

# BULLETIN

OF THE INTERNATIONAL SOCIETY  
OF SOIL SCIENCE

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# BULLETIN

DE L'ASSOCIATION INTERNATIONALE  
DE LA SCIENCE DU SOL

•

# MITTEILUNGEN

DER INTERNATIONALEN BODENKUNDLICHEN  
GESELLSCHAFT

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**INTERNATIONAL SOCIETY OF SOIL SCIENCE**  
**ASSOCIATION INTERNATIONALE DE LA SCIENCE DU SOL**  
**INTERNATIONALE BODENKUNDLICHE GESELLSCHAFT**

Office/Bureau: c/o Royal Tropical Institute, 63 Mauritskade, Amsterdam, Netherlands.

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**COUNCIL/CONSEIL/BEIRAT:**

**Executive Committee/Comité Exécutif/Verwaltungsausschuss:**

- President** : E. G. Hallworth, C.S.I.R.O. Division of Soils, Private Bag No. 1, Glen Osmond, South Australia.
- Vice-President** : J. P. Quirk, Dept. of Soil Science and Plant Nutrition, University of Western Australia, Nedlands, W. Australia.
- Past-President** : N. C. Cernescu, Comité Géologique, Soseaue Kiseleff 2, Bucharest, Rumania.
- Secretary-General**: F. A. van Baren, c/o Royal Tropical Institute, 63 Mauritskade, Amsterdam, Netherlands.

**Honorary Members/Membres Honoraires/Ehrenmitglieder:**

- Sir John E. Russell, Woodstock House, Woodstock, Oxford, England.
- Prof. Dr W. P. Kelley, University of California, 120 Hilgard Hall, Berkeley 4, Cal., U.S.A. (†)
- Prof. Dr Sante Mattson, Båstad, Sweden.
- Prof. Dr Emil Truog, University of Wisconsin, Madison 6, Wisc., U.S.A.
- Prof. Dr. E. C. J. Mohr, 38 Oude Engweg, Hilversum, Netherlands.
- Dr Firman E. Bear, Rutgers University, New Brunswick, N.J., U.S.A.
- Prof. J. A. Prescott, 82 Cross Road, Myrtle Bank, South Australia.

**Commissions/Commissions/Kommissionen:**

- I — SOIL PHYSICS.**  
Chairman: G. H. Bolt, Laboratorium Landbouwscheikunde, Prof. Ritzemabosweg, Wageningen, Netherlands.
- II — SOIL CHEMISTRY.**  
Chairman: J. M. M. J. Fripiat, Institut Agronomique, Avenue Cardinal Mercier, 92 Héverlé-Louvain, Belgique.
- III — SOIL BIOLOGY.**  
Chairman: J. Macura, Institute of Microbiology, Budějovická 1083, Praha 4, Czechoslovakia.
- IV — SOIL FERTILITY AND PLANT NUTRITION.**  
Chairman: Y. Ishizuka, Hokkaido University, Department of Soil Fertility and Plant Nutrition, Sapporo, Japan.
- V — SOIL GENESIS, CLASSIFICATION AND CARTOGRAPHY.**  
Chairman: V. A. Kovda, Academy of Sciences, Moscow, U.S.S.R.
- VI — SOIL TECHNOLOGY.**  
Chairman: I. D. Stalcu, Institut Central de Recherches Agricoles, Bd. Marasti 61, Bucarest, Roumanie.
- VII — SOIL MINERALOGY.**  
Chairman: B. D. Mitchell, The Macaulay Institute for Soil Research, Department of Pedology, Craigiebuckler, Aberdeen, Scotland.

**CONFERENCE ON MEDITERRANEAN SOILS**  
(Commission V)

**FIRST COPY**

**Additional form of inscription Soils Tour Morocco**

Please complete and return to

**The President of the Spanish Society of Soil Science**  
**Instituto de Edafología y Biología Vegetal**  
**Serrano 113, MADRID (6), SPAIN.**

Name .....

Address .....

I will be accompanied by ..... non-participants who wish to join the  
(Please tick those which apply)

pedological tour . . . . .

touristic tour . . . . .

I request accommodation in:

De Luxe Hotel . . . . .

1st Class Hotel . . . . .

Single room . . . . .

Double room . . . . .

I will arrive in Morocco on:

Date .....

Place .....

Means of transport: .....

I expect to leave for Madrid on September ..... 1966,

by **plane** 1st class . . . . .

tourist class . . . . .

by **train** with sleeping compartment, 1st class . . . . .

2nd class . . . . .

without sleeping compartment, 1st class . . . . .

2nd class . . . . .

by own car . . . . .

I include payment of US \$ 40.— per person . . . . .

I agree to pay before April 1st, 1966:

Soils Tour for self . . . . . US \$ .....

Soils Tour for dependant(s) . . . . . US \$ .....

Ladies Tour . . . . . US \$ .....

Travel Morocco—Madrid for self . . . . . US \$ .....

Travel Morocco—Madrid for dependant(s) . . . . . US \$ .....

**Total amount due** . . . . . US \$ .....

Deduct US \$ 40.— per person paid before January 1st: US \$ .....

Balance to be paid . . . . . US \$ .....

to *President Spanish Soc. of Soil Science, Madrid* . . . . .

to Travelling Agency . . . . .

name .....

address .....

CONFERENCE ON MEDITERRANEAN SOILS

(Commission V)

FIRST COPY

Additional form of invitation for Soil Meteorologists

Please complete and return to:  
The President of the Spanish Society of Soil Science  
Instituto de Edafología y Biología Vegetal  
C/Alameda 111 MADRID (6), SPAIN.

Name

Address

I will be accompanied by \_\_\_\_\_ and \_\_\_\_\_ who wish to join the

\_\_\_\_\_ class (please tick one or more)

\_\_\_\_\_ (please tick one or more)  
\_\_\_\_\_ (please tick one or more)  
\_\_\_\_\_ (please tick one or more)  
\_\_\_\_\_ (please tick one or more)  
\_\_\_\_\_ (please tick one or more)  
\_\_\_\_\_ (please tick one or more)

I will arrive in Madrid on \_\_\_\_\_

Date

Place

Means of transport

I intend to leave for Madrid on September \_\_\_\_\_ 1958

by plane for class \_\_\_\_\_

\_\_\_\_\_ (please tick one or more)

by train with sleeping accommodation for class \_\_\_\_\_

\_\_\_\_\_ (please tick one or more)

without sleeping accommodation for class \_\_\_\_\_

\_\_\_\_\_ (please tick one or more)

by own car \_\_\_\_\_

I include payment of \_\_\_\_\_ per person

I agree to pay before April 1st 1958

US \$ \_\_\_\_\_ 2nd Tour for self

US \$ \_\_\_\_\_ 3rd Tour for department

US \$ \_\_\_\_\_ Ladies Tour

US \$ \_\_\_\_\_ Travel Monaco-Madrid (air)

US \$ \_\_\_\_\_ Travel Monaco-Madrid (for department)

US \$ \_\_\_\_\_ Total amount due

US \$ \_\_\_\_\_ below US \$40 - per person send before 1st April

US \$ \_\_\_\_\_ I thank you very much

to President Spanish Soc. of Soil Science Madrid

to Traveling Agency \_\_\_\_\_

name \_\_\_\_\_

address \_\_\_\_\_

**CONFERENCE ON MEDITERRANEAN SOILS**  
(Commission V)

**SECOND COPY**

Additional form of inscription Soils Tour Morocco

Please complete and return to one of the following addresses:

**President, Spanish Society of Soil  
Science, Serrano 113, MADRID, 6,  
SPAIN**

or

**Travelling Agency** .....

**address** .....

Name .....

Address .....

I will be accompanied by ..... non-participants who wish to join the  
(Please tick those which apply)

- pedological tour . . . . .
- touristic tour . . . . .

- I request accommodation in:
- De Luxe Hotel . . . . .
  - 1st Class Hotel . . . . .
  - Single room . . . . .
  - Double room . . . . .

