



Food and Agriculture
Organization of the
United Nations

5th Meeting of the Near East and North African Laboratory Network (NENALAB)

26 February 2025

Laboratory of Soil, Water and Plant Analysis (Lab-URECRN)

Morocco

Dr Abdelmjid Zouahri



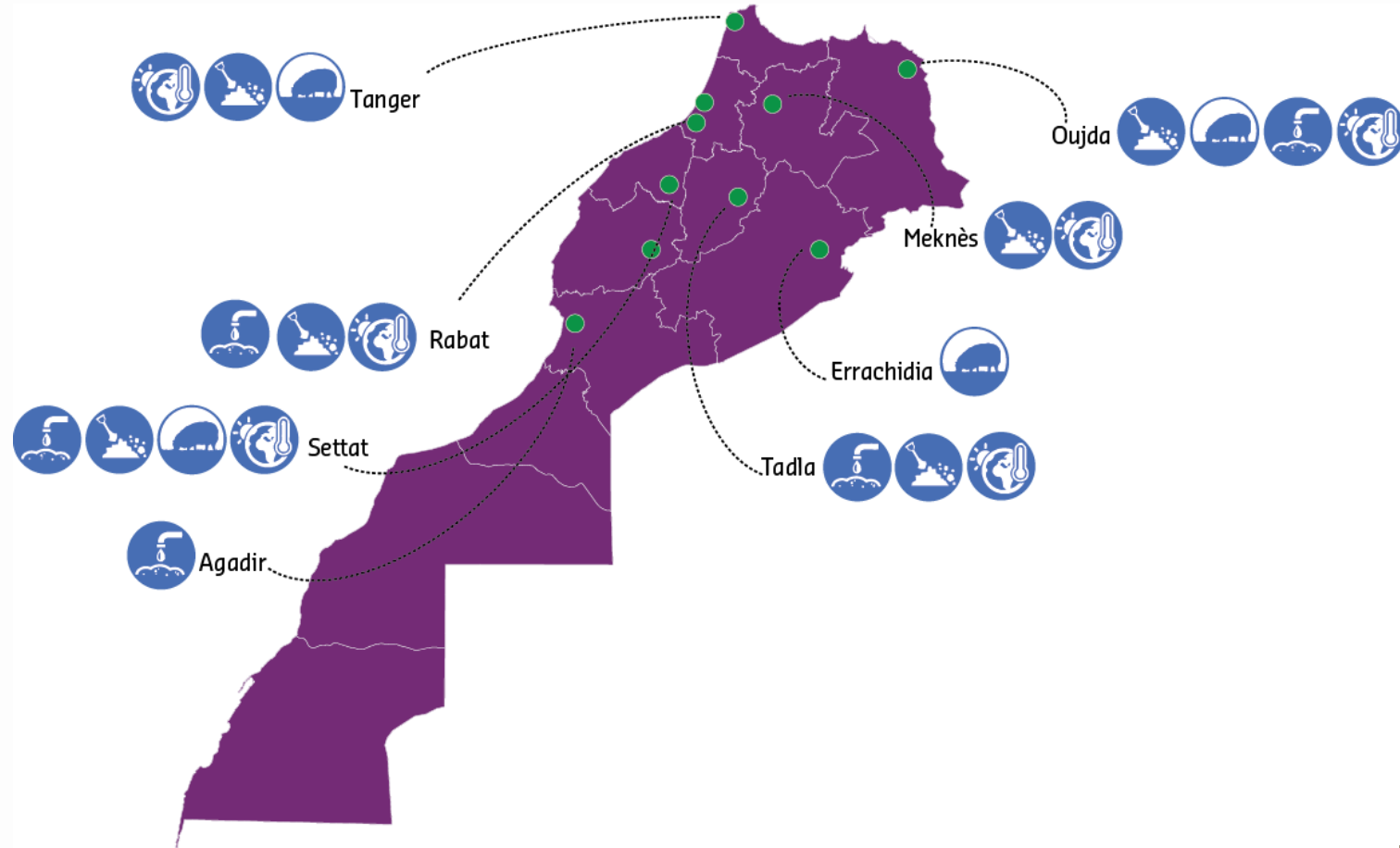
Laboratory of Soil, Water and Plant Analysis (Lab-URECRN)

