

BULLETIN

OF THE INTERNATIONAL SOCIETY
OF SOIL SCIENCE

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BULLETIN

DE L'ASSOCIATION INTERNATIONALE
DE LA SCIENCE DU SOL

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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 : V. A. Kovda, Sub-Faculty of Pedology, Moscow State University, Moscow V-234.
- Vice-President : I. P. Guerasimov, Geography Institute of the Academy of Sciences of the USSR, Staromometni 29, Moscow.
- Past-President : E. G. Hallsworth, C.S.I.R.O. Division of Soils, Private Bag No. 1, Glen Osmond, South Australia.
- Secretary-General : F. A. van Baren, c/o Royal Tropical Institute, 63 Mauritskade, Amsterdam, Netherlands.

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- Prof. Dr Sante Mattson, Båstad, Sweden.
- Prof. L. A. Prescott, 82 Cross Road, Myrthle Bank, South Australia.
- Dr L. A. Richards, 4455 Fifth Street, Riverside, Cal., U.S.A.
- Prof. Dr A. A. Rode, Dokuchaev Soil Institute, Pygevski per. 7, Moscow 17, USSR.
- Prof. Dr Emil Truog, University of Wisconsin, Madison, Wis. 53706, U.S.A.

Commissions/Commissions/Kommissionen:

- I — SOIL PHYSICS.
Chairman: W. R. Gardner, Department of Soil and Water Science, University of Wisconsin, Madison, Wisc. 53706, U.S.A.
- II — SOIL CHEMISTRY.
Chairman: H. Laudelout, Institut Agronomique, Héverlié, Belgium.
- III — SOIL BIOLOGY.
Chairman: G. Fahreaus, Microbiologiska Institutionen, Uppsala 7, Sweden.
- IV — SOIL FERTILITY AND PLANT NUTRITION.
Chairman: O. T. Rotini, Facoltà di Chimica Agraria dell' Università degli Studi, Via S. Michele degli Scalzi 2, Pisa, Italy.
- V — SOIL GENESIS, CLASSIFICATION AND CARTOGRAPHY.
Chairman: R. Dudal, World Soil Resources Office, F.A.O., Via delle Terme Caracalla, Roma, Italy.
- VI — SOIL TECHNOLOGY.
Chairman: T. J. Marshall, C.S.I.R.O., Division of Soils, Private Mail Bag 1, Glen Osmond, S.A., Australia.
- VII — SOIL MINERALOGY.
Chairman: K. Norrish, C.S.I.R.O., Division of Soils, Private Mail Bag 1, Glen Osmond, S.A., Australia.

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No. 38

1971

NEWS OF THE SOCIETY

The 10th International Congress, Moscow, USSR.

First Circular

In conformity with the decision of the 9th International Congress of Soil Science (Adelaide, 1968), the 10th International Congress of Soil Science will be held in the USSR in 1974 (second half of August- first half of September).

The Organizing Committee has been set up. It is headed by:

Acad. I. P. Gerasimov, President of the All-Union Society of Soil Scientists	— Chairman
Prof. V. V. Egorov	— First Vice-Chairman
Prof. M. A. Glazovskaya	— Vice-Chairman, Chairman of the Excursion Commission
Dr. V. M. Fridland	— Vice-Chairman, Chairman of the Programme Commission
Prof. M. M. Kononova	— Chairman of the Editorial Commission
Prof. I. S. Kaurichev	— Chairman of the Exhibition Commission

The following programme of the 10th International Congress of Soil Science has been elaborated by the Organizing Committee.

Major Topics

I. Problems of Soil Genesis and Geography as well as Scientific Principles of Rational Utilization of Soil Resources in Agriculture, Forestry and other Branches of Economy

1. Thermodynamics of soil processes and phenomena. Activity and potentials of ions in the soil- solution heterogenous system.
2. Organo- mineral compounds (especially those with clay minerals) and their role in soil formation.
3. Crystallochemistry of minerals (transformational and synthetic) formed in the soil and mechanisms of their formation and destruction in the soil.
4. Factors and mechanisms conditioning or preventing the differentiation of acid soil genetic profiles.
5. Origin and migration of salts in automorphous soils (not influenced by ground waters) in the arid and subarid regions;
6. Principles and methods for classifying and diagnosing natural and antropogenic soils; criteria for evaluating the taxonomic significance of soil classificational features.
7. Structure of soil cover, viz. the main laws governing the genesis of soil cover structures; principles of their typization, methods for their investigation and mapping.

8. Absolute and relative age of soils. Rate of soil formation. Soil formation and continental lithogenesis.
9. Scientific and technical progress and principles of rational utilization of land resources.
10. Scientific foundations of land management aimed at erosion control under various natural and economic conditions.

II. Soil Productivity Increasing by Adequate Soil Management and Fertilization

1. Promotion of the optimal moisture, aeration and heat regimes by proper soil management and chemical treatment.
2. Promotion of the optimal balance of nutrients in the soils by fertilization and regulation of the mechanism of nutrient uptake by plants.
3. Physiologically active substances in soils and their role in increasing soil fertility.
4. Post-effect of pesticides and mineral fertilizers on soils and crop yields.
5. Adequate soil management and chemical treatment (including application of soil conditioners) for the controlling of soil erosion and its consequences. Re-cultivation of lands affected by the extraction of useful minerals, construction work, etc.

III. Scientific Foundations of Soil Amelioration

1. Principales and methods for forecasting the efficiency of soil reclamative measures.
2. Theoretical foundations and practical methods for regulating the moisture and salt regimes of soils on the territories which are being drained or irrigated.
3. Theoretical foundations and practical measures for controlling soil salinization.
4. New methods for reclaiming solonets soils.

IV. Soil as a Component of Biosphere, its Role in Natural Cycles and Biological Productivity of Ecosystems (Biogeocoenoses)

1. Soil-forming role of substance and energy exchange in the soil-plant system.
2. Substance and energy exchange in the systems of geochemical landscapes and its role in the formation of soil and soil cover. Geomorphological control over the processes of removal and accumulation of substances in soils.
3. Geochemical cycles of certain elements and their role in the processes of soil formation and plant nutrition (with a special reference to those parts of the cycle which occur in the soils).
4. Soil biota and its role in the dynamics of ecosystems (biogeocoenoses).
5. The role of soil as a regulating and regulated component of natural and antropogenic ecosystems (biogeocoenoses).

V. Modern Methods for Investigating Soils and Soil Processes

1. Methods of laboratory and field investigation of soil properties and composition.
 2. Methods for studying soil processes and their dynamics.
 3. Methods of experimental modelling of soil processes and their theoretical substantiation.
 4. Methods for studying the physico-chemical processes in the soils occurring on molecular and ionic levels.
 5. Utilization of mathematical modelling and analysis methods in the field of soil science (particularly for classifying soils and soil cover structures). Employment of computers for soil diagnostics and determination.
 6. New methods for mapping of soils and their properties.
- The Congress Programme will be implemented at: (1) plenary sessions, (2) sessions of the ISSS commissions (sections of the Congress) and (3) symposia.

One of the plenary sessions will be dedicated to the 50th anniversary of the International Society of Soil Science. A special Symposium will be held on the FAO/UNESCO soil map of the world (demonstration and discussion of the map). The themes of other symposia will be given later.

It is planned to hold symposia during field tours. Their themes will be finally outlined after the approval of the routes. The contemplated themes are as follows:

1. Genesis of chernozems.
2. Podzolic and pseudopodzolic soils and methods for their cultivation and improvement.
3. Genesis of boggy soils and methods for their drainage.
4. Genesis and reclamation of saline soils.
5. Soils of humid subtropics.

All questions relating to the preparation and holding of the Congress should be forwarded to the Organizing Committee of the 10th ISSS Congress, Pyzhevsky per. 7, Moscow 17, USSR.

Organizing Committee of the
10th ISSS Congress

NOUVELLES DE L'ASSOCIATION Le 10^{me} Congrès International, Moscou, URSS

Première Circulaire

En conformité avec la décision du 9^e Congrès International de la Science du Sol (Adélaïde, 1968), le 10^e Congrès International de la Science du Sol se tiendra en URSS en 1974 (seconde quinzaine d'août - première quinzaine de septembre).

Le Comité d'Organisation a été créé. Il est dirigé par:

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| Acad. I. P. Gerasimov | — Président |
| Président de la Société des
Scientistes du Sol de l'Union | |
| Prof. V. V. Egorov | — Premier Vice-Président |
| Prof. M. A. Glazovskaya | — Vice-Président, Président de la Commission
d'excursions |
| Dr. V. M. Fridland | — Vice-Président, Président de la Commission de
Programme |
| Prof. M. M. Kononova | — Président de la Commission de Rédaction |
| Prof. I. S. Kaurichev | — Président de la Commission d'Exposition |

Le Programme du 10^e Congrès International de la Science du Sol a été élaboré par le Comité d'Organisation.

Thèmes principaux

I. Problèmes de genèse et de géographie des sols tels que les principes scientifiques d'utilisation rationnelle des ressources du sol en Agriculture, Sylviculture et autres branches de l'Economie

1. Thermodynamique des processus et des phénomènes pédologiques. Activité et potentiel des ions dans le système hétérogène sol-solution.
2. Composés organo-minéraux (spécialement ceux concernant les minéraux argileux) et leur rôle dans la formation du sol.
3. Cristalochimie des minéraux (transformés et synthétiques) formés dans les sols et mécanisme de leur formation et de leur destruction dans le sol.
4. Facteurs et mécanismes conditionnant ou prévenant la différenciation du profil génétique des sols acides.
5. Origine et migration des sels dans les sols automorphes (non influencés par les nappes aquifères) dans les régions arides et semi-arides.
6. Principes et méthodes de classification et de diagnose des sols naturels et anthropogènes; critères pour évaluer la signification taxonomique des caractéristiques de classification des sols.
7. Structures des couvertures de sols, notamment les principales lois qui gouvernent la genèse de ces couvertures; principes de leur caractérisation, méthodes d'investigation et de cartographie.

8. Age absolu et relatif des sols. Degré de formation du sol. Formation des sols et lithogénèse continentale.
9. Progrès scientifiques et techniques et principes d'utilisation rationnelle des ressources des terres.
10. Fondements techniques de l'aménagement d'un territoire dans le but de lutter contre l'érosion sous des conditions naturelles et économiques variées.

II. Accroissement de la productivité du sol par un aménagement adéquat et par fertilisation

1. Amélioration des régimes de l'humidité, de l'aération et de la chaleur optimales par aménagement particulier et traitement chimique.
2. Amélioration de la balance optimale des éléments nutritifs dans le sol par fertilisation et régularisation du mécanisme du prélèvement des engrais par les plantes.
3. Substances physiologiquement actives dans les sols et leur rôle dans l'augmentation de la fertilité des sols.
4. Effet résiduel des pesticides et des engrais minéraux sur les sols et les rendements.
5. Aménagement adéquat du sol et traitement chimique (y compris l'application de conditionneurs de sols) pour le contrôle de l'érosion et ses conséquences. Remise en culture des zones affectées par l'extraction de minerais, par les travaux de construction, etc.

