

bulletin

of the international society of soil science

bulletin

de l'association internationale de la science du sol

mitteilungen

der internationalen bodenkundlichen gesellschaft

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

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Prof. Dr. h.c. F. Scheffer, Institut für Bodenkunde der Universität Göttingen, 34 Göttingen
Von-Siebold-Str. 4, Bundesrepublik Deutschland

Commissions/Commissions/Kommissionen - Chairmen/Présidents/Voritzende

I - Soil physics/Physique du sol/Bodenphysik

Prof. Dr. M.F. de Boodt, State Agricultural University, Coupure 533, 9000 Gent, Belgique

II - Soil chemistry/Chimie du sol/Bodenchemie

Prof. Dr. W. Flaig, Institut für Biochemie des Bodens, Forschungsanstalt für Landwirtschaft,
Bundesallee 50, 3301 Braunschweig, Bundesrepublik Deutschland

III - Soil biology/Biologie du sol/Bodenbiologie

Prof. Dr. sc. agr., Dr. h.c., G. Müller, Bodenkunde u. Mikrobiologie

Martin-Luther-Universität Halle, 402 Halle, Weidenplan 14, Deutsche Demokratische Republik

**IV - Soil fertility and plant nutrition/Fertilité du sol et nutrition des plantes/
Bodenfruchtbarkeit und Pflanzenernährung**

Dr. C. Hera, Institut Central de Recherches Agricoles, Bd. Marasti 61, Bucarest, Roumanie

**V - Soil genesis, classification and cartography/Genèse du sol, classification et cartographie/
Bodengenetik, Klassifikation und Kartographie**

Prof. Dr. Ing. M. Cirić, Leninova, Sumarski fakultet, 71000 Sarajevo, Yugoslavia

VI - Soil technology/Technologie du sol/Bodentechnologie

Dr. V.V. Egorov, Dokuchaev Institute of Soil Science, Pyjevski 7, Moscow-17, U.S.S.R.

VII - Soil mineralogy/Minéralogie du sol/Bodenmineralogie

Prof. Dr. L. Pavel, Dept. of Soils and Geology, Agricultural University
(V.S.Z.), Prague 6 - Suchdol, Czechoslovakia



Best wishes for 1976
Meilleurs vœux pour 1976
Beste Glückwünsche für 1976

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Agrochemicals in soils
Intercongress of commissions II, IV & VII
of the
international society of soil science
June 13-18, 1976, Jerusalem, Israel

REGISTRATION FORM

Please return to:
AGROCHEMICALS IN SOILS
P. O. Box 16271
Tel Aviv, Israel

Name
First Name
Title and/or Position
Affiliation
Mailing Address
.
.

I enclose herewith US \$ (or equivalent)

Check No. Bank

Note: Please make cheque or draft payable to: AGROCHEMICALS IN SOILS in
payment of registration fees
Society Members \$ 95.000
Non-Members S 120.000
Accompanying Persons S 50.000

Names of Accompanying Persons

I am interested in tour (Please mark)

1. Dead Sea, Sodom, Ein Gedi (1 day)	☐
2. Nazareth, Kinneret, Golan (1 day)	☐
3. Agriculture in Desert Regions (1 day)	☐
4. Agricultural Research Institutes (1 day)	☐
5. Coastal Region, Pedological Tour (1 day)	☐

Name (s) and address (es) of colleague (s) interested in receiving information on the
congress
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Date Signature

International Conference
on
Managing Saline water for irrigation:
Planning for the future
August 16-20, 1976

ISSS Subcommittee on Salt-Affected Soils
Texas Tech University, Host

Co-sponsors: New Mexico State University, Texas A & M University,
U.S. Salinity Laboratory, U.S. Environmental Protection Agency

PRELIMINARY REGISTRATION

Please note that this does not constitute actual registration and is not binding on you. Registration forms will be sent at a later date.

I expect to attend the International Conference on Managing Saline Water for Irrigation at Texas Tech University, Lubbock, Texas, August 16-20, 1976.

Name

Address

Position

I would like to present a paper entitled

I will be accompanied by

A registration fee of \$ 25.00 will be charged. Each registrant will receive a copy of the published proceedings of the conference.

I would like to participate in the following field trip:

1. Four days (August 21-24, 1976)

Itinerary: Lubbock - Pecos, Texas - Carlsbad, New Mexico - Dell City, Texas - El Paso, Texas - Las Cruces, New Mexico - White Sands, New Mexico - Lubbock. Transportation provided. Estimated cost for meals and lodging: \$ 25.00 per day. Yes No

2. Seven days (August 21-27, 1976)

Itinerary: Lubbock - Pecos, Texas - Carlsbad, New Mexico - Dell City, Texas - El Paso, Texas - Las Cruces, New Mexico - Phoenix, Arizona - Yuma, Arizona - El Centro, California - Riverside, California. Estimated Transportation cost: \$85.00. Estimated cost for meals and lodging: \$ 25.00 per day.

Yes No

Date Signature

Send to: Dr. H.E. Dregne
Department of Plant and Soil Science
Texas Tech University
Lubbock, Texas 79409

**Fifth international meeting
of the ISSS working group on soil micromorphology
Granada, Spain, May 1977**

The Fifth Meeting of the ISSS Working Group on Soil Micromorphology is being organized by the Universidad de Granada and the Instituto Nacional de Edafología y Agrobiología José María Albareda. It will include plenary lectures, presentation through south Spain, visiting Córdoba and Sevilla will follow the scientific sessions.

A preliminary programme with tentative schedule and information concerning accomodation will be sent to all who return this form.

NOTICE OF INTENT

Name

Title or function

Address
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.
.

Institution

- I am interested in receiving further information on this
fifth Meeting of the ISSS Working Group on Micromorphology ☐
- I expect to be able to participate in this Meeting ☐
- I expect to be accompanied by

- I propose to present a paper entitled
.

Date Signature

Please return to: Prof. Dr. D. Miguel Delgado Rodriguez
Departamento de Edafología
Facultad de Farmacia-Universidad de Granada
Granada (España)

International seminar on Soil environment and fertility management
in intensive agriculture (Commission IV, ISSS)
Tokyo, Japan, 10-17 October, 1977

Organized by The Society of the Science of Soil and Manure, Japan

Suggested topics for the Seminar are:

- Management of Soil Fertility in Maximizing Crop Yield
- Effects of Intensive Farming on Soil and Water
- Soil Environment as a Basis for Intensive Agriculture
- Disposal and Utilization of Agricultural Wastes

Language: English

Intent of participation should be communicated not later than June 1, 1976.

Deadline for acceptance of papers is January 1, 1977.

Papers should not exceed 3000 words.

Registration fee: US \$ 80 (subject to change).

NOTICE OF INTENT

Name

Title or function

Address

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Institution

I am interested in receiving further details on the International
Seminar on Soil Environment and Fertility Management (SEFMIA),
Tokyo, 10-17 October, 1977 ☐

I expect to be able to attend the Seminar ☐

I expect to be accompanied by

.

I propose to submit a paper entitled

.
.

Date Signature

Please return to: Prof. K. Kawaguchi, Chairman
Organizing Committee of SEFMIA
Faculty of Agriculture
Kyoto University
Kyoto, Japan

IN MEMORIAM



Professor F.A. van Baren
(† 1975)

Past Secretary General of the ISSS
Ancien Secrétaire Général de l'AISS
Alt-Generalsekretär der IBG

Prof. F.A. van Baren died suddenly on 5 October 1975. This was a few days before the date of his retirement from the University of Utrecht. Indeed, an academic session had been planned on 10 October where Prof. van Baren was to give his last lecture entitled "From Mineral to Mineral". Instead it was on that very day at Utrecht that his funeral took place in the presence of his family and many friends and colleagues. On this occasion tribute was paid to him on behalf of the world of soil science by Dr. Ir. R. van der Schans, President of the Dutch Society of Soil Science, and by Dr. R. Dudal, Secretary General of the ISSS. It was fortunate that ISSS Bulletin No. 47 marking Prof. van Baren's 70th birthday, was issued while he was still alive. He had expressed great appreciation for this acknowledgement of his 24 years of service as the Secretary General.

Born on 26 June 1905, Ferdinand Alexander van Baren graduated in Tropical Agriculture from the Agricultural University in Wageningen, The Netherlands. In 1937 he was appointed to the Soil Research Institute in Bogor, Indonesia, of which he became the Director in 1945. He concurrently served as Prof. of Soil Science at the University of Indonesia, Bogor, and became the Dean of the Faculty of Agriculture in 1950. From 1950 to 1966, Prof. van Baren served as Director of the Soils Department of the Royal Tropical Institute in Amsterdam. In 1965, he was appointed Professor of Soil Science at the State University in Utrecht.

Dr. van Baren's services to the ISSS started in 1951 when he was appointed Secretary General of the Society, an office which he held until 1974. During his term of office the international character of the Society was considerably strengthened and its activities developed further. Membership grew from a few hundred to over 4000. Close relationships were established with international organizations, such as FAO,

Unesco, WMO and ICSU. His active participation in the Advisory Panel of the FAO/Unesco Soil Map of the World established a constant link between the ISSS and the project. By dint of Prof. van Baren's initiative and with the support of FAO, Unesco and the government of the The Netherlands, an International Soil Museum was created as part of the International Institute for Aerial Survey and Earth Sciences (ITC). He became its first Director, a position which he held until his death.

With the passing away of Prof. van Baren, the world of soil science and the ISSS lose one of its eminent members. Not only did he play an important role in the revival of the Society in the 1950's but also due to him is the spirit of cooperation and enthusiasm which has become a characteristic of the International Society of Soil Science. The Society herewith renders tribute to his outstanding services and expresses sincere sympathy to the members of his family.

Prof. F.A. van Baren est décédé subitement le 5 octobre 1975, quelques jours avant de prendre sa retraite de l'Université d'Utrecht. Une séance académique était en effet prévue le 10 octobre, au cours de laquelle Prof. van Baren devait faire un dernier exposé intitulé "Du minéral au minéral". C'est ce même jour au contraire qu'ont eu lieu ses funérailles à Utrecht, en présence de sa famille et de nombreux collègues et amis. A cette occasion, un hommage lui a été rendu, au nom du monde de la science du sol, par Dr. Ir. R. van der Schans, Président de la Société hollandaise de la science du sol, et par Dr. R. Dudal, Secrétaire général de l'AISS. Le Bulletin No. 47 de l'AISS marquant le 70ème anniversaire du Prof. van Baren était encore paru de son vivant et il avait vivement apprécié ce témoignage de reconnaissance à ses 24 ans de service en tant que Secrétaire général.

Né le 26 juin 1905, Ferdinand Alexander van Baren a été diplômé en agriculture tropicale à l'Université agricole de Wageningen, aux Pays-Bas. En 1937, il fut nommé à l'Institut de recherche des sols de Bogor, Indonésie, dont il devint le directeur en 1945. Il fut simultanément professeur en pédologie à l'Université d'Indonésie à Bogor et Doyen de la Faculté d'agriculture en 1950. De 1950 à 1966, Prof. van Baren fut Directeur du Département des sols de l'Institut tropical royal d'Amsterdam. En 1965, il fut nommé professeur en pédologie à l'Université d'Etat d'Utrecht.

Les activités du Dr. van Baren au sein de l'AISS débutèrent en 1951 lorsqu'il fut nommé Secrétaire général de l'Association, fonction qu'il occupa jusqu'en 1974. Pendant son mandat le caractère international de l'Association fut considérablement renforcé et ses activités se développèrent sensiblement. Les membres de l'Association passèrent de quelques centaines à plus de 4000. Des relations étroites furent instaurées avec des organisations internationales telles que la FAO, l'Unesco, l'OMM et l'ICSU. Sa participation active au sein du Comité consultatif de la Carte mondiale FAO/Unesco a permis d'établir des liens constants entre l'AISS et le projet. C'est sous l'impulsion du Prof. van Baren et avec l'appui du Gouvernement des Pays-Bas, de la FAO et de l'Unesco que fut créé le Musée international des sols, rattaché à l'Institut international pour la reconnaissance aérienne et les sciences de la terre (ITC). Il en devint le premier directeur, charge qu'il conserva jusqu'à sa mort.

Avec la mort du Prof. van Baren, le monde de la science du sol et l'AISS perdent l'un de leurs membres éminents. Non seulement il joua un rôle important dans la reprise des activités de l'Association dans les années cinquante, mais on lui doit aussi cet esprit de coopération et l'enthousiasme qui sont devenus les caractéristiques de l'Association internationale de la science du sol. L'Association rend ici hommage à ses éminents services et exprime sa profonde sympathie aux membres de sa famille.