Analysis performed	Number of samples analysed per year	Notes
Chemical	5000	pH, OC, EC, K ₂ O, P ₂ O ₅ , N CEC, Na, Micronutrients...
Physical	500	Granulometry, Bulk density , Soil Water Holding Capacity, Bulk density...
Biological		Soil health, active carbon, respiration
Number of laboratory staff	10	PhD, Master, Engineer, Technician

Laboratory of Soil, Water and Plant Analysis



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7 Laboratories



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Moroccan national Network

Name	Acronym	Address	Lab head names
Lab. des analyses des sols, eaux et plantes	Lab-URECRN	Unité de l'Environnement & Ress.Naturels Centre Régionale de la Recherche Agronomie de Rabat Avenue Mohamed Belarbi Alaoui B.P 6356-rabat Institut ,10101-Maroc	Dr. Zouahri Abdelmjid
Lab of Soil Analysis-Agropole-INRA Oujda		Centre Régional de la Recherche Agronomique d'Oujda 0, Bd Mohamed VI, El Qods, Oujda , 60.000 Maroc B.P. 428 Oujda RP Maroc	Karim Andich
Lab of Soil Analysis-Agropole-INRA Tadla		Centre Régional de la Recherche Agronomique du Tadla Route principale 24 Beni Mellal - Marrakech Km 18 Rural Beni Mellal	Abdessamad Hilali
Soil, Plant, and Water analysis laboratory	LSPE	Soil, Plant, and Water analysis laboratory, Agropolis Meknes. Regional Center of Agronomic Research of Meknes, PO Box 578	Karima Bouhafa
Lab of Soil Analysis-Agropole-INRA Settât		Centre Régional de la Recherche Agronomique de Settât Route tertiaire 1406 A 5 Km de Settât Maroc	Rachid Aboutayeb
Soil, water and plant analysis laboratory of Research Unit Al Hoceima	UR Al Hoceima- CRRA Tanger	St. Sidi Amhand, Regional Center of Agronomique Research;BP.32250; Imzouren; Al Hoceima.Morocco	Benzhir Khalid
Lab of Soil-water-plant analysis INRA-AGADIR	SWPLab-AGADIR	Centre Régional de la Recherche Agronomique d'Agadir - Avenue des FAR INEZGANE. MOROCCO - B.P. 124 Inezgane - Agadir Morocco	HALLAM JAMAL
Laboratoire de pédologie (pedology laboratory)	DSEB/LP	Pédology Laboratory Département Sol Eau Biodiversité Ecole Nationale Forestière d'Ingénieurs B.P. 511, Tabriquet 11 000 Salé, Maroc	Pr.Hana Nabil et Zaher Hayat
Soil Spectroscopy Laboratory, Center for Soil and Fertilizer Research in Africa (CESFRA)	CESFRA Soil Spectroscopy Lab	Mohammed VI Polytechnic University, Lot 660, Hay Moulay Rachid, 43150 Benguerir, Morocco	Dr. Laila Tajeddine
LABOMAG	Labomag	1, Bangkok road,10.500km, Zenata Street, Sidi Bernoussi- Casablanca	COQUANT Mathieu and DELANGLE Laurent
Lab 2A	Lab 2A	Av. Al Haour, Secteur 10 - Hay riad 10100 Rabat - Maroc	Chami

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Training and human capacity building

Pays : Sainte-Lucie, Saint-Kitts-et-Nevis, Jamaïque, Barbade, Dominique, Grenade

WP	Activités	Principaux travaux réalisés
WP 5: Training and human capacity building	Formation sur "Soil Analysis and Data Interpretation" INRA, Rabat du 10 au 14 Juin 2024	Practical and theoretical training on: -Physical analysis of the soil -Chemical analysis of the soil -Statistical analysis of the analysis results -Interpretation of the analysis results and fertilization recommendations

Training and human capacity building



Characteristics of oasis areas:

- Fragile environments;
- Arid to desert climates;
- Poor soils..



