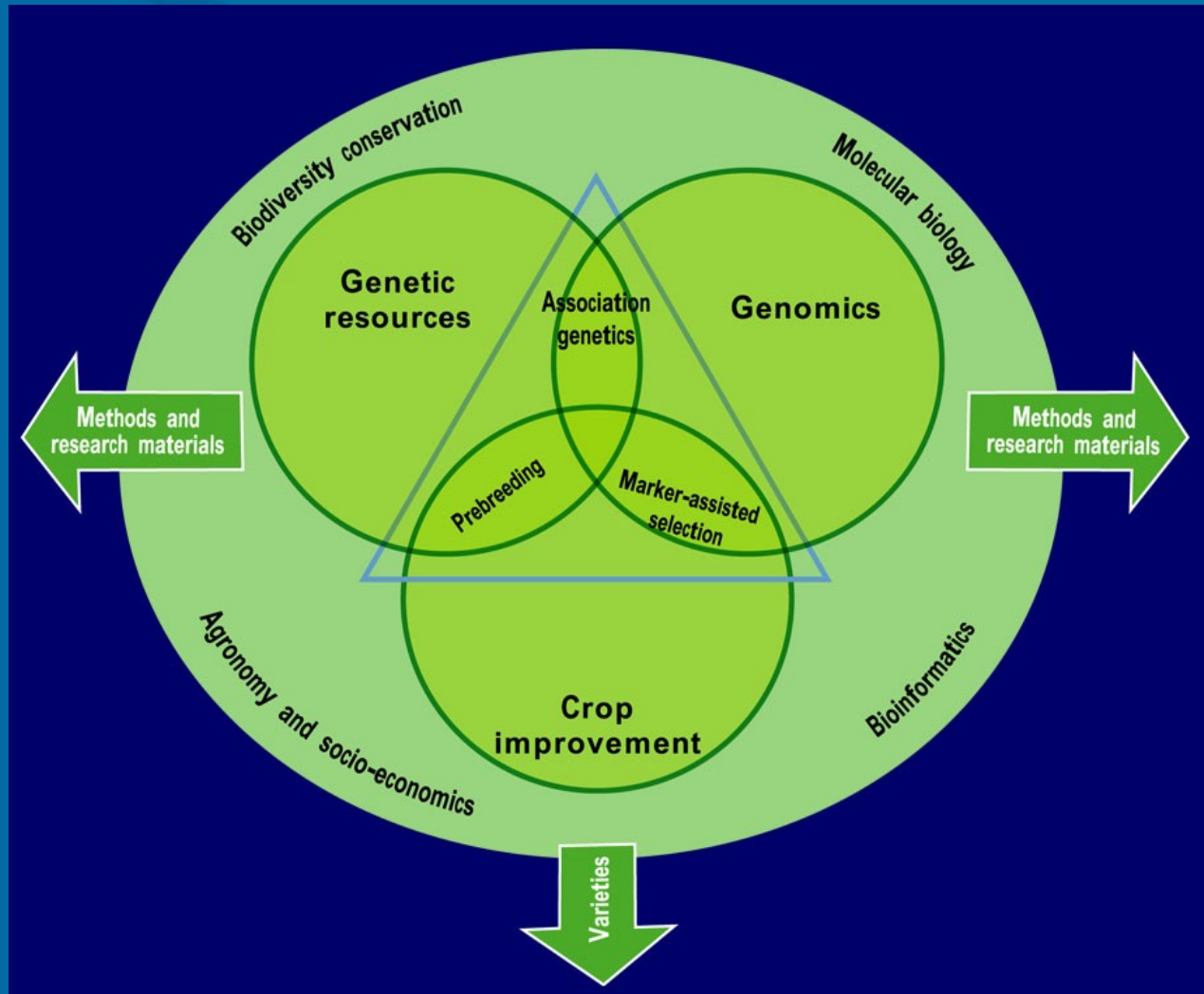


**Crop Information and ICIS at ICARDA  
at the ICIS Workshop  
Texcoco, Mexico - May 8<sup>th</sup> to 19<sup>th</sup>, 2006**