I will arrive in Morocco on:

Date .....

Place .....

Means of transport: .....

- I expect to leave for Madrid on September ..... 1966,
- by **plane** 1st class . . . . .
  - tourist class . . . . .
  - by **train** with sleeping compartment, 1st class . . . . .
  - 2nd class . . . . .
  - without sleeping compartment, 1st class . . . . .
  - 2nd class . . . . .
  - by own car . . . . .
- I include payment of US \$ 40.— per person . . . . .

I agree to pay before April 1st, 1966:

Soils Tour for self . . . . .	US \$ .....
Soils Tour for dependant(s) . . . . .	US \$ .....
Ladies Tour . . . . .	US \$ .....
Travel Morocco—Madrid for self . . . . .	US \$ .....
Travel Morocco—Madrid for dependant(s) . . . . .	US \$ .....
<b>Total amount due</b> . . . . .	<b>US \$</b> .....
Deduct US \$ 40.— per person paid before January 1st:	US \$ .....
Balance to be paid . . . . .	US \$ .....

to President Spanish Soc. of Soil Science, Madrid . . . . .

to Travelling Agency . . . . .

name .....

address .....

CONFERENCE ON MEDITERRANEAN SOILS  
(Committee V)

SECOND COPY

Additional form of inscription Soils Year Morocco

Please complete and return to one of the following addresses:

Traveling Agency  
address

or

President Spanish Society of Soil  
Science, SETRAN 113, MADRID 6,  
SPAIN

Name

Address

I will be accompanied by

non-participants who wish to join the

(Please tick those which apply)

pedological tour

touristic tour

I request accommodation in

De Luxe Hotel

1st Class Hotel

Single room

Double room

I will arrive in Morocco on

Date

Place

Means of transport

I expect to leave for Madrid on September 1968

by plane 1st class

tourist class

by train with sleeping compartment, 1st class

2nd class

without sleeping compartment, 1st class

2nd class

by oneself

I include payment of US \$ 40. — per person

I agree to pay before April 1st 1968

US \$ Soils Year for self

US \$ Soils Year for dependent(s)

US \$ Ladies Tour

US \$ Travel Morocco—Madrid for self

US \$ Travel Morocco—Madrid for dependent(s)

US \$ Total amount due

US \$ Deduct US \$ 40. — per person paid before January 1st

US \$ Balance to be paid

to President Spanish Soc. of Soil Science Madrid

to Traveling Agency

name

address

CONFERENCE

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CONFERENCE

**CONFERENCE ON MEDITERRANEAN SOILS**  
(Commission V)

**THIRD COPY**

Additional form of inscription Soils Tour Morocco

**To be kept in your personal file**

Name .....

Address .....

I will be accompanied by ..... non-participants who wish to join the  
(Please tick those which apply)

pedological tour .....

touristic tour .....

I request accommodation in:

De Luxe Hotel .....

1st Class Hotel .....

Single room .....

Double room .....

I will arrive in Morocco on:

Date .....

Place .....

Means of transport: .....

I expect to leave for Madrid on September ..... 1966,

by **plane** 1st class .....

tourist class .....

by **train** with sleeping compartment, 1st class .....

2nd class .....

without sleeping compartment, 1st class .....

2nd class .....

by own car .....

I include payment of US \$ 40.— per person .....

I agree to pay before April 1st, 1966:

Soils Tour for self ..... US \$ .....

Soils Tour for dependant(s) ..... US \$ .....

Ladies Tour ..... US \$ .....

Travel Morocco—Madrid for self ..... US \$ .....

Travel Morocco—Madrid for dependant(s) ..... US \$ .....

**Total amount due** ..... US \$ .....

Deduct US \$ 40.— per person paid before January 1st: ..... US \$ .....

Balance to be paid ..... US \$ .....

to President Spanish Soc. of Soil Science, Madrid .....

to Travelling Agency .....

name .....

address .....





CONFERENCE ON MEDITERRANEAN SOILS

(Commission V)

MADRID, SEPTEMBER 1966.

**FORM OF INSCRIPTION (General)**

Please complete and return to the

President of the Spanish Society of Soil Science

Instituto de Edafología y Biología Vegetal

Serrano 113, MADRID (6), SPAIN.

Name .....

Address .....

I expect to be accompanied by ..... non-participants.

I propose to submit a paper on the following subject .....

I will participate in the following tours:

delete what does  
not apply

Pre-Conference Tour in Morocco (see special form attached) ..... **YES / NO**

Post-Conference Tour I in Spain and Portugal ..... **YES / NO**

Post-Conference Tour II in Spain ..... **YES / NO**

(For details see Bulletin 26.)

I request the following hotel accommodation in Madrid. (Approximate prices in US-Dollars.)

Please tick  
those which apply

De Luxe	single room with bath .....	\$ 10.— — \$ 13.—	.....	<input type="checkbox"/>
	double room with bath .....	\$ 13.— — \$ 17.—	.....	<input type="checkbox"/>
1st Class Superior	single room with bath .....	\$ 7.75 — \$ 10.—	.....	<input type="checkbox"/>
	double room with bath .....	\$ 8.50 — \$ 16.—	.....	<input type="checkbox"/>
1st Class Ordinary	single room with bath .....	\$ 3.50 — \$ 4.75	.....	<input type="checkbox"/>
	double room with bath .....	\$ 6.— — \$ 7.—	.....	<input type="checkbox"/>
2nd Class Ordinary	single room with bath .....	\$ 2.25 — \$ 4.—	.....	<input type="checkbox"/>
	double room with bath .....	\$ 4.25 — \$ 6.—	.....	<input type="checkbox"/>
	single room without bath .....	\$ 1.25 — \$ 2.25	.....	<input type="checkbox"/>
	double room without bath .....	\$ 2.50 — \$ 3.—	.....	<input type="checkbox"/>

Meals not included. Prices vary from \$ 1.— (breakfast) to \$ 3.50 (dinner).



BULLETIN  
OF THE INTERNATIONAL SOCIETY OF SOIL SCIENCE

BULLETIN  
DE L'ASSOCIATION INTERNATIONALE DE LA SCIENCE DU SOL  
MITTEILUNGEN  
DER INTERNATIONALEN BODENKUNDLICHEN GESELLSCHAFT

No. 27

1965

CONFERENCE ON MEDITERRANEAN SOILS

(Commission V)

12—17 September, 1966

MADRID - SPAIN

In accordance with the announcement in Bulletin No. 26, page 2, forms of inscription are now being circulated, as a separate leaf, in this copy.

It was also communicated that the possibility of including a pre-Conference tour in Morocco was being studied. This indeed did become a reality thanks to a close contact between the Spanish Society of Soil Science and the National Institute for Agricultural Research (INRA) at Rabat. A special form of inscription for the Moroccan Tour as organized by the INRA is likewise included. The tour will take place from 1—10 September, 1966, and is scheduled as follows:

**Programme of soils tour at Morocco**

**I. Tour Programme:**

**1 September:** Arrival of participants at Rabat or Casablanca; dinner and hotel accommodation at Rabat.

**2 September:** Morning: general meeting at Rabat and discussion of the tour-programme. Afternoon: visit of Rabat, including scientific institutions and research laboratories.

**3 and 4 September:** Visit of Central Tableland and Phosphate Plateau. Soils of Tadla Plain: chestnut and brown steppe soils, tirs, calcareous crust soils. Stay overnight at Beni-Mellal.

**5 September:** Soils of the Middle Atlas Range: red Mediterranean soils, sandy rendzinas on dolomite, soils on basalt. Stay overnight at Fez.

**6 September:** Visit of Fez.

**7 September:** Soils of the Fez—Meknès plain: steppe soils, tirs, calcareous brown soils, regosols, hydromorphic soils. Return to Fez.

**8 September:** Continuation of soil studies in Fez-Meknès plain; soils of the Rharb plain: vertisols, hydromorphic soils, entisols. Return to Rabat.

