

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.

COUNCIL/CONSEIL/BEIRAT:

Executive Committee/Comité Exécutif/Verwaltungsausschuss:

President: C. N. Cernescu, Comité Géologique, Soseau Kiseleff 2, Bucarest Rumania.
Vice-President: G. Obrejan, Comité Géologique, Soseau Kiseleff 2, Bucarest, Rumania.
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Prof. Dr E. C. J. Mohr, 38 Oude Engweg, Hilversum, Netherlands.
Dr Firman E. Bear, Rutgers University, New Brunswick, N.J., U.S.A.

Commissions/Commissions/Kommissionen:

- I. SOIL PHYSICS. President: L. D. Baver, Experiment Station, HSPA, Honolulu, Hawaii, U.S.A.
- II. SOIL CHEMISTRY. President: W. Flaig, Bundesallee 50, Braunschweig, Germany.
- III. SOIL BIOLOGY. President: H. J. Jensen, 24 Lottenborgvej, Kongens, Lyngby, Denmark.
- IV. SOIL FERTILITY AND PLANT NUTRITION. President:
- V. SOIL GENESIS, CLASSIFICATION AND CARTOGRAPHY. President: G. Aubert, 20 rue Monsieur, Paris 7, France.
- VI. SOIL TECHNOLOGY. President: R. M. Hagan, University of California, Davis, Cal., U.S.A.
- VII. SOIL MINERALOGY. President: T. Sudo, University, Otsuka, Bunkyo-ku, Tokyo, Japan.

**Representatives
of National Societies**

**Représentants
des Sociétés Nationales**

**Vertreter der Gesellschaften
der einzelnen Länder**

Argentina: Ing. Agr. Jorge I. Bellati, Cerviño 3101, Buenos Aires.
Australia: R. G. Downes, Soil Conservation Authority Victoria, 378 Cotham Rd, Kew E4, Victoria.
Austria: Prof. Dr Ing. H. Franz, Gregor Mendelstrasse 33, Wien XVIII.
Belgium: Prof. Dr R. Tavernier, Rozier 6, Gent.
Bulgaria: Prof. Zw. Staikoff, 9th September N. 136, Sofia-Pavlovo.
Canada: Dr. P. C. Stobbe, Soil Research Institute, C. E. F., Ottawa, Ontario.
Denmark: Prof. Dr H. C. Aslyng, Rolighedsvej 26, Copenhagen V.
France: Dr. S. Hénin, Centre National de Recherches Agronomiques, Route de St. Cyr, Versailles.
Germany: Prof. Dr F. Scheffer, Nikolausbergerweg 7, Göttingen.
Hungary: Prof. Dr R. Ballenegger, Pasaréti ut 114, Budapest II.
India: Dr. J. N. Mukherjee, 10 Puran Chand Nahar Avenue, Calcutta-13.
Israel: Dr. N. E. Nissim, National & Univ. Inst. Agri., Rehovot.
Italy: Prof. Orfeo Turno Rotini, Ist. di Chimica Agraria, Via Crispi 20, Pisa.
Japan: Prof. Dr S. Mitsui, University, Bunkyo-ku, Tokyo.
Netherlands: Dr P. K. Peerlkamp, van Hallstraat 3, Groningen.
New Zealand: N. H. Taylor, 54 Molesworthstreet, Wellington N. 1.
Poland: Prof. Dr A. Musierowicz, 61 rue Wisniowa, Varsovie.
Portugal: Dr. J. Carvalho Cardoso, Estacao Agr. Nacional, Sacavém.
South Africa: Dr C. R. van der Merwe, Div. of Chemical Services, Pretoria.
Spain: Prof. Dr José Ma. Albarada Herrera, Serrano 113, Madrid.
Sweden: Prof. Dr dr h.c. G. Torstensson, Kungl. Lantbrukshögskolan, Uppsala 7.
United Kingdom: G. V. Jacks, M. A., Commonwealth Bureau of Soils, Harpenden, Herts., England.
U.S.A.: Dr. M. B. Russell, University of Illinois, Urbana, Illinois.
U.S.S.R.:
Yugoslavia: Prof. Dr S. Nikolić, Faculté d'agronomie de l'Université, Belgrade.

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No. 21

1962

VIIIth INTERNATIONAL CONGRESS OF SOIL SCIENCE

In accordance with the decision of the Council of the I.S.S.S. at the occasion of the Congress of 1960 in Madison, Wisconsin (USA), the VIIIth International Congress of Soil Science will take place in 1964, in Rumania.

Provisional agenda

1. The congress meeting will be held in Bucarest from August 31st to September 9th, 1964.

Besides sessions of the Commissions for presentation of papers, the program will include lectures by invited speakers in general sessions.

2. *Tours.*

Three tours are offered in Rumania from the 20th to the 29th of August and from the 10th to the 19th of September. One day or half day trips will lead the participants to the surroundings of Bucarest.

The Allunion Society of Sovjet Soil Scientists proposes a pre-congress tour in the Sovjet Union, lasting from the 14th to the 29th of August.

3. *Exhibition.*

The exhibition aims to illustrate several aspects of Rumanian soils, agriculture and forestry.

The participating countries will have also the possibility to exhibit soil maps, profiles, publications, etc.

The program of the congress is based on the suggestions of the officers of the I.S.S.S. Commissions and includes the topics as listed in the provisional program.

Papers and their abstracts

The regulations concerning the presentation conditions of the papers, as they have been adopted in Paris (1956) and in Madison (1960) are maintained also for the VIIIth Congress (see Bulletin no. 10 and no. 17).

The participants will be provided with abstracts of the papers (working papers), in accordance with the recommendations of the Council.

These abstracts must not exceed the equivalent space of approximately 500 words, figures and tables included (2 pages, size 22 x 28 cm, with double-line spacing).

In order to facilitate the simultaneous translation, the organizing committee recommends that the abstracts be prepared in the three official languages of the Congress.

Final date to announce the intention to present a paper: **1st June 1963.**

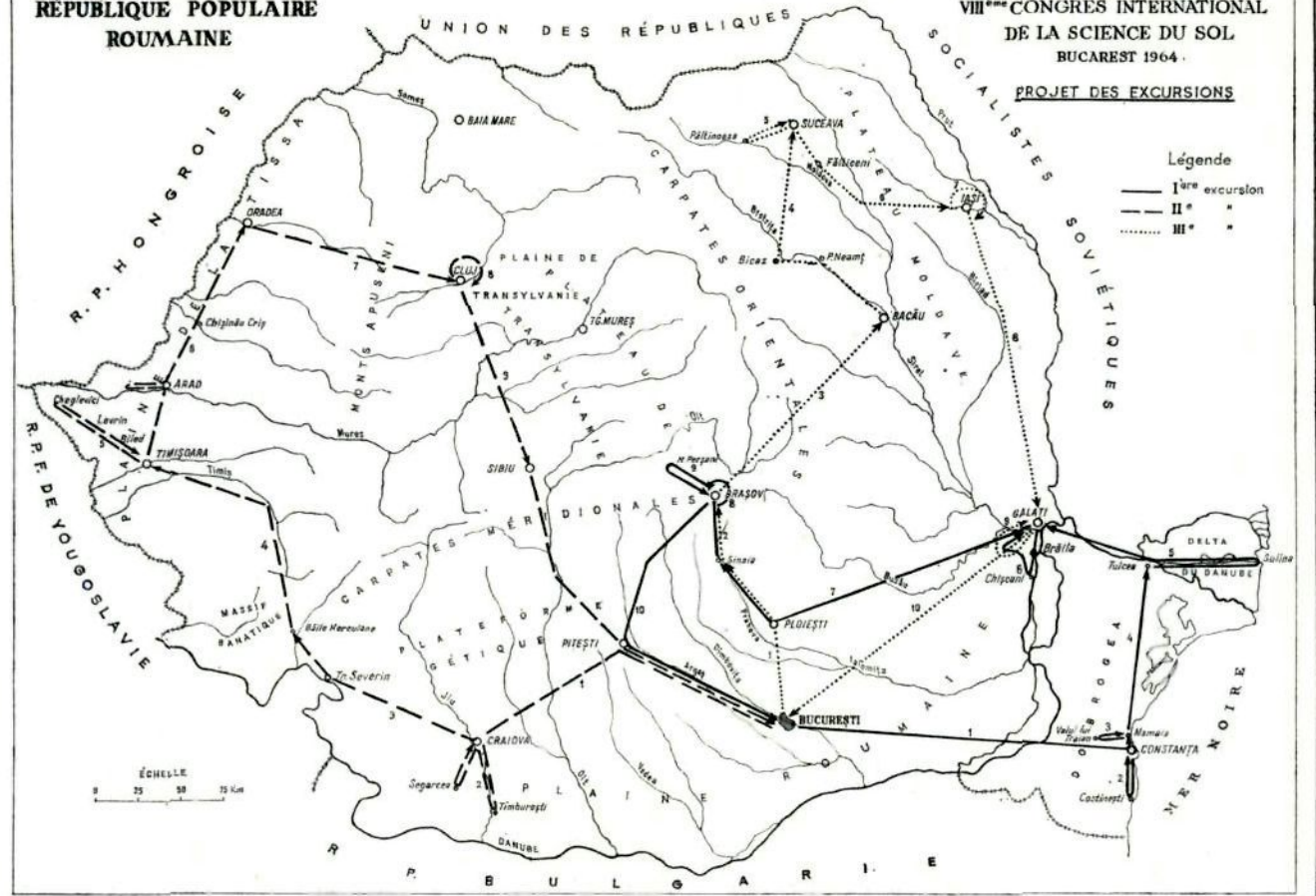
Final date for receipt of paper abstracts (working papers): **1st January 1964.**

Final date for receipt of complete manuscripts (2-fold): **1st April 1964.**

RÉPUBLIQUE POPULAIRE
ROUMAINE

VIII^{ème} CONGRES INTERNATIONAL
DE LA SCIENCE DU SOL
BUCAREST 1964

PROJET DES EXCURSIONS



Légende

- I^{ère} excursion
- - - II^e "
- III^e "

ÉCHELLE
0 25 50 75 Km

Tours — Each Rumanian tour the one before, and the one after the Congress's meeting will follow the same itinerary. In this way the congressists will be able to participate in 2 tours. 1700—1800 km will be covered in 10 days, each tour starting from and returning to Bucarest.

The participants will travel in comfortable autocars and partly by train and ship. Each participant will receive tour guidebooks, published in the official languages of the Congress.

The itineraries will provide an opportunity to see various landscapes (plains, hills, mountains), as well as various phyto-geographical zones (steppe, forest steppe, forest) and at the same time to study the more important genetic soil types, many of which are specific for the bioclimatic conditions of Rumania. There will be also opportunity to get acquainted with various aspects concerning the agriculture, forestry and industry, as well as the social life of the country, in visiting agricultural and forestry experiment stations, state or collective farms, soil management and improvement works, industrial centres, towns, villages and historical sites.

1st Tour (Bucarest-Constantza-Galatzi-Braszov-Bucarest) will lead through the Danubian Plain, the Dobrudcha Plateau, the Danube Delta, to the Southern Carpathian Mountains. The main soils encountered will be: Light Brown Steppe, Chernozems, Gray and Brown Forest, Gray-Brown Podzolic, Hydromorphic, Saline and Alkali soils.