Prof. F.A. van Baren starb unerwartet am 5. Oktober 1975. Wenige Tage fehlten bis zu seiner Pensionierung von der Universität von Utrecht, wo für den 10. Oktober eine akademische Sitzung anberaumt war, auf der Prof. van Baren seine letzte Vorlesung mit dem Titel "Von Mineral zu Mineral" halten sollte. Nun fand an diesem Tag in Utrecht seine Beisetzung in Gegenwart seiner Familienangehörigen, vieler Freunde und Kollegen statt. Bei der Trauerfeier erwies ihm die Welt der Bodenkunde eine letzte Ehrung durch Dr. Ing. R. van der Schans, Präsident der Holländischen Bodenkundlichen Gesellschaft, und durch Dr. R. Dudal, Generalsekretär der IBG. Es mag als gute Fügung erscheinen, dass die IBG-Mitteilungen Nr. 47, die den 70. Geburtstag Prof. van Baren's zum Anlass hatten, noch zu seinen Lebzeiten erschienen waren. Er war für diese Würdigung seiner 24 Dienstjahre als Generalsekretär der Gesellschaft sehr dankbar.

Ferdinand Alexander van Baren, geboren am 26. Juni 1905, promovierte in Tropenlandwirtschaft an der Landwirtschaftlichen Universität Wageningen, Niederlande. 1937 wurde Dr. van Baren an das Bodenforschungsinstitut in Bogor, Indonesien, berufen, dessen Direktor er 1945 wurde. Gleichzeitig war er Professor für Bodenkunde an der Universität von Indonesien, Bogor, und wurde 1950 zum Dekan der Landwirtschaftlichen Fakultät ernannt. Von 1950-66 war er Direktor der Bodenabteilung des Königl. Tropeninstitutes in Amsterdam. 1965 wurde er zum Professor für Bodenkunde an der Staatsuniversität von Utrecht ernannt.

Dr. van Baren diente der IBG seit 1951, als er zu ihrem Generalsekretär ernannt wurde; er behielt dieses Amt bis 1974. Während seiner Amtszeit wurde der internationale Charakter der Gesellschaft wesentlich gestärkt und ihre Tätigkeit weitgehend ausgedehnt. Die Mitgliederzahl stieg von einigen Hundert auf über 4000. Enge Verbindungen zu internationalen Organisationen wurden hergestellt, so z.B. zu der FAO, Unesco, WMO und ICSU. Prof. van Baren's aktive Teilnahme an der Beraterkommission der FAO/Unesco Weltbodenkarte sorgte für eine ständige Verbindung zwischen der IBG und diesem Projekt. Durch Prof. van Baren's Initiative und mit Unterstützung von FAO, Unesco und der Regierung der Niederlande wurde ein internationales Bodenmuseum als Teil des International Institute for Aerial Survey and Earth Sciences (ITC) gegründet. Dr. van Baren wurde zum ersten Direktor des Museums ernannt und hielt diese Stellung bis zu seinem Tod.

Durch Prof. van Baren's Tod verlieren die Welt der Bodenkunde und die IBG eines ihrer hervorragendsten Mitglieder. Er hat nicht nur für eine Wiederbelebung der Gesellschaft in den fünfziger Jahren gesorgt, sondern auch der Geist von Zusammenarbeit und Enthusiasmus, der heute die Gesellschaft charakterisiert, ist ihm zu verdanken. Die Gesellschaft erweist ihm die letzte Ehrung für seine aussergewöhnlichen Verdienste und drückt seinen Hinterbliebenen ihr herzliches Beileid aus.

THE 11th CONGRESS OF THE ISSS

The 11th ISSS Congress will be held in Edmonton, Alberta, Canada, June 19-27, 1978. Congress headquarters will be the University of Alberta and up to 2000 participants can be accommodated on the campus. Other participants will stay in hotels and motels. The Canadian Society of Soil Science, with generous assistance from the Governments of Canada and Alberta, is working diligently on Congress preparations. Although program planning is still in the preliminary stages, the theme will be "Optimum Soil Utilization Systems under differing climatic Restraints".

There is a great deal of interest in Canadian soils and 16 tours are being planned. Those tours include: one from Eastern Canada (Halifax, Montreal, or Toronto) to Edmonton; Vancouver and vicinity to Edmonton; an Arctic tour; several tours in Alberta including one to the Athabasca Tar Sands; and four to six one-day tours in the vicinity of Edmonton. The tours are being planned to have a broad appeal and there is an agronomist or a forester as co-chairman working with a pedologist for each tour. The tours may be taken before and/or after the Congress. Preliminary tour announcements will be made late in 1976. The following announcement regarding plans for the transactions of the 11th Congress will interest those intending to submit papers for presentation at the Congress.

Plans for Transaction Innovations

The Organizing Committee for the 11th ISSS Congress is planning to introduce some new procedures for the transactions of the Congress. These are in response to some concerns related to the transactions of previous Congresses.

When Congress participants receive at the time of registration copies of the papers to be presented at a Congress, it is obviously impractical for them to read the many papers before the sessions where those papers are to be presented. As a consequence, many participants have mailed their transactions home without even examining them while at the Congress. That has been very disconcerting to organizing committee members who have worked prodigiously to have the transactions published in time for the Congress.

In the past, when transactions have been available to Congress participants at the time of registration, the papers represented work done two, three or more years earlier. In a rapidly changing world participants are interested in the most up-to-date results of research and are not enthusiastic about older material. Moreover, some authors resent the necessity to submit papers as much as two years before the presentation will be made. Some national soil science societies would prefer to have their members publish their papers in the scientific journals of the home countries. The ISSS transactions are not widely available in some countries and so papers included therein are therefore of limited access, both in the countries where the research was done and elsewhere. There is also an understandable desire to strengthen national scientific journals and so there is concern about diversion of some important papers to the ISSS transactions, where publication has often been delayed for two years or longer after their submission.

One study has attempted to evaluate the worth of Congress transactions by comparing the citation frequencies of papers published therein with those in various soil science journals of international stature. The conclusion was that papers in Congress transactions were cited considerably less frequently than papers in the other publications used for the comparison. Delays in publication and limited availability of the Congress transactions are likely explanations. The scientific papers in ISSS Congress transactions are not satisfactory material for use by the personnel doing simultaneous interpretations. The interpreters desire copies of only the material which speakers use in making their oral presentations. Most published papers have been very much longer, and sometimes rather different from the oral presentations made at the Congress.

New Procedures Planned

In view of the foregoing, the Organizing Committee for the 11th ISSS Congress is planning to provide for publications of transactions as follows:

1. Scientific addresses made at all plenary sessions will be published in the transactions. Most, if not all of these, will be invited papers in one of English, French, or German. Abstracts in the other two official languages will be provided.

It is intended that such papers will be in a single volume and Congress participants will receive copies without charge upon registration. Additional copies will be available for purchase by libraries, ISSS members, and possibly others not attending the Congress.

2. There will be about 6 symposia each of which will have a number of invited speakers. The scientific papers presented at each symposium will be included in a separate publication to be issued for each symposium, with languages handled as above. The symposia publications will also be available without charge to Congress participants upon registration and additional copies will be available for purchase by libraries and individuals.

3. The papers presented in the Commission session will be published only in abstract form in the Congress transactions, in English, French and German. The abstracts submitted by the authors (including their mailing addresses) will be available without charge in booklet form, for each Commission, to Congress participants when they register.

When the invitation is sent out to ISSS members regarding presentation of the papers at the Congress, they will be asked to submit a copy of their oral presentation (including appropriate data, figures, etc.) but not exceeding 1800 words. These statements will be used as a basis for selection of papers and will go to personnel doing the simultaneous interpretation. An important criterion for acceptance of papers will be their relation to themes of the Commission programs. Papers not accepted will be returned to the authors. Abstracts of 100-150 words will be required on acceptance of the paper. These will be published in the transactions with no tables or figures. Accepted materials will be handled with normal procedures for confidentiality. If the material is revised after acceptance, the author is obliged to provide three new copies on submission of the abstracts and these must be sent before a deadline yet to be established by the Transactions Committee. These revised submissions will be passed to the interpreters.

It is recognized that there are disadvantages as well as advantages to the procedure intended. Some members may be unhappy to see only their abstracts published in the transactions. On the other hand, the cost and the heavy burden of reviewing papers will be reduced (which, incidentally, could clear the way for other countries with small numbers of soil scientists to consider hosting a future Congress); papers presented can be up-to-date and will be able to include results obtained up to the deadline for revisions; papers in their complete and final form can be published in national journals. The Organizing Committee thinks advantages of the procedure planned outweigh the disadvantages.

4. Individuals presenting papers to Commissions may bring full papers to the Congress if they so desire. Lists of such papers will be available at the Congress and participants wishing copies of such papers and/or copies of the oral presentation may have them made, at cost, during the Congress.

It is hoped and expected that the proposed changes will overcome the several sources of concern which have arisen regarding ISSS transactions and that they will simultaneously make the Congress more professionally useful to participants.

These proposals are in accord with a statement made when the invitation to hold

the 11th Congress was presented in Moscow at the 10th Congress. It was stated that if the 11th Congress were to be in Canada, the Organizing Committee would employ innovative and cost-reducing procedures for production of the Congress transactions.

Organizing Committee
11th ISSS Congress
Box 78, Sub. 11
University of Alberta
Edmonton, Canada

LE 11ème CONGRÈS DE L'AISS

Le 11ème Congrès de l'Association internationale de la science du sol se tiendra à Edmonton, Alberta, Canada, du 19 au 27 juin 1978. Le siège du Congrès sera l'Université de l'Alberta, dont le campus peut accueillir jusqu'à 2000 participants. Les autres participants seront logés dans des hôtels et des motels. La Société canadienne de la science du sol, qui bénéficie de l'appui généreux des Gouvernements du Canada et de l'Alberta, travaille activement aux préparatifs du Congrès.

Bien que la préparation du programme soit encore au stade préliminaire, on sait d'ores et déjà que le thème du Congrès sera "Systèmes d'utilisation optimum du sol sous différentes contraintes climatiques".

Les sols du Canada présentent un grand intérêt et 16 excursions ont été prévues. Le programme des excursions comprend l'est du Canada (Halifax, Montréal, ou Toronto) jusqu'à Edmonton; Vancouver et ses environs jusqu'à Edmonton; la région arctique; l'Alberta, y compris les sables bitumineux de l'Athabasca, et de quatre à six excursions d'une journée, aux alentours d'Edmonton. Les excursions présenteront un intérêt général et chacune d'elles bénéficiera du concours d'un agronome ou d'un forestier, co-président, en plus du pédologue. Les excursions auront lieu avant et/ou après le Congrès. Les programmes préliminaires des excursions seront annoncés à la fin de 1976.

Les informations suivantes sont destinées à ceux qui ont l'intention de soumettre des communications au 11ème Congrès.

Projet d'innovation dans la présentation des communications

Le Comité organisateur du 11ème Congrès AISS se propose d'introduire quelques innovations en ce qui concerne les comptes rendus des séances du Congrès, ceci en vue d'éviter certaines difficultés rencontrées lors des Congrès précédents.

Quand, au moment de l'inscription, les participants au Congrès reçoivent un jeu complet des communications qui seront présentées, il leur est pratiquement impossible de lire toutes ces communications avant les séances proprement dites. Il en résulte qu'un certain nombre d'entre eux expédient chez eux leurs documents avant même de les avoir étudiés en vue du Congrès, ce qui est assez déconcertant pour les membres du Comité organisateur qui ont travaillé avec acharnement pour publier ces communications à temps pour le Congrès.

Par le passé, quand les communications étaient mises à la disposition des participants, au moment de l'inscription, ces communications portaient sur des recherches remontant à deux ou trois années. Dans notre monde en rapide évolution, les spécialistes sont intéressés par les résultats des recherches les plus récentes et le sont beaucoup moins par des travaux plus anciens. De plus, la nécessité de soumettre les manuscrits jusqu'à deux ans avant leur présentation déplaît à certains auteurs. Quelques sociétés nationales de la science du sol préfèrent que leurs membres publient leurs communications dans les revues scientifiques de leur propre pays. Les comptes rendus de l'AISS n'étant pas disponibles en quantité suffisante dans certains pays, la possibilité d'en

obtenir un exemplaire est limitée aussi bien dans le pays où la recherche a eu lieu que dans les autres pays. Un désir compréhensible de renforcer la valeur scientifique des *revues nationales entraîne une certaine réticence de la part des auteurs à publier des communications importantes dans les comptes rendus de l'AISS, dont la parution a parfois été différée de deux ans après la fin du Congrès.*

Une étude a tenté d'évaluer la valeur des séances du Congrès en comparant la fréquence des citations des communications qui y sont présentées avec celles qui figurent dans différentes revues pédologiques jouissant d'une distribution internationale. Cette étude démontre que les articles présentés en séances de Congrès sont considérablement moins cités que ceux qui avaient été publiés dans les revues ayant servi de comparaison. Les retards de publication et la disponibilité limitée des comptes rendus du Congrès en sont l'explication probable.