**9 September:** Continuation of soil studies in Rharb plain. Soils of the Mamora forest: hydromorphic sandy soils. Return to Rabat.

**10 September:** Departure to Madrid. Programme adapted to travel schedule of participants.

**II.** A ladies touristic tour parallel to the soils excursion will be organized. Additional information will be given to the participants.

**III.** All arrangements have been made for an efficient reception on arrival of the congressists, travelling by air, ship or car. Relevant detailed information will be sent to participants by the Organisation Committee at Rabat.

**IV.** Prices of participation for the complete tours, including hotel accommodation, meals with drinks, transport, touristic visits, etc. are the following:

Hotels de luxe : single room US \$ 240.— per person  
double room US \$ 220.— per person

First class hotels: single room US \$ 210.— per person  
double room US \$ 195.— per person

Ladies tour: Hotels de luxe : US \$ 230.— per person  
1st Class Hotels: US \$ 205.— per person.

Participants staying till September 11, 1966, extra US \$ 10.—.

**V.** Costs of travelling from Rabat or Casablanca to Madrid are as follows:

Plane: first class: US \$ 58.—  
tourist : US \$ 42.—

Train: 1st class with couch: US \$ 35.—; without couch: US \$ 23.—  
2nd class with couch: US \$ 26.—; without couch: US \$ 17.—

#### **VI. Inscription**

The number of participants, including dependants, is limited to 125. Inscription will be according to date of receipt of inscription-forms and payment of initial US \$ 40.— (see Additional Form of Inscription attached).

These special forms are to be filled out in threefold and to be sent:

##### **1st copy before January 1st, 1966**

to the President of the National Society of Soil Science of Spain,  
Instituto de Edafología y Biología Vegetal, Serrano 113,  
Madrid (6), Spain.

##### **2nd copy before April 1st, 1966**

either to the above President at Madrid, or to the correspondant of the Travelling office ATWATER.

A list of branch offices of ATWATER will be sent to the participants.

##### **3rd copy to be kept by participants.**

#### **VII. Payments**

**Before January 1, 1966**, the amount of US \$ 40.— for each participant (dependants included) has to be paid to the President of the Spanish Society of Soil Science at Madrid (address above).

**Before April 1, 1966**, the balance for all costs, including travelling expenses from Morocco to Madrid will have to be paid to, ~~the President of the Spanish Society of Soil Science at Madrid~~ the Travelling Agency ATWATER, 26, boulevard Mohammed El Hansali, Casablanca, Maroc (cable address: BIRDWAY; Telex: SOMAF 210-48), or to one of its branch offices.

#### **VIII. Passports, Visa**

Valid passports are necessary. In some cases also a visa will be required. Inquiries re this point are to be made of the diplomatic representatives of Morocco in the country of the participants.

#### **IX. Currency**

The local Moroccan currency is the Dirham. Official exchange rate is US \$ 1.— is 5 Dirhams. Exchange rates are calculated on this basis.

#### **X. Climate**

At the time of the tour, the temperature in Morocco is still rather high (35° C), whereas in the Middle Atlas Range it may be as low as 20° C in that same period.

**XI.** Additional information is to be had from either

**The President of the Spanish Society of Soil Science**  
**Instituto de Edafología y Biología Vegetal**  
**Serrano 113, MADRID (6), SPAIN.**

or

**Monsieur Husin FARAJ, Président du Comité d'Organisation de l'Excursion au Maroc de Pédologie Méditerranéenne,**  
**Institut National de la Recherche Agronomique**  
**99, avenue de Temara**  
**Boite Postale 415, RABAT, MAROC.**

# CONFERENCE SUR LES SOLS MEDITERRANEENS

(Commission V)

12—17 Septembre 1966

MADRID - ESPAGNE

Comme indiqué dans la communication publiée sur la page 3 du Bulletin No. 26, les formulaires d'inscription sont maintenant distribués dans ce Bulletin, comme feuille séparée.

Comme annoncé dans cette même communication, la possibilité d'étendre le programme d'une excursion au Maroc avant la Conférence a été étudiée et grâce à une collaboration efficace entre la Société Nationale de la Science du Sol d'Espagne et l'Institut National de la Recherche Agronomique du Maroc (INRA), cette excursion aura lieu. Un formulaire d'inscription spécial pour cette excursion marocaine est également joint à ce Bulletin. L'excursion se déroulera du 1er au 10 septembre 1966 d'après le programme suivant.

## Programme de l'excursion organisée au Maroc

### I. Programme de l'excursion:

**1er septembre:** Arrivée des congressistes à Rabat ou Casablanca; diner et logement à Rabat.

**2 septembre:** le matin: réunion générale à Rabat pour la présentation du programme de l'excursion; l'après-midi: visite de Rabat, y compris des instituts scientifiques et des laboratoires de recherches.

**3 et 4 septembre:** Présentation du plateau central et du plateau des phosphates. Sols dans la plaine du Tadla: sols châtaîns steppiques, sols bruns steppiques, sols tirsifiés, sols sur croûtes et encroûtements calcaires. Logement à Beni-Mellal.

**5 septembre:** Sols dans la chaîne du Moyen-Atlas: sols rouges méditerranéens, rendzines sableuses dolomitiques, sols sur basaltes. Logement à Fez.

**6 septembre:** Visite de Fez.

**7 septembre:** Sols dans la plaine de Fez—Meknès: sols steppiques, sols tirsifiés, sols bruns calcaires, sols jeunes, sols hydromorphes. Logement à Fez.

**8 septembre:** Continuation de la présentation de sols dans la plaine de Fez-Meknès, puis de sols dans la plaine du Rharb: vertisols, sols hydromorphes, sols peu évolués. Logement à Rabat.

**9 septembre:** Continuation de la présentation de sols dans la plaine du Rharb, puis de sols dans la forêt de la Mamora: sols sableux hydromorphes. Retour à Rabat.

**10 septembre:** Programme variable suivant le départ pour Madrid.

**II.** Une excursion touristique parallèle à l'excursion scientifique sera organisée à l'intention des épouses des congressistes. Le programme détaillé sera communiqué aux participants.

**III.** Des centres seront établis pour accueillir les participants arrivant en avion, en train ou en voiture. Des renseignements détaillés seront fournis aux participants.

**IV.** Le prix total de participation, comprenant la pension complète, tous les transports en car (y compris à l'arrivée et au départ), les boissons prises au cours des repas, les visites touristiques, sera le suivant:

pour l'excursion scientifique:

Hôtels de luxe	: une personne par chambre:	US \$ 240.— p.p.
	2 personnes par chambre:	US \$ 220.— p.p.
Hôtels de 1ère classe:	une personne par chambre:	US \$ 210.— p.p.
	2 personnes par chambre:	US \$ 195.— p.p.

pour l'excursion touristique:

Hôtels de 1ère classe:	US \$ 230.— par personne
Hôtels de luxe	: US \$ 205.— par personne

Les congressistes restant à Rabat jusqu'au 11 septembre auront à payer un supplément de US \$ 10.— par personne.

## V. Les prix de voyage de Rabat ou Casablanca à Madrid sont les suivants:

Avion: 1ère classe:	US \$ 58.—
touriste :	US \$ 42.—
Train: 1ère classe avec couchettes:	US \$ 35.—
1ère classe sans couchettes:	US \$ 23.—
2ème classe avec couchettes:	US \$ 26.—
2ème classe sans couchettes:	US \$ 17.—

## VI. Inscription

Le nombre total de participants, y compris les dépendants, est limité à 125. Les inscriptions seront acceptées dans l'ordre d'arrivée des formulaires d'inscription et du paiement de la somme de US \$ 40.— (voir le Formulaire d'Inscription).

Ces formulaires d'inscription définitive doivent être remplis en trois exemplaires et expédiés comme suit:

### 1er exemplaire avant le 1er Janvier 1966

au Président de la Société Nationale de la Science du Sol d'Espagne,  
Instituto de Edafología y Biología Vegetal,  
Serrano 113, Madrid (6), ESPAGNE.