III. Fondements scientifiques de l'amélioration des sols

1. Principes et méthodes pour prévoir l'efficacité des mesures d'amélioration du sol.
2. Fondements théoriques et méthodes pratiques pour régulariser le régime de l'eau et des sels dans les sols où les territoires ont été drainés ou irrigués.
3. Fondements théoriques et mesures pratiques pour empêcher la salinisation du sol.
4. Nouvelles méthodes pour améliorer les solonetz.

IV. Le sol comme composant de la biosphère, son rôle dans les cycles naturels et la productivité biologique des écosystèmes (biogéocénoses)

1. Rôle pédogénétique de substances et échange énergétique dans le système sol-plante.
2. Substance et échange énergétique dans les systèmes de paysages géochimiques et leur rôle dans la formation du sol et de la couverture du sol. Contrôle géomorphologique par les processus de déplacement ou d'accumulation de substances dans les sols.
3. Cycles géochimiques de certains éléments et leur rôle dans les processus de formation des sols et de nutrition des plantes (avec une référence spéciale pour les composantes du cycle qui se passent dans les sols).
4. Biota du sol et son rôle dans la dynamique des écosystèmes (biogéocénoses).
5. *Le rôle du sol comme régulateur et composant régulateur des écosystèmes naturels et anthropogènes (biogéocénoses).*

V. Méthodes modernes utilisées dans la recherche sur les sols et leurs processus

1. Méthodes de recherche en laboratoire et sur le terrain concernant les propriétés et la composition des sols.
2. Méthode d'étude des processus de sols et de leur dynamique.
3. Méthodes de représentation expérimentale des processus de sols et leur concrétisation théorique.
4. Méthodes d'étude des processus physico-chimiques dans les sols au niveau moléculaire et ionique.
5. Utilisation de la représentation mathématique et méthodes d'analyse sur le terrain en pédologie (particulièrement pour classer les sols et les structures de couverture). Utilisation d'ordinateurs pour les diagnostics des sols et de leur détermination.

6. **Nouvelles méthodes pour cartographier les sols et leurs propriétés.**
Le programme du Congrès sera réalisé sous forme de: (1) sessions plénières, (2) sessions de commissions de l'AISS (sections du Congrès) et (3) symposiums.

Une des sessions plénières sera réservée au 50e anniversaire de la Société Internationale de la Science du Sol. Il y aura un symposium spécial sur la carte mondiale des sols de la FAO/UNESCO (démonstration et discussion de la carte). Les thèmes des autres symposiums seront donnés ultérieurement.

Il est prévu de tenir des symposiums pendant les excursions. Leurs thèmes seront définitivement fixés après que seront approuvés les itinéraires. Les thèmes projetés sont les suivants:

1. Genèse des chernozems.
2. Sols podzoliques et pseudopodzoliques et méthodes de mise en culture et d'amélioration.
3. Genèse des sols marécageux et méthodes de drainage.
4. Genèse et amélioration des sols salins.
5. Sols des régions subtropicales humides.

Toutes questions concernant la préparation et la réalisation du Congrès peuvent être adressées au Comité d'Organisation du 10e Congrès de l'AISS, Pyzhevsky per. 7, Moscou 17, URSS.

**Le Comité d'Organisation du
10e Congrès de l'AISS**

NEUES AUS DER GESELLSCHAFT Der 10. Internationale Kongress, Moskau, USSR

Erstes Rundschreiben

Gemäß der Entscheidung des 9. Internationalen Bodenkundlichen Kongresses (Adelaide 1968) wird der 10. Intern. Bodenkundl. Kongreß 1974 (zweite Hälfte August — erste Hälfte September) in der UdSSR stattfinden.

Das Organisations-Komitee wurde gebildet. Es wird geleitet von:

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| Prof. I. P. Gerasimov | — Vorsitzender |
| Präsident der All-Union-Gesellschaft für Bodenkundler | |
| Prof. V. V. Egorov | — Erster Vize-Vorsitzender |
| Prof. M. A. Glazovskaya | — Vize-Vorsitzender, Vors. der Exkursions-Kommission |
| Dr. V. M. Fridland | — Vize-Vorsitzender, Vors. der Programm-Kommission |
| Prof. M. M. Kononova | — Vorsitzender der Schriftleitungs-Kommission |
| Prof. I. S. Kaurichev | — Vorsitzender der Ausstellungs-Kommission. |

Das folgende Programm für den 10. Intern. Kongreß für Bodenkunde ist von dem Organisations-Komitee ausgearbeitet worden.

Hauptthemen

I. Probleme der Bodengenese und -geographie sowie wissenschaftliche Grundsätze rationaler Nutzbarmachung von Bodenreserven in Landwirtschaft, Forstwirtschaft und anderen Wirtschaftszweigen

1. Thermodynamik von Bodenprozessen und -phänomenen. Aktivität und Potential der Ionen im heterogenen System der Bodenlösung.
2. Organo-mineralische Verbindungen (speziell solche mit Tonmineralen) und ihre Rolle in der Bodenbildung.
3. Kristallchemie von Mineralen (umgewandelt und synthetisch), die im Boden entstehen; Mechanismen ihrer Entstehung und Zerstörung im Boden.

4. Faktoren und Mechanismen, welche die charakteristischen Merkmale bei der Genese eines sauren Bodenprofils hervorrufen.
5. Ursprung und Wanderung von Salzen in automorphen Böden (nicht von Grundwasser beeinflusst) in den ariden und subariden Gebieten.
6. Prinzipien und Methoden der Klassifizierung und Diagnose natürlicher und anthropogener Böden; Kriterien zur Auswertung der taxonomischen, bodenklassifikatorischen Merkmale.
7. Struktur der Bodenbedeckung, d.h. die wichtigsten Gesetze, welche die Entstehung der Struktur der Bodenbedeckung steuern; Prinzipien ihrer Typisierung, Methoden ihrer Erforschung und Kartierung.
8. Absolutes und relatives Alter von Böden; Geschwindigkeit der Bodenbildung; Bodenbildung und kontinentale Lithogenese.
9. Wissenschaftlicher und technischer Fortschritt und Prinzipien der rationalen Nutzung der Landreserven.
10. Wissenschaftliche Prinzipien der Landbewirtschaftung im Hinblick auf die Kontrolle der Erosion und auf die verschiedenen natürlichen und ökonomischen Verhältnisse.

II. Steigerung der Bodenertragsfähigkeit durch angemessene Bodenbewirtschaftung und Düngung

1. Förderung der optimalen Verhältnisse von Feuchtigkeit, Belüftung und Wärme durch zweckentsprechende Bodenbewirtschaftung und chemische Behandlung.
2. Förderung des optimalen Nährstoff-Gleichgewichtes in den Böden durch Düngung und Regulierung des Mechanismus der Nährstoffaufnahme durch die Pflanzen.
3. Physiologisch aktive Substanzen in den Böden und deren Rolle bei der Steigerung der Bodenfruchtbarkeit.
4. Nachwirkungen von Schädlingsbekämpfungsmitteln und mineralischen Düngemitteln auf Böden und Erträge.
5. Angemessene Bodenbewirtschaftung und chemische Behandlung (einschließlich der Anwendung von bodenverbessernden Mitteln) zur Kontrolle der Bodenerosion und derer Folge. Rekultivierung von Bodenflächen, beeinträchtigt durch die Ausbeutung von Bodenschätzen, Bebauung usw.

III. Wissenschaftliche Grundlagen der Bodenverbesserung

1. Prinzipien und Methoden zur Voraussage der Wirksamkeit von Maßnahmen zur Nutzbarmachung von Böden.
2. Theoretische Grundlagen und praktische Methoden zur Regulierung des Wasser- und Salzhaushaltes von Böden in Gebieten, die drainiert oder bewässert werden.
3. Theoretische Grundlagen und praktische Maßnahmen zur Kontrolle der Bodenversalzung.
4. Neue Methoden zur Kultivierung von Solonetzen.

IV. Der Boden als ein Bestandteil der Biosphäre, seine Rolle in den natürlichen Kreisläufen und die biologische Produktivität von Ökosystemen (Biogeozönosen)

1. Der Bodenbildungsvorgang als Substanz- und Energieaustausch in dem System Boden-Pflanze.
2. Substanz- und Energieaustausch in den Systemen der geochemischen Landschaften und seine Rolle in der Bildung von Böden und Bodenbedeckung. Geomorphologische Kontrolle über die Vorgänge der Beseitigung und Ansammlung von Substanzen in Böden.
3. Geochemischer Kreislauf bestimmter Elemente und deren Rolle in den Prozessen der Bodenbildung und Pflanzenernährung (unter besonderer Berücksichtigung derjenigen Phasen des Kreislaufes, die sich in den Böden abspielen).
4. Bodenlebewesen und ihre Rolle in der Dynamik der Ökosysteme (Biogeozönosen).
5. Die Rolle des Bodens als ein regulierender und regulierter Bestandteil der natürlichen und anthropogenen Ökosysteme (Biogeozönosen).

V. Moderne Methoden der Untersuchung von Böden und Vorgänge in Böden

1. Labormethoden und Geländeuntersuchung zur Ermittlung der Eigenschaften und Zusammensetzung des Bodens.
2. Methoden zur Untersuchung von Bodenprozessen und deren Dynamik.
3. Methoden für Modellversuche von Bodenprozessen und deren theoretische Unterbauung.
4. *Methoden für das Studium der physiko-chemischen Prozesse in den Böden im Molekular- und Ionen-Bereich.*
5. Benützung mathematischer Modelle und Analysenmethoden in der Bodenkunde (besonders zur Klassifizierung von Böden und der Strukturen von Bodenbedeckung). Einsatz elektronischer Rechenmaschinen für die Bodendiagnose und -bestimmung.
6. Neue Methoden der Kartierung von Böden und Bodeneigenschaften.

Das Programm des Kongresses wird folgendermaßen durchgeführt:

(1) Vollversammlungen, (2) Sitzungen der Kommissionen der ISSS (Sektionen des Kongresses) und (3) Symposien.

Eine der Vollversammlungen wird dem 50. Jahrestag der ISSS gewidmet sein. Es wird ein gesondertes Symposium über die FAO/UNESCO-Weltbodenkarte (mit Vorführung und Diskussion der Karte) abgehalten werden. Die Themen der anderen Symposien werden später bekanntgegeben.

Es ist beabsichtigt Symposien im Zuge von Geländeexkursionen abzuhalten. Die Bekanntgabe der Themen wird engültig nach Festlegung der Exkursionsrouten erfolgen. Die ins Auge gefaßten Themen sind folgende:

1. Die Entstehung der Tschernoseme.
2. Die Podsole und Pseudopodsole; Methoden ihrer Bewirtschaftung und Verbesserung.
3. Die Entstehung sumpfiger Böden und Methoden ihrer Drainage.
4. Die Entstehung und Nutzbarmachung von Salzböden.
5. Die Böden der feuchten Subtropen.

Alle Fragen, die die Vorbereitung und die Durchführung des Kongresses betreffen, bitten wir an das „Organizing Committee of the 10th ISSS Congress“, Pyzhevsky per. 7, Moscow 17, USSR, zu richten.

