

Data Management System

- DMS is the component of ICIS that manages germplasm characterization and evaluation data, environmental data for genetic resources and crop improvement projects.

Functions of DMS

- store structured data from genetic resource, variety evaluation & crop improvement studies;
- document data
- link data to germplasm identifiers;
- link data to other descriptors (Location, treatments, molecular variant, etc.)
- facilitate structured searches.

Data Model of DMS

Study

Filename: N2000DS.xls

Variate

Factor

The Effect of Fertilizer N on the yield of rice

Year: 2000

Season: Dry Season

Level

Observation

Unit

Rep	Main Plot	Sub Plot	Variety	Fert	Yield
1	1	1	B	20	10.3
1	1	2	B	50	12.7
1	2	1	C	50	18.4
1	2	2	C	20	13.7
①	3	1	A	20	12.6
1	3	2	A	50	16.7
②	1	1	B	50	19.2
2	1	2	B	20	12.3
2	2	1	A	20	17.1
2	2	2	A	50	14.1
2	3	1	C	50	16.3
2	3	2	C	20	12.2

Datum

Data Model ...

Factor

Variate

Fert

Yield

PROPERTY *NITROGEN FERTILIZER*

GRAIN YIELD

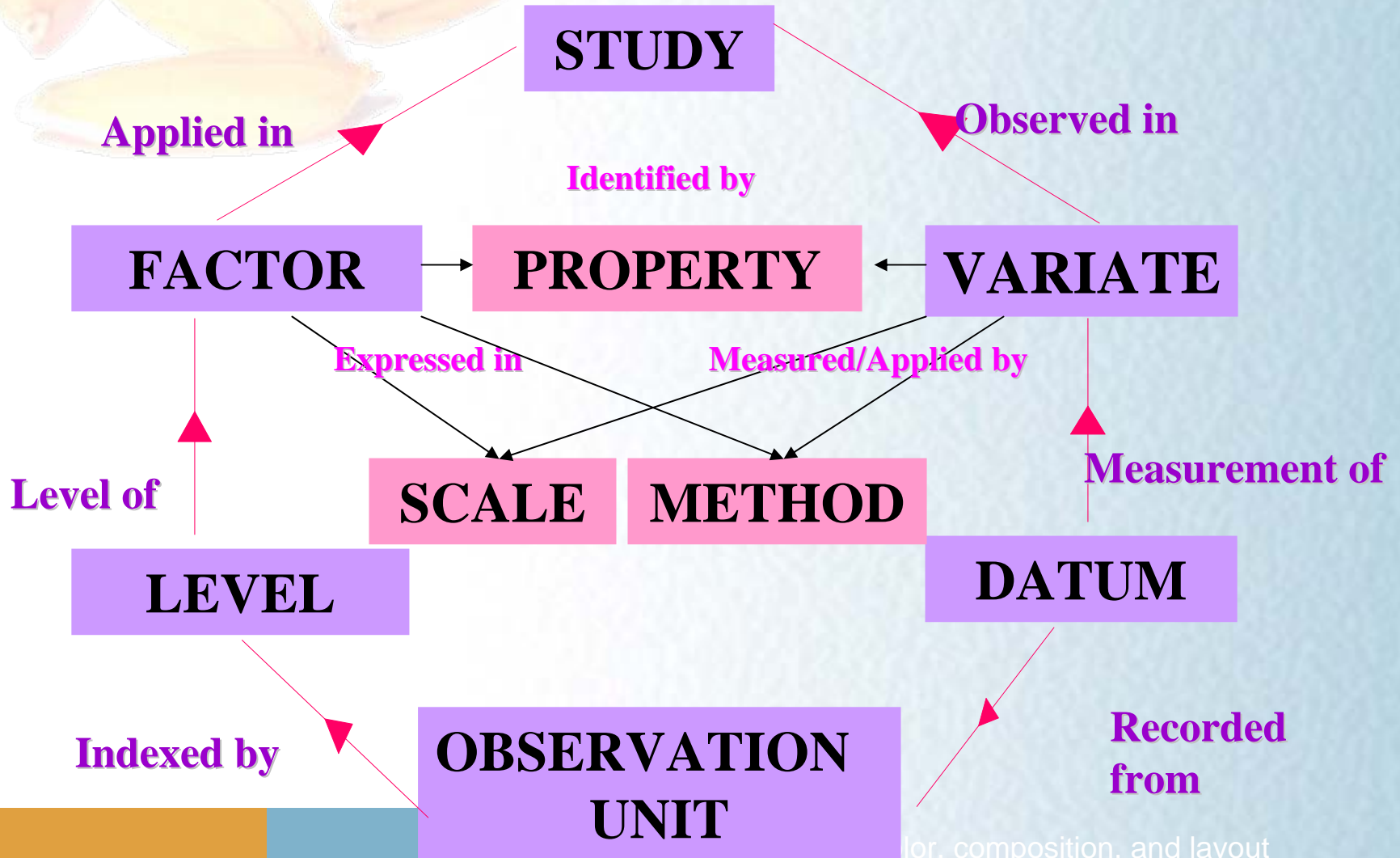
SCALE *kg/ha*

t/ha

METHOD *Total Application*

Paddy Rice

Data Model



DMS Workbook

Workbook is a DMS application that connects an Excel spreadsheet to the DMS database to facilitate loading and retrieving data from DMS.

DMS Workbook File

	A	B	C	D	E	F	G	H
1	STUDY	N2000DS						
2	TITLE	Effect of Fertilizer N on the Yield of Rice						
3	PMKEY							
4	OBJECTIVE:							
5	START DATE:	20000401						
6	END DATE:	20000601						
7								