### 2ème exemplaire avant le 1er Avril 1966

soit à le même adresse qui ci-dessus à MADRID,  
soit à une agence correspondant de l'Agence ATWATER.

Une liste de ces correspondants de ATWATER sera donnée aux participants.

### 3ème exemplaire est conservé par le congressiste.

## VII. Paiement

Avant le 1er Janvier 1966, la somme de US \$ 40.— par participant (y compris les dépendants) doit être envoyée au Président de la Société National de la Science du Sol à MADRID (Adresse ci-dessus).

Avant le 1er Avril 1966, le solde de ce qu'il faut payer pour participer à l'excursion et pour faire le voyage Maroc—Madrid, devra être soit envoyé à ~~la même adresse qu'à Madrid~~ soit versé à l'Agence ATWATER, 26 boulevard Mohammed El Hansali, Casablanca, Maroc (adresse télégraphique: BIRDWAY; Telex SOMAF 210-48), ou à une des agences correspondantes.

## VIII. Passeports, Visas

Un passeport valide est indispensable. En certains cas un visa est exigé. Les congressistes doivent s'en informer le plus tôt possible auprès de la représentation diplomatique du Maroc dans leur pays.

## IX. Monnaie

La monnaie du Maroc est le Dirham. Le change officiel est US \$ 1.00 = 5.00 Dirhams. Toutes les autres monnaies sont échangées sur cette base.

## X. Climat

A l'époque où se déroulera l'excursion, le climat peut être encore très chaud (35° C); mais il peut faire également assez frais (20° C) dans la chaîne du Moyen-Atlas.

XI. Pour tout renseignement complémentaire, prière de s'adresser l'une des deux adresses suivantes:

Monsieur le Président de la Société Nationale de la Science du Sol d'Espagne  
Instituto de Edafología y Biología Vegetal  
Serrano 113, MADRID (6), ESPAGNE.

Monsieur Husin FARAJ, Président du Comité d'Organisation de l'Excursion au Maroc de Pédologie Méditerranéenne  
Institut National de la Recherche Agronomique  
99, avenue de Temara, Boîte Postale 415, RABAT, MAROC.

## KONFERENZ ÜBER MEDITERRANE BÖDEN

(Kommission V)

12.—17. September 1966

MADRID - SPANIEN

In Übereinstimmung mit dem Bericht im Bulletin No. 26 (Seite 4) werden die Einschreibungsformulare als Beilage in der hiesigen Nummer den Mitgliedern zugeschickt. Es wurde ebenfalls mitgeteilt, dass die Möglichkeit einer Exkursion in Marokko studiert werde. Dies wird jetzt indertat der Fall sein, dank einer intensiven Zusammenarbeit zwischen der Spanischen Bodenkundlichen Gesellschaft und der Nationalen Landwirtschaftlichen Versuchsanstalt (INRA) in Rabat. Ein spezielles Einschreibungsformular für die Marokkanische Exkursion wie von der INRA organisiert, liegt ebenfalls bei. Die Exkursion wird vom 1.—10. September 1966 abgehalten und hat folgendes Programm:

### Programm für die Exkursion nach Marokko

#### I. Exkursionsprogramm:

- 1. September:** Eintreffen der Teilnehmer in Rabat oder Casablanca. Übernachtung in Rabat.
- 2. September:** Vormittags: Generalsitzung in Rabat und Einleitung über das Exkursionsprogramm. Nachmittag: Besuch von Rabat, einbegriffen wissenschaftliche Institute und Untersuchungsanstalten.
- 3. und 4. September:** Besuch des Zentralen Tafellandes und des Phosphat-Plateaus. Böden der Tadla-Ebene: kastanienfarbige und braune Steppeböden, Tirs, Kalkkrustenböden. Übernachtung in Beni-Mellal.
- 5. September:** Böden des Mittleren-Atlas Kettengebirges: rote Mediterrane Böden, sandige Rendzinen auf Dolomiten, Basaltböden. Übernachtung in Fez.
- 6. September:** Besuch von Fez.
- 7. September:** Böden der Fez-Meknès Ebene: Steppeböden, Tirs, kalkhaltige braune Böden, Regosole, hydromorphe Böden. Rückkehr nach Fez.
- 8. September:** Fortsetzung der Exkursion in der Fez-Meknès Ebene. Böden der Rharb-Ebene: Vertisole, hydromorphe Böden, Entisole, Rückkehr nach Rabat.
- 9. September:** Fortsetzung der Exkursion in der Rharb-Ebene. Böden des Mamora-Waldes: hydromorphe sandige Böden. Rückkehr nach Rabat.
- 10. September:** Abreise nach Madrid. Programm dem Reiseschema der Teilnehmer angepasst.

II. Eine spezielle touristische Exkursion für die begleitenden Damen ist parallel mit der Bodenexkursion organisiert worden. Nähere Auskünfte werden den Teilnehmern nachträglich mitgeteilt.

III. Alle Vorbereitungen sind getroffen für eine effiziente Rezeption bei Ankunft, ob der Teilnehmer mit Flugzeug, Dampfer oder Auto reist. Das Organisationskomitee in Rabat wird den Interessenten alle weiteren sachdienlichen Details zusenden.

IV. Die Kosten für Teilnahme an der gesamten Exkursion, damit einbegriffen Hotels, Mahlzeiten mit Getränken, Transport, touristischen Besuchen, u.s.w., sind folgende:

Hotels de luxe: Einbettzimmer US \$ 240.— pro Person  
Zweibettzimmer US \$ 220.— pro Person

Hotel I. Klasse: Einbettzimmer US \$ 210.— pro Person  
Zweibettzimmer US \$ 195.— pro Person

Exkursion für die Damen: Hotel de luxe : US \$ 230.— pro Person  
I. Klasse Hotel: US \$ 205.— pro Person

Teilnehmer am 11. September abreisend, US \$ 10.— extra Gebühr.

## V. Die Reisekosten von Rabat oder Casablanca nach Madrid betragen:

Flugzeug: I. Klasse: US \$ 58.—  
Tourist : US \$ 42.—

Zug : I. Klasse, mit Schlafstätte: US \$ 35.—; ohne: US \$ 23.—  
II. Klasse, mit Schlafstätte: US \$ 26.—; ohne: US \$ 17.—

## VI. Einschreibung

Die Anzahl der Teilnehmer, Angehörige damit einbegriffen, ist beschränkt auf 125. Die Annahme wird zeitgemäss geschehen in Abhängigkeit des Empfangs vom Einschreibungsformular und Initialgebühr von US \$ 40.—. (Sehe spezielles Anmeldeformular).

Die speziellen Formulare (im Bulletin mit eingeschlossen) sind in Dreifach auszufüllen und zurückzusenden:

### 1. Exemplar vor 1. Januar 1966

an den Präsident der Spanischen Bodenkundlichen Gesellschaft  
Instituto de Edafología y Biología Vegetal,  
Serrano 113, MADRID (6), SPANIEN.

### 2. Exemplar vor 1. April 1966

entweder an obige Adresse, oder an die Filiale des Reisebüros ATWATER.  
Eine Liste dieser Filialen wird den Teilnehmern zugestellt.

### 3. Exemplar ist vom Partizipanten zu behalten.

## VII. Zahlungen

**Vor 1. Januar 1966** die Summe von US \$ 40.— für jeden Teilnehmer (Angehörige einbegriffen), zu überweisen an den Präsidenten der Spanischen Bodenkundlichen Gesellschaft zu MADRID (Adresse wie oben).

**Vor 1. April 1966** soll der Restbetrag für Teilnahme an der Exkursion, die Reisekosten Marokko—Madrid einbegriffen, gezahlt werden ~~an den Präsidenten der Spanischen Bodenkundlichen Gesellschaft zu MADRID~~ an das Reisebüro ATWATER, 26 boulevard Mohammed El Hansali, Casablanca, Marokko (Telegramm-Adresse: BIRDWAY; Fernschreiber SOMAF 210-48), bzw. an eine der Atwater-Filialen.