2nd Tour (Bucarest-Craiova-Timisoara-Oradea-Cluj-Sibiu-Bucarest) leads the participants through the Danubian Plain, the Getic Platform, the Banat Mountains, the Tissa Plain and the Southern Carpathian Mountains. En route will be examined the following genetical soil types: Brown Forest, Reddish-Brown Forest, (transitional type to the Mediterranean soils), Gray-Brown Podzolic and their intergrades to Brown Forest soils, Chernozems, Alkali and Hydromorphic soils.

3rd Tour (Bucarest-Braszov-Bacău-Suceava-Jassy-Galatzi-Bucarest) will pass across the Southern Carpathian Mountains, along the picturesque Prahova Valley. By passing through the Intracarpathian depressions, the route leads across the Eastern Carpathian Mountains, towards the Moldavia Plateau. As representative soil profiles will be studied: Gray-Brown Podzolic and Brown Podzolic soils, and their intergrades to Brown Forest soils, Gray Forest, Hydromorphic, Reddish-Brown Forest soils etc.

The Allunion Society of Sovjet Soil Scientists proposes the organization of a tour aiming the study of the most important genetic soil types of the South of the Sovjet Union, as well as their natural conditions and their zonal distribution. At the same time, museums, scientific institutions, agricultural experiment stations and farms will be visited. (The tour is limited to 100—120 persons).

Details will be communicated at a later stage.

Approximative prices

1. *Lodgings in Bucarest.* The participants of the Congress will be lodged in Bucarest, in hotels, or in student hostels. The approximative prices are the followings:

a. Hotels

| Full board ¹⁾ | | Half Board ²⁾ | |
|--------------------------|--------------------------------------|--------------------------|--------------------------------------|
| Single rooms with bath | Double rooms with bath ³⁾ | Single rooms with bath | Double rooms with bath ³⁾ |
| Luxe class: | | | |
| US\$ 11.— | US\$ 8,75 | US\$ 9.— | US\$ 6.75 |
| 1st class: | | | |
| US\$ 8.— | US\$ 6,50 | US\$ 6,50 | US\$ 5.— |

1) Full board: lodging and 3 meals.

2) Half board: lodging, breakfast and one main meal.

3) The prices for double rooms (2-bed rooms) are considered per day and person.

b. *Student hostels*

| | |
|-----------------------------------|---------------------------|
| Full board for a 2-bed room | \$ 5.— per day and person |
| Full board for a 1-bed room | \$ 6.— per day and person |

2. *Approximative prices for the tours:*

| | |
|----------------|----------|
| 1st tour | \$ 117.— |
| 2nd tour | \$ 105.— |
| 3rd tour | \$ 103.— |

Registration fees for the Congress \$ 25.—. The participants will have to be members of the ISSS (subscription fee \$ 1.—). The registration fees grant the right to obtain summaries and Congress's transactions.

The family members of the participants will have to pay an entree fee amounting to \$ 5.— for partial covering of the expenses involved for the recreational facilities.

A more detailed folder, as well as the questionnaire concerning the intention of participation at the Congress will be sent out to all members of the ISSS in a short delay.

Commission I (Soil Physics)

1. Physical relationship between soil solid phases and soil liquid phase.
2. Basic theoretical aspects concerning the water regime of soils and its control. Water regime of great soil groups.
3. Basic theoretical aspects concerning the thermic regime of soils and its control. Thermic regime of great soil groups.
4. Air regime of soils.
5. Fundamentals of soil structure formation. Preserving and improvement of soil structure.
6. Modern methods (including practical rapid methods) of determining physical soil properties and interpretation of results. Use of isotopes in soil physical research.

Commission II (Soil Chemistry)

1. Use of new research methods in soil chemistry (infrared spectroscopy, differential thermic analysis, electronic microscopy, electronic diffraction, isotopes, etc.).
2. Organic chemistry:
 - a) Chemistry of humus; investigation methods, terminology.
 - b) Dynamics of humus (Commissions II and III).
 - c) Interaction between organic and inorganic soil constituents; specific organic-mineral compounds of different genetical soil types.
3. Inorganic chemistry:
 - a) Distinct chemical compounds (e.g. phosphates, carbonates); their behaviour during the soil forming processes.
 - b) Sesquioxides; their forms and behaviour in soil forming processes. (Commissions II and VII).
 - c) Fixation and release of ions by clay minerals (Ion exchange on the free spaces of clay mineral layers. (Commission II and III).
 - d) Distribution equilibrium of exchangeable ions (soil acidity and alkalinity).
 - e) Chemistry of saline and alkali soils; chemistry of soil salinisation regarding the quality of irrigation water. (Commission II, IV and V).
- 4) Chemistry of soil genesis; methods and interpretation of results.
5. Biochemical problems in plant nutrition regarding plant metabolism and use of fertilizers.
6. Problems of general nature.

Commission III (Soil Biology)

1. The micro- and macroorganisms of different soil types and methods for their study.
2. The influence of environmental factors on the micro- and macropopulation of soil.
3. Biochemical activity of soil organisms and control possibilities.
4. Effects of pesticide residues and their alterations in the soil.
5. Interaction between soil microorganisms and higher plants.
6. The nature of the effect of bacteriological fertilizers.
7. Interrelation between soil microflora and -fauna.

Commission IV (Fertility and Nutrition)

1. Chemical and biochemical methods for determination of nutrients in different genetical soil types.
2. Efficiency of the quantity of fertilizers in relation to the genetical soil type and the different crops, irrigated, and non-irrigated.
3. Efficiency of different fertilizing systems with organic, mineral, or organic-mineral fertilizers, related to the genetical soil types.
4. Influence of soil and subsoil conditions (moisture, aeration soil solution concentration, etc.) on plant growth and especially on the availability of plant nutrients.
5. Soil conditions and the efficiency of microelement fertilizers, as well as Mg and other secondary elements.
6. Problems of phosphorous chemistry and biochemistry in soil and plant nutrition. (Commission II and IV).
7. Improvement of acid soils. (liming, etc.).
8. Soil solution problems related to movement and dynamic equilibrium of plant nutrients, as well as to plant nutrition. (Commission II and IV).
9. The rôle of organic matter in soil fertility and productivity. (Commission II and IV).
10. Nitrogen losses in soil.

Commission V (Genesis, Classification and Cartography)

1. Principles and systems for a general soil classification on a world scale.
2. Soil maps of continents and soil map of the world (project FAO-UNESCO).
3. Classification and cartography of soils in various countries.
4. Soils of the European South-East (Danubian-Balkan countries).
5. Features and systematics of cultivated soils.
6. Genesis and classification of the more important genetical soil groups (e.g. steppe soils, tropical and subtropical black earths, forest soils with textured B horizon (lessivé), hydromorphic soils, etc.).
7. Soils and habitat cartography on a large scale; use of soil maps.
8. Soil genetical processes and the biological cycle under natural conditions and under the influence of man's activity.

Commission VI (Soil Technology)

1. Practical methods for quantitative determination of the different factors acting in soil erosion processes.
2. Improvement and use of soils with undesirable profiles or physical properties, for agriculture and forestry (including eroded, sandy, compacted soils, etc.).
3. The influence of forest shelterbelts on soils, plant growth and water conservation.

4. The influence of different irrigation and soil management practices on soil properties.
5. Criteria for selecting methods to evaluate and express the energy state and flow rate of water in soils. (Commission I and VI).
6. Theoretical limitation and practical considerations in selecting soil and water conservation practices (including irrigated soils). (Commission I and VI).
7. Evaluation of technics for investigating drainage problems (Commission I and VI).
8. The influence of tillage depth and placement depth of fertilizers and amendments on soil properties and on plant rooting. (Commission I, IV and VI).
9. Tillage problems as related to physical soil properties (draft requirement, soil compaction, etc.) (Commission I and VI).
10. New methods for reclamation and use of saline and alcali soils under irrigated and nonirrigated conditions. (Commissions I and VI).

Commission VII (Soil Mineralogy)

1. Genesis of soil clay minerals and their modification during soil genetical processes.
2. Clay minerals as specific products of different soil genetical processes.
3. Relationship between the nature of clay minerals, physico-chemical soil properties and fertility.
4. Methods to determine soil minerals and their simultaneous use in soil research.
5. The micromorphological and petrographical methods in soil research and in the study of soil forming processes.
6. Mineralogical composition of the soil as determined by chemical and mineralogical composition of parent rock and weathering conditions.

PROGRAM COMMITTEE

President: Prof. Dr. N. C. Cernescu

Commission I

Vice-President: C. Chiritá — Colectivul de Pedologie, Académie Roumaine des Sciences.

Secretary : A. Canarache — Chief Laboratory, Institut Central de Recherches Agricoles.

Commission II

Vice-President: P. Muresanu — Professor of Agricultural Chemistry, Institut Agronomique de Timisoara.

Secretary : E. Gitá — Chief Laboratory, Comité Géologique.

Commission III

Vice-President: Vl. Gheorghiu — Director Experimental Station for Biological Fertilizers, Institut de Recherches Agricoles.

Secretary : P. Papacostea — Senior Research Officer, Microbiological Laboratory, Comité Géologique.

Commission IV

Vice-President: D. Davidescu — Professor of Agricultural Chemistry, Institut Agronomique "N. Bálcescu" of Bucarest.

Secretary : C. Hera — Senior Research Officer, Institut Central de Recherches Agricoles.

Commission V

Vice-President: M. Popovát — Chief Soil Survey, Comité Géologique.

Secretary : N. Florea — Chief Soils Section, Institut Géologique.

Commission VI

Vice-President: I. Staicu — Professor of Agricultural Technics, Institut Central de Recherches Agricoles.

Secretary : M. Motoc — Chief Soil Improvement Section, Institut Central de Recherches Agricoles.

Commission VII

Vice-President: D. Giuscá — Professor of Mineralogy, Comité Géologique.

Secretary : D. Rádulescu — Lecturer in Petrography and Sedimentology Université "C. I. Parhon", Bucarest.

All correspondence should be addressed to:

Comite Roumain d'Organisation
VIII^{me} Congres International de la Science du Sol
Bd. Marasti No. 61
Bucarest 33 — Roumanie
Cables: Solrom

VIII^e CONGRES INTERNATIONAL DE LA SCIENCE DU SOL

Conformément à la décision du Conseil de l'Association Internationale de la Science du Sol, prise en 1960 à Madison-Wisconsin (U.S.A.) le VIII^e Congrès International de la Science du Sol aura lieu en Roumanie, en 1964.

Ordre du jour provisoire

1) La réunion du Congrès aura lieu à Bucarest, du 31 Août au 9 Septembre, 1964.

En dehors des séances des Commissions destinées aux communications et aux discussions, le programme comprendra aussi des conférences présentées par des spécialistes réputés, dans des séances générales.

2) Les *excursions*. Il y aura trois excursions sur le territoire de la Roumanie entre le 20—29 Août et le 10—19 Septembre. Des excursions d'un jour ou d'une demi journée auront lieu pendant le Congrès aux alentours de Bucarest.

Entre le 14 et le 29 Août il y aura une excursion sur le territoire de l'U.R.S.S., organisée par la Société Unionale des Pédologues Soviétiques.

3) L'*exposition* est destinée à illustrer maints aspects concernant les sols, l'agriculture, et la sylviculture de la Roumanie.

Les autres pays participants au Congrès auront également la possibilité d'exposer des cartes, des monoliths de sols, publications, etc.