**Organizing Committee of the
10th ISSS Congress**

NEWS OF THE COMMISSIONS

Commission I Soil Physics

Joint symposium on fundamentals of transport phenomena in porous media
International Association for Hydraulic Research - Section Committee
International Society of Soil Science - Commission I.
University of Guelph, Guelph, Ontario, Canada
August 7-11, 1972

The Section on Flow Through Porous Media of the International Association for Hydraulic Research (IAHR) in conjunction with Commission I (Soil Physics) of the International Society of Soil Science (ISSS) will jointly sponsor the Second Symposium on Fundamentals of Transport Phenomena in Porous Media. The University of Guelph, Guelph, Ontario, Canada will host the Symposium to take place on August 7-11, 1972. It is the intention that this Symposium will serve as a meeting ground not only for hydraulic engineers, hydrologists and soil scientists, but also for scientists and engineers from other associated disciplines such as chemical and petroleum engineering, textile physics, etc.

Tentative topics for discussion include aspects of porous media related to the characterization of porous media, such as the general theory of miscible and immiscible (saturated and unsaturated) fluid flow, dispersion phenomena, the effect of variable chemical and microbial reactions on transport, interfacial phenomena, and coupled processes including heat, mass and charge transfer. It is hoped that the contributions from the various disciplines can be grouped under the above or related topics. The Planning Committee welcomes suggestions for invited speakers and comments on topics for discussion.

Tours of local scientific, scenic and cultural interest as well as a ladies programme will be included.

Time Table for Authors

In order that the proceeding be published prior to the meetings, the following deadlines have been established.

November 15, 1971
March 1, 1972
July 1, 1972

Title and abstract
Complete paper in final form and typed in appropriate style for reproduction
Proceedings sent to registered participants.

The organizing committee would appreciate hearing from those who are interested in attending this Symposium. The chairman of the organizing committee is:

Dr. D. E. Elrick,
Department of Soil Science,
University of Guelph,
Guelph, Ontario,
Canada.

JOINT SESSION COMMISSIONS II AND IV

International Symposium on Soil Fertility Evaluation
New Delhi, India, February 9-14, 1971

February 9th, 1971 at 11 a.m. Mr. T. P. Singh, Secretary to the Government of India, Ministry of Food and Agriculture, Community Development and Co-operation welcomed 110 foreign and over 500 national delegates and guests at the opening session of the first International Symposium on Soil Fertility Evaluation. After a review of the objectives of the Symposium by Dr. J. S. Kanwar, President of the Indian Society of Soil Science and Chairman of the Organizing Committee, Dr. F. A. van Baren on behalf of I.S.S.S. and Dr. O. P. Gautam as the executive Chairman of the Indian Society of Agronomy welcomed the participants. Dr. T. D. Biswas, Secretary of the Organizing Committee, addressed specifically the foreign delegates.



*Participants in the International Symposium on Soil Fertility Evaluation
in front of the Vigyan Bhavan Congress Centre, New Delhi,
February 9-14, 1971.*

The conference was then formally opened by Dr. B. P. Pal, Director General of the Indian Council of Agricultural Research, who delivered an impressive inaugural speech stressing the importance of the symposium's programme. This was divided into main subjects:

- a. Methods of evaluation of soil fertility
- b. Relation of soil test with crop response
- c. Response to fertilizer in soil-climate complex
- d. Residual and cumulative effect of fertilizer on soil fertility
- e. Methods of evaluation of micronutrient status of soil and response to micronutrient elements
- f. Top priority research and action needs in soil fertility evaluation (panel discussion).

In all 110 papers pertinent to the subjects mentioned were presented covering about 1200 pages of printed transactions. This asked for a week of hard work which, however, was pleasantly interspersed with social events as lunches, dinners and a very well executed performance of Indian dances.

All participants were deeply impressed by the tremendous work carried out, with the indispensable support of a number of organizations, by the Organizing Committee under the inspiring chairmanship of Dr. Kanwar and with the undefatigable secretary Dr. Biswas as second-in-command. It led to the unanimous adoption of the following resolution:

RESOLUTION

The participants of the Symposium on Soil Fertility Evaluation organised conjointly by the International Society of Soil Science, the Indian Society of Soil Science, the Indian Society of Agronomy, the Indian Council of Agricultural Research and the Indian Institute of Agricultural Research, assembled in their General Meeting on February 13, 1971 at New Delhi, India, wish to express their appreciation and thanks to the Government of India, to the Ministry of Food and Agriculture, to all supporting agencies for the hospitality and generous support which made it possible to hold this Conference. They express their thanks to the Organizing Committee and specifically to its most able President, Dr. J. S. Kanwar and Secretary, Dr. T. D. Biswas, whose untiring efforts led to the great success of the Symposium.

They finally express their thanks to the Indian Council of Agricultural Research, Fertiliser Association of India, Fertiliser Corporation of India, to Sriram Chemicals and to the Indian Society of Soil Science who so generously did take care of their physical well-being.

As a concrete result of the scientific deliberations the following recommendations were formulated by a special commission headed by Dr. S. K. Mukherjee and approved of by the General Assembly of the Symposium at its closing session, Saturday, February 14th, 1971.

RECOMMENDATIONS

1. It is noted that insufficient attention is being paid to the effect of physical, biological, microbiological and economic factors in the evaluation of soil fertility, for example, effects of soil structure, water availability, root development and rhizosphere effects on nutrient uptake. Investigation of the most appropriate approaches, and methods for handling the data require more emphasis than the particular soil test procedure utilized. It is, therefore, resolved that research teams should be diversified to include specialists in these fields.

It is suggested that the attention of the appropriate United Nations agencies be drawn to this matter, to encourage this broadening of research through appropriate training programmes.

2. It is resolved that the International Society of Soil Science should take leadership in developing a system for effective interchange, on a world-wide basis, of data and other information relating to soil fertility evaluation and soil test-crop response relationships.

3. As the role of trace elements in plant nutrition is getting more and more important, zinc deficiency being a case in point, it is recommended that at some future date, an International Symposium on the diagnosis, causes, control and inter-

relations of trace elements deficiencies and excesses be arranged through an appropriate international agency.

4. As fertilizer usage, production and (in some areas) intensity of cropping increases, residual and cumulative effects on soil properties become more important to the crops produced, and economics of fertilization become more critical. Therefore long range interdisciplinary studies are recommended on a regional basis.

Commission III (Soil Biology)

The President of Commission III Professor Fahaeus, Uppsala, Sweden, informed the Secretary General that he was obliged to resign from this post. Vice-President Professor Dr. M. Alexander, Professor of Microbiology at the Cornell University, Ithaca, New York, 14850 was found willing to assume the presidency of the Commission.

The Soil Zoology Committee of the III Commission of the International Society of Soil Science organized its fourth Colloquium at Dijon from 14-19 September 1970. About 120 scientists from 24 countries attended this Colloquium, which was sponsored by the Institut National de la Recherche Agronomique.

The program mentioned 54 papers. Nearly all of them were distributed beforehand in preprinted form, which saved much time for discussion.

The Committee had its general meeting on September 16th. Dr. J. d'Aguilar who was secretary from the beginning and Dr. O. Graff who was secretary during the last four years asked for their discharge. They were succeeded by Mr. M. Bouche. Also the president, Dr. J. van der Drift, acting from 1962 left. Dr. J. E. Satchell was elected as the next president.

Prof. K. Domsch and Prof. G. Marcuzzi agreed in joining the board. Thus the bureau of the Soil Zoology Committee is composed as follows:

Honorary president	: Prof. Dr. H. Franz
President	: Dr. J. E. Satchell
Secretary	: Dr. M. Bouche
Members	: Prof. Dr. J. Balogh
	: Prof. Dr. M. A. Burges
	: Prof. Dr. K. Domsch
	: Prof. Dr. M. S. Ghilarov
	: Prof. Dr. H. L. Jensen
	: Prof. Dr. D. K. McE Kevan
	: Prof. Dr. G. Marcuzzi

It was decided to accept the proposal of Dr. Vanek to organize the next colloquium at Prague in 1973. As a general theme was proposed the effect of human influences on the soil ecosystem.

International News Bulletin SOIL BIOLOGY

The following information is meant to confirm that the publication of SOIL BIOLOGY now is assured because of a sufficient number of subscribers. To those concerned it is made known that the next issue of the Bulletin, carrying the number 13, is in course of preparation and will bear the date 1 April 1971. The publication of no. 14 is foreseen for October. Indeed the publishers will try to make it a bi-annual edition that appears in spring and in autumn of each forthcoming year.

Commission V, Sub-Commission on Salt Affected Soils Symposium on New Developments in the Field of Salt Affected Soils Cairo, U.A.R., December 4 - 9, 1972

The Symposium on New Developments in the Field of Salt Affected Soils will be held in Cairo, U.A.R., from December 4th to 9th, 1972. An organizing committee has been established, consisting of the following members:

1. Finance

Chairman	Dr. Ibrahim el Shabassi
Vice-Chairman	Prof. Mahmoud Omar

2. *Programme and Publication*
 Chairman Prof. Abdel Halim el Damati
 Vice-Chairman Prof. Fathi Amer
3. *Meeting*
 Chairman Prof. Naguib Hassan
 Vice-Chairman Prof. Atef Abdel Salam
4. *Excursion*
 Chairman Doct. Abdel Aziz Gaith
 Vice-Chairman Mr. Ismail Rafaat
5. *Public Relation*
 Chairman Prof. Abdel Monheim Balba
 Vice-Chairman Prof. Fayez Madi
6. *Reception*
 Chairman Prof. Abdel Hamid Fathi
 Vice-Chairman Prof. Saad el Sherif
 Congress Secretariat Prof. Dr. A. El Damati

Three days will be reserved for the presentation of communications and for discussions.

One field-trip will be organized during the Symposium to salt affected areas and to Alexandria and one additional three-days excursion is being considered to Upper Egypt to visit Luxor and Aswan during which participants will be given an opportunity to visit the old tombs of the ancient Egyptians and the new Aswan Dam.

In case you wish to participate in the Symposium do not hesitate to complete the enclosed "Notice of Intent" and to send it in duplicate before December 31st 1971 to the addresses indicated in the questionnaires.

The Subjects Selected for Discussion are the following:

1. Salt balance studies of salt affected soils including:

- a. salinization and desalinization;
- b. irrigation water; quantity and quality;
- c. dynamics of water and salts in soils.

2. Problems of sampling, analysis and interpretation of data of salt affected soils including:

- a. time, depth and frequency of soil sampling;
- b. statistical methods and reliability of data;
- c. different methods of analysis and their interpretation.

3. Management of salt affected soils including:

- a. methods of reclamation;
- b. drainage problems;
- c. salt tolerance of crops;
- d. interaction of salt and fertilizers.

4. Secondary formations in salt affected soils including:

- a. clay mineral transformation;
- b. colloidal constituents formed under alkaline conditions;
- c. biological changes in salt affected soils.

Reports and Papers

One introductory report on each of the four main subjects will be prepared and delivered by one of the top experts. They will be followed by papers and after that by a discussion.

Papers to be presented at the Symposium should not exceed 1500 words / maximum 15 minutes. They will be preprinted by the Organizing Committee and distributed among the participants before the meeting.

If you wish to deliver a contribution you are requested to send the manuscript in two copies, one of them to Prof. Dr. I. Szabolcs, Research Institute of Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences, II. Herman Otto u. 15, Budapest and the other copy to Prof. Dr. A. H. El Damati, Faculty of Agriculture, Ain Shams University, Cairo, Egypt, U.A.R. not later than December 31st 1971. Only papers related to the topics of the Symposium will be accepted. They should be written in English, German or French and must be preceded by a short summary in English. All manuscripts must be sent in their definite form ready for printing. Manuscripts received after the above indicated deadline cannot be accepted.

