



Ground measurement acquisition report for the VALERI site **Haouz**

sampled from March 10 to 14
(2003)

Organization: CESBIO/IRD/FSSM
(Faculté des Sciences Semlalia, Marrakech)
email: duchemin@cesbio.cnes.fr

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People participating to the field experiment:

Fistname & Name	Organization
Abourida Ahad	FSSM
Cheggour Aouatif	FSSM
Duchemin Benoit	CESBIO
Er-Raki Salah	FSSM
Errouane Sadik	FSSM
Gentine Pierre	IRD
Hadria Rachid	FSSM
Khabba Said	FSSM
Lahrouni Abdelrahman	FSSM

Site coordinates

	Lat-Long, WGS-84 (decimal degrees)		UTM / WGS-84 UTM 29 North		Other projection*	
	Lat.	Long.	Easting	Northing	Easting	Northing
Upper left corner	31.67254716	-7.6162810	631167.7853	3504972.6782	289700	121935
Lower right corner	31.64604434	-7.5840158	634264.7119	3502074.0395	292700	118935

*The other projection user is Lambert Nord Maroc (Merchich datum).

Ground control points

gcp	Lat*	Lon*	Easting**	Northing**
gcp1	31,67500	-7,61877	289608,91586	122083,33092
gcp2	31,68100	-7,62290	289231,52605	122756,78671
gcp3	31,65791	-7,56902	294286,30130	120089,63229
gcp4	31,64290	-7,57930	293276,71258	118446,00611
gcp5	31,63240	-7,59650	291620,89549	117316,23233
gcp6	31,62480	-7,61070	290256,10883	116502,17868
gcp7	31,63630	-7,63800	287693,71644	117832,22360
gcp8	31,65650	-7,64240	287324,50649	120080,43961

*Latitude and longitude are provided with Merchich Datum.

**Lambert Nord Maroc (Merchich datum).

Description of the site and land cover

Category according to IGBP classification

Cropland.

Comments on the land cover

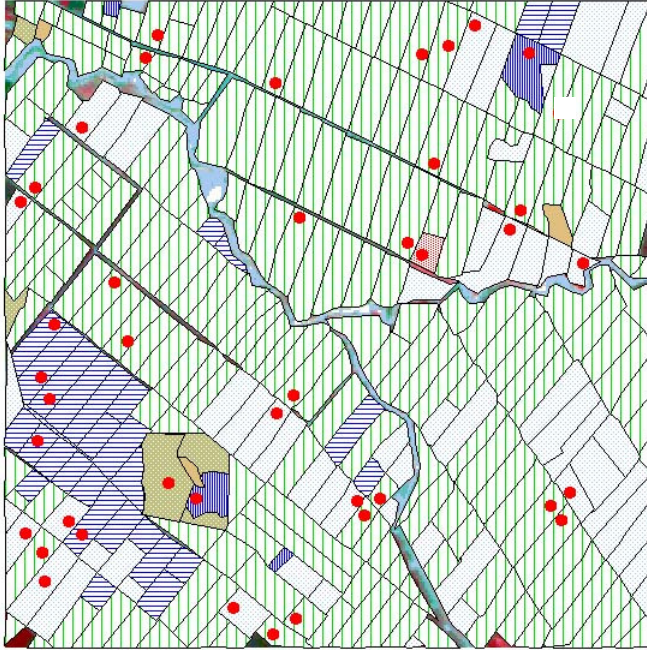
Distribution of land cover classes is roughly Wheat (60%), Fallow (20%), Barley (15%) + others. We observe very different phenological stages for wheat and barley. Some barley fields has hardly suffered from water stress, resulting in short and semi-senescent plants (compare O1 or O7 ESUs against O5 ESU). Type, height, density of vegetation are very variable on the fallow class. Four fields are 'exotic' class : alfafa (2), oat (1), olive tree combined with wheat (1).

Topography

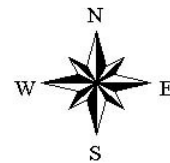
Flat.