## VIII. Pässe und Visa

Gültige Pässe sind verpflichtet. In bestimmten Fällen sind auch Visa benötigt. Diesbezügliche Nachfragen sind an die diplomatischen Vertreter Marokko's in den einzelnen Ländern zu richten.

## IX. Währung

Die Marokkanische Währung ist der Dirham. Der offizielle Kurs ist: US \$ 1.— zu 5 Dirhams. Die Umrechnungskurse der verschiedene Währungen sind hierauf basiert.

## X. Klima

Zur Zeit der Exkursion ist die Temperatur in Marokko noch ziemlich hoch (35° C); im Mittleren-Atlas Kettengebirge dagegen kann die Temperatur in derselben Periode weniger als 20° C betragen.

## XI. Für nähere Auskünfte wende man sich entweder an:

**Herrn Präsident der Spanischen Bodenkundlichen Gesellschaft  
Instituto de Edafología y Biología Vegetal  
Serrano 113, MADRID (6), SPANIEN**

oder an:

**Herrn Husin FARAJ, Président du Comité d'Organisation de l'Excursion au Maroc de Pédologie Méditerranéenne  
Institut National de la Recherche Agronomique  
99, avenue de Temara, Boîte Postale 415, RABAT, MAROC.**



**NEWS OF THE NATIONAL SOCIETIES**  
**NOUVELLES DES SOCIÉTÉS NATIONALES**  
**NEUES DER GESELLSCHAFTEN IN EINZELNEN LÄNDERN**

**Israel Society of Soil Science.**

The Executive Committee, meeting on July 2nd, 1965 elected the following members for the offices mentioned below:

- President — Dr. N. E. Nissim  
Secretary — Dr. N. Lahav  
Treasurer — Mr. M. Gal  
Committee Members — Dr. B. Zur and Mr. D. Shimshi.

*Section Chairmen:*

- Soil Survey Section — Dr. D. Yaalon  
Soil Chemistry — Dr R. Mokadi  
Soil Physics — Mr. A. Hadas

The address of the Society is:

c/o Agricultural Research Station  
REHOVOT, Israel.

**Sociedad Mexicana de la Ciencia del Suelo.**

The Mexican Society of Soil Science held its 2nd National Congress at Chapin-go, Mexico as from August 25—28, 1965.

**Soil Science Society of Ghana.**

At the first Annual Conference of the Soil Science Society of Ghana which took place at Kumasi from December 2—5, 1964, the following were elected to serve on the Executive Committee for the period January 1 to December 31, 1965:

- President — Dr. Yaw Ahenkorah, Cocoa Research Institute, Ghana Academy of Sciences, P.O. Box 8, Tafo, Eastern Region.  
Vice-President — Dr. C. S. Ofori, Soil Research Institute, Ghana Academy of Sciences, P. O. Box 1433, Kumasi, Ashanti.  
Secretary — H.B. Obeng, Esqr., Soil Research Institute, Ghana Academy of Sciences, P.O. Box 1433, Kumasi, Ashanti.  
Treasurer — S. V. Adu, Esqr., Soil Research Institute, Ghana Academy of Sciences, P.O. Box 1433, Kumasi, Ashanti.  
Members — R. K. Djokoto, Esqr., Faculty of Agriculture, Kwame Nkrumah University of Science and Technology, Kumasi, Ashanti.  
Dr. B. N. Roy, Formerly of Faculty of Agriculture, Kwame Nkrumah University of Science and Technology, Kumasi, Ashanti.  
G. K. Asamoah, Esqr., Soil Research Institute, Ghana Academy of Sciences, P.O. Box 1433, Kumasi, Ashanti.  
Dr. S. K. Takyi, Soil Research Institute, Ghana Academy of Sciences, P.O. Box 1433, Kumasi, Ashanti.

**FORTHCOMING CONFERENCES**

**Third International Working-Meeting on Soil - Micromorphology**  
**Madrid, 1967**

*1st Announcement*

The first Working-Meeting in Braunschweig-Völkenrode 1958, prepared by Prof. Frese and Dr. Altemüller, and the second Working-Meeting in Arnhem, Holland, 1964, prepared by Dr. F. W. G. Pijls, Dr. J. Schelling, and Dr. A. Jongerius were particularly successful and showed a remarkable increase in interest. Therefore it has been decided to hold a **Third Working-Meeting in Madrid 1967**. The undersigned was charged with its preparation by the Plenum of the closing session at Arnhem 1964.

The conference will be devoted primarily to the following subjects:

- I. Micromorphological effects of the microflora and fauna of the soil in humus formation.
- II. Chemistry and micromorphology of the decomposition products of plant residues in different soil types and humus forms.
- III. Micromorphology of weathering of soil minerals under different environment conditions.
- IV. New contributions to the micromorphology and micro-morphogenesis of soil formations.
- V. New techniques and applications of micromorphology and micromorphometric soils analysis.
- VI. Results of micromorphology analysis as indicators of soil fertility.
- VII. Application of micromorphologic investigation to paleopedology.

The conference, like that at Arnhem, will be combined with an exhibition which will comprise the entire field of micromorphology and micromorphometry.

The excursion following the conference will be devoted to the demonstration of field methods of microbiological, zoological and micromorphological research. Furthermore special aspects of soil formation in Spain will be shown.

We invite all colleagues and friends of micromorphological research and soil scientists of all sections for attending our meeting. We ask furthermore all those interested and working in different branches of micromorphology to prepare contributions for the conference, to contribute to the exhibition (apparatus, implements, preparations, black and white and coloured enlargements of microphotographies, models, presentations of investigation results etc.), and to demonstrations in the different branches of field research.

Prof. Dr. José Ma Albareda Herrera  
Institute of Soil Science and Agrobiology.  
C.S.I.C., Madrid, Serrano 113.

## CONFERENCES PROCHAINES

### Troisième Réunion Internationale de Travail sur la Micromorphologie du Sol Madrid, 1967

#### Première Communication

Après le succès de la première réunion de travail à Braunschweig-Völkenrode 1958 préparée par le Prof. Frese et le Dr. Altermüller et de la deuxième réunion de travail à Arnhem (Hollande) 1964 préparée par le Dr. F. G. Pijls, Dr. J. Schelling et le Dr. A. Jongerius, on a décidé à tenir une troisième réunion de travail à Madrid pour 1967. Le soussigné a été chargé de la préparation d'une telle réunion par le plenum de la session de clôture en Arnhem 1964.

Elle aura lieu en Septembre du 24 au 27 de 1967 subséquentement avec une excursion de trois jours dans régions des sols d'Espagne particulièrement intéressantes. La réunion sera dédiée premièrement aux sujets suivants:

- I. Effets micromorphologiques de la microflore et de la faune du sol sur la formation d'humus.
- II. Sur la chimie et micromorphologie des transformations des résidues des plantes dans différents types du sol et formes d'humus.
- III. Micromorphologie de la décomposition des minéraux déterminés sous différentes conditions de milieu.
- IV. Contributions nouvelles sur la micromorphologie et micromorphogénèse des formations de sol déterminées.
- V. Nouvelles techniques et terrains d'application de l'analyse micromorphologique micromorphométrique du sol.
- VI. Résultats de l'analyse micromorphologique comme indicateurs de la fertilité du sol.
- VII. L'application de l'investigation micromorphologique dans la paleopédologie.

La réunion sera liée avec une exposition qui embrassera toutes les branches de la micromorphologie et micromorphométrie.

L'excursion qui suivra la conférence a le but de servir premièrement à la démonstration des méthodes de champs de l'investigation microbiologique, zoologi-

que et micromorphologique des sols sous des conditions naturelles. En outre des aspects spécifiques de formation de sol en Espagne seront présentés.