Les communications scientifiques publiées dans les comptes rendus de Congrès AISS ne sont pas de qualité suffisante pour servir de base à l'interprétation simultanée qui se fait durant les séances. Les interprètes ne se servent que de la copie des textes présentés oralement par les conférenciers au cours des séances.

La plupart des articles publiés sont en général bien plus longs et parfois assez différents des présentations orales faites au Congrès.

Nouvelles procédures proposées

Pour toutes ces raisons, le Comité organisateur du 11^{ème} Congrès de l'AISS propose de procéder à la publication des comptes rendus de la manière suivante:

1. Les communications scientifiques présentées à toutes les séances plénières, seront publiées dans les comptes rendus. La plupart, sinon toutes, seront des communications présentées sur invitation, soit en anglais, en français ou en allemand, et des résumés en seront faits dans les deux autres langues officielles. Ceci dans le but de grouper ces communications en un seul volume qui sera distribué aux participants au moment de l'inscription. Des exemplaires supplémentaires seront mis en vente pour acquisition par des bibliothèques, des membres de l'AISS et probablement d'autres personnes n'assistant pas au Congrès.

2. Environ 6 symposiums sont prévus, auxquels un certain nombre de conférenciers seront invités. Les communications scientifiques présentées à chacun de ces symposiums seront publiées dans un volume séparé dans les langues mentionnées plus haut. Les rapports des symposiums seront également remis aux membres du Congrès lors de l'inscription et des exemplaires supplémentaires seront disponibles pour achat par des bibliothèques et d'autres intéressés.

3. Les communications présentées au cours des séances des commissions seront publiées en résumé seulement dans les comptes rendus du Congrès, en anglais, en français, et en allemand. Une brochure par commission contenant les résumés soumis par les auteurs (ainsi que leur adresse) sera mise à la disposition des participants lors de l'inscription au Congrès.

Les membres de l'AISS qui seront invités à présenter une communication devront remettre également un exemplaire de leur présentation orale (y compris les données appropriées, chiffres, etc.) ne dépassant pas 1800 mots. Ces textes serviront de base à la sélection des communications ainsi qu'au service d'interprétation simultanée. Un critère important pour l'acceptation des communications sera leur degré de relation avec les thèmes des programmes de la commission. Les textes refusés seront renvoyés à l'auteur.

Des résumés de 100 à 150 mots seront exigés au moment de l'acceptation des communications et ils seront publiés dans les comptes rendus, sans tableaux ni chiffres. Le matériel reçu aura un caractère confidentiel. Si les textes sont révisés après admission, l'auteur sera tenu de soumettre 3 nouvelles copies de son résumé avant l'échéance fixée par le comité de rédaction. Ces textes révisés seront fournis aux interprètes.

Le Comité organisateur est conscient que la procédure proposée à ses désavantages de même qu'elle a ses avantages. Quelques membres seront probablement déçus de noter que seul le résumé de leur article sera publié dans les comptes rendus. Par contre, le coût et la lourde charge que constitue la révision des articles seront considérablement réduits (ce qui, incidemment, pourrait permettre à d'autres pays avec un nombre restreint de spécialistes en science du sol d'envisager de devenir les hôtes des futurs Congrès). De plus, les communications présentées seront plus d'actualité et pourront inclure les résultats obtenus jusqu'à la date des révisions. Les articles peuvent en outre être publiés dans les revues nationales dans leur version définitive et complète. Le Comité organisateur est d'avis que les avantages de cette méthode l'emportent sur les désavantages.

4. Les auteurs qui présentent des communications aux commissions peuvent en remettre le texte complet au secrétariat du Congrès. Un répertoire de ces communications sera disponible au Congrès et les participants désireux d'en obtenir des exemplaires, ou des copies des présentations orales, pourront les faire reproduire à prix coûtant durant le Congrès.

On espère et on prévoit que les innovations proposées permettront de surmonter plusieurs des problèmes qui ont surgi en ce qui concerne les comptes rendus des Congrès de l'AISS et qu'en même temps elles rehausseront l'intérêt professionnel du Congrès. Ces propositions sont en accord avec la déclaration faite au 10ème Congrès à Moscou indiquant que si le 11ème Congrès devait se tenir au Canada, le Comité organisateur proposerait de nouvelles procédures qui permettent la publication des comptes rendus du Congrès à des conditions économiques.

Comité organisateur
11ème Congrès AISS
Casier postal 78, Sub 11
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Edmonton, Canada

DER 11. KONGRESS DER IBC

Der 11. IBC-Kongress findet vom 19.-27. Juni 1978 in Edmonton, Alberta, Kanada, statt. Sitz des Kongresses ist die University of Alberta, auf deren Campus etwa 2000 Teilnehmer untergebracht werden können. Für weitere Teilnehmer stehen Hotels und Motels zur Verfügung. Die Kanadische Bodenkundliche Gesellschaft hat die Durchführung der Kongressvorbereitungen übernommen und wird dabei von den Regierungen von Kanada und Alberta grosszügig unterstützt. Die Programmplanung befindet sich erst im Anfangsstadium, jedoch steht das Thema bereits fest, i.e. "Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen Grenzbedingungen".

Kanadische Böden sind von grossem Interesse; daher werden 16 Touren geplant, u.a. von Ostkanada (Halifax, Montreal oder Toronto) nach Edmonton, Vancouver und Umgebung nach Edmonton, eine arktische Tour, verschiedene Touren in Alberta einschliesslich zu den Athabasca Tar Sands, und vier bis sechs Tagestouren in der Umgebung Edmontons. Jede dieser Touren wird von einem Agronomen oder Förster zusätzlich zu einem Bodenkundler begleitet. Die Touren können vor und/oder nach dem Kongress unternommen werden. Vorankündigungen über Touren werden gegen Ende 1976 veröffentlicht.

Die folgende Ankündigung über Vorgänge der Kongressdokumentation ist für Personen bestimmt, die schriftliche Beiträge zu dem Kongress liefern werden.

Pläne für die Reorganisation der Kongressdokumentation

Das Organisationskomitee für den 11. IBG-Kongress plant Änderungen bei der Herstellung der Kongressdokumentation, da gegen das bisherige Verfahren folgende *Einwände erhoben wurden*:

Wenn Kongressteilnehmer die Kongressdokumentation bei Anmeldung erhalten, ist es in den meisten Fällen nicht möglich, die zahlreichen Beiträge vor den entsprechenden Sitzungen zu lesen. Folglich werden die Dokumente häufig ungelesen nach Hause mitgenommen, was den Bemühungen der Mitglieder des Organisationskomitees nicht gerecht wird, die sich für die rechtzeitige Fertigstellung der Dokumentation zum Kongressbeginn eingesetzt haben.

Die Beiträge, die Teilnehmer bei Anmeldung erhielten, basierten bis jetzt auf Arbeiten, die zwei, drei oder mehr Jahre zurücklagen. In dieser sich schnell ändernden Welt sind die Teilnehmer an den letzten Forschungsergebnissen interessiert und nicht begeistert über älteres Material. Überdies sträuben sich die Verfasser gegen die Auflage, ihre Beiträge bis zu zwei Jahren vor dem Vortrag während des Kongresses vorzubereiten.

Einige nationale bodenkundliche Gesellschaften würden es gern sehen, dass ihre Mitglieder ihre Beiträge in den Fachblättern der Heimatländer veröffentlichen. IBG-Dokumentation ist in einigen Ländern nur schwer zu erhalten, so dass die darin enthaltenen Berichte nur begrenzt zugänglich sind. Es besteht auch der verständliche Wunsch, nationale Fachblätter zu unterstützen und zu stärken, und man bedauert, dass einige wichtige Arbeiten für die IBG-Dokumentation abgezweigt werden, wodurch ihre Veröffentlichung oft um zwei Jahre oder länger verzögert wird.

Man hat versucht, durch eine Studie den Wert von Kongressdokumenten zu messen, indem man die Häufigkeit von Zitaten aus denselben mit der aus verschiedenen internationalen Bodenfachzeitschriften verglichen hat. Das Ergebnis zeigte, dass Beiträge aus Kongressdokumentationen wesentlich seltener erwähnt wurden als aus anderen Veröffentlichungen. Mögliche Erklärungen dafür sind späte Veröffentlichung und begrenzter Zugang zu Kongressdokumenten.

Die Fachbeiträge, die in der Kongressdokumentation abgedruckt sind, sind für Dolmetscher ein nur bedingt zu verwendendes Material. Vielmehr brauchen sie den Wortlaut des Textes, den der Verfasser vortragen wird und der in der Regel wesentlich kürzer ist und sich von dem gedruckten Beitrag erheblich unterscheidet.

Geplantes neues Verfahren

Das Organisationskomitee plant die Veröffentlichung von Kongressdokumentation in folgender Weise:

1. Wissenschaftliche Abhandlungen, die in den Plenarsitzungen vorgetragen werden, werden in der Dokumentation veröffentlicht. Sie sind in einer der drei Sprachen Englisch, Französisch oder Deutsch abgefasst. Kurzfassungen in den beiden anderen *offiziellen Sprachen werden hergestellt. Es ist beabsichtigt, diese Abhandlungen in einem Band zusammenzufassen, den Kongressteilnehmer bei Anmeldung erhalten. Weitere Exemplare können von Bibliotheken, IBG-Mitgliedern und anderen Nicht-Teilnehmern erworben werden.*

2. Es werden etwa 6 Symposien mit je mehreren Gastsprechern abgehalten. Die Fachberichte werden in einem Band je Symposium zusammengefasst und veröffentlicht in den Sprachen wie oben. Die Symposienveröffentlichungen stehen den Teilnehmern ebenfalls kostenlos bei Anmeldung zur Verfügung, und zusätzliche Exemplare für den freien Verkauf an Bibliotheken und weitere Interessierte sind vorgesehen.

3. Die in den Kommissionen vorgetragenen Abhandlungen werden in den Kongressberichten lediglich in Kurzfassung in englisch, französisch und deutsch veröffentlicht. Die von den Referenten eingereichten Kurzfassungen werden (zusammen mit deren Postanschriften) in einer Broschüre für jede Kommission Kongressteilnehmern bei

Anmeldung kostenlos zur Verfügung gestellt.

Wenn IBG-Mitglieder zu einem Wortbeitrag eingeladen werden, werden sie gleichzeitig aufgefordert, die schriftliche Fassung ihres mündlichen Vortrages (einschliesslich Zahlen, Daten usw.) einzureichen, die 1800 Worte nicht überschreiten sollte. Die eingereichten Texte werden Grundlage für die Auswahl sein und dann den Simultandolmetschern zugeleitet werden. Ein entscheidendes Kriterium für die Annahme ist ihre Übereinstimmung mit den gestellten Themen der Kommissionen. Nicht angenommene Abhandlungen werden den Autoren zurückgesandt. Bei Annahme werden die Verfasser um eine zusätzliche Kurzfassung in 100-150 Worten gebeten, die in den vorzubereitenden Kongressinformationen ohne Tabellen oder Zahlen den Teilnehmern zugänglich gemacht wird. Angenommenes Material wird den Gepflogenheiten entsprechend vertraulich behandelt. Sofern der Verfasser nach Annahme seinen Beitrag abändert, sollte er drei Kopien des neuen Textes, zusammen mit der Kurzfassung, bis spätestens zu dem Zeitpunkt vorlegen, der noch von dem entsprechenden Kongressausschuss festzulegen ist. Die überarbeiteten Eingaben werden den Dolmetschern zugeleitet. Das beabsichtigte Verfahren hat zweifellos Vor- und Nachteile. Einige Mitglieder werden wahrscheinlich bedauern, dass nur die Kurzfassungen in den Kongressveröffentlichungen erscheinen werden. Die Kosten und die mit der Beurteilung der eingereichten Beiträge verbundene Arbeit werden dadurch jedoch erheblich verringert (womit auch gleichzeitig für Länder mit wenigen Bodenkundlern die Möglichkeit geschaffen wird, künftig den Kongress einzuladen); die Beiträge können eher dem neuesten Stand entsprechen und letzte Ergebnisse mit einbeziehen; die Beiträge können in ihrer endgültigen und vollständigen Fassung in nationalen Fachzeitschriften veröffentlicht werden.

4. Wer vor den Kommissionen referiert ist eingeladen, den vollständigen Wortlaut seines Beitrages zum Kongress mitzubringen. Kongressteilnehmer erhalten hiervon eine Aufstellung, und Kopien dieser Beiträge und/oder der mündlichen Vorträge können gegen Bezahlung während des Kongresses angefordert werden.

Das Organisationskomitee hofft, dass die vorgeschlagenen Änderungen den anfangs erwähnten Einwänden genügen und dass gleichzeitig Teilnehmer grösseren Nutzen aus dem Kongress ziehen können. Diese Vorschläge sind die Folge einer Erklärung, die während des 10. Kongresses in Moskau anlässlich der Einladung des 11. Kongresses abgegeben wurde. Darin wurde erwähnt, dass – sollte der 11. Kongress in Kanada stattfinden – das Organisationskomitee neue und kostensparende Wege bei der Herstellung der Kongressdokumentation beschreiten würde.