Land cover map

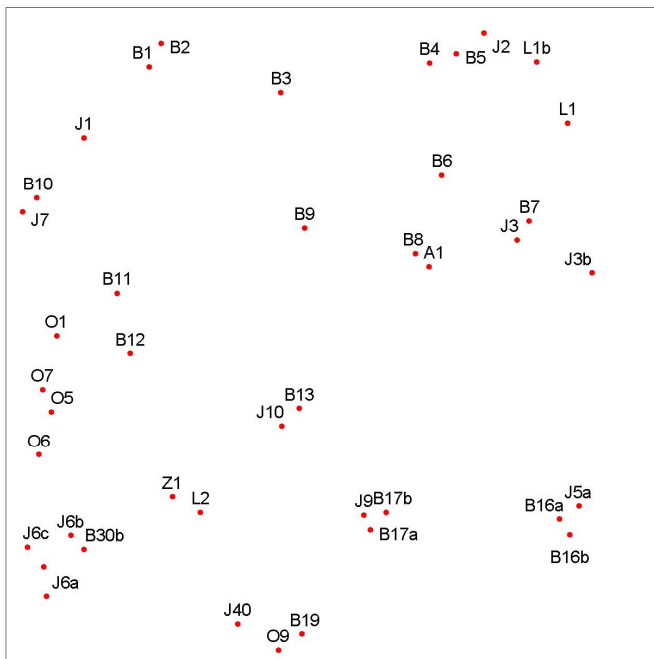
Land Cover



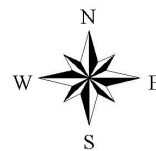
VALERI
Haouz Site
March 2003



Name of ESUs



VALERI
Haouz Site
March 2003

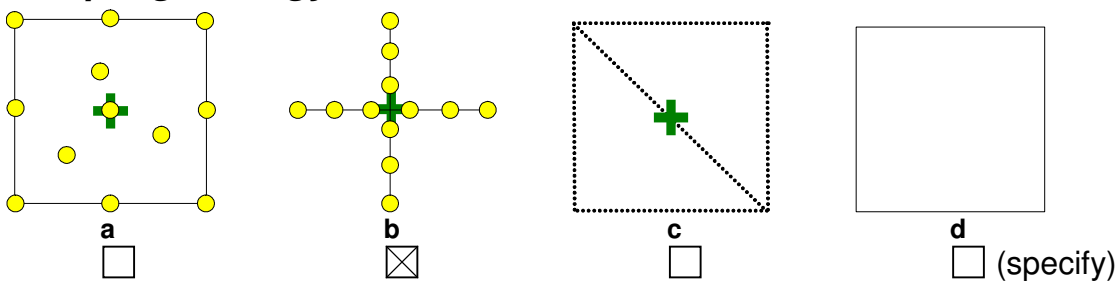


Spatial Sampling scheme

Sensors used for sampling the ESUs

	Method	Comments
<input checked="" type="checkbox"/>	Hemispherical photographs	With Nikon Coolpix 450 and Fish-Eye converter FC-E8. Size of Hemiphoto are 2272x1704 pixels, in JPEG basic mode.
<input type="checkbox"/>	LAI2000	
<input type="checkbox"/>	TRAC	
<input type="checkbox"/>	Ceptometer	
<input type="checkbox"/>	Direct measurements	
<input type="checkbox"/>	Other	

Sampling strategy for the ESU



Distribution of the Elementary sampling units

Wheat : 20 ESUs ; Fallow : 12 ESUs ; Barley : 5 ESUs ; Others : 4 ESUs
 → Bottom figure in last page

The high spatial resolution image

The VALERI ground measurement acquisition occurred between two satellite overpasses.