Information on Climate, Hotels, Costs etc.

During the month of December the weather is usually cool in Cairo with the average temperature 20 °C during the day and 10 °C during the night. *Demi saison* suits and a light coat will be sufficient. As to hotels, the following categories are available:

De lux hotels: including Nile Hilton, Sheraton and Shephard
rate: \$ 15 up

First class hotels: including Semeramis, Mena House and Nile Hotel
rate: \$ 9 up

Second class hotels: including Cleopatra Metropolitan
rate: \$ 5 up

Meals from \$ 1 up

It is suggested that the participants should indicate their specific requirements on the enclosed "Hotel Reservation Form".

For further information apply to the President of the Symposium, Faculty of Agriculture University of Ain Shams, Cairo, Egypt, U.A.R.

Prof. Dr. A. H. El Damati

Faculty of Agriculture University
of Ain Shams Cairo, Egypt, U.A.R.

Prof. Dr. I. Szabolcs

Chairman of the Subcommission on
Salt Affected Soils of the ISSS.

NEWS OF THE NATIONAL SOCIETIES
NOUVELLES DES ASSOCIATIONS NATIONALES
NEUES AUS GESELLSCHAFTEN DER EINZELNEN LANDERN

Asociacion Argentina de la Ciencia del Suelo

The Argentine Society of Soil Science will hold its 6th Conference in July, 1971. The Proceedings of the 5th Conference, July 1969, have now been published. It is an impressive volume of 746 pages comprising 100 scientific contributions in the various fields of the 7 commissions of ISSS. The text is Spanish with, in most cases, an English summary.

The actual technical meeting was preceded by a symposium on "Soil Science applied to the national development" with three lectures on, respectively, the progress of the soil mapping in the Pampeana region, Soil Conservation in Argentina and Amelioration of sodic soils by biological methods.

An impression of the scope of the Conference may be derived from the titles of a few arbitrarily selected papers:

The settling volume as an indirect method for the appraisal of the 15-bar water capacity.

Extraction and separation of humus compounds of the soil.

The use of moulded soil plates in the ecological study of soil microbiology.

The correlation productivity/composition of the soils of Santa Fe.

Identification of Calciumcarbonate concretions in a soil profile.

Relationship soil-vegetation in the island zone of the middle Parana river flood plain.

The volume is available at the low price of \$ 10,— and should be ordered from: Asociacion Argentina de la Ciencia del Suelo, Cerviño 3101, Buenos Aires, Argentina.

Soil Science Society of Ceylon
Activities in the Year 1969/70

Membership of the Society at the end of the year (June 1970) was 26. During this year three public lectures were arranged by the Society.

1. Dr. P. C. Cooray — Quarternary Geology, Geomorphology and the Soils of Ceylon
2. Mr. S. Tokutome — Classification of Paddy Soils of Japan and its Application to Ceylon
3. Mr. G. D. Sherman — Utilization of Soil Weathering in Soil Management.

In February, members of the Society joined in an excursion to the Dry Zone of Ceylon where they studied soils and agriculture of the area.

In April, 1970 the Society held a Symposium on "Recent Developments in the Use of Fertilizers in Ceylon".

There were ten technical papers covering various aspects of fertilizer use in the country in addition to the opening addresses by the President of the Society and the Minister of Scientific Research and Housing. The Proceedings of the Symposium are being published.

In June 1970, the Society held its first annual session. The Presidential Address on "Some Observations on Soil Use and Misuse" was followed by four technical papers presented by members, and a popular lecture.

The business meeting followed where office bearers and other members of the General Committee for 1970/71 were selected. The office bearers for the current year are as follows:

President	— Dr. A. W. R. Joachim
Vice President	— Prof. F. S. C. P. Kalpage
General Secretary	— Dr. W. W. Thenabadu
Treasurer	— Mr. D. M. Rodrigo
Editor	— Dr. W. S. Alles
Committee	— Mr. K. Kathirgaman, Dr. C. R. Panabokke, Dr. W. P. Manipura, Dr. Skathirgamathaiyah, Mr. M. A. T. de Silva, Mr. C. C. Silva.

Sociedad Colombiana de la Ciencia del Suelo

The Soil Science Society of Colombia will hold its second Colloquium, with the theme "The Usage of Nitrogen in the Tropics" in Palmira, August 30 - September 3 - 1971. For further information apply to the Society's headquarters:

**Laboratorio de Suelos
Instituto Geografico "Agustin Codazzi"
Bogotá, D. E., Colombia.**

Bodenkundliche Gesellschaft der D.D.R.

Die Bodenkundliche Gesellschaft der Deutschen Demokratischen Republik führte ihre 4. Wissenschaftliche Tagung und Mitgliederversammlung vom 28. bis 30. 10. 1970 in Dresden durch.

Das Programm stand unter der Thematik

„Beiträge zur Steuerung und Regelung von Bodenfruchtbarkeitsprozessen“.

In einem Grundsatzreferat wurde dazu über

„Grundlagen und Aspekte der Steuerung des Umsatzes organischer Stoffe im Boden“ gesprochen.

(Referenten: Dr. Habil. Kleinhempel, Prof. Dr. Freytag, Prof. Dr. Steinbrenner, Müncheberg).

Anschließend sprachen zu dieser Hauptthematik im Rahmen einer sehr lebhaften Diskussion 26 Korreferenten aus der Sicht ihrer Spezialgebiete.

Am 30. Oktober führten die Teilnehmer eine Exkursion zu einer Großanlage für Müllkompostierung, zu einem Meliorationsobjekt und zu verschiedenen Standortleistungstypen im Bezirk Dresden durch. Die relativ große Teilnehmerzahl (230) unterstrich weiterhin das große wissenschaftliche und praktische Interesse an einem angeregten Erfahrungsaustausch zu dieser komplizierten Thematik.

Finnish Society of Soil Science

It is a pleasure to announce the foundation of the Finnish Society of Soil Science. The group which counts 27 members, chose as its Chairman, Prof. Mikko Sillanpää, who also will be its representative in the Council of I.S.S.S. His address is Department of Soil Science, Agricultural Research Centre, Box 18, 01300 Tikkurila.

New Zealand Society of Soil Science

At the General Meeting in November 1970 the following Council was elected to serve for the next two years:

President	— Mr. P. B. Lynch
Vice President	— Dr. M. Fieldes
Past President	— Dr. G. M. Will
Secretary	— Mr. L. C. Blakemore
Acting Secretary	— Dr. R. B. Miller
Treasurer	— Mr. N. Wells
Editor	— Dr. J. D. Stout
Council Members	— Mr. W. R. Dale
	— Mr. G. Howard
	— Mr. M. L. Leamy
	— Mr. T. E. Ludecke
	— Dr. W. M. H. Saunders
	— Mr. C. G. Vucetich

Sociedad Venezolana de la Ciencia del Suelo

The First National Meeting of the Venezuelan Soil Science Society was held in Maracaibo from 8th to 14th November 1970. 40 Papers were presented at the Meeting and a total of 80 participants attended. Five invited lectures were presented

by Dr. H. D. Chapman, from California, Dr. Raimundo Costa de Lemus, from Brasil, Dr. C. W. Rose from C.S.I.R.O., Australia, Dr. James Spain, from Colombia and Dr. Klaas Jan Beek from F.A.O.

A three days study tour around the lake of Maracaibo was organized, during which the participants became acquainted with some of the features of the soils of the region as well as with some field experiments being carried out. A national forum on the present status of the soil studies in Venezuela was held at the end of the meetings. A new Board of the Venezuelan Soil Science Society was elected:

Secretary	— Ing. Agr. Luis Arias, COPLANARH, Maracay
Voter	— Ing. Agr. Luis Segnini, Facultad de Agronomía, Universidad del Zulia, Maracaibo
Treasurer	— Ing. Agr. Leandro Madero, COPLANARH, Maracay
International Delegate	— Ing. Agr. Fernando Granados, Centro de Investigaciones Agronómicas, Maracay
President	— Ing. Agr. Pedro Brito, Centro de Investigaciones Agronómicas, Maracay
Vice-President	— Ing. Agr. Rafael Herrera, Instituto Venezolano de Investigaciones Científicas, Caracas.

At the same time the Organizing Committee for the IVth Latinamerican Congress of Soil Science, to be held in Venezuela in 1972, probably in September, was elected. It is composed of:

President	— Ing. Agr. Luis J. Medina
Vice-President	— Ing. Agr. Luis Arias
Vice-President	— Ing. Agr. Rafael Herrera
Executive Secretary	— Prof. Dr. Ildefonso Pla
Member	— Ing. Agr. José L. Mendez Arocha

For any information about this event, the request has to be addressed to:

Prof. Dr. Ildefonso Pla
Executive Secretary
Organizing Committee
IV Latinamerican Congress of Soil Science
Instituto de Edafología
Facultad de Agronomía
Maracay - Venezuela