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**FURTHER ECHOS FROM THE 10th CONGRESS OF THE ISSS
D'AUTRES ÉCHOS DU 10ème CONGRÈS DE L'AISS
WEITERE BERICHTE ÜBER DEN 10. IBG-KONGRESS**

Address of Dr. E.G. Hallsworth, Past-President of the ISSS, to the Jubilee Session, Moscow, 15 August 1974

Allocution du Dr. E.G. Hallsworth, ancien président de l'AISS, à l'occasion de la séance jubilaire, Moscou, 15 août 1974

Ansprache des Altpräsidenten der IBG, Dr. E.G. Hallsworth, auf der Jubiläumssitzung in Moskau, 15. August 1974

I would like to say how very appropriate it is that we are having our Jubilee celebrations in Russia, the home of the father of soil science — Dokuchaev. It was a favourable coincidence of circumstances for the development of our subject that the man with the imagination to see the whole was born and worked in the country in which the combination of rock, rainfall and temperature so magnificently display the relationship between the soil and the factors of its formation. We are particularly fortunate, too, that in its Jubilee year the society has had Victor Abrahamovitch Kovda as its President, who by his status in his own subject and his standing in world organisations, has been able to develop in the councils of the world a better appreciation of the importance of soil in the human environment than perhaps any previous President.

During the last 50 years, our subject has seen many developments, and these have been chronicled in the Proceedings of our congresses. In this birthday atmosphere, it is right and proper to take pride in our achievements of the past, and previous speakers have already referred to them. But an occasion such as this is not only one on which to look backward with pride, it is also one on which to take stock, and to ask where we should be going, and what we should be doing in the future. I would suggest that in the future we need to develop a much more experimental approach to pedology — to allow us to verify some of the conclusions based at present solely on observations of natural occurrences, and to allow us to gain a better appreciation of other possibilities. Such investigations are usually costly, but since many of the problems are supra-national they may offer scope for international cooperation. For example the U.S.S.R. and the United States of America both have serious problems to erosion associated with frozen soils. The equipment to study this experimentally is expensive. So I'd ask is this an area for international cooperation? The United States and the U.S.S.R. are at present examining areas of research in which they might cooperate — and this seems to be one project well suited to such an approach.

This field of work is of immediate relevance to soil problems of the present. But if the work of some American and British climatologists is correct, the world is now moving into a period of climatic change, when the boreal air circulation will extend beyond its present limits. The extensions of colder and drier areas in the Northern Hemisphere which would result will have the greatest impact on the U.S.S.R., Canada and the United States. If further studies provide verification for these changes, then the governments of the world, and particularly those of the Northern Hemisphere will need to look anew at their soil resources and how they handle them, for the changes will have particular impact in their wheat producing regions.

From the vantage point of our 50th birthday we can look forwards as well as backwards. Backwards — to our agreement on methods; in standardizing the use of terminology in Soil Physics; in producing the World Soil Map. I have been impressed by the way the Sub-Commission on Salt-affected soils has stimulated work in several countries, not least Australia. In looking forward I am caused to ask whether we could

not use our inter-Congress Commission meetings to deliberately stimulate activity in particular areas. There is need for more inter-disciplinary work — and one of the inter-Congress meetings accepted today will be jointly organised by four Commissions. But I wonder whether we could not go further than this. That we could set a topic for a one or two Commission meeting one or two years ahead, for which research programmes would be planned to provide answers to specific questions. The results of these investigations would be reported for the first time to the Commission meetings. In this way we could coordinate our efforts and more profitably use our resources. To do this effectively, however, we need a fresh approach in the method of handling the papers. It would not be possible to publish all the papers before hand, as you did for this meeting, as we in Australia did for the Adelaide meeting. But it should be possible with modern photostatic reproduction to accept the papers for such a meeting as little as two months or even one month before, and still have the working papers available for the members when they arrive. The considerable number of Commission meetings accepted today for the next three years invites us to attempt such innovative procedures. Operating in this way, we can look forward to increased cooperation in small projects and in large projects and I am optimistic of our ability to handle them, in view of our past record.

For is this not one of the main reasons for our rejoicing in this our Jubilee Year — that the Congresses organised by this Society, with the excursions in which we live together, get into soil pits together, drink together, and generally get to know each other, have made us truly an organisation of friends. For those of us who have come to this meeting from outside the U.S.S.R. I would also add how much we have enjoyed being here, enjoying the hospitality of Russia and getting to know more of you than we did before. I hope there will be many more of you in Canada for the next Congress than there were in Australia. But it is not only Russian soil scientists that we would like to see assisting our various countries, but others as well, especially young people. I do not pretend to know the reasons why the U.S.S.R. has not been able to allow its people to travel the rest of the world, but I would say to your Government, that if young Russians could come streaming across the world as freely as young Australians are streaming through Russia at present they would be most welcome. In this way we can truly build international cooperation and understanding.

Address of Prof. Dr. P. Buringh, acting Secretary-General, to the Opening Session, Moscow, 12 August 1974

Allocution du Prof. Dr. P. Buringh, Secrétaire général par intérim, à la séance d'ouverture, Moscou, 12 août 1974

Ansprache von Prof. Dr. P. Buringh, Stellvertretender Generalsekretär, bei der Eröffnungssitzung, Moskau, 12. August 1974

Looking over the scientific achievements in soil science during the last years and in particular the publications, books and proceedings of congresses, conferences and symposia, scientific journals and the eleven volume of contributions to this congress, we all realize that our knowledge of soils is expanding and that we are making big progress. The number of soil scientists is rapidly increasing, with the result of more and more specialization and investigation of more details. The question could be raised if we are studying the most important soil problems. Our investigations are still mainly concentrated on soils of temperate regions and this knowledge often cannot be transferred to soils of tropical and subtropical regions, I doubt if we are really studying all important problems.

The main function of the soils is to produce food. There is still not enough food and the world population is rapidly increasing. In most countries the Government tries to solve this problem by cultivating more land. On the other hand there is, almost,

every where, misuse and destruction of arable land. A rough calculation has shown that every minute approximately 10 ha of land are lost (5 ha through soil erosion and destruction, 2 or 3 ha through salinization and alkalization and 2 or 3 ha for other reasons, including urban and other non-agricultural use). Of all land in the world about 11% is cultivated now, and it seems there is a reserve of approximately 11 or 12%, which surely is not the best land for agricultural production. However, where is this land situated? In this respect the new FAO-Unesco Soil map of the world is of great importance, because it gives at least a general idea of the soils of the world, and the preparation of this map and the reports have highly stimulated soil investigations in many countries in particular in the tropics, where food problems are most important.

The crop yields in many regions are still very low, often even less than 1000 kg per hectare grain, whereas in some Western European countries the average yield is already more than 5000 kg per hectare. On the best soils and under the most favourable conditions the maximum production, depending on the photosynthesis, could reach approximately 10 000 kg per hectare. In practical agriculture a maximum yield of 9000 kg per hectare of wheat has already been obtained. In tropical regions this maximum yield could even be much higher and if double or triple cropping can be applied a yield equivalent of more than 20 000 kg per hectare could be obtained. This is only possible under optimal conditions and on the best soils, which are only a very small percentage of all soils. We could learn much of our best soils, however they often are hardly studied, because soils with strange defects do attract more attention of soil scientists. If we study the main deficiencies of those soils, do we also study the problem of how to improve their production?

From a technical and agricultural point of view the production of foodcrops on the present cultivated land can easily be increased. However, many Governments seem to have a preference for extending the area of cultivated land through reclamation of new land. This tendency also seems to apply in the Soviet Union as could be learned from addresses made at this Opening Ceremony and from "Un grand exploit du parti et du peuple", Moscow 1974, which describes various results on reclamation of new land. Sometimes I really doubt if this is the best way to solve our problems. Wouldn't it be better to increase food production on land that is already cultivated? Our task as soil scientists is not only to inform, to guide and to advise the people but also our Governments. I am convinced that the soil scientists all over the world are doing their best, however, do we really study and help to solve the problems of our farmers and those of the various regions and nations? I have the impression that too many of us are studying interesting scientific details on soils, which often are not relevant to solving important issues. The problem of the world food production is not only a technical problem, it is even more a socio-economic and political problem. The soil problems are small in comparison to many other problems of the world. We are happy to have the opportunity to study our soils but we should contribute our portion to the various possible solutions.

On behalf of the ISSS and all participants in this Congress I thank our Soviet colleagues and their Government to give us the chance to meet, to exchange knowledge and experience, we highly appreciate the invitation and all the preparatory work that is done by the Organizing Committee and many others. We all hope and expect that the tenth international Congress of Soil Science will be a success.

Tour No. 9, Tajikistan

Soil scientists from several countries including Australia, Canada, Czechoslovakia, Great Britain, Italy and the Soviet Union participated in a post-congress tour to Tajikistan, one of the Central Asian Republics of the Soviet Union. The leaders were Professor M.A. Glazovskaya (Moscow) and Professor P.A. Kerzum (Dushanbe). The tour began with a five hour flight southeastwards from Moscow to Dushanbe, followed next day with visits to the Tajik Academy of Sciences, the Research Institute of Soil

Science and the Museum of Tajik Lore and Culture.

Southwest Tajikistan is a land of mountain ranges and broad valleys with rivers which flow southwest to join the Amu Darya. Eastwards the mountains increase in height eventually to form the lofty Pamir ranges with the highest peak in the Soviet Union, Mount Communism (7495 m.). In the mountains precipitation nourishes snow-fields and glaciers which provide meltwaters for irrigation during the summer months. In contrast, the valleys are areas of low precipitation, 200-700 mm. per annum falling only in the winter season. The natural soils of the valleys are sierozems (grey desert soils) which are developed in loess-like loams upon well-developed river terraces, but large areas of the Vakhsh valley were characterised by solonchak and bog soils prior to 1936. Since then a continuous programme of reclamation has taken place. The Vakhsh valley now has a fertile appearance and the area visited is farmed by a collective farm extending over 4500 hectares and supporting 3000 people. On the cultivated areas levelling and irrigation have enabled the growth of high quality cotton and lucerne. Experiments with mineral fertilizers combined with different methods of soil replacement following levelling were in progress. These cultivated sierozems were calcareous throughout, some were gypsiferous as well, resulting in pH values of 8.0 and above. The amount of humus in these soils was low, less than 1 percent.

A visit was made to the adjacent Yavan valley, a minor tributary of the Vakhsh river. The Yavan valley was semi-desert until 1968 when water was piped through the mountains from the Vakhsh to allow crops to be grown on areas suitable for irrigation. The soils now utilized for agriculture in this valley are calcareous cinnamonic and meadow solonchak soils, the latter causing some areas of salt efflorescence within the cropped areas. Unfortunately, irrigation had taken place and much to the embarrassment of our hosts, the prepared pits were full of water! The disappointment of participants was short-lived for lunch that day took place in a delightfully exotic lake pavilion. An interesting feature of a sierozem profile seen after lunch was the presence of chambers formed by insects 40 cm. below the surface. The gorge of the Yavan valley was also the subject of great interest for members of the excursion. The Yavan river had cut vertically into the loess-like loams of the valley floor and had produced on either bank excellent examples of river terraces of different ages.

On a third excursion from Dushanbe, a mountain cinnamon soil was demonstrated and provided the focus for a lively discussion. This soil was developed from loessial deposits and is characteristic of the lower mountain areas with a winter rainfall regime of 600 mm. per annum. A comparatively thick humus-enriched horizon occurs at the surface with a calcareous B horizon below it. The colour described as cinnamon by Soviet Soil Scientists appears to lie between greyish brown (10YR4/2) and brown (7.5YR4/2) on the Munsell Soil Colour Charts.

This excursion was completed by a visit to the construction site of the Nurek Power Station in the upper Vakhsh Valley. The dam retaining the Vakhsh river when completed will be 300 m. high and the scheme will bring electricity to a wide area and enable further irrigation from its control over the waters of the river. A large lake has already been impounded behind the almost complete dam, which when finished will contain 10.5 million m³ of water.

The soils seen on this excursion to Tajikistan form the lower members of an altitudinal sequence ranging from 300 m. to relief in excess of 4500 m. above sea level.

In an area of approximately the same size as the British Isles it is possible to observe a range of soils from a dry sub-tropical environment to ice deserts of the highest peaks of the Pamir mountains. The excursion was concluded by a tourist visit to the city of Samarkand (Uzbekistan) where ancient monuments dating from the time of Tamerlane were seen by the participants.