Cette invitation va aux collègues et amis de la recherche micromorphologique aussi bien qu'aux intéressés de toutes les différentes branches de la science du sol pour la participation à la réunion de travail. Ils sont également priés à préparer des communications pour la conférence, d'envoyer des détails pour l'exposition (appareils, outils, préparations, agrandissements de microphotographies en noir et blanc et en couleurs, modèles, représentations de résultats de recherche etc.) et d'aider avec les démonstrations des diverses branches d'investigation dans le terrain.

Prof. Dr. José Ma Albareda Herrera  
Institut pour la Science du Sol et Agrobiologie,  
Serrano 113  
Madrid

## ZUKÜNFTIGE ARBEITSTAGUNGEN

### Dritte Internationale Arbeitstagung für Mikromorphologie des Bodens Madrid 1967

#### 1. Mitteilung

Nach der erfolgreichen ersten Arbeitstagung in Braunschweig-Völkenrode 1958, vorbereitet durch Prof. Dr. Frese und Dr. Altermüller und nach der zweiten Arbeitstagung 1964 in Arnheim, vorbereitet durch Dr. F. W. G. Pijls, Dr. J. Schelling und Dr. A. Jongerius, die in Bezug auf das Interesse und die erzielten Ergebnisse eine bemerkenswerte Steigerung brachte, wurde für **1967 eine dritte Arbeitstagung in Madrid** beschlossen und der Unterzeichnete vom Plenum der Schlussitzung in Arnheim 1964 mit deren Vorbereitung beauftragt.

Diese wird in der Zeit vom 24. bis 27. September 1967 stattfinden und mit einer anschliessenden Exkursion von 3 Tagen in bodenkundlich besonders interessante Teile Spaniens verbunden sein.

Die Tagung wird besonders folgenden Fragen gewidmet sein:

- I. Mikromorphologische Wirkungen der Mikroflora und -fauna des Bodens bei der Humusbildung.
- II. Zur Chemie und Mikromorphologie des Stoffumwandlungen von Pflanzenresten in Abhängigkeit von Bodentypus und Humusform.
- III. Mikromorphologie der Verwitterung bestimmter Mineralien unter verschiedenen Umweltverhältnissen.
- IV. Neue Beiträge zur Mikromorphologie und Mikromorphogenese bestimmter Bodenbildungen.
- V. Neue Techniken und Anwendungsgebiete der mikromorphologischen und mikromorphometrischen Bodenanalyse.
- VI. Ergebnisse der mikromorphologischen Analyse als Indikatoren der Bodenfruchtbarkeit.
- VII. Die Anwendung der mikromorphologischen Untersuchung in der Paläopedologie.

Die Tagung wird wie in Arnheim mit einer Ausstellung verbunden sein, die das Gesamtgebiet der Mikromorphologie und Mikromorphometrie umfassen soll.

Die an die Tagung anschliessende Exkursion soll vor allem der Demonstrierung der Freilandmethoden der mikrobiologischen, zoologischen und mikromorphologischen Untersuchung von Böden in ihren natürlichen Vorkommen dienen. Ausserdem werden Besonderheiten spanischer Bodenbildungen vorgeführt.

Mit dieser Einladung an alle Fachkollegen und Freunde der mikromorphologischen Forschung sowie an Interessenten aus den verschiedensten Teilgebieten der Bodenkunde zur Teilnahme an der Arbeitstagung sei vor allem aufgerufen zu aktiver Mitarbeit durch die Vorbereitung von Tagungsbeiträgen, zur Einsendung von Ausstellungsstücken (Apparaten, Geräten, Präparaten, schwarz-weißen und farbigen Grossaufnahmen, Modellen, Darstellungen von Forschungsergebnissen etc.) und zu Demonstrationen auf den verschiedenen Gebieten der Freilanduntersuchung.

Prof. Dr. José Ma Albareda Herrera  
Institut für Bodenkunde und Agrobiologie  
C.S.I.C., Madrid, Serrano 113.

**INTERNATIONAL CONFERENCES OF ALLIED SCIENCES**  
**CONGRES INTERNATIONAUX DE SCIENCES CONNEXES**  
**INTERNATIONALE KONGRESSE VON VERWANDTEN WISSENSCHAFTEN**

**11th International Peat Congress**  
Keszthely, Hungary 12—21 September 1965

The International Society for Peat Research held its XIth Congress in Keszthely, Lake Balaton, Hungary under the general headings of: Scientific fundamentals of peat research; Use of peat in agriculture and forestry; Peat industry; Peat therapy, a number of lectures by specialists of various nationalities were presented. The transactions of the Congress will be edited by a special committee with Dr E. Operschall as the secretary general. For additional information apply to: Internationale Gesellschaft für Moorforschung, Vaduz/Liechtenstein, Hauptstrasse 26.

**First Latin-American Colloquium on Soil Biology**  
Bahia, Argentina, 13—17 October 1965

The Unesco Centre of Scientific Cooperation In Latin America of the National University of Argentina organizes the first colloquium on soil biology from 13—17 October 1965 at Bahia Blanca, Argentina. The following programme is anticipated:

- (1) Soil microbiology
- (2) Soil — plant relationships
- (3) Plant-harmful animals
- (4) Ecology and geography of soil animals
- (5) Interaction between animals, plants and micro-flora
- (6) Working methods.

Accepted languages: English, French, Portuguese and Spanish.

Papers to be discussed can be original contributions or reviews up to 3000 words, and will be printed in the "Proceedings". The last date to receive them will be at the beginning of the Colloquium, and collaborators are asked to reduce the number of figures and graphs to the strictly necessary to avoid increasing the costs of printing.

For additional information apply to:

Prof. Dr. E. H. Rapoport  
Instituto de Edafología and Hidrología  
Alem 925, Bahía Blanca, Argentina.

**Société Française de Microbiologie**

La Section de Microbiologie du Sol de la Société Française de Microbiologie organise son Colloque annuel de 1966 les Jeudi 3 et Vendredi 4 Février. Trois Séances sont prévues.

Le thème général de ce Colloque sera „Interactions nutritionnelles plantes-microorganismes”.

Les trois aspects principaux feront l'objet de Rapports d'Introduction:

Profr J. MACURA (Prague): Interactions nutritionnelles plantes-bactéries et bases expérimentales de la bactérisation des graines.

Profr F. MANGENOT (Nancy): Interactions nutritionnelles au niveau des feuilles (Phyllosphère).

Profr B. BOULLARD (Rouen): Interactions nutritionnelles plantes-champignons.

Il est espéré recevoir, comme les années précédentes, de nombreuses Communications sur ces divers aspects du Thème général (dont cette année la symbiose Rhizobium — Légumineuses est éliminée, pour ne pas charger le programme).

Tous ceux qui pensent pouvoir participer à ce Colloque sont priés de le faire savoir très prochainement au

**M. le Dr. J. Pochon**  
Institut Pasteur  
PARIS XV

pour faciliter son organisation.

## **International Soil Water Symposium**

Prague, Czechoslovakia, 3—6 October, 1966

The Czechoslovak National Committee of the International Commission on Irrigation and Drainage organizes at the occasion of the 100th anniversary of the birth of professor J. Kopecky a symposium with the following preliminary programme:

**1. Soil water theory.**

Thermodynamics of soil water. Properties of adsorption water. Soil water potential, hysteresis, influences on soil water movement.

**2. Soil moisture measurement.**

Electric methods. Gammascopic and neutron methods. Use of radioisotopes in soil water research.

**3. Soil water movement.**

Hydraulic conductivity, capillary conductivity, field determination. Hydraulic conductivity as influenced by rheological properties of soil water. Effect of thermal gradients. Soil water movement in unsaturated soil profile. Diffusion of water vapour.

**4. Application in drainage and irrigation.**

Theory of drying process of soil. Evaporation. Infiltration. Soil water movement in layered soil. Theory of drainage (spacing and depths of drains). Theory of drainage for heavy soil. Artificial regulation of infiltration and evaporation. Physical solution of plant water regime in soil - water - plant - atmosphere system.