8	CONDITION	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	VALUE	LABEL
9	Year		TIME OF MEASUREMENT/ OBSERVATION	4-digit	Not Specified	N	2000	N2000DS
10	Season		SEASON	Season Code 0-1	Not Specified	C	DRY	N2000DS
11								
12	FACTOR	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE		LABEL
13	Rep		REPLICATION	Replication No.	Field Layout	N		
14	Main Plot		BLOCK IN LAYOUT	Block number	Field Layout	N04		
15	Sub Plot		BLOCK IN LAYOUT	Block number	Field Layout	N		
16	Variety		VARIETY	Variety Name	Not Specified	C		
17	Fert		NITROGEN FERTILIZER	kg/ha	Total Application	N		
18								
19	CONSTANT	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	VALUE	
20								
21				1003	9		30	
22								
23	VARIATE	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE		
24	Yield		GRAIN YIELD	Kg/ha	Paddy Rice	N		
25								
26								
27								
28								

N or C

Workbook File . . .

columns of variate names

observation range

RowTag

	A	B	C	D	E	F	G	H
1	Rep	Main Plot	Sub Plot	Variety	Fert	Yield		Row Tag
2					kg/ha	t/ha		1
3	1	1	1	B	20	10.3		
4	1	1	2	B	50	12.7		
5	1	2	1	C	50	18.4		
6	1	2	2	C	20	13.7		
7	1	3	1	A	20	12.6		
8	1	3	2	A	50	16.7		
9	The next block is the second replication							1
10	2	1	1	B	50	19.2		
11	2	1	2	B	20	12.3		
12	2	2	1	A	20	17.1		
13	2	2	2	A	50	14.1		
14	2	3	1	C	50	16.3		
15	2	3	2	C	20	12.2		
16								
17								
18								
19								
20								
21								
22								
23								
24								

- column for marking rows that do not contain data to be loaded to DMS
- the tag is any number except 0