## **Introduction**

**ICARDA mandate crops includes Barley, Lentil, Faba bean globally and regionally includes Chickpea, Bread and Durum Wheat, Pasture and Forage Legumes.**

**With the huge amount of information generated by ICARDA's breeding program, Genetic Resources Unit, International Nurseries and recently through Generation's commissioned research and grants, it becomes imperative that tools must be made available to researchers that will enable the capture, organization, retrieval and moreover, decision support by stakeholders. Integrating phenotypic and genotypic data is one step towards future development of new crop varieties which will be able to cope with current prevalent crop low yield, biotic and abiotic stresses. The developed crop varieties, will contribute to the reduction of hunger and poverty.**



**A powerful coalition to use advanced technologies and traditional plant diversity to address the continuing problem of hunger, especially among the resource-poor farmers of the developing world**

# For the ICARDA mandate crops

**Since 1977**

- **Passport data from Genetic Resources Unit collections**
- **Crosses history and related information from the breeding program**
- **Field Evaluation from breeders and International Nursery trials**
- **Molecular data from the Biotechnology laboratories**



# International Nurseries Shipments



International Center for Agricultural Research in the Dry Areas

[Advanced Search](#) | [Quick Search](#) | [Collaborators](#) | [Statistics](#)

Location

Please Select

Collaborator First name

Collaborator Family Name

Out In Type

Please Select

Shipment Type

Please Select

Crop Name

Please Select

Trial year

From  To

Trial Name

Please Select

Nursery Type

Please Select

Search

# Links across ICIS sub - systems

## ICIS-GMS

Links by GID's

- *Germplasm Parameters*
- *Pedigree info.*
- *Date of sel./cross & Loc. Id*

Links by GID's

## ICIS-DMS

- *GID's of entrys in field experiment*
- *Traits and measurable characters*
- *Scales*

## ICIS-GIS

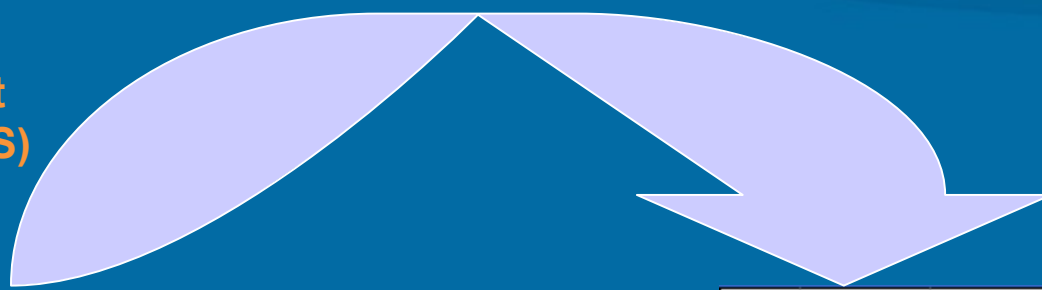
- *Lat/Long/Altitude*
- *Ref. to shape files*
- *Linked to GMS & DMS by LOCN*

## ICIS-GEMS

- *PD's, MV's, & Gen. molecular info. on cultivars*
- *Linked by cultivar's GID's*