Le programme des travaux du Congrès, établi comme suite des échanges de vues avec les membres des Bureaux des Commissions de l'Association Internationale de la Science du sol, comprend les thèmes ci-joints.

Communications et résumés d'étude.

Les dispositions concernant la présentation des Communications au Congrès, approuvées par le Conseil de l'AISS aux Congrès de Paris (1956) et de Madison (1960) sont publiées dans le Bulletin de l'Association, Nr. 10 et No. 17. Tenant compte de la recommandation du Conseil, des résumés des communications seront mis à la disposition des inscrits au Congrès pour pouvoir être étudiés.

Ces résumés ne doivent pas dépasser l'espace équivalent d'environ 500 mots (y compris figures et tableaux) c'est à dire deux pages (22 x 28 cm) dactylographiées à double intervalle.

Pour faciliter la traduction simultanée, le Comité Organisateur propose et recommande l'envoi des résumés d'étude rédigés dans toutes les trois langues officielles du Congrès.

Dernier délai pour annoncer l'intention de présenter une communication:

1 Juin 1963.

Dernier délai d'envoi des résumés d'étude: **1 Janvier 1964.**

Dernier délai d'envoi des manuscrits définitifs des communications (en double exemplaire): **1 Avril 1964.**

Excursions

Sur le territoire de la Roumanie, chacune des trois excursions aura lieu autant avant qu'après la réunion du Congrès, en suivant le même itinéraire. De cette manière on pourra participer à deux excursions. On y parcourra environ 1700—1800 km en 10 jours, avec départ et retour à Bucarest.

Le transport sera effectué dans des autocars confortables, en partie par chemin de fer et en bateau.

Les participants recevront un guide d'excursion édité dans les langues officielles du Congrès.

Les itinéraires permettront aux participants de connaître des paysages variés (basses plaines, collines, montagnes) ainsi que diverses zones phyto-géographiques (steppe, steppe à forêt, forêt), tout en rencontrant de nombreux types génétiques de

ERRATUM

Bulletin no. 20, page 4, sub C.

Headline: Symbol read Symbol*

1st line: ... read Ψ

10th line: ... read Φ

1st line below table: Symbols as C, K and D may have worth as.... read:

Symbols as C, K and D may have **w** or **h** as....

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³⁴Bulletin no. 21, page 11, Commission III, sub 6:

sols, dont certains sont caractéristiques pour les conditions bioclimatiques de la Roumanie. On aura de même la possibilité d'étudier maints aspects concernant l'agriculture, la sylviculture, l'industrie, ainsi que la vie sociale, en visitant des stations expérimentales, des fermes agricoles d'état ou collectives, des travaux d'amélioration foncières, des centres industriels, des villes, des villages et des sites historiques.

La 1ère excursion (Bucarest-Constantza- Galatzi-Brasov-Bucarest) parcourra des régions de steppe, avant-steppe, forêts et montagnes. On traversera la Plaine du Bas-Danube, le Plateau de la Dobrogea; on visitera le Delta du Danube, on traversera les Carpates méridionales. Les sols qui seront examinés appartiennent aux types: sol brun-clair de steppe, chernozems, sols sylvestres gris et bruns, sols podzoliques, sols à gley et pseudogley, sols tourbeux, sols à nappe phréatique, sols salins et alcalins.

La 2me excursion (Bucarest-Craiova-Timisoara-Oradea-Cluj-Sibiu-Bucarest) traversera la Plaine du Bas-Danube, le Piemont Gétique, les monts du Banat, la Plaine de la Tisa et les Carpates méridionales. Les sols qui seront examinés sont des sols sylvestres bruns, sols sylvestres brun-roux qui représentent une transition vers les sols méditerranéens, des sols noirs argileux (grumosols), des sols sylvestres bruns podzolisés (lessivés), des sols podzoliques, des sols alcalins, des chernozems et des sols à nappe phréatique.

La 3me excursion (Bucarest-Brasov-Bacău-Suceava-Jassy-Galatzi-Bucarest) traversera les Carpates méridionales par la pittoresque vallée de la Prahova. En passant par des dépressions intracarpatiques on traversera les Carpates Orientales vers le Plateau et la Plaine Moldave. Les sols qui seront examinés sont des sols podzoliques, des sols sylvestres podzolisés (lessivés), des sols sylvestres gris, des sol à gley et à pseudogley, etc.

La Société Unionale des Pédologues de l'U.R.S.S. propose l'organisation d'une excursion ayant pour but l'étude des plus importants types génétiques des sols du Sud de l'Union Soviétique, leurs conditions naturelles et leur répartition zonale. On pourra aussi visiter des institutions scientifiques, des stations agricoles et des musées. (Participants environ 100—120 personnes).

Les détails seront communiqués ultérieurement.

Prix approximatifs

1. *Logements à Bucarest.* Les participants au Congrès seront logés à Bucarest dans des hôtels ou dans des foyers d'étudiants. Cidessous sont indiqués les prix approximatifs:

a. Hôtels

| Pension complète ¹⁾ | | Demi-Pension ²⁾ | |
|---------------------------------|--|-----------------------------|--|
| Chambre à 1 lit (avec bain) | Chambre à 2 lits ³⁾ (avec bain) | Chambre à 1 lit (avec bain) | Chambre à 2 lits ³⁾ (avec bain) |
| Catégorie de luxe US \$ 11.— | US \$ 8.75 | US \$ 9.— | US \$ 6.75 |
| I-ère catégorie US \$ 8.— | US \$ 6.50 | US \$ 6.50 | US \$ 5.— |

¹⁾ Pension complète: logement et 3 repas.

²⁾ Demi-pension: logement, petit déjeuner et 1 repas principal.

³⁾ Les prix pour les chambres à 2 lits sont entendus par personne.

b. Foyers d'étudiants

Pension complète, pour une chambre à 2 lits, par jour et par personne US \$ 5.—
Pension complète, pour une chambre à 1 lit, par jour et par personne US \$ 6.—

2. Le prix estimatif des *excursions*:

| | |
|-------------------------|-------------|
| I-ère excursion | US \$ 117.— |
| II-ème excursion | US \$ 105.— |
| III-ème excursion | US \$ 103.— |

Le *taux d'inscription* au Congrès sera de \$ 25.—; les participants devront être membres de l'AISS (cotisation annuelle 1 \$). Le *taux d'inscription* au Congrès accorde le droit d'obtenir les résumés d'étude et les Comptes rendus du Congrès.

Les épouses des participants au Congrès payeront une taxe d'enregistrement de \$ 5.— pour couvrir en partie les frais du programme récréatif.

Le *prospectus* avec plus de détails, ainsi que les formulaires concernant l'intention de participer au Congrès seront diffusés aux membres de l'AISS, prochainement.

PROGRAMME PROVISOIRE

Commission I (Physique du sol)

1. Actions réciproques d'ordre physique entre la phase liquide et les phases solides du sol.
2. Aspects théoriques fondamentaux concernant le régime hydrique du sol et son contrôle. La régime hydrique des types génétiques des sols.
3. Aspects théoriques fondamentaux concernant le régime thermique du sol. Le régime thermique des types génétiques des sols.
4. Le régime de l'air dans le sol.
5. Fondements théoriques du développement de la structure du sol; maintien et amélioration de la structure.
6. Méthodes modernes de recherche des propriétés physiques du sol et l'interprétation des résultats (y compris les méthodes rapides et l'utilisation des isotopes). (Voir aussi le programme de la Commission IV).

Commission II (Chimie du sol)

1. Emploi de méthodes nouvelles de recherche dans la chimie du sol (spectroscopie infrarouge, analyse thermique différentielle, microscopie électronique, diffracton électronique, isotopes, etc.).
2. Chimie organique:
 - a) Chimie de l'humus; méthodes de recherche, nomenclature.
 - b) Dynamique de l'humus (Commissions II et III).
 - c) Interactions des composés organiques et anorganiques du sol; complexes organo-minéraux spécifiques pour les différents types génétiques des sols.
3. Chimie anorganique:
 - a) Combinaisons chimiquement définies (par exemple: phosphates, carbonates); leur comportement dans les processus pédogénétiques.
 - b) Sesquioxydes; formes et comportement dans les processus pédogénétiques (Commission II et VII).
 - c) Sorption et désorption des ions par les minéraux argileux (échange des ions dans les espaces du réseau des minéraux argileux) (Commissions II et VII).
 - d) Equilibre de la répartition des ions échangeables (acidité et alcalinité du sol).
 - e) Chimie des sols salins et alcalins; chimie de la salinisation des sols par rapport à la qualité de l'eau d'irrigation (Commissions II, V et VI).
4. Chimie de la genèse du sol; méthodes et interprétation des résultats.
5. Problèmes biochimiques de la nutrition des plantes par rapport à leur métabolisme et à l'application des engrais (Commissions II, III et IV).
6. Problèmes d'ordre général.

Commission III (Biologie du sol)

1. Les micro- et les macroorganismes des différents types de sols et les méthodes pour leur étude.
2. L'influence des facteurs de milieu sur la micro- et la macropopulation du sol.
3. L'activité biochimique des organismes du sol et les possibilités de diriger cette activité.
4. Les effets des résidus des pesticides et leurs transformations dans le sol.
5. Interactions des microorganismes du sol et des plantes supérieures.
6. La nature de l'effet des engrais biologiques.
7. Relations réciproques entre la microflore et la faune du sol.

Commission IV (Fertilité du sol et la nutrition des plantes)

1. Méthodes chimiques et biochimiques de dosage des éléments nutritifs dans les sols appartenant aux différents types génétiques des sols.
2. Efficacité de la quantité d'engrais appliquée aux plantes, en cultures irriguées ou non-irriguées, dans les conditions des différents types génétiques des sols.
3. Efficacité des différents systèmes de fertilisation avec des engrais organiques, des engrais minéraux ou des engrais organo-minéraux dans les conditions des différents types génétiques de sols.
4. Influence des conditions du sol et du sous-sol (humidité, aération, concentration de la solution du sol, etc.) sur la croissance des plantes et surtout sur l'assimilation des substances nutritives.
5. Efficacité des microéléments, du magnésium et des autres éléments nutritifs secondaires, appliqués comme engrais, en rapport avec les conditions du sol.
6. Chimie et biochimie du phosphore dans la nutrition des plantes et dans les sols (Commissions II et IV).
7. Amélioration des sols acides (chaulage etc.).
8. Solution du sol et problèmes concernant la mouvement et l'équilibre dynamique des éléments nutritifs, ainsi que la nutrition des plantes (Commissions II et IV).
9. Rôle de la substance organique dans la fertilité et la productivité du sol (Commissions II et IV).
10. Pertes d'azote dans les sols.

Commission V (Génèse, classification et cartographie des sols)

1. Principes et systèmes des classifications générales des sols de type mondial.
2. Cartes pédologiques des continents et carte des sols du monde (projet conjoint FAO-UNESCO).
3. Classification et cartographie des sols des pays divers.
4. Sols du Sud-Est de l'Europe (pays danubiens-balkaniques).
5. Caractéristiques et systématique des sols cultivés.
6. Génèse et classification de certaines catégories de sols (par exemple: sols de steppe, sols noirs tropicaux et subtropicaux, sols de prairie, sols bruns lessivés, sols hydromorphes etc.).
7. Cartographie à grande échelle des sols et de l'habitat; utilisation des cartes.
8. Les processus pédogénétiques et le cycle biologique dans les conditions naturelles et à la suite de l'intervention de l'homme.