Papers on the subjects mentioned, to the extent of 5 pages of manuscript in Czech, English or Russian are to be sent to the organizing committee: The Czechoslovak National Committee of the ICID, Prague 1, Siroká 5, Czechoslovakia before **January 31, 1966**. The reports will be published in Czech, English and Russian in advance of the symposium and will be made available to all participants. The discussions will be published after the symposium.

For further details apply to:

**National Committee of ICID  
Siroká 5  
PRAGUE 1, Czechoslovakia.**

## OBITUARY — NECROLOGIE — NEKROLOGIE

I. N. Antipov-Karataev. †

1888—1965

Soviet soil scientists have suffered a heavy loss. On July 3, 1965, died a honoured scientist and an active member of the Academy of Science of the Tajik SSR, honorary member of the All-Union society of soil scientists, honorary Doctor of the Sofia University (Bulgaria), Dokuchaev and Dimitrov prize laureate - Ivan Nikolaevich Antipov-Karataev.

I. N. Antipov-Karataev was born in 1888 in Sterlitamak district of the former Ufa province as son of a very poor peasant family. In 1926 he graduated from the Moscow State University, where his preference for soil science and agrochemistry was formed. In 1926 I. N. Antipov-Karataev worked as an assistant in the soil science laboratory of the Leningrad State Institute of Experimental Agronomy. Later on this laboratory being under the direction of L. I. Prasolov, was converted into the Leningrad Department of the All-Union Institute of Fertilizers and Agronomical Soil Science. From 1926 to 1934 Antipov-Karataev worked in this Department as head of the laboratory of colloidal chemistry. In 1927 Ivan Nikolaevich joined the staff of the Dokuchaev Soil Science Institute, where he founded the laboratory of soil physical chemistry and guided it until his death.



Antipov-Karataev's name is well known to the soil scientists in the Soviet Union and abroad not only because of his outstanding investigations in the field of soil science but also due to his inexhaustible energy and exceptional capacity for work. I. N. Antipov-Karataev is the author of 300 scientific works on different problems of soil science and agrochemistry. One of them is the book "Soil Colloids and Methods of their Investigations" which received general recognition.

Ivan Nikolaevich was an excellent experimentalist and a highly qualified investigator. Together with his assistants he developed the methods of soil electro dialysis and electrolysis, suggested original methods for the determination of vapour and gas sorption in soils, presented a fundamental basis for the methods of combined water determination, thoroughly studied the peptization and flocculation of soil colloids, revealed the factors determining recharging of soils, studied the role of soil specific surface and methods of its determination etc. His well-known book "Modern Methods of Investigation of Physico-Chemical Soil Properties" was and still remains a handbook for each soil scientist and agrochemist.

I. N. Antipov-Karataev paid special attention to the problem of ion-exchange, closely connected with soil absorption capacity and ion-exchange equilibrium. He was one of the first, who found the so-called hysteresis of the exchange adsorption. He suggested a most reliable method for the ion-exchange adsorption determination under dynamic conditions. Under Antipov-Karataev's leadership the methods of isolation and analysis of soil solutions were elaborated.

His interests were vast and many-sided. Especially valuable were his investigations on solonetzic soil reclamation. They embrace theoretical aspects of the problem of solonetz formation, solonetzic soil geographical distribution in the USSR, the development of solonetz processes in chernozem and semi-desert zones, the methods of soil alkalinity, reclamation of solonetzic soils in chestnut and chernozem zones under dry and irrigated conditions and many other problems. These methods were widely published in special and periodical literature as well as in the well-known book "Solonetz Reclamation in the USSR".

Ivan Nikolaevich took also part in several fundamental geographical investigations. His works on soils of the Nikitsy Botanical Garden, Taman peninsula (together with L. I. Prasolov) as well as on soils of the Volga Left Bank, Ergeni, Teberda, Vahsk valley, Eastern Pamirs and other areas received general recognition and fame.

The Soviet Government highly appreciated the outstanding scientific and social activity of I. N. Antipov-Karataev and awarded him four Orders of Red Banner of Labour and several medals.

The memory of Ivan Nikolaevich Antipov-Karataev, great scientist and remarkable man, will remain forever in the hearts of all, who worked with him and knew him.

Dokuchaev Soil Science Institute,  
All-Union Society of Soil Scientists,  
Editorial Board of Journal "Pochvovedenie",  
Laboratory of soil physical chemistry and solonetz reclamation.

**Walter Pearson Kelley (†)**  
**1878—1965**

Walter Pearson died in Berkeley, California on May 19, 1965, at the age of 87.

Professor Kelley was born in Franklin, Kentucky. He received his early education in Kentucky and obtained the B.S. degree at the University of Kentucky in 1904. He was assistant chemist in the Purdue Agricultural Experiment Station from 1905 to 1908 and earned his M.S. degree from Purdue University in 1907. In 1908 he was appointed chemist in the Hawaii Agricultural Experiment Station, where he remained until 1914. He was awarded the Ph.D. by the University of California, Berkeley, in 1912 and returned to California in 1914 to become professor of soil chemistry. He retired in 1948 and, as professor emeritus, was active until his death. He was consultant to the Gulf Research and Development Company from 1948 to 1955 and to the U.S. Bureau of Reclamation from 1948 to 1958.

Before his retirement Professor Kelley's writings consisted of 88 scientific papers and an American Chemical Society Monograph, Cation Exchange in Soils (1948). A second ACS monograph, Alkali Soils, their Formation, Properties and Reclamation in 1951. This treatise and seven scientific papers were written during his retirement.

Three major studies dominated Professor Kelley's scientific interests between 1908 and 1918: the function and distribution of manganese in plants and soils (particularly in pineapple growth), the soils and crops of Hawaii and the biological transformation of nitrogenous substances in soils. In California his interests soon turned to citrus nutrition, the effect of salts upon citrus trees, and the entire problem of saline soils. His investigation on the basic chemistry and management of alkali soils and the composition of irrigation water, and their effect upon land reclamation and permanent agriculture, the role of cation exchange in soils, and the substances involved in the exchange phenomenon occupied most of Professor Kelley's attention for the last 45 years of his life. He was a recognized authority on these subjects and his researches contributed greatly to the understanding of soil chemistry and irrigation agriculture.

Professor Kelley was commissioned in 1930 by the American Society of Agronomy and the University of California to report on nitrogen fertilizer research in Europe. He was official delegate of the United States Government and of his University to the Third (Oxford, 1935) Congress, International Society of Soil Science. He was president of the Western Society of Soil Science in 1923 and the American Society of Agronomy in 1930; chairman, Alkali Soils Sub-commission International Society of Soil Science, 1927—1939; honorary president of the International Society of Soil Science, 1930. In addition to the American Society of Agronomy, of which he was a fellow, and the Soil Science Society of America he was a member of many other scientific societies. He received several outstanding honors for his work including election to the National Academy of Sciences in 1942, the honorary LL.D., University of California, 1930 and the honorary D.Sc., University of Kentucky, 1958. In 1950 he was elected an honorary life member of the Florida Soil Science Society.

**SOIL MAP OF AFRICA.** Referring to the review as published in Bulletin No. 26, page 14, it is made known that any orders on this important document should be sent to

Publications Bureau  
Organization of African Unity Scientific,  
Technical and Research Commission  
Watergate House  
York Buildings  
LONDON W.C.2.

**N.FLORIA. Cercetarea solului pe teren.** (Etude du sol dans le terrain.) 365 pp., 60 drawings and plates. Editura stiintifică, Bucuresti, 1964.

Le livre expose les principes et la méthode de l'étude génétique complexe du sol dans le terrain et de la rédaction des cartes de sol à diverses échelles et à divers fins.

La partie introductive présente des notions théoriques nécessaires à la cartographie du sol et une brève histoire de la cartographie du sol en Roumanie.

Dans la deuxième partie sont discutées les opérations scientifiques et techniques nécessaires à l'organisation du travail. On décrit aussi, l'outillage, les instruments et l'équipement du travail.