2 Laboratory analysis

Parameters analyzed:

- ✓ Acidity ;
- ✓ Salinity ;
- ✓ Teneur en matière organique ;
- ✓ Available P ;
- ✓ Exchangeable K
- ✓ About 6000 samples

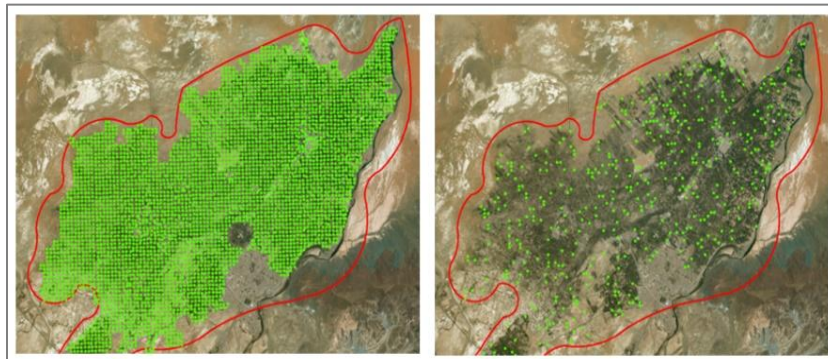


Soil fertility mapping for sustainable management of Moroccan palm groves

Methodology

1

Identification and collection of samples



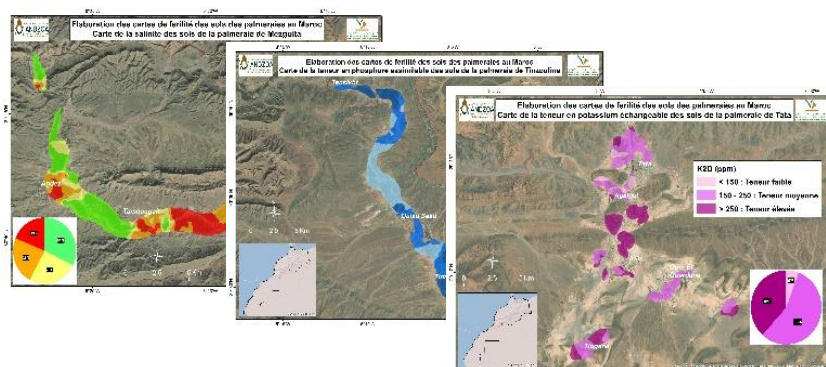
2

Analyse au laboratoire



4

Thematic maps



3

GIS database

ech	x_lee	y_lee	zone	ech	num lab	ph	h2o	sh	hcl	mo	nourc	p2o5	ppm	h2o	ppm	ce	ms	cm
F 19	607533	139986	Ansoufous	F 19	PL414	7.29	7	0.55	1.9	111	0.33							
F 37	606603	141369	Ansoufous	F 37	PL415	7.17	6.97	1.6	44.6	105	2.36							
F 38	606600	141484	Ansoufous	F 38	PL416	7.53	7.35	0.83	45.9	111	0.6							
F 43	606690	141777	Ansoufous	F 43	PL417	7.62	7.15	1	19.4	63	0.48							
F 120	606799	141876	Ansoufous	F 120	PL421	7.59	7.13	0.27	19.4	250	0.33							
F 286	606485	137493	Ansoufous	F 286	PL429	6.97	6.8	0.73	6.8	163	5.5							
F 287	607398	137484	Ansoufous	F 287	PL430	7.51	7.03	0.71	17.3	193	0.58							
H 83	610617	132264	Ansoufous	H 83	PL457	7.58	7.17	0.37	15.4	612	0.47							
H 84	611742	131289	Ansoufous	H 84	PL459	7.58	7.01	0.93	9.7	648	0.97							
H 85	611835	131394	Ansoufous	H 85	PL460	7.78	7.39	0.36	4.6	518	0.49							
H 85	611850	131292	Ansoufous	H 85	PL461	7.57	7.04	1.35	15.0	633	0.48							

Laboratory needs

- 1) Training on new methods and equipment for soil analysis
- 2) Training on quality control procedures of soil analysis
- 3) Training on safety measures in the laboratory
- 4) Capacity building on soil dry chemistry
- 5) Capacity building on soil analysis interpretation and fertilizer recommendations

Expectations from GLOSOLAN

- 1) Sharing knowledge on soil analysis
- 2) Harmonize soil analysis methods between network laboratories
- 3) Upgrading laboratories of the network
- 4) Exchange experiences
- 5) Capacity building and training for laboratory staff



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NEAR EAST AND NORTH AFRICAN SOIL LABORATORY NETWORK

Thank you