Commission VI (Technologie et amélioration des sols)

1. Méthodes pratiques d'estimation quantitative des différents facteurs qui interviennent dans les processus d'érosion des sols.
2. Amélioration et utilisation des sols à profils et propriétés physiques défavorables pour l'agriculture et la sylviculture (par exemple: sols érodés, sols sableux, sols compacts, etc.).

3. Effets amélioratifs des rideaux forestiers.
4. L'influence des différentes méthodes d'irrigation et des travaux d'aménagement des terrains sur les propriétés du sol.
5. Critéria valables dans le choix des méthodes destinées à estimer et à formuler l'état énergétique et la vitesse d'écoulement de l'eau dans le sol (Commissions I et VI).
6. Limitations théoriques et points de vue pratiques dans le choix des procédés techniques utilisés pour conserver le sol et l'eau (y compris les sols irrigués) (Commissions I et VI).
7. Estimation des procédés techniques destinés à l'investigation des problèmes de drainage (Commissions I et VI).
8. Influence de la profondeur du labour et de la profondeur de l'incorporation des engrais et des amendements sur les propriétés du sol, ainsi que sur l'enracinement des plantes. (Commissions I et VI).
9. Problèmes concernant le travail du sol en relation avec les propriétés physiques (force de traction, compacité du sol, etc.) (Commissions I et VI).
10. Nouvelles méthodes d'amélioration et d'utilisation des sols salins et alcalins, irrigués et non-irrigués. (Commissions I, II et VI).

Commission VII (Minéralogie du sol)

1. Genèse et transformation des minéraux (surtout les minéraux argileux) dans les sols.
2. Les minéraux argileux spécifique aux différents types de processus pédogénétiques.
3. L'influence de la nature des minéraux argileux sur les propriétés physico-chimiques et sur la fertilité des sols.
4. Méthodes pour diagnostiquer les minéraux et leur application simultanée dans les recherches des sols.
5. Méthodes micromorphologiques et pétrographiques appliquées à l'étude des processus pédogénétiques des sols.
6. La composition minéralogique du sol par rapport à la composition chimique et minéralogique de la roche mère, ainsi qu'aux conditions du milieu d'altération.

LE COMITE DU PROGRAMME

Président: Prof. Dr. N. C. Cernescu

Commission I

Vice-Président: C. Chiritá — Colectivul de Pedologie, Académie Roumaine des Sciences.

Secrétaire : A. Canarache — Chef de Laboratoire, Institut Central de Recherches Agricoles.

Commission II

Vice-Président: P. Muresanu — Professeur Agrochimie, Institut Agronomique de Timisoara.

Secrétaire : E. Gitá — Chef de Laboratoire, Institut Géologique.

Commission III

Vice-Président: Vl. Gheorghiu — Directeur Station Expérimentale des Engrais biologiques, Institut de Recherches Agricoles.

Secrétaire : P. Papacostea — Chef de Recherches, Laboratoire de Microbiologie, Comité Géologique.

Commission IV

Vice-Président: D. Davidescu — Professeur Agrochimie, Institut Agronomique "N. Bálcescu" à Bucarest.

Secrétaire : C. Hera — Chef de Recherches, Institut Central de Recherches Agricoles.

Commission V

Vice-Président: M. Popovát — Chef de Service pédologique, Comité Géologique.

Secrétaire : N. Florea — Chef de Section pédologique, Institut Géologique.

Commission VI

Vice-Président: I. Staicu — Professeur Agrotechnique, Institut Central de Recherches Agricoles.

Secrétaire : M. Motoc — Chef de Section d'amélioration foncière, Institut Central de Recherches Agricoles.

Commission VII

Vice-Président: D. Giuscá — Professeur Minéralogie, Comité Géologique.

Secrétaire : D. Rádulescu — Conférencier pétrographie sédimentologique, Université "C. I. Pahron" à Bucarest.

Prière d'adresser toute correspondance à:

Comité Roumain d'Organisation
VIII^{me} Congrès International de la Science du Sol
Bd. Marasti No. 61
Bucarest 33 — Roumanie
Câbles: Solrom

VIII. INTERNATIONALER BODENKUNDLICHER KONGRESS

Laut des, in 1960, in Madison-Wisconsin (USA), vom Beirat der I.B.G. gefassten Entschlusses, wird der VIII. Internationale Bodenkundliche Kongress in 1964, in Rumänien stattfinden.

Vorläufige Tagesordnung:

1. Der Kongress wird zwischen dem 31. August und dem 9. September 1964 in Bukarest veranstaltet.

Ausser den Kommissionssitzungen sieht das Programm auch allgemeine Vorträge vor, die von anerkannten Wissenschaftlern im Rahmen von Generalsitzungen vorgeführt werden.

2. **Exkursionen.** Zwischen dem 20.—29. August und dem 10.—19. September werden 3 Exkursionen in Rumänien stattfinden. Während des Kongresses werden in der Umgebung von Bukarest eintägige, oder halbtägige Ausflüge veranstaltet.

Die Allunion Gesellschaft der Sowjetischen Bodenkundler organisiert eine Exkursion in der UdSSR vom 14. bis zum 29. August.

3. Die *Ausstellung* bezweckt die Darstellung verschiedener Böden, sowie land- und forstwirtschaftlicher Aspekte Rumäniens.

Die am Kongress teilnehmenden Länder werden gleichfalls die Möglichkeit haben Bodenkarten, Bodenprofile, Druckmaterial usw., auszustellen.

Das Programm der Kongressarbeiten, das infolge unseres Meinungsaustausches mit den Vorständen der Kommissionen der I.B.G. festgestellt worden ist, sieht beiliegende Themen vor.

Beiträge und Studiauszüge

Die beim Kongress in Paris (1956) und Madison (1960), vom Beirat der Internationalen Bodenkundlichen Gesellschaft genehmigten Richtlinien betreffs Vorlegebedingungen der Kongressbeiträge, bleiben gültig und sind im Bulletin der Gesellschaft No. 10 und No. 17 zu finden.

Der Empfehlung des Beirates folgend, werden vom Organisationskomitee Auszüge der Beiträge zwecks Vorstudium vervielfältigt und den Kongressisten zur Verfügung gestellt.

Der Text eines Auszuges darf den Druckraum von ungefähr 500 Wörtern nicht überschreiten, d.h. 2 Seiten, Format 22 x 28 cm, 2-zeilig getypt (Abbildungen und Tabellen miteingeschlossen).

Zwecks Erleichterung der gleichzeitigen Übersetzung, empfiehlt das Organisationskomitee, dass die Übersetzung der erwähnten Auszüge in alle 3 offiziellen Sprachen des Kongresses, von den Autoren selbst, besorgt wird.

Endgültiges Datum zur Meldung der Absicht betreffs Vorlegen eines Beitrages: **1. June 1963.**

Endgültiges Datum zur Einsendung der Auszüge: **1. Januar 1964.**

Eindgültiges Datum zur Einsendung der kompletten Manuskripte (2-fach): **1. April 1964.**

Exkursionen

Die in Rumänien stattfindenden Exkursionen werden sowohl vor, als auch nach dem Kongress, auf denselben Reiserouten erfolgen. Auf diese Weise können die Kongressisten an 2 Exkursionen teilnehmen. Ungefähr 1700—1800 km werden in 10 Tagen zurückgelegt, mit Abfahrt und Ankunft in Bukarest.

Er wird in bequemen Autokars gereist, teilweise auch per Bahn und Schiff.

Den Teilnehmern wird ein Exkursionsführer ausgehändigt werden, in einer der offiziellen Sprachen des Kongresses verfasst.

Die Reiserouten bieten den Teilnehmern die Möglichkeit mannigfaltige Landschaften (Flachland, Hügelland, Berge), sowie verschiedene phyto-geographische Zonen (Steppe, Waldsteppe, Wald) kennenzulernen. Dementsprechend, werden sämtliche genetischen Bodentypen vorgeführt, unter welchen manche für die bioklimatischen Bedingungen Rumäniens kennzeichnend sind.

Gleichfalls werden die Möglichkeiten geschaffen verschiedene Aspekte der Land- und Forstwirtschaft, der Industrie, sowie des sozialen Lebens kennenzulernen, indem Versuchstationen, landwirtschaftliche Staats- und Kollektivwirtschaften, Bodenmeliorationsarbeiten, industrielle Zentren, Städte, Dörfer und historische Stätten besucht und besichtigt werden.

1. *Exkursion* (Bukarest-Constantza-Galatzi-Brasov-Bukarest). Man wird durch Steppen-, Waldsteppengebiete, Wald- und Berggebiete, die Donau Ebene, die Dobroudscha Hochebene, das Donau Delta, die südlichen Karpathen reisen. Die zu untersuchenden Böden gehören zu den genetischen Typen: hell-braune Steppenböden, Tschernoseme, graue und braune Waldböden, podzolige Böden, Gley und Pseudogley Böden, Anmoorigeböden, Wiesenböden, sowie Salz- und Alkaliböden.

2. *Exkursion* (Bukarest-Craiova-Timisoara-Oradea-Klausenburg-Hermannstadt-Bukarest) führt durch die Donau Ebene, die Getische Plattform, die Banater Berge, die Tissa Ebene und die Südkarpathen. Die zu untersuchenden Böden sind folgende: braune Waldböden, rötlichbraune Waldböden, die ein Transitionsglied zu den mediterranischen Böden darstellen, tonige Schwarzen, braune podzolierte (lessivè) Waldböden, podzolige Böden, Alkaliböden, Tschernoseme und Wiesenböden.

3. *Exkursion* (Bukarest-Brasov-Bacău-Suceava-Jassy-Galatzi-Bukarest) durchquert die Südkarpathen durch das malerische Prahova-Tal. Nach Durchqueren von intrakarpathischen Becken und der Oostkarpathen wird die Moldau Hochebene erreicht, wo folgende Böden untersucht werden: podzolige Böden, podzolierte (lessivè) Waldböden, graue Waldböden, Gley und Pseudogley Böden usw.

Die Allunion Gesellschaft der Sowjetischen Bodenkundler schlägt vor eine Exkursion im Süden der Sowjetunion, zwecks Untersuchung der wichtigsten genetischen Bodentypen, deren natürliche Bedingungen und ihre zonale Verteilung. Unterwegs werden wissenschaftliche Institutionen, landwirtschaftliche Versuchstationen und Museen besichtigt. (100—120 Personen können an dieser Exkursion teilnehmen).

Nähere Auskünfte werden nachträglich mitgeteilt.

Annäherende Preise

Die Kongressisten können in Bukarest, in Hotels und Studentenheimen untergebracht werden. Die annäherenden Preise sind die folgenden:

a) Hotel

| Volle Pension ¹⁾ | | Halbe Pension ²⁾ | |
|-----------------------------|-------------------------------------|-----------------------------|-----------------------|
| 1-Bett Zimmer mit Bad | 2-Bett Zimmer mit Bad ³⁾ | 1-Bett Zimmer mit Bad | 2-Bett Zimmer mit Bad |
| Luxus Klasse: | | | |
| US \$ 11.— | US \$ 8.75 | US \$ 9.— | US \$ 6.75 |
| I. Klasse: | | | |
| US \$ 8.— | US \$ 6.50 | US \$ 6.50 | US \$ 5.— |

¹⁾ Volle Pension: Wohnung, Frühstück und 2 Hauptmahlzeiten.