## Data in Data Management System (DMS)

## Data in Gene Management System (GEMS)

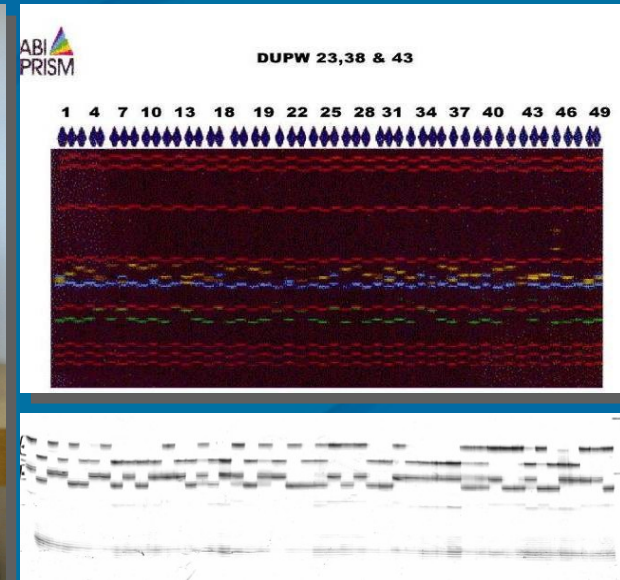
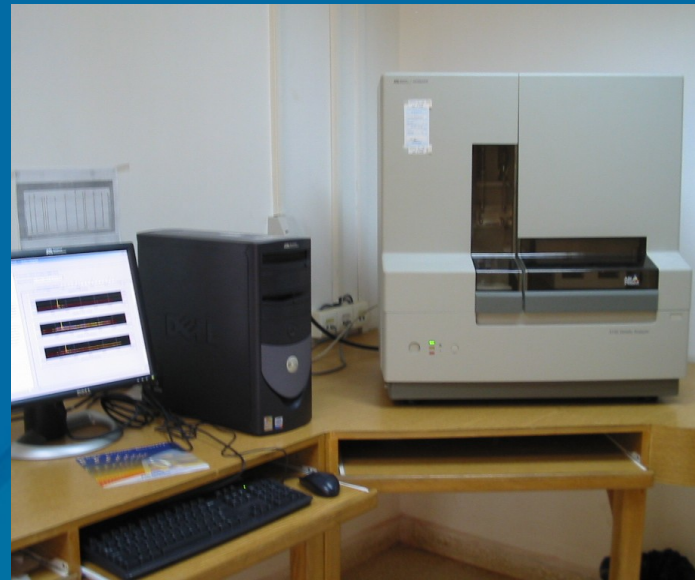
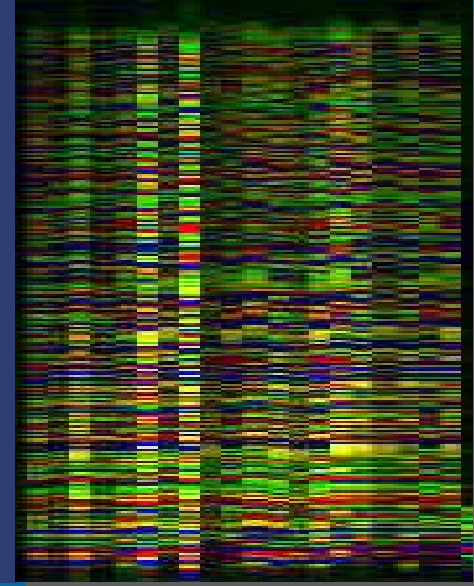


PLOT	block	subblock	ENTRY	NAME	GID	GYBR98	KWBR98	PRBR98	GLUBR98
1	1	1	286	SLB_34-040	32310	916.667	34.9	12.248	3.934
2	1	1	437	SLB_19-010	32311	876.667	36.45	14.217	5.148
3	1	1	411	SLB_42-021	32312	980	31.45	13.835	4.014
4	1	1	89	JLB_36-009	32313	1240	37.05	12.726	5.196
5	1	1	236	SLB_58-021	32314	170	39.8	17.469	4.641
6	1	1	478	SLB_49-031	32315	1230	30.45	13.141	4.401
7	1	1	262	SLB_67-002	32316	1020	42.8	13.706	5.149
8	1	1	240	SLB_58-040	32317	1180	37.95	13.575	4.48
9	1	1	436	SLB_19-009	32318	1096.67	35.95	13.317	5.26
10	1	1	256	SLB_30-010	32319	1126.67	37	14.126	4.975
11	1	2	231	SLB_58-001	32320	970	39.5	15.189	4.079
12	1	2	168	SLB_10-009	32321	1290	35.25	11.598	3.792
13	1	2	370	SLB_05-035	32322	1323.33	31.35	12.64	4.868
14	1	2	125	SLB_09-033	32323	1253.33	39.35	14.18	4.737
15	1	2	367	SLB_05-030	32324	1246.67	32.15	11.719	3.765
16	1	2	247	SLB_30-036	32325	1163.33	30.3	12.674	4.164
17	1	2	375	SLB_05-055	32326	1336.67	32.95	11.132	4.184
18	1	2	390	SLB_45-032	32327	1106.67	32.75	13.703	4.403
19	1	2	216	SLB_66-009	32328	1323.33	35.1	11.835	4.068
20	1	2	222	SLB_58-004	32329	890	37.5	13.6	4.194
21	1	3	135	SLB_09-010	32330	1423.33	34.6	10.666	4.211
22	1	3	119	JLB_38-075	32331	1113.33	32.15	11.478	4.071