SOIL STABILIZATION

by

Dr. K. Gorke and Dipl. agr. J. Hülsmann

Chemische Werke Hüls AG, Marl, German Federal Republic

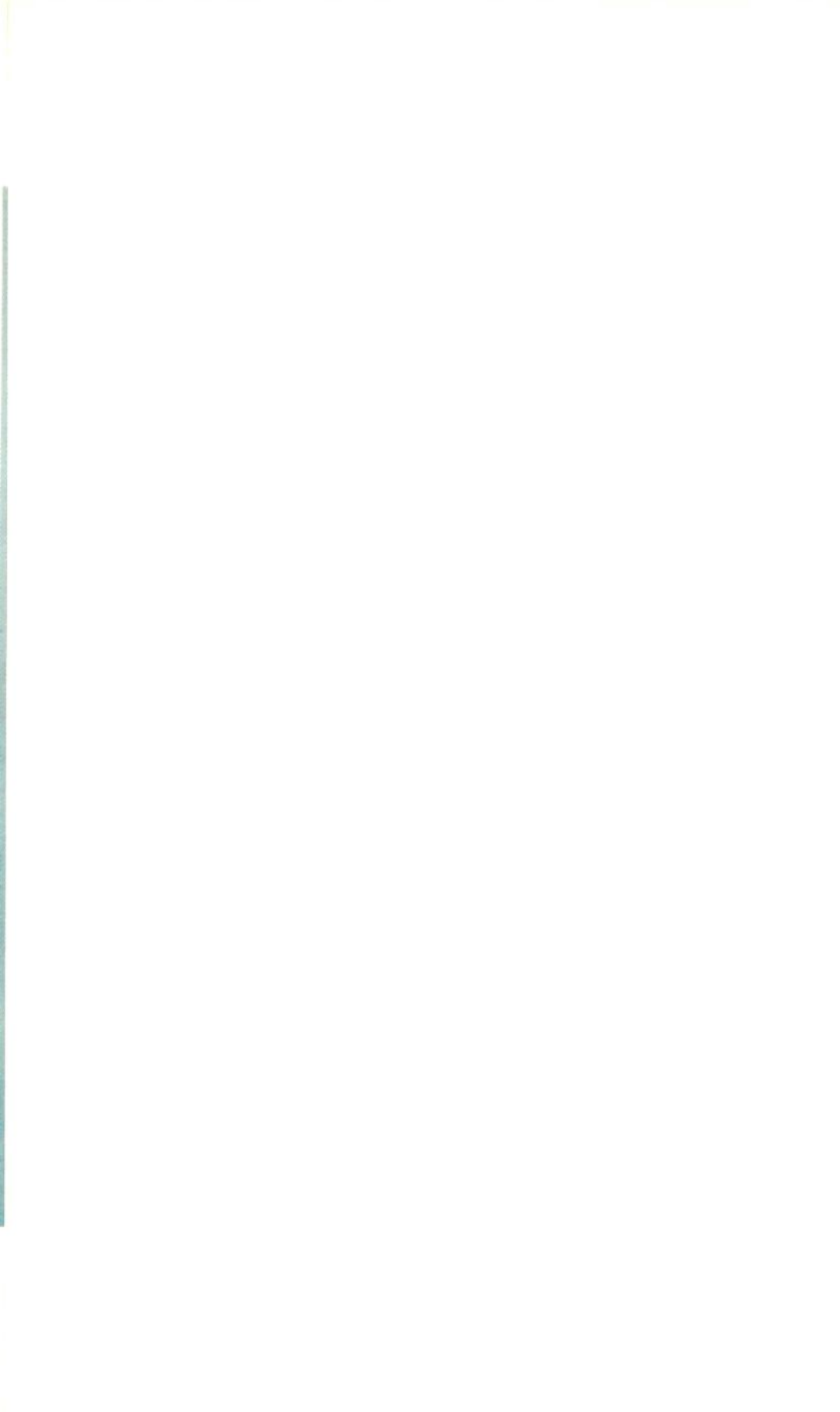
Soil stabilizer hüls 801 has been developed to span the critical transitional period between sowing and the time the soil has been stabilized by root growth against erosion. Soil stabilizer hüls 801 is a liquid plastic material which penetrates abt. 10 - 15 mm. deep into the soil and hardens under the influence of atmospheric oxygen. The soil particles are bonded together so that the friable structure of the soil is improved. No film forms on the soil surface which might hinder or even prevent the rain water from penetrating into the soil. The absorptive capacity of the soil is retained even if large quantities are applied. Germination of the seed and plant growth are not impaired.

The pH-value of the soil is of no importance since soil stabilizer hüls 801 acts equally well in extremely acid and alkaline soils without the danger of harmful substances being released. Since the product is frost resistant, it may also be used to stabilize slopes, etc. for the winter and to delay the sowing of grass seed until the following spring.

Soil stabilizer hüls 801 concentrate is applied by means of machinery equipped with a mechanical stirrer. (Rietberg and Finn equipment etc.). For the application of soil stabilizer hüls 801 emulsion the above equipment or plant protection spray equipment may be used, for small areas watering cans will do. The emulsion contains 50% active substance.

First of all, when preparing the mixture, as much water is filled into the tank as is needed for the stirrer to engage, subsequently the soil stabilizer and all other components like seed, fertilizer, cellulose, peat, etc. are added. The degree of purity of the water is of no significance, even sea water may be used. The mixture is then sprayed on to the area where a greensward is to be grown. This may be slopes with or without natural soil or sterile bases such as dredged-up sand-areas, stony rubble or refuse dumps. Application on surfaces lacking natural soil has the advantage of the roots penetrating deeper into the subsoil. In the course of time, an organic humus layer forms from decayed plants and roots supplying nutritive substances for new plant life.

The amount of soil stabilizer to be applied depends on the type of soil, the gradient of the slope and the degree of consolidation desired. For example, if sandy soil without plant growth is to be stabilized to withstand treading, approx. 1550 gr. concentrate per m² is required. If a greensward is to be grown on flat sand surfaces or similar objects which only need protection against wind erosion, 10 g. concentrate pro m² will be sufficient. For the stabilization of slopes with a gradient of 45°, application of 20 g. per m² area is recommended. Up to 80 g. soil stabilizer hüls 801 concentrate per m² does not inhibit germination and does not impair plant growth.



**MISCELLANEOUS NEWS — INFORMATIONS DIVERSES
VERMISCHTE MITTEILUNGEN**

8th International Symposium of "Agrochimica"

Agrochimica held its 8th international symposium from 2 - 7 May 1971 in Venice, Italy. The main topic "Nuclear Energy in Agriculture" was dealt with in six lectures. For further information on the publication of the proceedings, apply to: Prof. O. T. Rotini, Istituto di Chimica Agraria della Università, Via S. Michele degli Scalzi, 2, 56100 Pisa, Italy.

American Geophysical Union

The AGU has functioned for more than fifty years in its traditional roles of the publisher, the sponsor of large and interdisciplinary meetings and as the United States National Committee for the International Union of Geodesy and Geophysics. The Union is now examining new avenues of service to individual members, and is, for example, undertaking the sponsorship of small topical meetings, dividing the publications into more specialized sections to meet the needs of individual members, and undertaking to provide a news and information medium that spans the full spectrum of geophysics from the core of the earth to the source of cosmic rays.

Further information can be obtained from: Professor Peter M. Bell, Chairman Membership Committee, American Geophysical Union, 2100 Pennsylvania Avenue, N.W., Washington, D.C. 20037, U.S.A.

Crop nutritional requirements major concern to soil scientists

The Soil Science Society of America is about to go into the first major revision of its book, *Fertilizer Technology and Usage*, published in 1963 with three reprints following, and widely used as a standard text in schools of agriculture across the country. So rapid and dramatic have been the scientific advances made in the field in seven short years, that this revision will bear very little likeness to the original work.

A symposium for the presentation of the material contained in the new revision of *Fertilizer Technology and Usage* did take place on February 11 and 12, 1971, at the Palmer House in Chicago, Illinois. For further information please apply to the Soil Science Society of America, 677 S. Segoe Road, Madison, Wisc. 53711, U.S.A.

Institut Pasteur

Cours de Microbiologie du Sol

6 Septembre - 1er Octobre 1971

Sous la Direction de: J. POCHON, P. TARDIEUX et D. BERTRAND

PROGRAMME

Les grands cycles biologiques telluriques - les populations du sol interactions-plantes et microorganismes - les humus - étude de quelques types de sols.
(Enseignement théorique le matin - Travaux pratiques l'après-midi)

INSCRIPTION

Programme détaillé, Renseignements complémentaires et Demandes d'inscription peuvent être obtenus au: Secrétariat Général des Enseignements à l'Institut Pasteur, 25, rue du Docteur Roux - PARIS-XV^e.

International summer course on irrigation

The Volcani Institute of Agricultural Research, in collaboration with the Foreign Training Department of the Israel Ministry of Agriculture, is arranging an International Course on Irrigation at Bet Dagan, Israel between the 2nd and 27th August, 1971. A similar course was held in 1969 and 1970 for Scandinavian and Roumanian water specialists.

The objectives of the course are to advise agronomists, hydrologists and water engineers from developed countries on the principles and practices of irrigation, in preparation for possible appointments in developing countries; and to prepare specialists from the developing countries for work in irrigation in their own countries within the framework of international projects and research.

The prerequisite for participants is an academic degree in agronomy, geosciences or engineering, with general hydrological training. The working language will be English. The cost of the Irrigation Course (including board and lodging in student dormitories, field trips and study material) will be approximately U.S. \$ 350,— per person. Not included in this sum is the expense of travel to and from Israel. There are a few scholarships available.

Members of the International Summer Course on Irrigation may participate in the Joint Session of Commission I (Soil Physics) and Commission VI (Soil Technology) of the International Soil Science Society. The meeting will be held under the auspices of the Israel Soil Science Society in Rehovot, from August 29 to September 4, 1971.

Further information can be obtained on request from the Academic Secretary, The Volcani Institute of Agricultural Research, P.O.B. 6 Bet Dagan, Israel.

**United states department of agriculture soil conservation service
Training sessions in desert soils and soil-geomorphic relationships desert project,
soil survey investigations, fall 1971 southern new Mexico
Co-leaders: L. H. Gile, R. B. Grossman and J. W. Hawley**

Several training sessions emphasizing the morphology, genesis and classification of desert soils and soil-geomorphic relationships will be held next fall at the Desert Soil-Geomorphology Project in southern New Mexico. This Soil Survey Investigations, SCS, project encompasses a 400-square mile area along and adjacent to the Rio Grande Valley that has been studied intensively by soil scientists and geologists of the Field Investigations and Soil Survey Laboratory Staffs for nearly 14 years.

Two training sessions, for up to 40 participants per session, will be held on the weeks of October 3 and 10, 1971. Each training session will start on Sunday evening with registration and a short orientation talk and will end late Thursday afternoon. Field training tours will be held daily from 8.00 a.m. to 5.00 p.m. Training will be conducted at about 30 Desert Project study sites where detailed soil-geomorphic investigations have been carried out.

Fundamentals in soil classification, soil genesis, and soil-geomorphic relations as they pertain to arid and semiarid regions will be stressed. Soils of a number of great groups in the Entisols, Aridisols, and Mollisols will be studied in the field. They will be illustrated in large trenches and arroyo exposures, some of which extend through several kinds of soils and illustrate soil boundaries. Diagnostic horizons of the new classification system will be discussed and specific placement of a large number of soils in the new system will be emphasized. A new technical report on the Desert Project is being prepared specifically for these sessions and will be furnished to all participants. Laboratory data will be presented for most soils observed.

Motel housing arrangements will be available at commercial rates. Costs for training tour transportation and box lunches will be about \$ 15,— per person per session. Those wishing to register for one of these sessions should contact Leland H. Gile or John W. Hawley, Soil Conservation Service, P.O. Box 3129, University Park, New Mexico, 88001. **Deadline for registration, July 31, 1971.**

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

**International Atomic Energy Agency Food and Agriculture Organization of the
United Nations**

**Symposium on the Use of Isotopes and Radiation in Research on
Soil-Plant Relationships including Applications in Forestry
Vienna, Austria 13 to 17 December 1971**

1. Introduction

The Symposium will provide a forum for the dissemination of knowledge and exchange of information on recent progress in the understanding of soil-plant relationships through the use of isotope and radiation techniques. The last symposium on this subject was held in Vienna in 1966. In the present symposium, attention will be focused on research on soil physical and chemical factors influencing plant growth, the uptake and translocation of nutrients by plants, fertilizer usage and other soil management practices, including irrigation, for increased and more efficient crop production. Preference will be given to papers dealing with micro-nutrients, forestry, tree crops, legumes and pastures.

Special sessions of the Symposium will be devoted to problems associated with the physics and chemistry of forest soils, and the nutrition, water requirements and fertilization of forest trees and other forestry problems.

For further information apply to: International Atomic Energy Agency, P.O. Box 590, A-1011 Vienna, Austria.

International Commission on Irrigation and Drainage

The I.C.I.D. will organize its 8th Congress in Varna, Bulgaria, in May 1972. Starting May 17th this Congress will close on May 26th. The topics to be dealt with are:

Field irrigation and drainage in deltaic, coastal and low-lying areas.

Recent and promising developments including mechanization of operations in the field of irrigation and drainage.

Factors affecting river training and flood plain regulation, including flood zoning.