²⁾ Halbe Pension: Wohnung und Frühstück, sowie eine Hauptmahlzeit.

³⁾ Die Preise für ein 2-Bett Zimmer sind berechnet pro Tag und pro Person.

b) Studentenheime

Volle Pension für ein 2-Bett Zimmer \$ 5.— Pro Person und pro Tag
 Volle Pension für ein 1-Bett Zimmer \$ 6.— Pro Person und pro Tag

Annäherende Preise der Exkursionen:

1. Exkursion \$ 117.—
 2. Exkursion \$ 105.—
 3. Exkursion \$ 103.—

Kongresseinschreibegebühr: \$ 25.— Die Teilnehmer müssen Mitglieder der I.B.G. sein (Einschreibegebühr 1 \$). Die Kongresseinschreibegebühr gibt den Teilnehmern das Recht Studiumauszüge und die Kongressberichte enthaltenden Bände zu erhalten.

Die Angehörigen der Kongressisten werden nur eine Einschreibegebühr von 5 \$ einzuzahlen haben zur teilweisen Deckung der Unterhaltungsprogrammsspesen.

Der Prospektus mit Einzelheiten und Fragebogen für die beabsichtigten Einschreibungen wird baldigst allen Mitgliedern der I.B.G. zugesandt werden.

VORLÄUFIGES PROGRAMM

Kommission I (Bodenphysik)

1. Die Natur der physikalischen Wechselwirkungen zwischen der flüssigen Phase und den festen Phasen des Bodens.

2. Theoretische Grundlagen des Wasserhaushaltes des Bodens und Grundsätze seiner Regelung; Wasserhaushalt der genetischen Bodentypen.

3. Theoretische Grundlagen des Wärmehaushaltes des Bodens und Grundsätze seiner Regelung. Wärmehaushalt des genetischen Bodentypen.

4. Lufthaushalt des Bodens.

5. Theoretische Grundlagen der Struktur- und Gefügebildung im Boden; Erhaltung und Verbesserung der Bodenstruktur.

6. Moderne Untersuchungsmethoden der physikalischen Eigenschaften des Bodens (Schnellmethoden inbegriffen) und Deutung der Ergebnisse; Anwendung der Isotope auf dem Gebiete der Bodenphysik.

(Siehe auch das Programm der VI. Kommission).

Kommission II (Bodenchemie)

1. Anwendung neuer Untersuchungsmethoden in der Bodenchemie (Infrarotspektroskopie, Differentialthermoanalyse, Elektronenmikroskopie, Elektronenbeugung, Isotope und andere).

2. Organische Chemie:

a) Chemie des Humus; Untersuchungsmethoden, Terminologie.

b) Dynamik des Humus (Kommissionen II und III).

c) Wechselwirkungen zwischen organischen und anorganischen Bestandteilen des Bodens; organisch-mineralische Bildungen, spezifisch für die verschiedenen genetischen Bodentypen.

3. Anorganische Chemie:

a) Bestimmte chemische Verbindungen (z.B. Phosphate, Carbonate); ihr Verhalten bei der Bodenbildung und Entwicklung.

b) Sesquioxyde, ihre Formen und ihr Verhalten in den bodenbildenden Prozessen (Kommissionen II und VII).

c) Fixierung und Freisetzung der Ionen bei Tonmineralien (Ionenaustausch in den Zwischenräumen der Tonmineralien (Kommissionen II und VII).

d) Verteilungsgleichgewichte der austauschbaren Ionen (Bodenazidität und -alkalität).

e) Chemie der Salz- und Alkaliböden; Chemie der Bodenversalzung im Zusammenhang mit der Qualität des zur Bewässerung benützten Wassers (Kommissionen II, V und VI).

4. Chemie der Bodengenese; Untersuchungsmethoden und Deutung der Ergebnisse.

5. Biochemische Probleme der Ernährung der Pflanze in Bezug auf den Stoffwechsel und auf die Anwendung von Düngemitteln (Kommissionen II, III und IV).

6. Allgemeine Probleme.

Kommission III (Bodenbiologie)

1. Mikro- und Makroorganismen verschiedener Bodentypen und die betreffenden Untersuchungsmethoden.
2. Einfluss der Umweltfaktoren auf die Mikro- und Makrobesiedlung des Bodens.
3. Biochemische Tätigkeit der Bodenorganismen und Regelungsmöglichkeiten dieser Tätigkeit.
4. Einwirkungen und Umwandlungen im Boden der Rückstände der chemischen Bekämpfungsmittel.
5. Wechselwirkungen zwischen den Bodenmikroorganismen und den höheren Pflanzen.
6. Wirkungswesen der bakteriologischen Düngemittel.
7. Wechselwirkungen zwischen Bodenmikroflora und Bodenfauna.

Kommission IV (Bodenfruchtbarkeit und Pflanzenernährung)

1. Chemische und biochemische Bestimmungsmethoden der für die Pflanzen verfügbaren Nährstoffe, in den verschiedenen genetischen Bodentypen.
2. Wirksamkeit verschiedener Düngergaben im Zusammenhang mit dem genetischen Bodentyp und den Kulturpflanzen, mit und ohne Bewässerung.
3. Nutzeffekt verschiedener Düngungssysteme mit organischen, mineralischen oder organisch-mineralischen Düngern, im Zusammenhang mit dem genetischen Bodentyp.
4. Einfluss der Boden- und Unterbodenbedingungen (Feuchtigkeit, Durchlüftung, Konzentration der Bodenlösung usw.) auf das Pflanzenwachstum und insbesondere auf die Nährstoffaufnahme.
5. Bodenbedingungen als Faktor der Wirksamkeit der als Düngungsmittel angewandten Spurenelementen, sowie des Magnesiums und anderer Nebenelemente (Kommissionen II und IV).
6. Fragen der Chemie und Biochemie des Phosphors im Boden und in der Pflanzenernährung.
7. Verbesserungsmaßnahmen der sauren Böden (Kalkung u.a.).
8. Probleme der Bodenlösung im Bezug auf die Beweglichkeit und das dynamische Gleichgewicht der Nährstoffe und auf die Pflanzenernährung.
9. Die organische Substanz des Bodens als Faktor der Fruchtbarkeit und der Ertragsfähigkeit.
10. Stickstoffverluste im Boden.

Kommission V (Bodengesehe, Bodenklassifikation und Bodenkartographie)

1. Grundsätze und Systeme der allgemeinen Klassifikation der Weltböden.
2. Bodenkarten der Kontinente und die Bodenkarte der Welt (Projekt FAO—UNESCO).
3. Bodenklassifikation und Bodenkartographie der einzelnen Länder.
4. Böden Süd-Ost Europas (Donau-Balkanländer).
5. Merkmale und Systematik der Kulturböden.
6. Genese und Klassifikation der wichtigsten Bodentypen der Welt (insbesondere: Steppenböden, tropische und subtropische Schwarzerden, Prärieböden, hydro-morphe Böden, Waldböden mit Tonwanderung im Profil, usw.).
7. Grossmasstäbliche Boden- und Standortkartierung; Anwendbarkeit der Bodenkarten.
8. Bodenbildende Prozesse und biologischer Kreislauf der Stoffe, unter natürlichen Bedingungen und unter dem Einfluss der Tätigkeit des Menschen.

Kommission VI (Bodenbearbeitung und -meliorationen)

1. Praktische Methoden für die quantitative Schätzung der im Bodenerosionsprozess wirkenden Faktoren.
2. Verbesserung der Böden mit ungünstigen physikalischen Profileigenschaften und ihre Verwertung in Landwirtschaft und Forstwirtschaft (z.B. erodierte, sandige, bindige Böden usw.).
3. Meliorative Wirkung der feldschützenden Waldstreifen.
4. Einwirkung auf die Bodeneigenschaften verschiedener Bewässerungsmethoden, sowie der dazu notwendigen Geländevorbereitungsmassnahmen.
5. Kriterien betreffs Auswahl von geeigneten Methoden zwecks Schätzung und Formulierung des energetischen Zustandes und der Abflussgeschwindigkeit des Wassers im Boden (Kommissionen I und VI).
6. Theoretische Begrenzungen und praktische Gesichtspunkte in der Auswahl von Methoden zur Boden- und Wassergewinnung (bewässerte Böden inbegriffen) (Kommissionen I und VI).
7. Schätzung der für die Erforschung der Drainageaufgaben angewandten Methoden (Kommissionen I und VI).
8. Einfluss der Bearbeitungstiefe und der Einbringungstiefe der Dünger und der meliorativen Stoffe auf die physikalischen und chemischen Bodeneigenschaften, sowie auf die Entwicklung der Pflanzenwurzeln (Kommissionen I, IV und V).
9. Bodenbearbeitungsfragen in Zusammenhang mit den physikalischen Bodeneigenschaften (Zugkraft, Bodenverdichtung, usw.) (Kommissionen I und VI).
10. Neue Meliorations- und Benützungsmethoden der Salzböden (Solontschakböden); Melioration der Solonetzböden mit oder ohne Anwendung von Bewässerung (Kommissionen I, II und VI).

Kommission VII (Bodenmineralogie)

1. Bildung und Umwandlung der Mineralien (insbesondere der Tonmineralien) im Boden.
2. Tonmineralien in verschiedenen Bodentypen im Zusammenhang mit der Bodenbildung.
3. Einfluss der Tonmineralien auf die physikalisch-chemischen Eigenschaften und die Fruchtbarkeit des Bodens.
4. Methoden zur Diagnose der im Boden vorkommenden Mineralien und ihre simultane Anwendung bei der Bodenforschung.
5. Anwendung der mikromorphologischen und petrographischen Methoden zur Untersuchung bodengenetischer Fragen.
6. Mineralogische Zusammensetzung des Bodens im Verhältniss zur mineralogischen und chemischen Zusammensetzung des Muttergesteins und der Verwitterungsbedingungen.

DAS PROGRAMM KOMITEE

Präsident: Prof. Dr. N. C. Cernescu

Kommission I

Vize-Präsident: C. Chirita — Colectivul de Pedologie, Académie Roumaine des Sciences.

Sekretär : A. Canarache — Laboratoriumdirektor, Institut Central de Recherches Agricoles.

Kommission II

Vize-Präsident: P. Muresanu — Professor Agrikulturchemie, Institut Agronomique de Timisoara.

Sekretär : E. Gitá — Vorsteher des Laboratoriums, Institut Géologique.

Kommission III

Vize-Präsident: Vl. Gheorghiu — Direktor der Versuchsstation für biologische Dünger, Institut de Recherches Agricoles.

Sekretär : P. Papacostea — Forschungsdirektor, Laboratorium für Mikrobiologie, Comité Géologique.

Kommission IV

Vize-Präsident: D. Davidescu — Professor Agrikulturchemie, Institut Agronomique „N. Bálcescu“ zu Bucarest.

Sekretär : C. Hera — Forschungsdirektor, Institut Central de Recherches Agricoles.

Kommission V

Vize-Präsident: M. Popovát — Direktor des bodenkundlichen Dienstes, Comité Géologique.

Sekretär : N. Florea — Vorsteher der bodenkundlichen Abteilung, Institut Géologique.

Kommission VI

Vize-Präsident: I. Staicu — Professor der Agrotechnik, Institut Central de Recherches Agricoles.