E.M. Bridges, University College of Swansea

ACTIVITIES OF THE COMMISSIONS AND WORKING GROUPS ACTIVITÉS DES COMMISSIONS ET GROUPES DE TRAVAIL TÄTIGKEIT DER KOMMISSIONEN UND ARBEITSGRUPPEN

Working Group on Soil Conditioning

The Working Group on Soil Conditioning held its 3rd International Symposium in Ghent, Belgium, from 8 to 12 September 1975. The Symposium was organized in cooperation with Commission I – Soil Physics – of the ISSS, and by the Laboratory of Soil Physics of the Faculty of Agricultural Sciences, State University, Ghent. It was chaired by Prof. M. de Boodt of the Ghent State University, Chairman of Commission I. 64 participants of 18 different countries took part in the Symposium and presented 34 papers.



The conclusions of the Symposium drew attention to the difference between soil conditioning and soil stabilization. The first term is used for an improvement of soil structure, with a view to increasing agricultural or forestry production. On the other hand, the term soil stabilization refers to fixing soil for engineering purposes (for instance, bank stabilization, dust control, rock binding and other construction applications). A number of reports pointed to the important place which organic materials are taking in soil conditioning projects. The Symposium pointed to the need of testing soil conditioning techniques over large surfaces to evaluate the effects on yields and to calculate economic returns. In this respect, it was recommended that training in soil physics and soil conditioning should be increasingly oriented towards the solution of practical problems and to field applications. The proceedings of the Symposium will be published.

Subcommission on Salt-Affected Soils

The ISSS Subcommission on Salt-Affected Soils, in cooperation with FAO, convened an expert consultation on prognosis of salinity and alkalinity. The meeting took place at FAO Rome, from 3-6 June 1975. It was chaired by Dr. I. Szabolcz, Chairman of the Subcommission on Salt-Affected Soils. Prof. Dr. V.A. Kovda, past President, Dr. R. Dudal, Secretary-General, and Dr. J. van Schilfgaarde, Vice-President of Commission VI – Soil Technology –, also participated. The objective of the panel was to lay the basis for the preparation of guidelines for predicting salinity and alkalinity hazards

which develop with irrigation projects. A draft of these guidelines will be presented to the next meeting of the Subcommission in Texas, USA, in 1976. The papers presented at the consultation and its recommendations will be published in the form of a FAO soils bulletin.

Working Group on Soil information Systems

The ISSS Working Group on Soil Information Systems met at The Netherlands Soil Survey Institute in Wageningen, from 1-5 September 1975. The meeting was organized by Dr. Ir. J. Schelling and chaired by Dr. Ciric, President of Commission V, who opened the meeting on behalf of the ISSS. Fifty-three participants from 18 countries took part. The papers presented dealt with 4 major themes: data storage, management of basic data, cartographic automation and methodology of applications. The panel was most successful in confronting the different systems presently in use and in stimulating correlation and coordination. The Working Group will continue its activities and will disseminate information on current activities in the field of soil information systems. In this respect, the Working Group will issue a catalogue on Soil Information Systems which will be regularly updated.

It is planned to hold a second meeting of the Working Group in 1977, possibly in Bulgaria. The Working Group nominated a Steering Committee composed as follows:

Chairman: Dr. Ir. J. Schelling, Netherlands Soil Survey Institute, P.O. Box 98, Wageningen, The Netherlands.

Secretary: Dr. S.W. Bie, Netherlands Soil Survey Institute P.O. Box 98, Wageningen, The Netherlands.

Members: Dr. J. Dumanski, Canada; Dr. K.W. Flach, USA; Prof. I.P. Garbouchev, Bulgaria; Mr. J.P. Legros, France; Dr. A.W. Moore, Australia; Mr. J. Riquier, FAO, Italy; Dr. D. Teaci, Romania.

The proceedings of the Symposium can be obtained from the ISSS Secretariat, c/o FAO, Via delle Terme di Caracalla, 00153 Rome, Italy, at a price of US \$ 6, and from PUOC, P.O. Box 4, Wageningen, The Netherlands.

Commission I (Soil Physics) Soil Physics Terminology

The second Terminology Committee of Commission I of the International Society of Soil Science was appointed in January of 1973 by W.R. Gardner, the President of the Commission. The Committee was asked to update the terminology report published in 1963 in Volume 22 of the Bulletin of the International Society of Soil Science. A preliminary report was discussed at the 1974 ISSS Meeting at Moscow, where the Chairman of the Committee was commissioned to complete the report taking into account oral and written comments received by him before the end of 1974.

Preamble

The following set of definitions and terms in soil physics is far from complete. It appears almost certain that complete satisfaction for all conditions and all users cannot be reached. The potential use of the present definitions could range from applied soil physics to advanced theoretical considerations, while the backgrounds of the potential users might include biology, chemistry, physics, hydrology, and perhaps geology. In view of the above, only a limited selection has been made, concentrating on terms with supposedly wide usage. Moreover, an accent has been placed on a wording that would appear to be comprehensible also to the non-specialist. If this would result in some dissatisfaction of the specialist, this was preferred above the situation where the non-specialist would be left in uncertainty. After all, the specialist should be able to take care of himself regardless of the particular wording chosen, while the applied scientist

would hardly be served by a wording that goes beyond his background knowledge.

With due reference to the global acceptance of SI units, these have been, or are assumed to be, used throughout, with the single exception of the unit of pressure, which plays a key role in many of the definitions. Admitting that the soil physics world is still very much geared toward the use of the mbar, while on the other side the Pascal is often hardly known, the mbar has still been accepted as a unit in addition to the Pascal, leaving it to the user to avoid errors due to mixing of units. As a reminder, it is pointed out that $1 \text{ Pascal} (= 1 \text{ N/m}^2) = 0.01 \text{ mbar}$.

As regards symbols representing the terms defined, the Committee views it as a sheer impossible task to suggest a set of symbols which on the one hand corresponds with common usage and, on the other hand, is completely consistent. The symbols used in the present text are thus meant to be exemplary at best.

As to terminology, in contrast to the position taken in the 1963 report, the name "water" is here limited to the chemical constituent H_2O , whereas "liquid phase" is used to indicate the aqueous solution residing in soil in situ. In the particular situation where this solution is considered separate from the soil it is termed "soil solution".

1. Terms relating to the composition of the soil

Recognizing the presence of three phases in soil, viz. the solid phase (index s), the liquid phase (index l) and the gas phase (index a), the composition of a soil can be fully described in terms of appropriate densities of all chemical constituents in all phases. These densities, ρ , specify the mass of a component present in a unit volume of either the appropriate phase or of the bulk soil, or in certain cases in a unit volume of the component itself.

Unambiguous labeling of the density would thus require triple indexing, e.g. a superscript indicating the unit volume considered and two subscripts indicating the component and the phase in which it resides. To simplify the notation for the present purpose the following rule has been adopted. If the density of a constituent present in a phase is given with respect to a unit volume of its own phase, the superscript is omitted, while its density in the bulk soil is labeled with a superscript b ; densities of pure components in pure phases will be labeled with a superscript c . Furthermore the double subscript will be used only if the presence of the constituent in more than one phase is to be considered explicitly.

DEF. 1: The *phase density of a chemical constituent i* (present in a phase α), ρ_i or $\rho_{i(\alpha)}$, is the mass of constituent i in a unit volume of phase α expressed in kg per m^3 of phase α . Summing up the phase densities of all constituents of a phase gives the *phase density* $\rho_\alpha = \sum_i \rho_{i(\alpha)}$.

DEF. 2: The *bulk density of a constituent i* (present in a phase α) ${}^b\rho_{i(\alpha)}$, is the mass of constituent i (present in phase α) per unit bulk volume of soil, expressed in kg per m^3 of bulk volume. The phase density and bulk density of a constituent i present in phase α are related via the volume fraction of the phase, $\phi_\alpha = {}^b\rho_{i(\alpha)} / \rho_{i(\alpha)}$.

Summing up the bulk densities of all constituents in all phases gives the *bulk density of the soil*,

$${}^b\rho = \sum_\alpha \sum_i {}^b\rho_{i(\alpha)} = \sum_\alpha \phi_\alpha \rho_\alpha$$

As generally the density of the gas phase is negligible, one finds that for dry soils the bulk density equals the bulk density of the solid phase, ${}^b\rho = {}^b\rho_s$.

In soils the liquid phase (or soil solution) and its major constituent water are often of particular interest. There are several ways to express the water or liquid content of the soil, each having advantage under certain conditions. The basis of most experimental data is the water content on mass basis relative to the total solid content on mass basis.

DEF. 3: The *water content or wetness*, w , is the amount of water lost from the soil upon drying at 105°C , expressed in $\text{kg water per kg of solid phase after drying}$.

Disregarding the water present in the vapor phase $w = {}^b\rho_w / {}^b\rho_s$

In flow problems one is primarily interested in the liquid content of the soil on a volume basis. The liquid volume associated with one kg of solid phase is then found as

w/ρ_w ; for lack of information as to the density of water in the liquid phase of the soil one is often satisfied to use the density of pure water, ${}^o\rho_w$, for this purpose. The above liquid volume is usually expressed per unit bulk volume of the soil (in case of a rigid matrix) or per unit volume of the solid ephase (in case of a non-rigid matrix).

DEF. 4: The *volume fraction of liquid*, θ , is the volume of the liquid phase per unit bulk volume of soil, expressed in m^3 liquid phase per m^3 bulk volume.

Accordingly $\theta = w ({}^b\rho_s/\rho_w)$

DEF. 5: The *liquid ratio*, ϑ , is the volume of the liquid phase per unit volume of the solid phase, expressed in m^3 liquid phase per m^3 of solid phase.

Accordingly $\vartheta = w (\rho_s/\rho_w) = \theta/\phi_s$

In conjunction with the liquid ratio one often employs the void ratio in soils with non-rigid matrix.

DEF. 6: The *void ratio*, e , is the volume of the pores per unit volume of the solid phase, expressed in m^3 of pore space per m^3 of solid phase.

Accordingly $e = (\phi_a + \phi_l) / \phi_s = (1 - \phi_s) / \phi_s$

II. Terms relating to the state of water in soils

A. The total potential and its components

At equilibrium, the constituent water of the liquid phase is subject to the action of the gravitational field, the influence of dissolved salts and of the solid phase (including adsorbed ions) in its given geometry of packing, and to the action of the local pressure in the soil gas phase. Together these factors determine the value of the total potential, ψ_t , of the constituent water in soil relative to a chosen standard state. Selecting as standard a system, S_o , comprising a pool of pure (i.e., water not influenced by dissolved salts, or, in other words, water whose osmotic pressure, π , is zero), free (i.e., water not influenced by the solid phase) water at temperature T_o , height h_o and atmospheric pressure P_o , one defines:

DEF. 7: The *total potential*, ψ_t , of the constituent water in soil at temperature T_o , is the amount of useful work per unit mass of pure water, in J/kg, that must be done by means of externally applied forces to transfer reversibly and isothermally an infinitesimal amount of water from the standard state S_o to the soil liquid phase at the point under consideration. It is convenient to divide the transfer process referred to above into several steps, by introducing substandards according to:

S_1 : a pool of pure, free water as in S_o , but situated at the same height as the soil liquid phase under consideration, h_x , i.e., S_1 is at T_o , h_x , P_o .

S_2 : a pool of free soil solution (identical in composition with the soil liquid phase at the point under consideration), thus having an osmotic pressure, π , but otherwise identical with S_1 , i.e., S_2 is at T_o , h_x , P_o .

Considering the transfer of water from the standard state S_o , via the substandards S_1 and S_2 , to the soil liquid phase leads to the definitions of the component potentials of the constituent water according to:

DEF. 8: The *gravitational potential*, ψ_g , of the constituent water in soil at temperature T_o , is the amount of useful work per unit mass of pure water, in J/kg, that must be done to transfer reversibly and isothermally an infinitesimal quantity of water from the standard S_o to the substandard S_1 , as defined above. This potential may be expressed in terms of the difference in height between S_o and S_1 , $\Delta h = h_x - h_o$, according to $\psi_g = g\Delta h$, in which g is the magnitude of the gravitational force per unit mass.

DEF. 9: The *osmotic potential* ψ_o , of the constituent water in soil at temperature T_o , is the amount of useful work per unit mass of pure water, in J/kg, that must be done to transfer reversibly and isothermally an infinitesimal quantity of water from the substandard S_1 to the substandard S_2 , as defined above. This potential may be expressed in terms of the experimentally accessible osmotic pressure of the solution, π , according to: $\psi_o = - \int_0^\pi \bar{V}_w dP$,

in which $\bar{V}_w$ is the partial specific volume of the constituent water in the soil solution.