For further information please address yourself to:

Bulgarian Organizing Committee, VIII Congress ICID, U1 Lavélé 16, Sofia, Bulgaria.

FAO/UNESCO Soil Map of the World

It is a great pleasure to announce that the printing of the two first sheets of the Soil Map of the World covering South America has been successfully completed. The explanatory text is also in print and is anticipated to be out in July, at which time the publication can be distributed or offered for sale.

Details on the price and procedure of sale will be made known in the next number of the Bulletin.

F. HARDY: Edafología Tropical, p. 416. Herrero Hermanos, Sucesores, S.A., Mexico, 1970.

The author, honorary member of I.S.S.S. and well-known specialist in tropical soils, divided the material in 112 chapters of which 8 deal with physical aspects: porosity (root space), water, air, temperature, air movement, air humidity, light. One chapter is devoted to nutrients and one to harmful factors as too acid, too alkaline, harmful micro-organisms, etc. Another chapter deals with artificial control of the ecological factors and a final chapter presents conclusions related to the natural milieu as a whole. The book contains basic information on the various subjects illustrated with examples from tropical regions, that should be interesting specifically for undergraduate students.

F. HARDY: Suelos Tropicales, pp. 334. Herrero Hermanos, Sucesores S.A., Mexico, 1970.

In this book the same author deals with the principle of soil formation. Professor Hardy discusses the various factors as climate, soil fauna, parent material, decomposition of organic matter and rocks, clay minerals, relief and time with final chapters on classification of soils specifically of the South American Subcontinent. Also this volume offers overall information that makes it a worthwhile Spanish textbook for undergraduate students.

E. C. CHILDS: An Introduction to the Physical Basis of Soil Water Phenomena. John Wiley & Sons, Inc., 605 Third Ave., New York, N.Y. 10016. 493 p. 1969. \$ 17.50.

It comprises nearly all the features of soil water and soil water movement. The introduction is written as a textbook; it is good reading. More specialized readers should pay attention to a number of notes at the end of each chapter. These notes deal with specific items, used in the text, and require a somewhat deeper insight in mathematics.

In the first four chapters the reader is acquainted with basic elements as water and minerals and with the interaction between them resulting e.g. in a description of the Gouy layer.

In the chapters 5 and 6 the influence of soil texture and soil structure on soil water behaviour is described.

The hydrostatic equilibrium of soil water is the subject of chapter 8 in which the phenomenon of hysteresis receives special attention to.

Discussion of Darcy's law and the hydraulic conductivity (chapters 9 and 10) precede the description of water movement.

Various solutions of the flow equation are presented extensively in the notes as e.g. in note 29 where the determination of the coefficients in the vertical infiltration formula of Philip is given.

Chapter 13 deals with the specific problems of surface infiltration while ground-water flow is discussed in the next five chapters. In the last chapter a few methods are given for measuring hydraulic conductivity.

Both the last chapter and that treating the measurement of soil water pressure are a little disappointing. Since description of soil water movement is only possible with a good knowledge of the relevant parameters, it is remarkable that only so little room was given to a more detailed and a more up to date description of parameter-measuring techniques. The use of nuclear techniques in soil water studies, for instance, is given only little attention to. Nevertheless this book is one of the best in its subject since it neatly coordinates the tremendous increase of knowledge of the last decades.

The effective notation of subchapters and formulas are very helpful for the reader and the introduction of detailed notes at the end of each chapter is a find of great value to all interested in soil water.

**Ir. L. Stroosnijder,
Research Soil physicist,
Agricultural University, Wageningen**

TUNESIA. Research and Training on Irrigation with Saline Waters.

Technical Report Tun. 5 Unesco/UNDP, Paris, August 1970, pp. 253, tables, 141 graphs and figures. Published also in French.

A technical report that reflects the result of 7 years (1962 - 1969) of study of those problems of agricultural development which encounter difficulties through the existence of saline water in a large part of Tunisia. The investigations were carried out by a Centre especially created for this purpose. 250 specialists from 15 countries collaborated in the project. The lessons to be retained are examined on the one hand from a technical and scientific aspect and on the other hand from the aspect of methodology. Although designed for the problem of salinity in Tunisia, the numerous results acquired offer a basic guideline for analogue research in other saline regions of the world.

P. DUCHAUFOR: Précis de pédologie, 3me ed., pp. 482, 80 fig., 23 plates.

Masson & Cie, Paris, 1970. Price Fres. 90,—.

A modernized edition of this well-known French textbook. The aim has been to keep the basic information within the limits of the 2nd edition (1965), suppressing too great details thus allowing the addition of up-to-date results of recent research. This leads firstly to a more concise treatment of the biochemistry of organic matter in view of the envisaged publication of a special volume on this subject by Dommergues and Mangenot, and secondly to a more limited discussion of the physico-chemical processes of soil evolution, this subject having been dealt with in a small booklet published by Dr. Duchaufour in 1968. Recent information is now presented on clay minerals, the evolution of organic-mineral complexes, the dynamism of iron, to give some examples only. A few chapters have been written with collaboration of specialists in the subjects dealt with, viz. Bonneau, Jacquin and Souchier, thus making this 3rd edition a highly instructive and valuable textbook for any soil scientist familiar with the French language.

S. P. RAYCHAUDHURI: Land and Soil, pp. 169. National Book Trust,

New Delhi, India. Rs 5.25.

This is a treatise on Indian soils published in the series: India — the Land and People. It makes understandable reading by the ordinary educated reader and attention to it is drawn in the Bulletin of I.S.S.S. as it offers information on the resources of this vast sub-continent which is not easily found elsewhere. Apart from some generalities, the various characteristics and properties of the soils are discussed in relation to experiments and the factual situation as prevalent in India. Dr. Raychaudhuri as an Indian soil scientist of great reknown, succeeded in giving the reader an interesting picture of the present-day problems. 38 photographs and five maps of the country are very illustrative and add to the informative value.

A. K. SNELGROVE: Opportunities in geology and geological engineering, pp. 159.

Vocational Guidance Manuals, 235 E - 45th St., New York, N.Y. 10017. \$ 1.95 paper; \$ 3.75 cloth, 1970.

VGM's career series presents with this publication an analysis of the study of earth sciences and its provoking influence on man's natural inquisitiveness and a review of specialized sections of research within this domain. Based on the situation as prevalent in the U.S.A. it gives a picture of the organizational background leading to a range of career possibilities. As such it offers interesting reading to any college student who looks for guidance for his vocational future.

THE PROCEEDINGS OF THE INTERNATIONAL WATER EROSION SYMPOSIUM

EDITOR: PAVEL DVORAK

This Symposium was organized by the Czechoslovak National Committee of the International Commission on Irrigation and Drainage, The Technical University Prague (Department of Irrigation and Drainage), The Research Institute of Land Reclamation Prague and The Research Institute of Forestry, Zvolen, 15 - 21 June 1970 in Prague.

The proceedings are 3 volumes (in English, only some reports are in French).

1. Theory of surface water runoff (16 reports)

Relation between precipitation and surface runoff. Formation of surface runoff. Evaluation of surface runoff (computation of surface runoff volume, surface runoff distribution to time). Relation between surface runoff and the loss of soil.

2. Relation between surface runoff, loss of soil and erosion factors (16 reports)

Effect of slope inclination, length of the slope, form of the slope, soil properties, vegetation cover, soil cultivation. Organization of the soil fund and other factors on the formation of surface runoff and soil erosion.

3. Theoretical basis for the design of anti-erosion measures (19 reports)

Analysis of design values for the respective types of erosion control measures. Efficiency of erosion control measures and their economical effectiveness. Mapping of erosion phenomena.

The total price (3 volumes) is US \$ 15,—. Payments to OBCHODNI BANKA, Praha 1, CSSR, account no. 61 530 - CVTS 02.

The discussions of the Symposium (2 volumes) will be available at a price of US \$ 10,—. Orders to be placed directly with: Czechoslovak Scientific-Technical Society for Water Management, Praha 1, Siroká 5, Czechoslovakia.

P. BURINGH: Introduction to the study of soils in tropical and sub-tropical regions, 2nd ed., pp. 106, fig., fotogr., colour plates. Centre for Agric. Publishing and Documentation, P.O. Box 4, Wageningen 1970. Price Dfl. 15,—.

The need for a second edition within two years is a proof that Dr. Buringh's introduction filled a gap in the literature on tropical soils for undergraduate students (see Bull. 33, 1968). It is considerably revised in the light of recent work and of suggestions from many quarters. Chapter 2 on Arid and Semi-arid soils has been re-written which allowed to discard the special chapter on halomorphic soils as it occurred in the earlier edition. There is no doubt that also this improved version will find its way to those who wish to become acquainted with characteristics, properties and agricultural value of tropical soils.

SERIES ON ROCK AND SOIL MECHANICS

Trans Tech. Publications, P.O. Box 2981, Rocky River, Ohio 44116, U.S.A., announces the publication of volume 1, 1971, nos. 11 - 5 of the new series on Rock and Soil Mechanics. Number 5, available October 1971, is edited by Dr. Ch. Herbst and deals with Slope Stability in Soil and Loose Rock. The problems are discussed in 250 pages supported by 400 references. The price is \$ 25,— for a single copy. The complete volume costs \$ 80,—.

JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE

This is a truly international research journal covering all aspects of the production of food and biological raw materials, from the soil through the plant and animal to the table or factory — both sides of the farm gate. In one year's issues of this monthly journal over 150 original research articles are given (more than one-third on agriculture) and over 5000 abstracts of other research (over one-half on agriculture). It is the only journal in the world which covers so much ground in such depth. Price \$ 50,— post free per year. Subscriptions should be placed with: SCI Publications, Society of Chemical Industry, 14 Belgrave Square, London, S.W. 1, U.K.

DICTIONARY CATALOG OF THE WATER RESOURCES CENTER ARCHIVES UNIVERSITY OF CALIFORNIA, BERKELEY

The Dictionary Catalog of the Water Resources Center Archives, University of California, Berkeley, is now available in five volumes from G. K. Hall & Co. of Boston.

The Water Resources Center Archives is a research library with a collection relating to the engineering, economic, social and legal aspects of water. Situated

on the Berkeley campus of the University of California, it is an activity of the University's Statewide Water Resources Center. Begun in 1957 for the use of researchers in the University community, it is now available for use by the interested public. Except for manuscript materials, interlibrary loans can be effected.

A collection of approximately 80,000 pieces covers the fields of water as a natural resource and its utilization; municipal and industrial water uses and problems; flood control; reclamation; waste disposal coastal engineering; sediment transport; water quality; water pollution; water law; and water resources development and management.

Emphasis of the collection is on report literature, with books and journals of secondary importance. Materials collected include technical and scientific reports (e.g. engineering consultants' reports, research institute reports); government publications (municipal, state, regional, and federal); publications of water-related societies and associations; conferences and symposia; photographs and maps. An important manuscript collection includes the papers and personal libraries of some thirty men prominent in this field. The Archives also collects ephemeral literature including information brochures, campaign literature, and speeches and addresses. The period covered is 1890 to date.

The author-subject dictionary catalog has full analytics. A particular attempt is made to bring out geographic entities. A subject heading list of over 1,700 terms was specially devised for use in this catalog and is continually updated.

Current attention to such problems as water quality, water pollution, waste disposal, recreational use of water, and reuse of water makes this collection highly relevant.