Lane	File Name	Sample Info	Peak 1	peak1-adjuste	allels no	Peak 2
1	01•1	Scssr10559	207.58	207	1	211.6
2	02•89	Scssr10559	212.92	212	3	
2	03•27	Scssr10559	212.88	212	3	
4	04•125	Scssr10559	212.77	212	2	
5	05•63	Scssr10559	209.8	210	2	
6	06•161	Scssr10559	207.6	207	1	
7	07•2	Scssr10559	207.8	207	1	
8	08•90	Scssr10559	207.61	207	1	
9	09•28	Scssr10559	209.74	210	2	
10	10•126	Scssr10559	207.81	207	2	
11	11•64	Scssr10559	209.84	210	2	
12	12•162	Scssr10559	213.78	212	3	
13	13•3	Scssr10559	210.55	210	2	
14	14•101	Scssr10559	209.73	210	2	
15	15•29	Scssr10559	210.67	210	2	
16	16•127	Scssr10559	210.45	210	2	
17	17•65	Scssr10559	207.25	207	1	
18	18•163	Scssr10559	208.63	207	1	
19	19•4	Scssr10559	208.67	207	1	
20	20•102	Scssr10559	210.65	210	2	

## Germplasm characterisation (Genotyping)

- 3000 accessions of barley with CAAS (50 SSRs) ICARDA 15 SSR's  
CASS 35 “
- 3000 accessions of wheat with CIMMYT (50 SSRs) ICARDA 3 “
- 3000 accessions of chickpea with ICRISAT (50 SSRs) ICARDA 15 SSR's  
ICRISAT 35 “
- 1000 accessions of lentils (20 SSRs) ICARDA 25 SSR's