DEF. 10: The *tensiometer-pressure potential*, ψ_p , briefly referred to as *pressure potential* of the constituent water (in situ), is the amount of useful work per unit mass of pure

water, in J/kg, that must be done to transfer reversibly and isothermally an infinitesimal quantity of water from the substandard S_2 to the soil liquid phase at the point under consideration. This potential may be expressed in terms of the experimentally accessible tensiometer pressure of the soil liquid phase in situ, p , according to:

$$\psi_p = \int_0^p \bar{V} dp$$

Accordingly, the total potential may be found from the relation

$$\psi_t \equiv \psi_g + \psi_o + \psi_p = g \Delta h - \int_0^\pi \bar{V}_w dP + \int_0^p \bar{V}_w dp$$

Referring to the set of definitions in the 1963 ISSS Report, the following differences are noted:

1. Aside from a "theoretical" definition in terms of the expenditure of useful work during reversible transport, a definition in terms of three experimentally accessible parameters, namely, Δh , π , and p , has been added.

2. As will be elaborated upon below, the viewpoint is taken that the pressure reading of a tensiometer installed in situ should be seen as one of the three parameters characterizing fully the state of water in soil under the conditions prevailing, *including* the effect of the presence of an external gas pressure different from atmospheric and/or the presence of a mechanical envelope pressure (e.g. overburden pressure). While admitting that in the specific case of a soil sample in a pressure membrane apparatus the external gas pressure is known, in the field this is often not the case. Nevertheless the determination of the three parameters Δh , π , and p (π in practice being calculated from the measured electrical conductivity of the soil solution) suffices for characterizing the state of water in soil; their gradients are the basis for transport theory.

3. The name associated with the potential derived from a tensiometer pressure reading could be the pressure potential, as indeed it represents the equivalent pressure in the soil liquid phase in situ. It ranges from negative to positive values and in the latter case is often based on the pressure as calculated from piezometer readings. Obviously it foregoes a reference to its cause, but as this is the combined influence of gas pressure, matrix configuration, and water content and configuration, this seems unavoidable.

B. The subcomponents of the pressure potential

Any complete analysis of equilibrium or flow problems requires relating the water potential to the water (or liquid) content of the soil. The components ψ_g and ψ_o being determined by height and osmotic pressure in the soil solution, the water content will influence only ψ_p . It must be realized that it is particularly the geometry of the liquid phase that determines the pressure increment from the gas phase to the liquid phase. The geometry of the liquid phase depends on the water content (for a given solute concentration in the liquid phase) and on the matrix geometry, the latter in turn being influenced by the mechanical envelope pressure. Thus in addition to the water content, at least two other independent variables, viz. the pressure in the gas phase, P_a , and the envelope pressure, P_e , will together determine ψ_p . Using again the tensiometer reading as the experimentally accessible parameter, one may introduce at least two subcomponents of the pressure potential, according to $\psi_p = \psi_p^m + \psi_p^a$. One may then define:

DEF. 11: The *pneumatic potential*, ψ_p^a , is the increment of ψ_p upon the introduction of an excess gas pressure $\Delta P_a \equiv P_a - P_o$ on a soil sample with given wetness and subject to a given envelope pressure. In so far as the application of ΔP_a does *not* influence the geometry of the liquid phase, this potential may be calculated according to:

$$\psi_p^a = \int_0^{\Delta P_a} \bar{V}_w dP_a$$

in which $\bar{V}_w$ is the partial specific volume of water in the soil liquid phase in situ. In practice it is assumed to be equal to $\bar{V}_w$.

DEF. 12: The *matric potential*, ψ_p^m , is the value of ψ_p of a soil sample at given wetness and subject to a given envelope pressure but with $\Delta P_a = 0$.

Referring to the comments above it must be noted that only in soils with a rigid matrix ψ_p^m has a definite, though not necessarily unique, relationship with the wetness w . As in swelling soils ψ_p^m depends on both w and P_e one may define for these soils:

DEF. 13a: The "envelope-pressure" potential (overburden potential), ψ_p^e , is the increment of ψ_p following the application of an envelope pressure P_e to a soil sample with wetness w and $\Delta P_a = 0$, and originally under zero envelope pressure, according to:

$$\psi_p^e = \int_0^{P_e} \left(\frac{\partial \psi_p}{\partial P_e} \right)_{w, \Delta P_a = 0} \cdot dP$$

DEF. 13b: The *wetness-potential*, ψ_p^w , is the value of ψ_p in a soil sample at wetness w , with $P_e = \Delta P_a = 0$.

The above definitions, though involving a somewhat circular reasoning, were preferred above further extensions of the set under A, stressing the fact that ψ_t is fully determined by ψ_g , ψ_o , and ψ_p under all circumstances.

The choice of the name "wetness potential" for ψ_p at zero P_e and ΔP_a may seem a questionable introduction of a new name, but it is at least indicating directly its relation with the water content. It may be noted that if the matrix is rigid, ψ_p^e vanishes, and that then ψ_p^m equals the matric or capillary potential as defined in the report of 1963 (in which the effect of the envelope pressure was not taken into account). In swelling soils, however, the names matric and capillary potential should refer to the sum of ψ_p^w and ψ_p^e , as the "matric effect" on the soil water in situ, as also the "capillary retention" due to curved interfaces, depend on the matrix geometry as it results from the packing of the grains under the local envelope pressure.

C. The pressure equivalents of soil water potentials

As all components and subcomponents of the total potential (except for the gravity potential) were expressed in terms of measurable pressures of the tensiometer (piezometer) and the osmometer, pressure equivalents of the components and subcomponents have, in effect, already been introduced. For completeness, we give the following explicit definitions.

DEF. 14: The *negative osmotic pressure*, π , is the negative of the gauge pressure, in Pascal or mbar, relative to atmospheric pressure, to which a sample of the soil solution at P_o and T_o must be subjected in order to be in equilibrium via a membrane impermeable to the solutes with pure water at P_o and T_o .

DEF. 15: The *tensiometer pressure*, p , is the gauge pressure, in Pascal or mbar, relative to atmospheric pressure, to which a sample of the soil solution at P_o and T_o must be subjected in order to be in equilibrium via a membrane impermeable to the soil matrix with the soil water at the point under consideration.

Following DEF. 11 and 12, p may be subdivided according to $p = p^m + p^a$. Following DEF. 11 and 13 one finds $p = p^w + p^e + p^a$. It is noted that for all practical purposes $p^a = \Delta P_a$, the external gas pressure relative to atmospheric pressure. On the other hand, generally $p^e \neq P_e$.

D. The head equivalents of soil water potentials

As the soil water potentials defined above refer to the state of the *constituent water* in the liquid phase, while in practice head readings are obtained from the (hydraulic) equilibrium position of the *soil solution* in a piezometer pipe (if necessary in the open leg of a tensiometer equipped with a "solution manometer"), it should be stressed that in general the head refers to a potential of the liquid phase and has no unique relation with the *water potentials* above.

It is noted that in principle hydraulic equilibrium between two identical solutions positioned at different height precludes the existence of equilibrium of the component water. At least if the specific volume of water and solute are unequal, full equilibrium implies that concentration gradients arise in the gravitational field. Because of its usefulness in describing the flow of the liquid phase through soil, the head is defined here directly as:

DEF. 16: The *hydraulic head*, H , of the liquid phase is the height, relative to the standard height, at which the level of the soil solution stands in a piezometer tube (or "open" tensiometer), connected to the point under consideration in the soil, to be specified in meter. If the liquid phase density, ρ_1 , is constant and known, the hydraulic head may be related to the height and the pressure equivalent of ψ_D , according to:

$$H = \Delta h + p/\rho_1 g,$$

in which case $p/\rho_1 g$ is sometimes referred to as "pressure head". Conversely, a pressure equivalent of H may (under the stipulated condition of constant ρ_1) be defined as:

$$p^* = p + \rho_1 g \Delta h.$$

As will be elaborated on in part III, in the above case $-\nabla p^*$ constitutes the driving force on the soil solution, in N/m^2 , while $-\nabla H$ is the same in dimensionless units of N per kg of the liquid phase relative to the gravitational force on a kg liquid.

E. The water (or liquid) retentivity curve and the differential water (or liquid) capacity

In dealing with flow problems there is often a need for introducing a relationship between the water (or liquid) content of a soil and the appropriate component potential. For soils with a rigid matrix this potential is the matric potential defined above. Admitting that, due to hysteresis in the filling and emptying of the pores, such relationships are not unique, in practice one is generally satisfied to use such relationships as they are obtained experimentally by measuring water (or liquid) contents in a representative sample of the soil studied, at $\Delta P_a = 0$, as a function of the tensiometer pressure. Because of the application of the obtained relationship to flow problems it appears preferable to define it in terms of p^m and w (or θ). In swelling soils, however, p^m is a function of both w and P_e . In case the relationship between p^e in P_e is available one might relate p^w to w (or θ). If not, one must take into account that in general the relation between p^m and w (or θ), comprises a family of curves corresponding to different values of P_e .

DEF. 17: The *water (or liquid) retentivity curve* of a soil is the curve relating p^m (for a specified envelope pressure in case of swelling soils) or p^w to w or the volume fraction θ of the soil liquid phase. Because of hysteresis phenomena one may distinguish between *wetting* and *drying* (boundary) curves, if necessary supplemented by wetting and drying scanning curves corresponding to partial wetting and drying cycles.

For rigid soils, the habitual choice is to plot p^m against θ . As, however, such a liquid retentivity curve of a local soil may differ from that of the sample used for its determination, its critical dependence upon the packing of the sample must be fully realized. As furthermore the value of θ used in plotting the curve is in practice often obtained from the measurement of changes in w/ρ_w , it would merit attention to label the liquid content axis as $w \cdot {}^b\rho_s(i)/\rho_w$, indicating that the curve refers to a sample of the particular soil type with an initial solid phase bulk density ${}^b\rho_s(i)$. This would also cover any error due to a slight change of ${}^b\rho_s$ upon absorption of the water in not quite rigid soils.

Again in flow theory not only the liquid retentivity curve, but specifically its slope as a function of p^m and θ is of importance. This leads to the definition of a capacity according to:

DEF. 18: The *differential water (or liquid) capacity* of a soil, C_w or $C\theta$ is the rate of change of w (or θ) with p^m to be specified in Pascal $^{-1}$ or mbar $^{-1}$.

Obviously, in swelling soils this capacity depends on the value of P_e which thus should be specified. If such a specification is omitted this will imply that the capacity refers to either a non-swelling soil or to the retentivity curve at zero envelope pressure, thus constituting dw/dp^w or $d\theta/dp^w$.

III. Terms relating to the movement of the liquid phase

A complete treatment of the movement of water in a soil would require an analysis of the forces acting upon the constituent water in each phase. However, for the purpose of this report only the movement of the liquid phase will be considered and the presence of dissolved substances will, in effect, be ignored. In other words, the definitions of various quantities will be based upon the forces acting on the liquid phase as a whole. The

primary forces are the gravitational force, the force associated with gradients of the tensiometer pressure, p , and the drag forces exerted upon the liquid phase by the solid and gas phases. The gradient of p can, in general, be decomposed into gradients of p^m (or p^w and p^e), and p^a . The drags exerted by the solid and gas phases, are, for simplicity, lumped into one force.

DEF. 19: The *velocity* of the liquid phase relative to the solid phase, v , is the time rate of change of position of an element of the liquid phase relative to an element of the solid phase in m/sec.

DEF. 20: The *flux* of the liquid phase relative to the solid phase, q , is the product of the volume fraction θ and the velocity v in m/sec.

DEF. 21: The *hydraulic conductivity*, K , in m^2 per Pascal, per sec or m^2 per mbar, per sec is the constant of proportionality between the flux q and the total driving force $(-\nabla p - \rho_1 g \Delta h)$ in Darcy's law: $q = -K (\nabla p + \rho_1 g \nabla h)$.

The flux q divided by the hydraulic conductivity K represents the drag force. The hydraulic conductivity K may also be defined as the flux caused by a unit driving force. If the soil is rigid and the presence p^a of the gas phase is uniform, then the pressure p in Darcy's law can be replaced by the pressure p^m . If, moreover, the pressure p^m is a unique function of the volume fraction θ (no hysteresis!), then Darcy's law can be written as:

$$q = -K \left(\frac{dp^m}{d\theta} \nabla \theta + \rho_1 g \nabla h \right). \text{ In that case one may use:}$$

DEF. 22: The *liquid diffusivity*, D , in m^2 /sec is the quotient of the hydraulic conductivity K and the differential liquid capacity, $C\theta$. Introducing D in Darcy's law gives:

$$q = -D \nabla \theta - K \rho_1 g \nabla h$$

The diffusivity D may also be defined as the flux caused by a unit gradient of the volume fraction θ .

Slightly different definitions of water capacity and hydraulic conductivity result if the pressure p^m is replaced by a pressure head $p^m/\rho_1 g$.

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* Dr. Iwata wants to point out his opinion that the state of the component water in the soil system may be satisfactorily expressed in terms of its thermodynamic potential.