Sekretär : M. Motoc — Vorsteher der Abteilung Grundbegriffe der Bodenverbesserung, Institut Central de Recherches Agricoles.

Kommission VII

Vize-Präsident: D. Giuscá — Professor der Mineralogie, Comité Géologique.

Sekretär : D. Rádulescu — Lektor Petrographie-Sedimentologie, Université „C. I. Parhon“ zu Bucarest.

Die Korrespondenz richte man an:

Comité Roumain d'Organisation
VIII^{me} Congrès International de la Science du Sol
Bd. Marasti No. 61
BUCAREST 33 — ROUMANIE
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NEWS OF THE NATIONAL SOCIETIES
NOUVELLES DES SOCIÉTÉS NATIONALES
NEUES DER GESELLSCHAFTEN IN EINZELNEN LÄNDERN

Asociacion Argentina de la Ciencia del Suelo

For the period 1962—1964, the following officers have been elected.

- President: Ing. Agr. Oscar J. Guedes, Instituto de Suelos y Agrotecnia, Cervino 3101, Buenos Aires
Vice-President: Dr. Roberto V. A. Caravello, *ibid.*
Secretary: Dr. Pedro H. Etchevehere, *ibid.*
Treasurer: Ing. Agr. Ricardo Lores, *ibid.*

Canadian Society of Soil Science

The executive of the Canadian Society of Soil Science for 1962—63 is as follows:

- President: W. Odynsky, Research Council of Alberta, 87th Avenue and 114th Street, Edmonton, Alberta
President-Elect: R. F. Bishop, Research Station, Kentville, Nova Scotia
Treasurer: J. E. McCannel, Agricultural Institute of Canada, 176 Gloucester Street, Ottawa 4, Ontario
Secretary: R. L. Halstead, Soil Research Institute, C.E.F., Ottawa, Ontario.

The new society representative to the I.S.S.S. is Dr. P. G. Stobbe, Director of the Soil Research Institute, C.E.F., Ottawa, Ontario.

Indian Society of Soil Science

The following officers have been elected for the year 1962.

- President: Dr. R. R. Agarwal, Dept. of Agriculture, Lucknow, U.P.
Vice-Presidents: Dr. S. P. Raychaudhuri, Div. of Research & Scientific Research, Planning Commission, New Delhi
Treasurer: Dr. R. V. Tamhane, Div. of Agronomy, I.A.R.I., New Delhi
Secretaries: Mr. S. Sen, *ibid.*
Dr. N. P. Datta, Div. of Soil Science & Agricultural Chemistry, I.A.R.I., New Delhi
Dr. T. D. Biswas, *ibid.*
Mr. A. B. Ghosh, *ibid.*

NEWS OF THE COMMISSIONS
NOUVELLES DES COMMISSIONS
NEUES AUS DEN KOMMISSIONEN

Commission II (Soil physics)

Western European Working Group on Soil Structure.

The Western European Method Book on Soil Structure will not be available as planned in a mimeographed form by the end of 1962 but at the beginning of 1963 and certainly before the middle of April, when the national secretaries of the Western European Working Group will meet in Versailles (France). This delay is due to the large response of the research workers in the field of soil structure from Austria, Belgium, Denmark, Finland, France, Germany, Great Britain and The Netherlands.

Contacts have been established with F.A.O. (Dr. Ignatieff) and with working groups on soil structure in America (Dr C. H. M. Van Bavel), in Eastern Europe (the late Dr Tiurin and Dr Birecki) and in Mediterranean area (Dr H. Hillel).

The secretaris-general of the Western European Working Group on Soil Structure.

Prof. Dr M. DE BOODT
Rijkslandbouwhogeschool
Coupure, 235,
Ghent (Belgium).

MISCELLANEOUS NEWS — INFORMATIONS DIVERSES

VERMISCHTE MITTEILUNGEN

Unesco's Sub-Committee on Termites

This sub-committee established as a result of the International Symposium on Termites, New Delhi, 1960, met in Paris from 12—15 June, 1962, to discuss the termite-problem. Th. I.S.S.S. was represented by Dr L. G. E. Kalshoven, former entomologist and termite expert of the Royal Tropical Institute, Amsterdam.

The meeting has been very successful indeed. Of the many items on the agenda, those directly related to soil science may be mentioned: Professor Gösswald of Würzburg, Germany, maintained that recent investigations indicated that specific species are a rather important factor in soil forming processus, whereas Professor Grassi, Director of the Laboratory for the Evolution of Organic Beings, Paris, stressed the influence of termites on laterization. Prof. Grassi accepted the invitation to write a monograph on the influence of termites on soil properties.

For further information apply to Dr M. Batisse, Unesco, Place de Fontenoy, Paris, 7e, France.

Study of International Information on Moisture and Density Measurements by Nuclear Methods

A joint group on nuclear methods, representing two subcommittees of Committee D-18 (Soils for Engineering Purposes), American Society for Testing and Materials, was established in 1961 to prepare a standard method for the use of nuclear equipment in the determination of surface and subsurface moisture and density measurements for soils and related materials. The immediate objective of this group is to gather information on nuclear meters and procedures currently used throughout the world, and by publication of a summary of the information, to promote needed research. Information is being collected on the design of nuclear moisture-density meters and their application, safety, problems, and methods.

Two detailed questionnaires, one for manufacturers and one for users of nuclear meters, have been prepared and distributed to an extensive list of universities, federal and state government agencies, and commercial organizations of the engineering, agricultural, and geologic disciplines in the United States and many foreign countries. If anyone did not receive a questionnaire but desires to contribute information, the following may be contacted:

P. C. Smith, Chief Soils, Foundations, And Flexible Pavements Br. Bureau of Public Roads Washington 25, D.C.

or

A. I. Johnson, Chief Hydrologic Laboratory U.S. Geological Survey, Federal Center Denver 25, Colo.

Dr. Guy D. Smith honored

Guy D. Smith, Director of Soil Survey Investigations, Soil Survey, Soil Conservation Service, U.S. Department of Agriculture, receive the Distinguished Service Award (Gold Medal), from the Secretary of Agriculture May 18, 1962.

The citation for Dr. Smith read as follows:

"The development, through personal research and staff leadership, of a new comprehensive system of soil classification of great scientific and practical significance both internationally and in the United States."

Dr. Charles E. Kellogg honored

Charles E. Kellogg received the Doctor of Science degree (honoris causa), at the annual commencement of North Dakota State University, May 20, 1962. He was Professor of Soils there before coming into the U.S. Department of Agriculture to head up the Soil Survey in 1934.

E. Mückenhausen: Entstehung, Eigenschaften und Systematik der Böden der Bundesrepublik Deutschland. D.L.G.-Verlag, Frankfurt (Main), 1962, pp. 150, 60 coloured plates, tables, lit. DM 66.20 (about \$ 16.50).

This volume on genesis, properties and systematics of the soils of the German Federal Republic reflects the joint efforts of a great number of German pedologists. It resulted from 8 years of discussions at home and in the field in the framework of a Commission on Soil Systematics, established by the German Society of Soil Science for the purpose of reviewing and bringing up to date Dr. Mückenhausen's earlier treatise on the soils of West Germany, entitled: Die wichtigsten Böden der Bundesrepublik Deutschland.

This new edition is indeed much enlarged as the Commission not only considered the systematics as such but foremost the genetic factors and the soil characteristics involved. The need for such a broader scientific approach was specifically felt as presently a number of new systems of soil classification have been elaborated in various countries, which differ strongly in their basic concepts.

The first 4 chapters deal with the basic principles of soil formation. A general discussion is followed by a section on soil forming factors and the change of these factors in time. With regard to the climate the author passes from Cretaceous through Tertiary to the present and discusses the development of vegetation and relief since the Lower Cretaceous. The impact of these changing environmental conditions are reflected in the relict soils as e.g. the gray loams (Graulehme) which once covered a very large part of present-day Germany. Terra rossa and terra fusca are well-known examples of soil formation under paleo-climatic conditions. Post-glacial soils as brown forest soils, gray brown podzolics and pseudogley, all on loess, are as many examples of soils with a pedogenetic history which is not yet known in all its details. Much clearer is the degradation of the chernozems which correlate with the change of the subhistoric climate of Northwestern Europe. The lower temperature and higher humidity then prevailing gave rise to formation of podzolic soils, which reached a maximum through the influence of man and his sheep. Weathering processes as clay formation, clay transport, decalcification, podzolisation, etc. are briefly discussed as an introduction to the chapter on soil systematics. This part of Dr. Mückenhausen's text book is concluded by a section on the various systems of soil classification from past to present. An impressive list of 182 references of literature bearing on this subject characterizes the thoroughness and high standard of this volume.

The chapters E—H are devoted to the soils as they occur in the German Federal Republic. Six pedogenetic categories form the basis of the German classification:

- | | | |
|----------------------|---|--|
| 1 <i>division</i> | — | soils determined by one direction of water movement |
| 2 <i>class</i> | — | soils with similar sequence of horizons |
| 3 <i>type</i> | — | soils with characteristic sequence of horizons and specific properties of horizons |
| 4 <i>subtype</i> | — | soils with exogenous features (e.g. calcic horizon in brown forest soil) |
| 5 <i>variety</i> | — | quantitative sub-types (e.g. strongly developed weakly gleyed podzol) |
| 6 <i>sub-variety</i> | — | qualitative and quantitative pedogenetic details are considered (e.g. forest soil, slightly lime containing, A-horizon 26 cm). |

One example may serve to elucidate the application of this system to the sub-type level:

- 1 Terrestrial soil
- 2 A-C-soil (no clay transport)
- 3 Rendzina
- 4 Brown forest soil — Rendzina

The final part of the volume contains reproductions of water-colour profile-pictures of 60 different soil types. Next to a full profile description and laboratory data of the various horizons, detailed information on location, climate and parent material are given.

An appreciative word of thanks is due to our German colleagues for this most valuable contribution to soil science, which merits a place in the library of each soil scientist interested in pedogenetic problems.

F. A. VAN BAREN

A. Jacobs and H. von Uexküll: Fertilization

This well known textbook on fertilization, of which the second edition was published in English in 1960, has been translated into Spanish. The edition was undertaken by the Internationale Handelmaatschappij voor Meststoffen, 241, Keizersgracht, Amsterdam, Netherlands, to which company further inquiries have to be addressed.

„Applications des sciences nucléaires en pédologie”

Edited by the Belgian Society of Soil Science, 139 pages, 60 photos and diagrams, 25 tables. Price 200 Belgian Francs.

This volume presents the papers read at the 2nd International Symposium in this field, held at Ghent in 1961. It contains the following papers:

SCHARPENSEEL, H. W. & GEWEHR, H. — Möglichkeiten und Erfahrungen zum Arbeiten mit radioaktiven Tonmineralien und Huminsäuren in der bodenchemischen Forschung.

BOVARD, P., BOYER, J. & GRAUBY, A. — Localisation dans le sol de radioéléments par percolation.

KROTOSZYNER, J.-P. & KIRCHMANN, R. — Contribution à l'étude de la rétention du Sr^{90} dans le sol.

LIARD, O. & PICARD, M.-Th. — Observations au moyen du radiophosphore $\text{P}^{32}/_{15}$ sur la diffusion de solutions phosphorées appliquées au pal injecteur en sol limoneux.