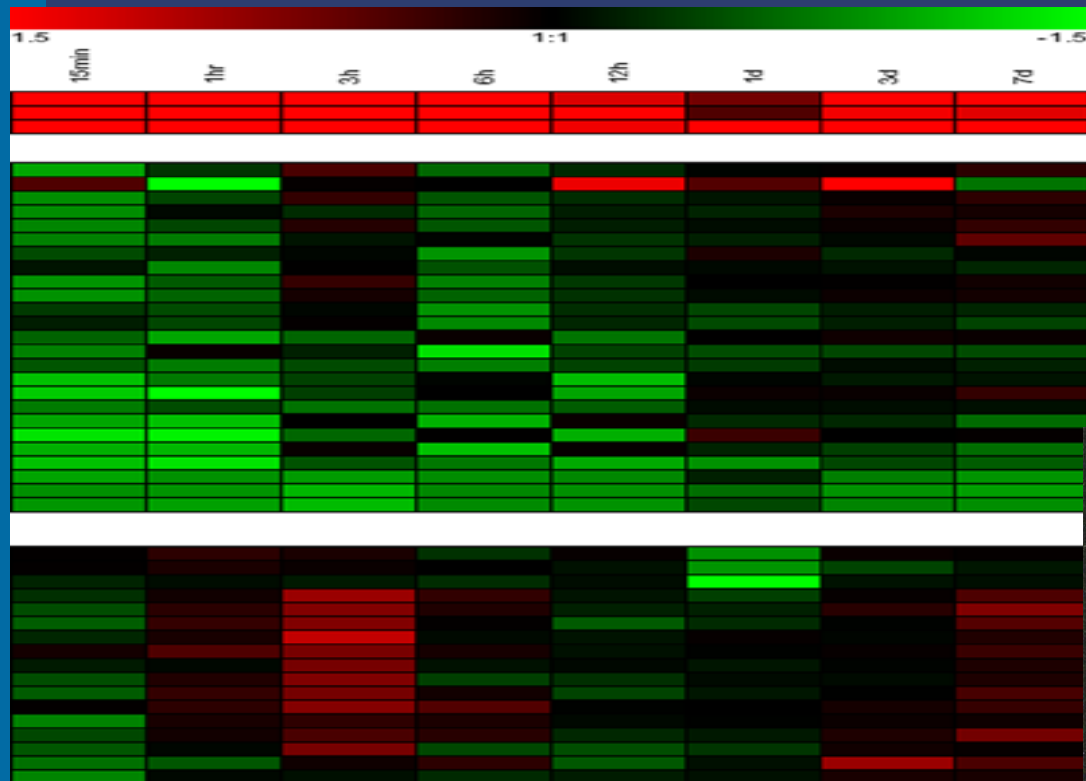


# Genomics

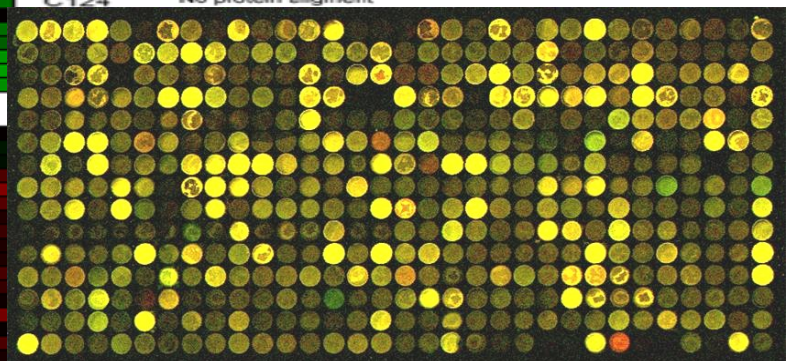
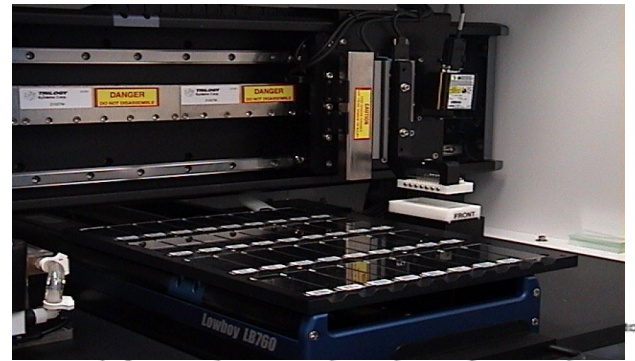
## Gene identification

for drought tolerance in barley and durum by microarrays  
(Affymetrix) (BMZ, Tritimed)

using SAGE, cDNA libraries (lentil, chickpea) for drought and cold  
real time PCR analysis



A115  
n6-7  
A30  
  
C349  
C41  
C29  
C298  
C518  
C589  
C761  
C69  
C106  
C374  
A390  
C52  
C253  
C150  
A526  
A493  
A306  
C540  
C124





# ICARDA current implementations

Crops	GMS	DMS	GEMS
Barley	√	+	√
Bread Wheat	√*	√*	
Chickpea	√		+
Durum Wheat	√*	√*	
Faba Bean			
Food & Forage Legumes			
Lentil	√	√+	+

\*CIMMYT implementation

+on going work

## CIS and INN Team

Hani Simo	Programmer
Zein Ghannam	Programmer (consultant)
Sam Desoungi	Programmer (Java) ****
Samir Hajjar	National Program Officer
Nadia Fadel	Research Technician
4 others	Data Entry

A photograph of a beach heavily littered with plastic waste, including bags and bottles, under a clear blue sky. The word "Shukran" is written in a stylized orange font and enclosed in a blue rectangular box in the center of the image.

*Shukran*