The 98,000 cards in this catalog have been reproduced in five volumes and are available for the price of \$360,— in the U.S. and \$396,— elsewhere.

Descriptive material on this publication is available on request. Inquiries and orders may be sent to the publisher, G. K. Hall & Co., 70 Lincoln Street, Boston, Massachusetts, U.S.A. 02111.

FIEDLER, H. J., HUNGER, W.: Geologische Grundlagen der Bodenkunde und Standortlehre. pp 382, 147 pict. 66 tab. Verlag Theodor Steinkopf Dresden 1970.

This book aims to give a concise review of mineralogy, petrography, geology (notably Quaternary geology) and geomorphology as a basis for the study of the soil as an environmental factor for plant life. It is intended as an introduction for agriculturists, foresters, geographers and biologists, especially those working in East and West-Germany. The title of the book suggests a more general treatment of the subject. But, apart from the introductory chapters on minerals and parent materials, the book deals almost exclusively with regional geomorphology of Germany. For this region a very useful guide is offered to students and all those who need a basic understanding of geomorphology. The text is lucid and the numerous illustrations are a good help to the reader. The book summarizes a good deal of literature on the subject and gives a representative picture of our present knowledge. After a general introduction to geomorphology and special chapters on the mountaneous areas and the low lying plains, a final chapter is given on the geology of soils. Only minor attention is paid to the geological factors affecting plant growth and vegetation. As compared to geology relatively few importance is attached to the role of man and vegetation in soil formation. The value as a book of reference would be greater if a more detailed subject index should have been added, in which for instance items like podzolisation and brown earth could be found.

Generally speaking, however, a useful book for Central Europe, north of the Alps.

S. TJALLINGH
SOILS INSTITUTE, UTRECHT

WALTER L. KUBIENA: Micromorphological Features of Soil Geography, pp. 254, tables, figures, 89 color microphotogr. Rutgers Univ. Press, New Brunswick, N.J., U.S.A. Price: U.S. \$30.

The late Professor Walter L. Kubiëna, the founder of soil micromorphology and a great leader of modern soil science, here brings together the results of forty-plus

years of comparative research on the nature and development of the soils of the earth. He applies field and laboratory micromorphological methods to the study of soils in all the climatic zones of the world, from the Equator to the polar regions. Not only does he parallel Einstein's field-effect concept of the world but he elaborates a unified concept of the total soils system as it is controlled by environmental factors in space and time.

After a review of the principles of microscopic examination of soils, Professor Kubiěna describes the environmental factors and primitive biotic activity which lead to the development of soil on bare rock. In an unusual series of microphotographs he shows the pathways of organic decomposition and how plant and animal residues are converted into humus.

Major sections of the book are devoted to soil formation on limestone and on silicate rocks in different latitudes and different altitudes of the temperate zone. The various soilforming factors and resultant morphologies are discussed together with the effect of different combinations of time and environment on soil development. Of special interest in the last connection are the discussions of relict soils and soils of polygenetic origin.

Based on his wide experience in tropical and Mediterranean countries, Professor Kubiěna has developed a new body of information on the character and micromorphogenesis of their soils. An understanding of the soil development tendencies explains for example, why certain soils of the semidry tropics, the subtropics and the Mediterranean region lose their fertility after too much cultivation, and are therefore useless for purposes of practical agriculture. Also of great interest are his discussions of lateritic soils and of soil formation on volcanic deposits and the broad geochemical principles of alteration on these materials. A vivid account of desert dynamics suggests the complexities of the soil system of desert regions.

Here then is a book which deals with the classification and description of soil fabrics and relates soils and soil processes to environmental conditions and to geomorphic events on a global basis. It explains how and why soils of various types develop and offers a view of the total soils system and the roles that govern it. All in all a most valuable textbook that should find its place in any soil scientist's library.

DISCHARGE OF SELECTED RIVERS OF THE WORLD. Vol. II Monthly and annual discharges recorded at various selected stations (from start of observations up to 1964).

A contribution to the International Hydrological Decade (Series: Studies and reports in hydrology, 5). Quadrilingual: English/French/Russian/Spanish, 27 x 21 cm, 194 p., Price £ 4.80; 64.00 F.; \$ 16.00. UNESCO ed., Paris 1971. This second volume concerns a network of 137 stations chosen from those which are most characteristic and which have furnished the oldest and most reliable data.

The data are presented in a uniform manner for all stations, as follows: At the top, the identification number of the station, according to the GEOREP reference system, which is described in the annex; followed by the name of the river on which it is situated and, in brackets, where located; lastly, the drainage area (in square kilometres).

Next, a complete table of all monthly and annual discharges recorded during successive years since the start of observations up to 1964 inclusive. (Volume III will contain data for 1965 and subsequent years).

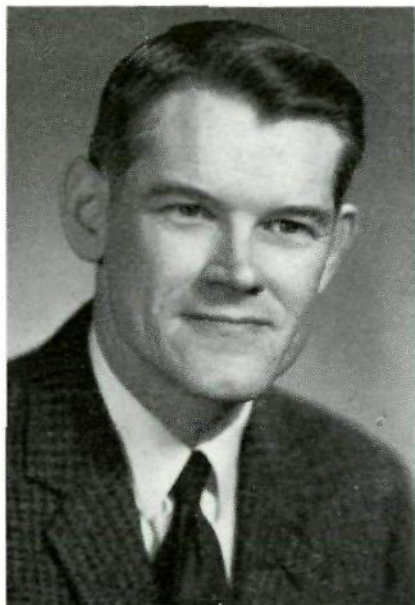
In the final columns, and for each of the years listed, the maximum daily discharge (flood flow) recorded at the station, with its date, and also the minimum discharge.

All these figures are given in cubic metres per second. The figures in brackets are approximate.

CONTENTS: Foreword; Explanatory note; Monthly and annual discharges recorded at various selected stations; Africa; America (North); America (South); Asia; Europe; Annex: The GEOREP grid station identification system; Index of countries by continent.

Copies to be ordered preferably through your national UNESCO sales agent.

Otherwise through UNESCO Bureau of Documentation and Publication, Place de Fontenoy, Paris-7e, France.



DR. JOSEPH FREDERICK HODGSON †
(1929 - 1970)

On October 5, 1970, Dr. Joseph Frederick Hodgson passed away. He received the B.S. degree from the University of Maryland in 1951, and the Ph. D. degree from the University of Wisconsin in 1955. In 1957, he joined the U.S. Department of Agriculture, as a Research Soil Scientist at the U.S. Plant, Soil and Nutrition Laboratory on the Cornell University campus. He remained in this position until the time of his death. In December of 1959, he was also given a courtesy appointment as Assistant Professor of Soil Science in the Cornell University Department of Agronomy, and was promoted to Associate Professor in July of 1965.

He spent the academic year 1964 - 1965 at Colorado State University in Fort Collins, where he conducted research and gave a series of guest lectures on the chemistry of trace elements in soils and plants. In 1964, he was invited by North Carolina State University to present a series of lectures on trace elements in soils. In the fall of 1967, he spent one month as a guest lecturer and consultant at the Universidad del Sur, Bahia Blanca, Argentina. This visit was sponsored by the Ford Foundation.

His twenty-four published articles are primarily concerned with the distribution and chemistry of trace elements in soils and their role in plant nutrition. Some of these articles also deal with the requirements of animals for trace elements in the food they eat. His work on the role of complexing of metals by organic ligands has very far-reaching implications concerning the regulation of availability to plants of trace elements in soils. In recent years, he was also interested in trace elements in the environment in relation to human health.

His many publications attest to his broad and thorough understanding of the basic chemistry of trace elements in soil and biological systems. In addition, he showed an unusual ability to reduce theoretical chemistry to generally understood terms. His research on trace elements dealt with cobalt, selenium, copper, zinc, iron, phosphorus, cadmium, and chromium. He was also interested in the role of aluminum, arsenic, beryllium, boron, bromine, iodine, fluorine, lead, lithium, manganese, molybdenum, nickel, strontium, tin, tungsten, titanium, and vanadium in biological systems.

Dr. Hodgson was also very deeply concerned with the ability of agriculture to supply the food and fiber needs of the rapidly expanding world population. In this

connection, he organized student and faculty seminars to discuss this problem, and always emphasized his conviction that population control is essential.

Dr. Hodgson was active in numerous scientific societies. He was a Fellow of the American Association for the Advancement of Science, and a member of the International Society of Soil Science, American Society of Agronomy, Soil Science Society of America, American Chemical Society, Mineralogical Society of America, and the Society of Sigma Xi. He served on committees in these organizations, and was a member of the National Research Council Subcommittee on Geochemical Environment in Relation to Health and Disease.

David L. Grunes



DR. ELSE BOKEN †

Dr. Else Boken died on 25. October, 1970. In 1949 she was appointed amanuensis and in 1959 head of a section of the department of Soil Fertility and Plant Nutrition at The Royal Veterinary and Agricultural University, Copenhagen.

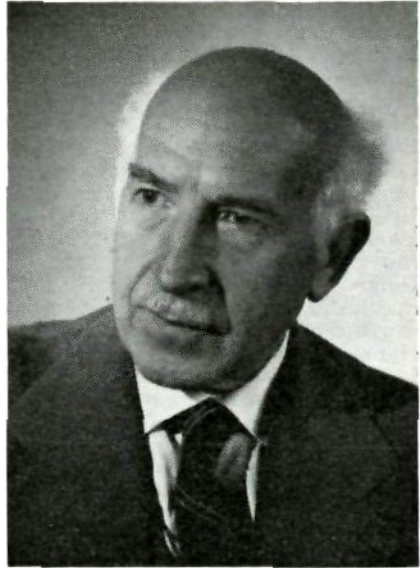
Dr. Boken published a series of papers dealing mainly with the uptake and utilization by plants of nutrients as manganese, copper, and boron, and some studies on effects of ferrous sulphate application to the soil on the reducible and exchangeable manganese.

Her interest in later years was focussed on problems connected with changes with time in uptake and concentration of nutrients in plants and it was within this field her main contribution to plant nutrition problem lies. She demonstrated that curves relating yield to uptake depicted utilization by plants of nutrients like manganese and phosphorus and that such curves changed in a regular manner with time. In her "Studies on methods for determining varietal utilization of nutrients. Exemplified by variations in oats and manganese yields at different times of sampling", the dependance of the yield on the utilization quotients by different oat varieties was demonstrated. It was further shown that the maximum utilization quotient may characterize a variety and thus be useful in certain selection work.

Dr. Boken's great administrative prowess was utilized in the development and enlargement of the department through the years. She took a great and positive interest in all research problems in the department. Her never failing readiness to help all who approached her and her loyalty to her colleagues will always be remembered with deep gratitude.