DATH, M.-Th. — Recherches par radiochromatographie des premiers produits incorporant le P^{32}O_4 ---

BAERT, L. — Contribution à l'étude de la teneur du sol en phosphates disponibles pour la plante.

SIMONART, P. & MAYAUDON, J. — Humification des protéines C^{14} dans le sol.

BAERT-DE BIEVRE, M. VAN DEN HENDE, A. & LOX, F. — Etude de la fixation d'ammonium dans deux sols argileux à l'aide de N^{15} .

DE BOODT, M., DE LEENHEER, L. & MORTIER, P. — The resolving power of the neutron scattering method for soil moisture determination.

VAN DEN HENDE, A. — L'autoradiographie des émissions β et γ au service de la pédologie.

Each article is followed by a summary in English.

The volume may be ordered through any bookseller or directly with the Société Belge de Pédologie, 6, Rozier, Gand.

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

Soil Zoology Colloquium, Oosterbeek, Netherlands
September 10th—16th 1962



The Colloquium of the Soil Zoology Committee (Biology Commission) devoted to Soil fauna, Soil microflora and their Relationships was attended by 112 research workers from 18 countries. Of these 32 were microbiologists and 60 zoologists, the others being pedologists and agriculturists interested in the subject. It was regretted very much that the applicants from both the U.S.S.R. and the D.D.R. could not attend. Thanks to the fact that preprints of all the papers were sent to the participants beforehand, only introductions by the authors were necessary and much time was available for discussion. In total 45 papers were discussed, 19 on soil zoological subjects, 14 on soil microbiology and 12 on interrelations between soil fauna and soil microflora. The discussions were very fruitful and demonstrated the great value of this contact between zoologists and microbiologists.

The excursions to experimental fields and to the Zuiderzeepolders met much interest, as was the case with the visits to several laboratories at Wageningen.

At the general meeting of the Soil Zoology Committee the bureau of the Committee was renewed. Dr. van der Drift was elected as vice-president, Dr. d'Aguiar and Dr. Thiele as secretaries. Dr. Jensen and Prof. Burges were so kind as to join the bureau as liaison officers to Unesco and the microbiologists respectively. In order to establish some balance between the countries represented 3 other members were proposed: Prof. Ghilarov (U.S.S.R.), Prof. Kevan (U.S.A.) and Dr. Balogh (Hungary).

The Proceedings of the Colloquium will be published under the title "Soil Organisms" by the North Holland Publishing Company, Amsterdam.

Soil Survey and Photo Interpretation

(see Bulletin no. 19, 1961, page 13)

From August 30 to September 6, 1962, a Symposium was held at Delft, the Netherlands, of Commission VII (Photo Interpretation) of the International Society for Photogrammetry, under the chairmanship of Prof. Dr C. H. Edelman. During this meeting a wide range of sciences using airphoto-interpretation as a tool in their investigations were represented in nine different working groups.

The use in soil survey was discussed in working group 3 (Soils) which paid particular attention to the possibilities and limitations of the use of aerial photographs for soil surveys on different scales and in different parts of the world.

Special sessions were held on Physiography, Soil Mapping, Land Development, Soils and Engineering, Soils and Vegetation. Papers were read by members from various countries such as Canada, France, Israel, Japan, Netherlands, South Africa, United Kingdom and the United States.

Some resolutions were agreed upon, one resolution stressing the different definitions of soil as used by the I.S.S.S. members on the one hand and the specialists on soil for engineering on the other hand. In a second resolution, the need for more investigation into the relationship between physiography and soil was emphasized.

A. P. A. VINK,
Chairman Working Group 3.

The Transactions of the Symposium are in the press. They will be available by the end of 1962 at a price of about Hfl. 50.—. Copies are to be ordered with Dr. H. Th. Verstappen, International Training Centre for Aerial Survey, Kanaalweg, Delft, Netherlands.

Second Joint Technical/Agricultural Conference 1962

Avignon, in southern France, was the chosen site for the Second Joint Technical/Agricultural Conference of the International Superphosphate Manufacturers' Association Ltd. (I.S.M.A.), held from 17th to 20th September, 1962. The first such meeting was in 1956 in Lausanne.

Aiming to bring together agronomists, chemists and chemical engineers from member companies in the fertilizer field throughout the world, the Conference presented a carefully balanced programme chosen to stimulate common discussion between the various interests represented. Well over 100 delegates from 20 different countries, including guests from the T.V.A. in America and the Research Stations at Rothamsted (U.K.) and Antibes (France), were present.

Starting with 1½ days of papers and discussions under the presidency of Mr. Robert Mathieu (France) and Dr. Bernard Raistrick (U.K.), respective Chairman of the I.S.M.A. agricultural and Technical Committees, delegates considered amongst other things, the comparative merits of solid and liquid fertilizers — including a paper from the U.K. and American contributions on wet process superphosphoric acid, suspension fertilizers and di-ammonium phosphate. There were studies from New Zealand, South Africa, Sweden and the U.K. on several aspects of fertilizer handling and distribution; and discussions on trace elements, the economic and hygienic virtues of spreading superphosphate in animal litters, and the effect on fertilizer sales of various methods of analysis and assay. Papers on these and other subjects came from Belgium, France, Germany, New Zealand, Switzerland and the U.K. As a conclusion to the working sessions, there was a general exchange of ideas on the future development of chemical fertilizers.

Delegates then proceeded to the second part of the programme which included visits to a Péchiney-Saint-Gobain superphosphate factory, a vineyard at Châteauneuf-du-Pape, irrigation in the Bas-Rhône-Languedoc area, a soil improvement scheme and fertiliser experiments on rice and fruit.

Technical papers (in French and English) presented at Avignon may be obtained by non-members at a price of ten shillings each plus postage, on application to the Secretary-General, I.S.M.A. Ltd., 121, Gloucester Place, London W.1.

FORTHCOMING CONGRESSES

Agriculture Group of the Society of Chemical Industry „Soil Analysis and its Relation to Plant Composition and Growth”

The Agriculture Group of the Society is arranging a threeday Symposium entitled "Soil Analysis and its Relation to Plant Composition and Growth" at Bristol on April 3—5, 1963.

The first two days will be devoted to the presentation and discussion of papers. Pre-prints will be sent to participants before the date of the Symposium. On the third day visits to Long Ashton Research Station and the South Western Region. Headquarters of the National Agricultural Advisory Service at Westbury-on-Trym will be arranged.

The registration fee for members of the Society and for non-members will be fixed at a later date.

Accommodation will be arranged at Churchill Hall, Stoke Bishop, Bristol, 9. There will be an inclusive charge for accommodation and meals for which a deposit will be needed at the time of registration.

A list of papers to be presented and information about registration will appear in "Chemistry and Industry" at a later date.

Copies of this Notice may be obtained from the Assistant Secretary, Society of Chemical Industry, 14, Belgrave Square, London, S.W.1.

**V-ème Symposium International de „AGROCHIMICA” sur
le soufre dans l'agriculture
Palermo et Catania, 16—21 mars 1964**

Siège du comité organisateur: Istituto di Chimica Agraria della Università degli Studi di Pisa, Via S. Michele degli Scalzi, 2.

Conformément à la décision prise dans la séance de clôture du IV^e Symposium à Firenze, le Comité Organisateur de la revue "Agrochimica" a convoqué le Ve Symposium pour le 16—21 mars 1964 à Palermo-Catania.

Le Symposium aura pour thème: Le soufre dans l'agriculture. Dans ces journées d'étude les discussions se porteront sur les sujets suivants:

- a) Le métabolisme du soufre dans les végétaux
- b) Le métabolisme du soufre dans la terre arable
- c) Interaction du soufre dans la plante et dans la terre
- d) La fertilization sulfureuse de la culture
- e) Le soufre comme antiparasite.

Les auteurs sont priés de faire parvenir au Comité Organisateur le plus tôt possible et en tout cas avant le 30 avril 1963, le titre de leur communication avec un résumé ne dépassant pas les 200 paroles.

**Vitthe International Congress of Sedimentology
Amsterdam and Antwerp, May 27 to June 9, 1963**

Information about this Congress may be obtained from either Mr. M. K. Gulinck, Aardkundige Dienst, Jennerstraat 13, Leopoldspark, Brussels, Belgium, or from Mr. M. C. Kruit, Shell Laboratorium, 6, Volmerlaan, Rijswijk, Netherlands.

**LETTERS TO THE EDITOR — LETTRES A L'EDITEUR
ZUSCHRIFTEN AN DEN HERAUSGEBER**

The Editor,
Bulletin of the International
Society of Soil Science
63, Mauritskade, Amsterdam-Holland.

Dear Sir,

I have found it not always easy before visiting a country to find how much of it has been soil surveyed, and what the general soil distribution is.

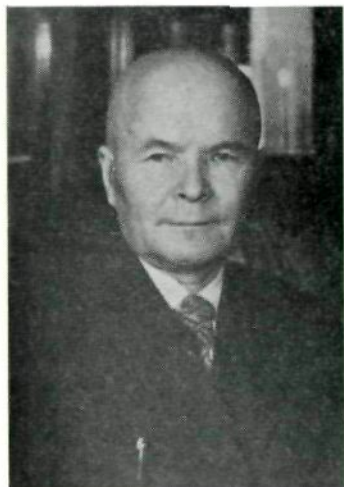
May I suggest that members would benefit if the Society could encourage or require its member countries to produce for each International Meeting a simple up-to-date black and white map of the soil survey **coverage** (not the soils themselves, and an accompanying list of references or authorities for each survey, whether published or not.

The map could be made a responsibility of Commission V, and recorded in the Proceedings.

C. B. Wells
Division of Soils
Waite Institute
Adelaide, South Australia

OBITUARY — NECROLOGIE — NEKROLOGIE

Academician Ivan Vladimirovich Tiurin † (1892—1962)



Soviet soil scientists have suffered a heavy and irreparable loss. On July 12, 1962 past a leading scientist, head of the Soviet soil scientists, academician Ivan Vladimirovich Tiurin.

Tiurin's name was well known to soil scientists the world over, not only because of his outstanding work in the field of genesis and geography, and particularly in the study of nature, properties and methods of research of the humus substances, but also on account of his extensive and fruitful scientific and organisational activity in the International Society of Soil Science and at World Soil Congresses.

Soviet soil scientists lost as well the President of the USSR Soil Science Society, the Director of the famous V.V. Dokuchaev Soil Institute, their older friend and comrade. Ivan Tiurin devoted more than 40 years to his favourite science, during this time enriching it with many notable researches. He was a worthy successor of the Dokuchaev school, contributing greatly to the further development of our knowledge of soil formation.

I. V. Tiurin was born in 1892 in the former Ufa province (town of Menzelinsk). In 1918 he graduated from the Petrovsk (now Timiriasev) Agriculture Academy, where his preference for soil science was formed. From 1919 to 1928 Tiurin worked as deputy head of the chair of soil science in the Forest Faculty of the Kazan University; in 1928, as a professor, he was appointed head of the soil science department. Then, following the death of the academician K.K. Gedroitz, I. V. Tiurin headed the chair of soil science in the Kirov Silvicultural Academy in Leningrad and simultaneously began to work in the Soil Institute of the USSR Academy of Sciences.

During the war-time blockade of Leningrad in 1941, Tiurin evacuated to Krasnoyarsk in Siberia, where he continued his scientific and teaching activities in the Siberian Forest Technological Institute, heading the chair of soil science and geology. Two years later he was invited to Moscow, where he headed the Department of Forestry and simultaneously was in charge of the Laboratory of Biochemistry of Soils in the Dokuchaev Soil Institute of the USSR Academy of Sciences.