**NEWS FROM THE NATIONAL SOCIETIES
NOUVELLES DES ASSOCIATIONS NATIONALES
BERICHTE DER NAZIONALEN GESELLSCHAFTEN**

Belgique

Le 8 octobre 1975 la Société belge de pédologie — Belgische Bodemkundige Vereniging — a organisé une journée d'études sur les "Structures et fertilité des sols limoneux sur fermes mécanisées". Le colloque qui eut lieu à la Faculté des sciences agronomiques de l'Université de l'Etat à Gand, a traité de l'évolution des propriétés du sol et du rendement sous l'influence des pratiques culturales. De plus, l'économie en eau du sol et le bilan des éléments nutritifs ont été étudiés en fonction des facteurs pédologiques et climatiques.

Brazil

The Brazilian Society of Soil Science held its 15th Congress at Campinas, Sao Paulo, Brazil, in July 1975. Over 200 scientists participated and representatives of FAO, USAID, IPI, PINA, the North Carolina State University (USA), and the Rothamstead Experimental Station (UK) took part. One hundred and five technical papers were presented, dealing with soil fertility and soil testing, soil survey and classification, soil genesis, land capability and soil conservation. Emphasis was given to the correlation between soil testing for phosphorus and response to the phosphatic fertilizers. In the tropical soils of Brazil it is common to observe linear response to P even with heavy applications. A number of papers reflected an increasing interest in the use of micro-nutrients in Brazil. Problems of aluminum toxicity also aroused great interest. Considerable attention was given to soil acidity and liming. The Congress' deliberations reflected increased concern about erosion hazards.

Bulgaria

On 15 July 1975, ground was broken for the construction of a new wing of the Nicola Poushkarov Institute of Soil Science at Sofia, which will be mainly devoted to training. The building will comprise a hostel which will accomodate 80 students, lecture rooms, and laboratories. Courses will be organized both for Bulgarian and for foreign students. The start of the training program is envisaged for late 1977. Special fields of study will comprise soil and water analysis, soil fertility, soil survey and its interpretations for land use planning, computerized soil management.



Dr. I. Garbouchev, Director of the Nicola Poushkarov Institute of Soil Science at Sofia, and Vice President of the Bulgarian Society of Soil Science, breaking ground for the construction of a new wing of the Institute, 15 July 1975.

Jugoslawien

Im Laufe der Jahre 1974 und 1975 organisierte die Jugoslawische Gesellschaft für Bodenforschung Symposien, Beratungssitzungen und Arbeitsversammlungen, gewidmet den nachstehenden Problemen:

Kommission I:

“Untersuchung des Feuchtigkeitsregimes der Böden, Feuchtigkeitsmessmethoden und Problematik der Auslegung der Resultate”.

Bei der Arbeitsversammlung sind 12 Referate gehalten worden.

Kommission III:

“Ökologische Aspekte mikrobiologischer Boden- und Wasser-Forschungen”.

Die Beratung war dem Jubiläum, anlässlich der 40-jährigen wissenschaftlichen und Unterrichts-Tätigkeit des Akademikers Prof. Dr. Zivojin P. Tešić gewidmet.

Kommission IV:

“Probleme der Ernährung und Düngung der Maiskulturen”.

Auf dem Symposium sind 40 Referate vorgelegen. Teilgenommen haben auch die Vertreter von Frankreich, Italien, Österreich, Tschechoslowakei, Ungarn und Rumänien.

Kommission V:

“Förderung der Methode für die Interpretation der pedologischen Grundkarte in verschiedenen Anwendungsgebieten”.

Bei der Beratungssitzung sind 9 Referate vorgelegt worden.

“Standardisierung der pedologischen Karte Jugoslawiens 1:50000 und Vervollkommung des Informationssystems”. Bei der Beratungssitzung sind 3 Referate vorgelegt worden.

Kommission VI:

“Erhöhung der Produktivität in den Bergigen und Gebirgs-Gebieten mittels Agro- und Hydromelioration”. Auf dem Symposium wurden 10 Referate vorgelegt.

“Jugoslawisches Symposium über die reale Bodennutzung”.

Auf dem Symposium sind 35 Referate vorgelegen.

Kommission VII:

“Neue Resultate von Untersuchungen der Mineralogie und Geologie der Böden”.

Dem Symposium sind 15 Referate vorgelegen.

Der nächste V. Kongress der Jugoslawischen Gesellschaft für Bodenforschung wird vom 24. bis 31. Mai 1976 in Sarajewo abgehalten. Die Hauptthemen des Kongresses sind:

“Probleme der Bodennutzung unter Bewässerungs- und Entwässerungs-Bedingungen”

“Die Böden der Bergs- und Gebirgs-Regionen”

“Bodenschutz-Probleme”.

Im Rahmen des Kongresses sind 3 Exkursionen und eine Ausstellung vorgesehen.

South Africa

The Soil Science Society of Southern Africa – Grondkundervereniging van Suidelike Afrika – held its sixth Congress at Blydepoort from 2-4 July 1975. Twenty six lectures were held on themes of soil fertility, soil chemistry, soil physics and soil classification. The Congress elected its Board, which is composed as follows:

President:

Dr. M.C.F. du Plessis, Soils and Irrigation
Research Institute, Private Bag X79, Pretoria 0001

Vice-President:

Dr. R.F. Loxton, P.O. Box 39265, Bramley,
Johannesburg, 2018

Secretary-Treasurer:

Dr. P. Fuls, Soils and Irrigation Research
Institute, Private Bag X79, Pretoria 0001

Members:

Dr. A.D.P. Botha, Dr. P.M. Grant, Dr. D.M. Scotney.

Sri Lanka

The Soil Society of Sri Lanka held its 6th Annual General Meeting on 19 July 1975. It elected its Board, composed as follows:

President: Dr. C.R. Panabokke

Vice-President: Mr. D.M. Rodrigo

Secretary: Dr. C.S. Weeraratne

Treasurer: Mr. L.G. Yapa

Editor: Dr. M.W. Thenabadu

Correspondence for the Soil Society of Sri Lanka should be addressed to:

Dr. C.S. Weeraratne, Department of Agricultural Chemistry Faculty of Agriculture University of Sri Lanka, Peradeniya, Sri Lanka.

Sweden

The Swedish Society of Soil Science communicated the composition of its Board for 1975:

President: Dr. Erik Danfors, Dept. of Land Improvement and Drainage,
Institute of Technology, S-100 44 Stockholm

Vice-President: Dr. Jan Persson, Dept. of Soil Science, Agricultural
College, S-750 07 Uppsala

Secretary and

Treasurer: Dr. Bo Thente, National Laboratory for Agricultural
Chemistry, S-750 07 Uppsala

The Netherlands

On Wednesday, 12 November, the Soils Society of The Netherlands organized a series of lectures dealing with the crop rooting system and its environment. Special attention was given to soil conditions in relation to root development, physical and chemical aspects of plant nutrition, ionic balances in plants and their influence on the pH of the rhizosphere and the influence of micro-organisms on processes which they place in the rhizosphere.

U.S.A.

Soil Science Society of America - 39th Annual Meeting

The 39th annual meeting of the Soil Science Society of America was held on the campus of the University of Tennessee, August 24-29, 1975. The meeting was held concurrently with the meetings of the American Society of Agronomy and the Crop Science Society of America. Over 3400 members and guests of the three societies participated in the various activities.

A total of 350 papers were presented in the 44 sessions sponsored principally by one or more of the SSSA divisions. In addition, SSSA divisions cooperated with ASA and CSSA divisions in sponsoring 30 other sessions and symposia. SSSA-sponsored symposia included: "Sulfur-Coated Urea", "Soil Testing: Correlating and Interpreting the Analytical Results", "Long-Lived Radionuclides in Soil-Plant Systems", "Minerals and Other Nonlayer Silicate Weathering Products", and "New Format for Accelerating Publication and Use of Soil Surveys". Other highlights included sessions on "The Rhizospheres of Forest Soils", "Improving Fertilizer Use in Developing Countries", "Denitrification", and "Microorganisms and Wastes". A Tuesday evening joint session with CSSA included presentations on "Agronomists and the Mineral Nutrition of People and Animals" by Dr. W.H. Allaway and "The Peoples Republic of China I Saw

in 1974" by Dr. G.W. Burton.

The annual SSSA luncheon on Tuesday, August 26 provided the setting for the introduction of new officers and presentation of awards. Dr. Charles F. Eno, University of Florida, passed the presidential gavel to Dr. Charles B. Davey of Authority was announced as the new Vice President of SSSA.

The Soil Science Award, sponsored for the first time by SSSA, was presented to Dr. Dale Swartzendruber of Purdue University for his research in soil physics and water movement in soil. The Emil F. Truog Award, presented annually to a recent Ph. D. recipient who makes an outstanding contribution to soil science in his thesis, went to Dr. Russell Ballard, a soil scientist with the New Zealand Forest Research Institute, who completed his Ph. D. on the use of soil testing techniques in forestry at the University of Florida.

Three individuals were made Honorary Members of SSSA in recognition of their many years of dedication and outstanding service to the Society. Those honored were: Dr. Charles A. Black, Iowa State University; Dr. Hans Jenny, Emeritus Professor, University of California-Berkeley; and Dr. Frank Viets, Jr., Agricultural Research Service, U.S. Department of Agriculture (retired).



Dr. Charles F. Eno (left) presented the 1975 Soil Science Award to Dr. Dale Swartzendruber of Purdue University at the annual luncheon during the 39th meeting of the Soil Science Society of America.

In Memoriam

Norman H. Taylor



A former Chairman of Commission V (1956-60) and Director of the New Zealand Soil Bureau (1952-62), Dr. Norman Taylor, died recently in Lower Hutt at the age of 75 years. His passing is mourned by a large circle of friends and colleagues in many countries. Dr. Taylor was a member of the New Zealand Soil Survey from its formation in 1930, and he played a leading part in the development of soil science in New Zealand. His 1948 genetic classification of New Zealand soils and the national reconnaissance soil surveys laid the basis for the integrated approach to soils and land use of the Soil Bureau from the 50's. The Soil Bureau's multidisciplinary team, working within the unifying framework of the soil classification, applied soil knowledge in its widest sense to the solution of problems of plant, animal, and man.

He was elected to the Council of the International Society of Soil Science in 1950 in Amsterdam and made Chairman of Commission V in Paris in 1956. He strongly supported the FAO/Unesco Soil Map of the World programme and served on the Advisory Committee. One of his last duties before retirement was to Chair the Joint Meeting of Commissions IV and V in New Zealand in 1962. He served as a Consultant in a number of countries and will be remembered for his down-to-earth practical advice in countries as far apart as Egypt, Eire, and Mexico.

In 1952 he founded the New Zealand Society of Soil Science and was elected its first President. From small beginnings he saw the Society grow to its present influential position with a membership approaching 500.

For his outstanding contributions he was elected a Fellow of the Royal Society of New Zealand in 1956, awarded an OBE in 1960, and an honorary D.Sc. by Massey University in 1964. He was also a Fellow of the N. Z. Institute of Foresters.

His colleagues will long remember his wide vision, his infectious enthusiasm, his scientific creativity, but possibly most of all his true friendliness and humanity.

Soil Bureau - New Zealand

Prof. Emeritus J.J. Theron



Prof. J.J. Theron, of the Faculty of Agriculture of the University of Pretoria, died suddenly in Pretoria on 18 June 1975. Born in Johannesburg in 1896, Prof. Theron matriculated from Volks High School at Heidelberg in 1914. In 1915 he enrolled for the BSc (Agric) degree at the then T.U.K. (later the University of Pretoria). At that stage, the present Agricultural Faculty did not yet exist and consequently he played an important part in its establishment. He was the first student who obtained his BSc (Agric) degree in South Africa in 1918. In 1922 he obtained his PhD degree at the University of California, USA.

From 1923 to 1928, Prof. Theron played an active part as scientist at the Agricultural College of Potchefstroom and in 1929 he was appointed senior lecturer in the Faculty of Agriculture at the T.U.K. In 1938 he obtained his professorship, and from 1948 to May 1956 when he retired, he was dean of the Faculty of Agricultural Sciences. During this period he also held the distinction of being assistant director and later director of the Agriculture Research Institute.

Prof. Theron attained international recognition as a man of research, and in his own right he is regarded as the father of the present grass lay system, which has as its aim the recovery of the structure of arable lands in South Africa.

Prof. Theron was for many years a full member of the South African Academy for Science and Art, and played a leading role in the formation of the Division of Agriculture in 1943. In 1957 he received the Havenga prize for his important contributions in the field of agricultural research. His Alma Mater honoured him in 1964 by awarding him the degree of DSc (Agric) (honoris causa). He was also a member of the International Society of Soil Science and a founding and honorary member of the Soil Science Society of Southern Africa.