Observation Sheet

color, composition, and layout

Sample Workbook Files

	A	B	C	D	E	F	G	H
1	STUDY	OYT2000WS						
2	TITLE	Observational Yield Trial 2000 Wet Season						
3	PMKEY	0						
4	OBJECTIVE:							
5	START DATE:	0						
6	END DATE:	0						
7								
8	INVESTIGATOR	INSTITUTION	POSITION					
9								
10								
11								
12	CONDITION	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	VALUE	LABEL
13	SEASON		SEASON	Season Code 0-1	Not Specified	N	1	OYT2000WS
14	YEAR		YEAR	4-digit	Not Specified	N	2000	OYT2000WS
15	NURSERY		NURSERY	Nursery Type	Not Specified	C	OYT	OYT2000WS
16								
17								
18								
19	FACTOR	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE		LABEL
20	ENTRYNO		VARIETY	Entry Number	Not Specified	C		ENTRYNO
21	GID		VARIETY	GID	Not Specified	N		ENTRYNO
22	GRPNO		VARIETY	Arbitrary No.	Not Specified	C		ENTRYNO
23	DESIGNATION		VARIETY	Variety Name	Not Specified	C		ENTRYNO
24	SOURCE		VARIETY	Name of seed source	Seed Source	C		ENTRYNO
25								
26								

Sample Workbook Files . . .

	A	B	C	D	E	F	G
1	STUDY	IR64 Mutant					
2	TITLE						
	A	B	C	D	E	F	G
22	VARIATE	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	Isolate
53	BlastCa89_RS		BLAST	R MR MS S	Greenhouse Evaluation	C	Ca89
54	InheritanceCa89		INHERITANCE (BLAST	Type of Gene	Seedling Stage	C	Ca89
55	Genetic Ratio		GENETIC RATIO	Resistant : Susceptible	Seedling Stage	C	Ca89
56	BlastBN111		BLAST	4-pt Scale Lesion Length	Greenhouse Evaluation	C	BN111
57	Blast64-1-3-9-1		BLAST	R MR MS S	Greenhouse Evaluation	C	64-1-3-9-1
58	BlastIK81-25		BLAST	R MR MS S	Greenhouse Evaluation	C	K81-25
59	BlastV-850196		BLAST	R MR MS S	Greenhouse Evaluation	C	V-850196
60	BlastPO6-6		BLAST	R MR MS S	Greenhouse Evaluation	C	PO6-6
61	BlastPool1		BLAST	R MR MS S	Greenhouse Evaluation	C	BN111, 64-1-3
62	Genetic ratio(Pool1)		GENETIC RATIO	Resistant : Susceptible	Seedling Stage	C	BN111, 64-1-3
63	BlastCBN9214-1		BLAST	R MR MS S	Greenhouse Evaluation	C	CBN9214-1
64	Blast9232-5		BLAST	R MR MS S	Greenhouse Evaluation	C	9232-5
65	BlastIK81-3		BLAST	R MR MS S	Greenhouse Evaluation	C	K81-3
66	BlastJMB840102		BLAST	R MR MS S	Greenhouse Evaluation	C	JMB840102
67	Blast9239-4		BLAST	R MR MS S	Greenhouse Evaluation	C	9239-4
68	Genetic Ratio (BN111)		GENETIC RATIO	Resistant : Susceptible	Seedling Stage	C	BN111
69	InheritanceBN111		INHERITANCE (BLAST	Type of Gene	Seedling Stage	C	BN111
70	BlastPool1_RS		BLAST	R MR MS S	Greenhouse Evaluation	C	BN111, 64-1-3
71	BlightPX061_RS		BACTERIAL BLIGHT	4-pt Scale Lesion Length	Greenhouse evaluation	C	PX061
72	BlightPX086_RS		BACTERIAL BLIGHT	4-pt Scale Lesion Length	Greenhouse evaluation	C	PX086
73	BlightPX079_RS		BACTERIAL BLIGHT	4-pt Scale Lesion Length	Greenhouse evaluation	C	PX079
74	BlightPX071_RS		BACTERIAL BLIGHT	4-pt Scale Lesion Length	Greenhouse evaluation	C	PX071
75	BlightPX0112_RS		BACTERIAL BLIGHT	4-pt Scale Lesion Length	Greenhouse evaluation	C	PX0112
76	BlightPX0145_RS		BACTERIAL BLIGHT	4-pt Scale Lesion Length	Greenhouse evaluation	C	PX0145
77	BlightPX087_RS		BACTERIAL BLIGHT	4-pt Scale Lesion Length	Greenhouse evaluation	C	PX087
78	BlightPX061_cm		BACTERIAL BLIGHT	Lesion length (cm)	Greenhouse evaluation	C	PX061
79	BlightPX086_cm		BACTERIAL BLIGHT	Lesion length (cm)	Greenhouse evaluation	C	PX086

Sample Workbook Files . . .