La troisième partie, consacrée aux travaux sur place, traite en détail la recherche, la description et la cartographie du sol et les facteurs pédogénétiques. Deux chapitres spéciaux présentent les aspects particuliers de la recherche et de la cartographie du sol dans diverses unités de relief, ainsi que l'emploi des aéro-photogrammes dans la cartographie du sol.

La quatrième partie s'occupe de la manière d'interprétation des matériaux et des données recueillies sur place, d'interprétation des analyses, de la rédaction des cartes des sol et des cartes corrélatives (de relief, de roche mère, hydrogéologique etc.), de la rédaction du rapport scientifique, des annexes graphiques etc.

La dernière partie s'occupe de l'emploi des cartes et des recherches pédologiques dans divers domaines des sciences naturelles (géographie, géologie, géobotanique) et dans divers domaines des sciences pratiques: agriculture, sylviculture, amélioration agro-sylvique, construction des édifices et des routes, installations de conduites souterraines, hygiène de la population etc.

**S. A. WILDE, G. K. VOIGT and J. G. IYER. Soil and plant analysis for tree culture.** 209 pp., 75 illus., 19 tables. Oxford Publishing House, Calcutta, New Delhi and Kharagpur. 1964. Rs. 21.- or \$ 4.27.

The manual is subdivided into seven chapters: (1) physical analysis; (2) chemical analysis; (3) determination of chemical and physico-chemical properties of ground water; (4) biological analysis; (5) floristic and mensuration analysis; (6) analysis of plant tissues, and (7) determination of morphological and physiological characteristics of nursery stock. The appendices include notes pertinent to chemical analysis of soil, statistical analysis as related to soil productivity, and soil fertility standards for raising nursery stock and establishing plantations.

The manual is designed to meet requirements of the woody plant culture in temperate and tropical regions. Particular attention is given to soil sampling and the relative value of analytical procedures in their application to soils producing timber, pulpwood, fibres, fruits, rubber, resins, and other commodities.

The manual reflects experiences of the authors in forestry, soil science, and ecology, acquired in the University of Wisconsin, Yale School of Forestry, and Bombay Institute of Science.

**BRIAN T. BUNTING. The Geography of Soil.** 213 pp. 14 line drawings, 12 tables. Hutchinson University Library, London. Price 15/-.

This is a very comprehensive study on soil geography which deserves a place in any pedologist's library interested in this specific field of soil science. It is a synthesis of old and new concepts of soil genesis and classification on a really world-wide basis. The regional character is amply shown by the fact that information is given on soils e.g. from Australia, Egypt, Greenland, India, Madagascar,



Rumania, U.S.A. to name but a few. A geographic index might in this regard have been a helpful guide to a student eager to learn at a glance what knowledge is available of a specific country or region. The small-sized volume (19 by 12 cm) offers the reader a general introduction into the various factors of soil formation: inorganic, organic, climate, geomorphic and time, of which the chapter on geomorphic dynamics is considered to be a new and highly stimulating approach seldom to be found in ordinary textbooks. A consideration of the process of soil formation and a discussion of classification and nomenclature form the bridge to a regional review of soil occurrences, starting with zonal and azonal soils and concluding with a description of soils on a geographic basis.

It will be clear that the full of soil science in such a small volume can only be treated in a very concise way. Although the introductory chapters provide the basic information, the reader should have a ready knowledge of soil forming factors to get all the profit out of this highly readable booklet.

Author and publisher finally merit the gratitude of the student of soil science to make this volume so rich in contents available at a so modest price.

## **METHODS OF SOIL ANALYSES.**

### **Part I. Physical and Mineral Properties including Statistics of Measurement and Sampling.**

### **Part II. Chemical and Microbiological Properties.**

Editor in Chief C. A. Black, Iowa State University. Associate Editors: D. D. Evans, Physical Properties; J. L. White, Mineralogical Properties; L. E. Ensminger, Chemical Properties; F. E. Clark, Microbiological Properties.

**American Society of Agronomy Monograph No. 9, 1965.** 1,572 pages plus 1xii, cloth-bound in two separate parts. Prepaid Prices: USA only — Non-members of ASA \$ 30.— per set; \$ 17.50 per single part. All countries outside USA add \$ 1.— per set or single part to above prepaid prices. **All orders from outside USA must be prepaid in USA dollars.**

The publication of Agronomy Monograph No. 9 is sponsored jointly by the American Society of Agronomy and the American Society for Testing and Materials and published by the American Society of Agronomy. This publication was initiated by the Soil Science Society of America in 1957 in response to the discontinuation of the chapter on soils in Official Methods of Analysis published by the Association of Official Agricultural Chemists.

The 96 contributors (listed in parts I and II, pp XV—XXII) were selected on the basis of their special knowledge of the subject on which they were asked to write including not only the specific directions for measurements but also the principles of the method, giving comments on such matters as limitations, pitfalls, precision and references to sources in the literature. When the authors did not consider that proven methods were available, they provided an analysis of the literature to serve as a basis for research to develop suitable methods. The fruitful cooperation of both individuals and organizations (including also the Crop Science Society of America) resulted in what merits to be called a **milestone in the field of soil science**, the first up to date assembly of information on measurement of physical, mineralogical, chemical and microbiological properties of soils.

Part I starts with a "refreshment course" (six sections) on the statistics of measurements and sampling, followed by a discussion of the physical properties of the soil with 15 sections on water, two on gases, five on thermal properties and fifteen on soil mechanics and properties of soil particles and aggregates. Laboratory and field methods are presented, with at the end of each section a list of literature cited. In the last eight sections the mineralogical analysis is discussed, including the pre-treatment for the removal of soluble salts and carbonates, organic matter, and free iron oxides, whereas due attention is given to particle-size separations. Also the role and properties of free oxides, hydroxides and amorphous aluminosilicates are discussed and several techniques of investigation including the petrographic microscope, the electron microscope, electron and X-ray diffraction, differential thermal analysis and infra-red spectrometry find ample treatment.

In part II the physical methods of analysis of the chemical constituents of the soil are discussed in five sections: the elemental analysis by X-ray emission spectrography, optical emission spectrography, flamephotometry, absorption spectrophotometry and polarography. Five sections deal with cation exchange capacity and total

exchangeable bases, exchange acidity, hydrogen-ion activity (pH) and lime requirement. The section on water soluble salts contains valuable information on the interrelationships between the constituents in view of detecting gross errors in the analysis of soil water. In the paragraph on chloride only the method with the "Chlor-o-counter" based on the release of silver ions from a silver electrode is thought to be missing.

In 20 sections methods are discussed for the determination of 22 elements (macro- and micro-nutrients) in the various forms in which they are to be found in the soil. Soil nitrogen is treated in 6 sections and carbon and organic matter in nine. The last sixteen sections deal with the microbiological properties of the soil.

**As said before "a milestone", and further an indispensable handbook on analytical methods in any soil laboratory.**

**H. J. FIEDLER: Die Untersuchung der Böden**, Band 2, pp. 256, Abb. Tab. Theodor Steinkopff Verlag, Dresden und Leipzig, 1964. MDN 18.80.

As was the case with the textbook by the same author "Lehrbuch der Bodenkunde" (See Bulletin No. 26) here too the forestry background is evident. The organic matter analysis including a humus fractionation procedure, takes up a proportionally large part of the space devoted to chemical analysis. Besides the usual determinations as pH, CaCO<sub>3</sub>, C.E.C. etc., three extraction methods to assess soil fertility are presented, their universal applicability of course being limited. The mineralogical part of the book contains short descriptions and methods of a variety of procedures. The insertion of this chapter in a soil analysis book merits specific mention. However with its extensive scope of subjects and the limited number of pages (163 pages text for the chemical and 86 pages for the mineralogical chapter) in which apparatus like polarograph, spectrograph, electron microscope, X-ray, D.T.A., etc. are dealt with as well, the volume has a somewhat too condensed character. A critical evaluation of the methods presented, with eventual alternative procedures is f.i. lacking. The author of this in itself valuable book would undoubtedly have served a larger purpose if the chosen subjects would have been elaborated in greater detail.

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