F. Steenbjerg

Prof. Prof. h.c. Dr. Dr. h.c. Walter L. Kubiëna very unexpectedly passed away on December 28th, 1970. With him died one of the leading and very colourful soil scientists of our times, who has been active for about half a century and greatly influenced the development of pedology. Notably his epoch-making work in micromorphology gave birth to what has developed as a new specialized discipline. His first textbook in this field "Micropedology" contained his views on this, at that time, new method of soil research, that opened the ways to understand various processes and soil characteristics that could not be elucidated by standard chemical and physical techniques but were revealed through microscopic observations of thin slides. Micromorphology developed as an important tool when interpreting chemical analyses, studying forms of organic matter, translocations of solid products of weathering, evaluation of paleo-pedological features etc. This all came clearly to the fore during the international meetings of the working group for micromorphology in Braunschweig-Völkeroode in 1958, Arnheim 1964 and Breslau (Wrocław) 1969. Great influence exerted Professor Kubiëna on the development of the soil systematics of West-Germany with his book "The Soils of Europe" published in 1952 in Spanish, and in 1953 in English and German. His interest was, however, not limited to Europe. He travelled widely to various climatic regions of the world, sub-tropics, tropics and polar zones alike. This is reflected in a memorial paper by Professor Mückenhausen published at the occasion of our deceased colleague's 70th anniversary. (*Geoderma*, Vol. 1, p. 165-174, 1967). Even after his 70th year he went on travelling and lecturing notably in the U.S.A. at the Rutgers University, New Jersey and other schools of learning. He finished the manuscript for his most recent textbook "Micromorphological features of Soil Geography" (see section of *New Editions in this Bulletin*) and visited the Arctic and Antarctic regions, reporting on his experiences as recently as August 1970 at the Amsterdam meeting on Paleosols.



Prof. Dr. Walter L. Kubiëna †
3.6.1897 - 28.12.70

Numerous have been the distinctions bestowed on this brilliant scientist among which honorary professorships, doctorates and memberships a.o. of the International Society of Soil Science. His 6 textbooks, and 97 papers of which 10 as the principal author are a scientific heritage which over a long period to go will have leading and stimulating influence on the further development of soil science in general and micromorphology in particular.

(Translated after Z. Grăcanin, *Allg. Forst- u. J. Ztg.*, Jg. 3)

Walter L. Kubiena (†) 1897 - 1970

Als am 28. Dezember 1970 Prof. Dr. Dipl. Ing. Walter L. Kubiena starb, wurde er im wahren Sinn des Wortes mitten aus seinem Schaffen gerissen. Schon hatte er im Geiste jene überschauenden Bücher konzipiert, die sein bisheriges wissenschaftliches Werk zusammenfassen sollten — die erst geschrieben werden können, wenn sich der Kreis der Forschung, räumlich und thematisch, schließt.

Am 30.6.1897 in Neu-Titschein, im Verzahnungsbereich der deutsch-slawischen Kultur geboren, ist er ein echtes Kind der Österreichisch-Ungarischen Monarchie. 1915 zieht er (freiwillig) in den Krieg und ein Jahr später kommt er in russische

Gefangenschaft. Er gelangt über Zentralasien und Indien wieder in die Heimat, tief beeindruckt von der Weite der Welt und der Vielfalt fremder Landschaften. Voll des Interesses für alles Lebendige, inskribiert er an der Hochschule für Bodenkultur in Wien, an der er später zu großen Ehren kam und die ihm noch später arg im Stiche ließ. Nach dem Abschluß der Studien 1927, er besteht sein Rigorosum mit Auszeichnung, wird er Assistent am Institut für Pflanzenbau und ist gleichzeitig als Bodenkartierer in Österreich tätig, wobei er schon damals versucht, die Böden nach Lokalformen (=Serien) zu gruppieren. Bald kommen die entscheidenden Stationen seines wissenschaftlichen Lebens: 1932 führt seine erste Studienreise nach New Brunswick zu Waksman. Das Mikroskop wird zum zentralen Forschungsmittel. Der zweite Aufenthalt in den USA, diesmal im Ames — dazwischen liegt Versailles mit vielen Anregungen — bringt das Buch „Micropedology (1938). Durch intensive Geländearbeit untermauerte Studien bringen Grundsätzliches zur Genese und Systematik der Rendsinen (1943), der Terra fusca (1944), solche über Terra rossa bleiben durch die Wirren des Kriegsendes unpubliziert. Konnte er während des Krieges auf einem politisch vakant gewordenen Lehrstuhl seine Qualifikation als akademischer Lehrer demonstrieren, trifft ihn die Umwälzung des Jahres 1945 besonders hart. In der alpinen Forschungsanstalt in Admont konzentriert er sich ganz auf seine Forschungsschwerpunkte: Genese und systematische Stellung der Böden. 1948 erscheint die „Entwicklungslehre des Bodens“, ein überaus profiliertes Werk, das aus der durch und durch biologisch orientierten Denkweise des Autors verständlich wird. 1949 folgt er einem Ruf Prof. Albaredas, dem Präsidenten des Consejo, und geht nach Madrid. Hier findet er eine ihm äquivalente Wirkungsstätte, erforscht nicht nur die Böden Spaniens, sondern des ganzen Mediterrans bis weit in das tropische Afrika und legt die Ergebnisse zugleich mit denen vieler früherer Reisen durch fast alle Länder Europas im „Bestimmungsbuch und Systematik der Böden Europas“ (1953) nieder. Es bildet die Basis für die Nomenklatur in vielen Ländern, die Systematik der BRD ist weitgehend inspiriert davon, ja übernimmt sogar viele der von Kubiena geprägten Namen. Es ist die Krönung, gleichzeitig aber auch der Abschluß einer Epoche pedologischer Forschung: Denn schon ist das Material zu groß geworden, als daß es allein mit Methoden der morphologisch-genetischen Betrachtung systematisiert werden könnte; Symptomatisch, daß zur gleichen Zeit, als sein Buch erscheint, die us-amerikanische Systematik einer FAO-Arbeitsgruppe in Gent vorgestellt wird!

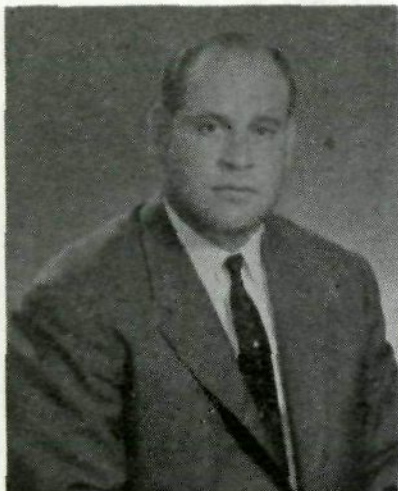
Eine intensive Reisetätigkeit bricht nun für ihn an. Einem Rufe nach Hamburg folgt er nur, weil damit die Möglichkeit des Kennenlernens noch unbekannter Räume verbunden ist. Alle Kontinente, einschließlich der Arktis und Antarktis, hat er bereist, an zahlreichen Universitäten als Vortragender oder Gastprofessor gewirkt. Fast verwischen sich dabei seine Schwerpunkte, die im alpinen und im tropischen Bereich liegen, leiten über zu einem Weltssystem, das angedeutet wird in seinem letzten Buch „Micromorphological Features of Soil Geography“, dessen Druck er auf seiner letzten Reise nach New Brunswick — darin schließt sich doch der Kreis! — besonders vorangetrieben hatte, dessen Erscheinen aber erst eine Woche nach seinem Tod erfolgte. Dieses Werk sollte der Beginn jener zusammenfassenden Arbeiten sein, in denen der Zusammenhang zwischen Bodengenese und Landschaftsraum, ausgehend von der Betrachtung der mikromorphologischen Situation, aufgezeigt wird.

Seine Heimat war die weite Welt. Sprachgewandt, verbindlich, immer interessiert, war er in jedem Land zuhause und auf allen Kongressen zu finden. Jedoch nie — und darin liegt eine echte Tragik nicht nur für sein Werk, sondern für die gesamte europäische Bodenkunde — fand er die Möglichkeit, über seine Auffassung von der Bodensystematik, die in der morphologisch-genetischen Betrachtungsweise wurzelt, mit jenen zu diskutieren, die nur Grenzwerte und Kunstwörter kennen. Die weitere Entwicklung der Bodenwissenschaft wird zeigen, ob es gut war, daß auf den internationalen Kongressen alle heiklen Fragen ausgeklammert wurden und deshalb die Nomenklatur der Böden — sowohl wenn sie im alteingefahrenen Geleise zu einer überspitzten typologischen Benennung, als auch im neuen zu nicht immer sinnvollen Kunstwörtern führt — weder die Praxis noch die Nachbarwissenschaften heute anspricht!

Viele Ehrungen wurden Professor Kubiena zuteil: Er erhielt 1963 die Ehrenmitgliedschaft der Leopoldina und 1969 den Justus-von-Liebig-Preis. Seit 1966 ist er Ehrenmitglied der Österreichischen, seit 1967 der Deutschen und seit 1968 der Internationalen Bodenkundlichen Gesellschaft. Mehr als alle Ehrungen war ihm aber die Beachtung wert, die die internationale Fachwelt, weit über den Kreis der

Pedologen hinaus, entgegenbrachte. Die Anerkennung seiner wissenschaftlichen Persönlichkeit wird am besten dadurch demonstriert, daß ihm von kompetenter Seite fest versprochen wurde, für seine Untersuchungen Proben von Mondgesteinen zur Verfügung zu stellen.

J. Fink



CHRISTODOULOS SOTERIADES †
(1926 - 1970)

The late Christodoulos Soteriades was born on February 15, 1926, in Lefkoniko Famagusta District, Cyprus. After finishing his elementary education in Lefkoniko he attended the Pancyprian Gymnasium, Nicosia from which he graduated in 1943. Until December 1945 he served in the Cyprus volunteer Force formed during the war. In 1947 he enrolled in the Royal Technical College in Glasgow from which he was awarded the diploma (DRTC). In 1951 he received the B.Sc. degree from the University of Glasgow, Scotland and in 1953 he attended a post graduate course on Soil Science in England.

In June 1952 he was appointed Supt 1st grade, in the Department of Agriculture, in 1957 he was promoted to the post of Agricultural Officer 2nd Grade and in 1963 to the post of Agricultural Officer 1st Grade. He was, in addition, in charge of the Soils and Plant Nutrition Section of the Department of Agriculture, Nicosia. He attended many seminars and conferences abroad and he organized the Soil and Plant Nutrition Section. His work on soil survey and land classification has been very well received both in Cyprus and abroad.

He died on the 21st of July, 1970.

Selected Papers of the Symposium

ON

RECLAMATION OF SODIC AND SODA-SALINE SOILS

Yerevan, Armenian S.S.R., 1969



These papers did appear as Volume 18, Supplement to AGROKÉMIA ÉS TALATJAN, published by the Institute of Soil Science and Agrochemistry of the Hungarian Academy of Sciences, Budapest, Hungary.

Price for Members of the Society is US \$ 5.—.

Orders to: Office of the Secretary-General of the I.S.S.S.
63 Mauritskade, Amsterdam, Netherlands.

PALEOPEDOLOGY

Origin, Nature and Dating of Paleosols

Selected papers of the ISSS/INQUA/UNESCO
Symposium on the Age of Parent Materials and Soils
Amsterdam, Netherlands, August 10 - 15, 1970

Edited by
Dr. Dan H. Yaalon
The Hebrew University, Jerusalem

This volume of 320 pages, containing 30 papers, will be available June 1971. The price is \$ 8.— (+ \$ 0.75 postage) for members of ISSS and INQUA, and \$ 10.50 (+ postage) for libraries, institutions and non-members.

Copies are to be ordered through the office of the
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Society of Soil Science
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