In 1944 Tiurin returned to Leningrad to head the chair of soil science of the Kirov Silvicultural Academy and was elected to hold chair of experimental soil science in the Leningrad State University. In 1949 he was elected Director of the Dokuchaev Soil Institute in Moscow, which he guided until his death.

In 1935 Tiurin was awarded the honorary doctorate of geology and mineralogy, in 1946 he was elected Corresponding-Member and in 1953 Member of the USSR Academy of Sciences.

Dr. Tiurin is the author of 200 publications on soil genesis and geography and on forest soil science. Particularly reknown are his works on soil organic matter. It was for this that Tiurin was given the highest award, the Dokuchaev Gold Medal. The Soviet Government has awarded him with Orders of Lenin, Red Banner of Labour and others.

Tiurin's most outstanding contributions were dedicated to the study of genesis and geography of the forest-steppe soils of the Tatar and Chuvashian republics and other parts of the USSR. The most important ones have been published in a small but remarkable well written book "On the Genesis and Classification of the Forest-Steppe and Forest Soils". Not less popular is "The Course of Soil Science for Silvicultural High Schools", lectures read in the Academy.

As mentioned, Tiurin devoted his attention foremost to soil organic matter. The methods of investigating its composition elaborated by him, received general recognition and are used in many countries. His monograph "The Organic Soil Matter and Its Role in Soil Formation and Fertility" (1937) was of great value in the subsequent researches in the biochemistry of soils in general and particularly in the study of their humus.

Of no mean importance and merit was also Tiurin's report at the session organized at the occasion of the 100th anniversary of V.V. Dokuchaev's birth, on "Geographic Regularities of Humus Formation". In his consecutive works he greatly developed the idea of the function of the biological factor in soil formation, as in the paper "Concerning the Quantitative Participation of the Living Matter in the Composition of the Soil's Organic Part" (1946) and several others. Equally well known are his works on forest soil science and especially his research on the problem of "Classifying Forest Areas Water Protective Zone by their Protective Role".

In recent years, in connection with the work of compiling the Soil Map of Europe and the world, I. V. Tiurin paid special attention to the problem of the nitrogen balance in soils, particularly to the nitrogen cycle and its relation to soil genesis and geography.

Ivan Tiurin conducted extensive scientific and organisational work not only as the director of the Soviet Union's largest Soil Institute (named after V.V. Dokuchaev), but also as the President of the USSR Soil Science Society, Chief Editor of "Pochvovedenie", Chairman of the IVth Commission (soil fertility) of the International Soil Science Society and as an active participant of numerous conferences, symposia and other undertakings, sponsored by the UNESCO, ISSS, FAO and others. He was elected member of the Academies of Science of Poland and German Democratic Republic.

He acquired great authority and respect by his outstanding research work and personal qualities, high principles, remarkable tact and calm in solving complex scientific problems, not only among the soil workers of the Soviet Union, but also among the soil scientists of many other countries of the world. Despite his illness Tiurin had many creative plans and strove for their implementation. His sudden death therefore was so unexpected that it is hard to bear this burden.

The bright image of Tiurin as of a scientist and a remarkable man will remain forever in the hearts not only of the Soviet soil scientist, but also in the hearts of all who knew him.

USSR Soil Science Society.

Dr. Alexander Muir † (1906—1962)

Alexander Muir, Deputy Director and Head of the Department of Pedology, Rothamsted Experimental Station, and Director of the Soil Survey of England and Wales, died at his home in Harpenden, Hertfordshire, on February 1, 1962. His untimely death at the peak of his scientific career is a grievous blow to soil science, a subject which he did much to pioneer and develop.

Muir was born in Leith on September 12, 1906, and was educated at Leith Academy and Edinburgh University. After graduating with First Class Honours in Chemistry in 1928, he was awarded a post-graduate scholarship by the Department of Agriculture for Scotland. He worked for two years in the Edinburgh and East of Scotland College of Agriculture and then spent over a year in Russia, where he took full advantage of the opportunity to gain knowledge, and experience of the Russian approach to soil science. On his return to this country he completed his immediate post-graduate studies by obtaining the degree of Ph.D. from Edinburgh University. Towards



the end of 1931 he became one of the first members of staff of the newly founded Macaulay Institute for Soil Research under the direction of Dr. W. G. (now Sir William) Ogg. He remained in this post until 1945 when he moved to Rothamsted to establish a Department of Pedology.

Although a considerable amount of pioneering investigational work on British soils had been undertaken before Muir's first visit to Russia in 1930, the fundamental study of the soil was at that time much more highly developed in Russia than in this country. The training and experience in soil science, both in the laboratory and in the field, which Muir obtained under the guidance of such men as K. K. Gedroiz, I. V. Tiurin, B. B. Polynov, J. N. Antipov-Karataev, A. A. Rode and others, undoubtedly did much to stimulate and shape the subsequent development of soil surveys and of pedology in this country. At the Dokuchaev Soil Science Institute in Leningrad, under the guidance of Gedroiz, Muir assimilated the Russian views on soil genesis and obtained valuable insight into laboratory studies of the soil-absorbing complex on which Gedroiz was an outstanding authority. He also had the invaluable experience of participating in the Soil Survey of the Crimea. A fluent Russian speaker, Muir was enabled on several occasions to revisit Russia where he had made many lasting friends and where his views were invariably listened to with respect by Russian pedologists.

During his period at the Macaulay Institute, Muir, in collaboration with W. G. Ogg, applied the Russian concept of the soil profile to the study of Scottish soils while, at the same time, the late G. W. Robinson was working on similar lines in England and Wales. Much of Muir's early work was done in collaboration with the Forestry Commission on natural and semi-natural soils. This was the real starting point of the systematic survey of soils in Scotland and resulted in the recognition in Scotland of soil types such as those known to the Russians as podzol, peaty podzol, gley and peaty gley. One of these early studies was a detailed survey of a Forestry Commission area in Aberdeenshire; this was done in collaboration with H. M. Steven and the late G. K. Fraser and published as "The Soils and Vegetation of the Bin and Clashindarroch Forests." In it a close relationship between soil and vegetation and suitability for planting was established. In the chemical analysis of soil types which he classified, mapped and sampled, Muir made valuable contributions to methods of analysis for determining the base exchange capacity, the exchangeable cations and the silica sesquioxide ratios in the study of the degree of leaching and the genesis of the soil. In collaboration with W. G. Ogg, he was also responsible for the introduction at the Macaulay Institute of X-ray and other techniques for studying the composition of soil clays in Scotland.

At Rothamsted, Muir developed still further work on pedology and soil survey on the pattern that followed naturally from his experience in Russia and at the Macaulay. In 1946 he succeeded G. W. Robinson as Director of the Soil Survey of England and Wales, the headquarters of which were then transferred to Rothamsted. The outstanding developments in pedology at Rothamsted and in the Soil Survey of England and Wales as recorded in numerous publications are lasting tributes to his scientific ability, his drive, his energy and his enthusiasm. In the midst of his many activities, which included the Technical Secretaryship of the Soil Survey Research Board, Presidency for a period of Commission V (Soil Genesis, Classification and Cartography) of the International Society of Soil Science and membership of numerous boards and Technical Committees, he also found time to edit, and indeed to a large extent compile from notes left by the late V. M. Goldschmidt, what is now a standard textbook of Geochemistry. He was appointed Deputy Director of Rothamsted in 1956.

As an international authority on soil science his service were in frequent demand by countries and international organisations in need of advice on the mapping and classification of soils. He travelled extensively and never sought to spare himself. His contributions to soil science throughout the world are indeed a worthy monument to the ability of an outstanding personality who will be missed by many for much more than his scientific attainments. There are many who will recall his pleasant companionship and his gifts as a pianist and as a lover of music. In 1934 he married Winifred Drummond, daughter of the late Professor and Mrs. Drummond of Kilmarnock, and to her and their two daughters the sincere sympathy of a wide circle of friends is extended.

A. B. STEWART

Dr. George D. Scarseth † (1899—1962)

George D. Scarseth, internationally known soil scientist and agronomist and director of research for the American Farm Research Association, died at Lafayette, Indiana, on March 20, 1962.

Dr. Scarseth formerly was a professor and head of the agronomy department at Purdue university for several years and also was a soil scientist on the teaching and research staffs of Alabama, Connecticut and Wisconsin. He started his scientific career in 1926 as a soil chemist in Central America for the United Fruit Company for nearly 20 years, was an agricultural research consultant on tropical soil problems for Standard Fruit and Steamship Company and in recent years was agronomic consultant to the University of Alaska. Since 1957 he was consulting agronomist for Central Farmers Fertilizer Company.



Scarseth published a number of scientific papers and books. His more popular articles number over 100, dealing chiefly with the problems of obtaining more efficient production from the land on a permanent basis with "built-in" conservation. His latest book "Man and his Earth" was released in May by the Iowa State University Press.

Born on a farm in Trempealeau county, Wisconsin, his early experience as a farm hand, herdsman and dairy tester headed him toward dairying until he transferred to soil study as an undergraduate student assistant for four years at the University of Wisconsin, from which he was graduated in 1924. He did most of his graduate work in geology and chemistry at Yale university. As a Du Pont Fellow, he obtained his PhD degree in soil science and plant physiology at Ohio State University in 1932.

George Scarseth was a Fellow in the American Society of Agronomy and American Association for the Advancement of Science and a member of several honorary and scientific societies. He was elected in 1945 by fellow workers throughout the nation as one of the top 10 fertilizer chemists in the nation.

He received Freedoms foundation awards in 1951 and 1952 on "your outstanding achievement in bringing about a better understanding of the American way of life" and Purdue university in 1952 conferred on him the honorary degree of doctor of science. He was a delegate to the Fifth International Congress of Soil Science in the Belgian Congo in 1954, and had plans to attend the International Soil Science conference in New Zealand next November, and to visit several countries in the Far East and Asia.

Scarseth's research in soil fertility, especially as related to growing corn as a soil-building and conservation crop, has been referred to as revolutionary and has brought innovations in the corn-growing field. He owned a private farm where he tested the practical application of the new sciences.

He was slated to have received a Ford Motor company distinguished award for outstanding contributions to agriculture, including farm research, education and agri-business. He is listed in Who's Who in America, American Men of Science and World Biography.

(copied from "Journal and Courier",
Lafayette, Ind.)

The George D. Scarseth Scholarship Fund

The George D. Scarseth Scholarship Fund is being established to give an opportunity to the many friends of the late George D. Scarseth to contribute to a fund, the purpose of which is to help train soil scientists of the future. It is hoped that those who benefit from this award will be inspired to carry on and enlarge the *Scarseth philosophy*.

The income from the fund will be used to establish scholarships for a graduate training program in soil fertility, with emphasis on the application of basic principles to the growing plant in the field.

Arrangements for the administration of such a fund are underway with the Soil Science Society of America. The detailed procedures and criteria for the selection of the recipients of the scholarships are being developed by a committee of his associates.

Contributions may be mailed directly to the George D. Scarseth Scholarship Fund Committee, 112 West Stadium Avenue, West Lafayette, Indiana. The fund is being organized to comply with the regulations of the Internal Revenue Service for income tax deductibility.

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