	A	B	C	D	E	F	G	H
1	STUDY	IAC165xCO39						
2	TITLE	Molecular characterization of RILs from cross IAC165/CO39						
3	PMKEY	0						
4	OBJECTIVE:							
5	START DATE:	19990000						
6	END DATE:	19990000						
7								
8	INVESTIGATOR	INSTITUTION	POSITION					
9								
10	CONDITION	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	VALUE	LABEL
11								
12								
13	FACTOR	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE		LABEL
14	MARKER		LOCUS	NAME	NOT SPECIFIED	C		MARKER
15								
16								
17								
18	CONSTANT	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	VALUE	
19								
20								
21	VARIATE	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE		
22	INTERVAL		LINKAGE DISTANCE	CENTIMORGANS (cM)	QTL Cartographer	N		
23	ORDER		LINKAGE DISTANCE	MARKER ORDER	QTL Cartographer	N		
24	CHROMOSOME		LINKAGE_GROUP	CHROMOSOME NUMBER	QTL Cartographer	N		
25								
26								
27								
28								

Map Data

:: color, composition, and layout

Sample Workbook Files . . .

	A	B	C	D	E	F	G	H
1	STUDY	IURON-1999						
2	TITLE	25th International Upland Rice Observational Nursery						
3	PMKEY							
4	OBJECTIVE:							
5	START DATE:							
6	END DATE:							
7								
8	INVESTIGATOR	INSTITUTION	ADDRESS	ID				
9								
10	CONDITION	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	VALUE	LABEL
11	SETNO	INGER SET NUMBER	SETNO	INGER CODE	NOT SPECIFIED	C	6	
12	NURSCODE	Nursery Code	NURSERY	Nursery CODE	NOT SPECIFIED	C	032	
13	YEAR	Year	YEAR	4-DIGIT	NOT SPECIFIED	C	1999	
14	ICIS_LOCID	ICIS Location Code	LOCATION	LOCID (ICIS)	NOT SPECIFIED	C	9001	
15	COUNCODE	INGER Country Code	LOCATION	COUNCODE (INGER)	NOT SPECIFIED	C	CIV	ICIS_LOCID
16	LOCCODE	INGER Location Code	LOCATION	LOCID (INGER)	NOT SPECIFIED	C	009	ICIS_LOCID
17	TRIALNO	Trial Number	TRIAL	NUMBER	NOT SPECIFIED	C	1	
18								
19	FACTOR	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE		LABEL
20	MONTH		MONTH	CODE	NOT SPECIFIED	N		
21								
22	CONSTANT	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE	VALUE	
23	WEATHER	General weather condition	WEATHER CONDI	INGER CODE	NOT SPECIFIED	C	2	
24	WATER	Water Management	WATER MANAGE	INGER CODE	NOT SPECIFIED	C		
25								
26								
27	VARIATE	DESCRIPTION	TRAIT	SCALE	METHOD	DATA TYPE		
28	RAINDAYS	No. of rainy days	RAINY DAYS	No. of days	NOT SPECIFIED	N		
29	RAINFALL	Total rainfall	RAINFALL	mm	NOT SPECIFIED	N		
30	MAXTEMP	Ave. Max. Temperature	TEMPERATURE	°C	NOT SPECIFIED	N		
31	MINTEMP	Ave. Min. Temperature	TEMPERATURE	°C	NOT SPECIFIED	N		
32	SOLAR	Solar Radiation	SOLAR RADIATIO	cal/cm ²	NOT SPECIFIED	N		
33	SUNSHINE	Ave. sunshine hours	SUNSHINE HOURS	No of Hours	NOT SPECIFIED	N		
34								
35								

INGER Weather Data

∴ color, composition, and layout