Satellite (First Image)

Satellite used SPOT-4 HRVIR 2
 Level of processing 1B
 Projection type Lambert I Nord Maroc
 Acquisition date 04/03/2003

Satellite (First Image)

Satellite used SPOT-4 HRVIR 1
 Level of processing 1B
 Projection type Lambert I Nord Maroc
 Acquisition date 25/03/2003

Georeferencing comment (accuracy, waypoint validation ...): correction from image to a reference image, the latter being referenced using a lot of GCP spread over all the area. Accuracy around 1 pixel.

List of the ESUs

ESU	Lat (*)	Lon(*)	Easting	Northing	crop type
A1	31,66343	-7,59713	291633,57707	120757,32649	oats
B1	31,67148	-7,61092	290344,89814	121677,32542	wheat
B10	31,66594	-7,61625	289826,50002	121073,91647	wheat
B11	31,66208	-7,61224	290197,64993	120637,94958	wheat
B12	31,65959	-7,61155	290257,22664	120360,53511	wheat
B13	31,65746	-7,60330	291034,55133	120107,86271	wheat
B16a	31,65306	-7,59058	292230,52301	119594,70091	wheat
B16b	31,65242	-7,59006	292278,34681	119522,71835	wheat
B17a	31,65246	-7,59971	291363,29749	119546,40498	wheat
B17b	31,65319	-7,59897	291435,17977	119625,84974	wheat
B19	31,64808	-7,60294	291046,73377	119067,32328	wheat
B2	31,67246	-7,61038	290398,39871	121784,87747	wheat
B3	31,67054	-7,60451	290950,44740	121560,26212	wheat
B30a	31,65063	-7,61553	289858,72889	119375,28614	wheat
B30b	31,65139	-7,61359	290044,49626	119455,63049	wheat
B4	31,67188	-7,59733	291634,34105	121694,44581	wheat
B5	31,67229	-7,59604	291757,60616	121737,32088	wheat
B6	31,66728	-7,59662	291690,92189	121183,09815	wheat
B7	31,66540	-7,59235	292091,41404	120966,17554	wheat
B8	31,66395	-7,59782	291569,36441	120816,34892	wheat
B9	31,66492	-7,60322	291059,60124	120934,67734	wheat
J1	31,66849	-7,61402	290043,94446	121352,10498	fallow
J10	31,65671	-7,60413	290954,08769	120026,38418	fallow
J2	31,67318	-7,59474	291882,93763	121833,38759	fallow
J3	31,66461	-7,59291	292036,47429	120879,71631	fallow
J3b	31,66331	-7,58925	292380,49362	120728,31684	fallow
J40	31,64844	-7,60606	290751,68343	119113,48326	fallow
J5a	31,65362	-7,58965	292320,02044	119654,92842	fallow
J6a	31,64941	-7,61536	289871,97910	119239,70108	fallow
J6b	31,65196	-7,61425	289983,24674	119520,14581	fallow
J6c	31,65143	-7,61634	289783,79652	119465,60137	fallow
J7	31,66534	-7,61692	289761,55820	121008,75374	fallow
J9	31,65306	-7,60006	291331,50841	119613,61780	fallow
O1	31,66026	-7,61514	289918,38011	120442,02945	barley
O5	31,65709	-7,61531	289894,79829	120090,96341	barley
O6	31,65529	-7,61588	289836,50831	119892,57328	barley
O7	31,65801	-7,61577	289853,34333	120193,87577	barley
O9	31,64739	-7,60406	290938,89943	118993,07668	barley
L1	31,66952	-7,59057	292269,78258	121419,35127	alfafa
L2	31,65303	-7,60798	290580,36386	119626,15876	alfafa
Z1	31,65365	-7,60935	290451,89873	119697,63905	olive tree + wheat

*Latitude and longitude are provided with Merchich Datum

** Lambert Nord Maroc (Merchich datum)

Acknowledgements

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Additional comments

There are additional measurements of :

- reflectances (B1-4-5-6-7-8-10-11-12-13-16b-17a-19 ; O1 ; J2-3-4), collected using a CropScan (TM bands)
- chlorophyl content (B3-4-5-6-7-8-11-12), collected using a SPAD.