Prof. Dr. A.C. Schuffelen

Prof. Schuffelen died suddenly on 2 September 1975. Born on 14 November 1908, at Gestel, The Netherlands, he studied pharmacy and analytical chemistry at the State University of Utrecht. In 1949 he became Prof. in agricultural chemistry at the Agricultural Faculty in Wageningen. Prof. Schuffelen devoted the larger part of his work to plant nutrition, with special reference to the absorption of ions by plants in relation with the ionic activity in the soil solution. He repeatedly stressed the importance of fertilizers for the world food production. His interest in the use of isotopes in agricultural research led to the establishment of ITAL (Institute for the Application of Atomic Energy in Agriculture). He was an active member of the ISSS and was past Chairman of Commis-

sion II - Soil Chemistry. On 13 December 1974, he held his farewell lecture dealing with "Old and New Fertility Problems" which was reproduced in a special issue of The Netherlands Journal of Agricultural Science (Vol. 22, No. 4, 1974)

Professor Dr. Nikola Pavićević



Im Mai des Jahres 1974 verstarb im 63. Lebensjahr Professor Dr. Nikola Pavićević, ordentlicher Professor der Universität Belgrad.

Prof. Dr. Nikola Pavićević wurde im Jahre 1911 in dem Dorfe Pješivički Do bei Danilovgrad geboren. Seine Studien vollendete er an der Belgrader Fakultät für Landwirtschaft und Forstwesen, während er im Jahre 1952 seine Doktorwürde erlangte.

An der Landwirtschaftsfakultät in Belgrad unterrichtete er in den Fächern: Bodenphysik und Mechanik, Bodennutzung und Bodenschutz. Er war Inhaber des Lehrstuhls für Melioration und Bodenschutz, sowie Leiter des Instituts für Bodenkunde. Ferner war er Vorsitzender der Jugoslawischen Gesellschaft für Bodenforschung und Mitglied der Internationalen Bodenkundlichen Gesellschaft.

Allein oder gemeinsam mit anderen Autoren veröffentlichte er über 40 wissenschaftliche Arbeiten. Für diese Arbeiten erhielt er im Jahre 1963 den "Oktober-Preis" der Stadt Belgrad.

Mit dem Tode von Prof. Dr. Nikola Pavićević haben die Landwirtschaftsfakultät der Universität Belgrad, die wissenschaftlichen Institute, die sich mit Bodenuntersuchungen befassen. Und die Jugoslawische Gesellschaft für Bodenforschung ein beliebtes Mitglied, ihren hochgeschätzten wissenschaftlichen Mitarbeiter, ihren langjährigen Professor verloren, dessen Tätigkeit dazu beitrug, dass sich die Lehre der Bodenkunde und Förderung der landwirtschaftlichen Produktion in Jugoslawien entwickeln konnten.

Jugoslawische Gesellschaft
für Bodenforschung

FAO



At its 18th Session on 10 November 1975, the General Conference of the Food and Agricultural Organization of the United Nations elected Mr. Edouard Saouma as its new Director General. Born in Beirut on 6 November 1926, Mr. Saouma studied agricultural chemistry at the University School of Engineering at Beirut and graduated as "Ingénieur agronome" from the National School of Agronomy at Montpellier, France. In 1955 he became Director General of the National Institute for Agricultural Research of Lebanon. Mr. Saouma's association with FAO dates back to 1955 from which time he participated in all sessions of the FAO Conference and Council as a delegate of Lebanon and later as a member of the Secretariat. From 1957 until 1962 he was a member of FAO's Programme Committee. In 1962 Mr. Saouma joined the staff of FAO as Deputy Regional Representative for Asia and the Far East in New Delhi. From 1965 to date, he served as Director of the FAO Land and Water Development Division, and in 1969 he became the

Chairman of the Interdepartmental Working Group on Natural Resources and Human Environment. In 1970 he was appointed Minister of Agriculture, Fisheries and Forestry of the Government of Lebanon.

On different occasions Mr. Edouard Saouma has encouraged and supported the cooperation between the ISSS and FAO. Our society is looking forward to continuing this close cooperation under his leadership.

Au cours de sa 18ème session, le 10 novembre 1975, la Conférence générale de l'Organisation des Nations Unies pour l'alimentation et l'agriculture a élu M. Edouard Saouma nouveau Directeur général. Né à Beyrouth le 6 novembre 1926, M. Saouma fit ses études de chimie agricole à l'Ecole d'ingénieurs de l'Université de Beyrouth et obtint son diplôme d'ingénieur agronome à l'Ecole nationale supérieure agronomique de Montpellier, France. En 1955, il devint Directeur général de l'Institut national de la recherche agronomique au Liban. La participation de M. Saouma aux activités de la FAO remonte à 1955, date à partir de laquelle il prit part à toutes les sessions de la Conférence et du Conseil de la FAO en qualité de délégué du Liban, puis en tant que membre du Secrétariat. De 1957 à 1962, il fut membre du Comité du Programme de la FAO. En 1962, M. Saouma devint membre de la FAO avec les fonctions de Représentant régional adjoint pour l'Asie et l'Extrême-Orient, à New Delhi. Depuis 1965 il fut le Directeur de la Division de la mise en valeur des terres et des eaux de la FAO et devint, en 1969, le Président du Groupe de travail interdépartemental sur les ressources naturelles et l'environnement. En 1970, il fut nommé Ministre de l'agriculture, des pêches et des forêts du Gouvernement du Liban.

En maintes occasions M. Edouard Saouma a encouragé et apporté son soutien à la coopération établie entre l'AISS et la FAO. Notre Association se réjouit que cette coopération se poursuivra sous sa direction.

Auf ihrer 18. Sitzung wählte die Generalkonferenz der UN-Organisation für Ernährung und Landwirtschaft (FAO) den Libanesen Edouard Saouma zu ihrem neuen Generalsekretär. Edouard Saouma wurde am 6. November 1926 in Beirut geboren. Er studierte Agrarchemie an der Ingenieurhochschule in Beirut und promovierte als Agraringenieur an der Nationalen Landwirtschaftsschule in Montpellier, Frankreich. 1955 wurde er Direktor des Nationalen Instituts für Agrarforschung im Libanon. Edouard Saoumas Verbindung zur FAO begann 1955, und er hat seitdem, erst als Delegierter des Libanon und später als Mitglied des Sekretariats, an allen Sitzungen der FAO-Konferenz und des FAO-Beirats teilgenommen. Von 1957 bis 1962 war er Mitglied des Programmkomitees der FAO. 1962 trat Edouard Saouma als Stellvertretender Regionalrepräsentant für Asien und den Fernen Osten in New Delhi in die FAO ein. Seit 1965 war er Direktor der Land- und Wasserabteilung der FAO in Rom; 1969 wurde er Vorsitzender der "Interdepartmental Working Group on Natural Resources and the Human Environment". 1970 wurde er zum Minister für Landwirtschaft, Fischerei und Forsten der libanesischen Regierung ernannt.

Edouard Saouma hat wiederholt die Zusammenarbeit zwischen der IBG und der FAO ermutigt und unterstützt. Unsere Gesellschaft hofft, dass diese enge Zusammenarbeit unter seiner Führung fortgesetzt wird.

INQUA

Working Group on Applied Paleopedology

During the last meetings of the INQUA Paleopedology Commission in New Zealand, December 1973, a new subgroup was organized called: "Working Group on Applied Paleopedology".

Paleosols are becoming increasingly applied to engineering practice and land planning, but thus far little specific information is available to all potential users. The Working Group should initially assess present applications of paleopedology, note specific examples, and possibly publish a collection of recent case histories. The document thus produced might be circulated to government agencies, universities, private consultants, and others who may profitably use the information. In essence, an important goal is to disseminate and apply paleopedological concepts and techniques as they are developed by independent researchers and other Working Groups of the Paleopedology Commission.

The Convenor of the working group, Dr. Roy J. Shlemon, is soliciting your ideas, suggestions, and possible manuscript contributions on paleopedological applications.

Soil scientists who have not received the correspondence of the Working Group may wish to contact the convenor:

Dr. Roy J. Shlemon, Working Group on Applied Paleodology, INQUA, P.O. Box 20203, Long Beach, California 90801, U.S.A.

**ISSS DIARY
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1976

16-21 February 1976

International Symposium on Arid Land Irrigation in Developing Countries, Environmental Problems and Effects, Alexandria, Egypt.

Convened by the ICSU Committee on Water Research (COWAR), organized jointly by COWAR, Unesco and the Academy of Sciences and the Ministry of Irrigation of Egypt, with the cooperation of the ISSS.

- Topics:
- Influence of irrigation on hydrological processes;
 - Land use, soils and water quality;
 - Irrigation and environment;
 - Efficiency of irrigation schemes;
 - Human problems in irrigation areas.

Information and registration: Mr. Gamul Abdel-Samie, COWAR Symposium, 101 Kasr el Ainy Str., Cairo, Egypt.

16-21 février 1976

Symposium international sur l'irrigation des terres arides dans les pays en voie de développement, Problèmes et effets environnementaux, Alexandrie, Egypte.

Convoqué par le Comité de la Recherche sur l'Eau (COWAR) du CIUS, organisé conjointement par le COWAR, l'Unesco, l'Académie des Sciences et le Ministère de l'Irrigation d'Egypte, en coopération avec l'AISS.

- Sujets:
- Influence de l'irrigation sur les processus hydrologiques;
 - Utilisation des terres, qualité des sols et des eaux;
 - Irrigation et environnement;
 - Efficacité des projets d'irrigation;
 - Problèmes humains des régions irriguées.

Information et inscription: Mr. Gamul Abdel-Samie, Symposium COWAR, 101 Kasr el Ainy Street, Cairo, Egypt.

2-4 March 1976

Workshop on information systems for soil and related data, Canberra A.C.T., held under the aegis of the Working Group on Soil Information Systems (Com. V, ISSS).

Topics: data storage and retrieval, applications in soil survey, soil conservation, soil fertility, soil description.

Information and registration: A.W. Moore and N.M. Dawson, Organizing Committee, c/o CSIRO Division of Soils, Cunningham Laboratory, Mill Rd., St. Lucia, 4067, Canberra, A.C.T., Australia.

13-18 June 1976

Agrochemicals in Soils (Commissions II, IV and VII, ISSS), Jerusalem, Israel.

The rapid increase in the agricultural use of chemicals has developed intense scientific activity in each separate field of interest. The exchange of information between members of the above three commissions could stimulate academic research and enrich practical experience.

Topics: – Surface reactions of agrochemicals in soils: (a) Adsorption of organic agrochemicals in soils; (b) Organo-clay complexes; (c) Surface structure of clay minerals in relation to their chemical activities.

– Movement of agrochemicals in soils: (a) Movement and uptake by plants; (b) Degradation of organic agrochemicals; (c) Mathematical modelling of the dynamics of agrochemicals in soils.

– Agrochemicals and soil structure.

– Agrochemicals and pollution: (a) Effect of agrochemicals on the environment; (b) Impact and possibilities of reuse of urban wastes in agriculture; impacts on the soil system.

– The fate of nutrient applied to the soil (uptake, immobilization, losses).

Information and registration (see also Notice of Intent): The Secretariat, Agrochemicals in Soils, P.O. Box 16271, Tel Aviv, Israel.

21-25 June 1976

Soil Organisms as Components of Ecosystems, 6th International Colloquium on Soil Zoology (Commission III, ISSS), **Agricultural College, Uppsala, Sweden.**

The 6th International Colloquium on Soil Zoology will be hosted by the Swedish Society of Soil Science and the Swedish Ecological Society Oikos. The theme of the colloquium centres on soil organisms – both soil fauna and microorganisms, including plant roots – and their role in the ecosystem.

Topics:

- Community structure and niche separation in the soil system;
- The role of soil organisms in nutrient cycling;
- Plant roots in the soil system;
- Simulation models of soil organisms and their environment.

Information and registration: Dr. U. Lohm, Department of Entomology, University of Uppsala, P.O. Box 561, S-751, 22 Uppsala 1, Sweden.

2-18 August 1976

Classification and Management of Tropical Soils (Commissions IV and V, ISSS) **Kuala Lumpur, Malaysia.**

This joint inter-congress meeting of Commissions IV and V will be hosted by the Malaysian Society of Soil Science.

Topics:

- Soil genesis, classification and cartography:
 - Soil genesis; Soil classification and productivity; Soil survey and cartography
- Fertility and management:
 - Evaluation of fertility status and fertiliser requirements:
 - (a) Tissue analysis in relation to fertiliser needs
 - (b) Soil analysis in relation to fertiliser needs
 - (c) Fertiliser requirements of (i) rice; (ii) plantation crops; (iii) other arable crops
 - Systems of tropical soil management
 - Management of flooded soils
 - Soil management for plantation crops
 - Soil management for arable crops
 - Management of problem soils in the Tropics.
- Land evaluation in tropical areas.

Following the Conference, there would be a post-Conference field tour both in Peninsular Malaysia as well as in Sarawak and Sabah. Emphasis of the tour will be to demonstrate various points of particular relevance to the theme of the Conference and would include soils and crop management aspects.

Information and registration: Malaysian Society of Soil Science, c/o Soils and Crop Management Division, Rubber Research Institute of Malaysia, Jalan Ampang, P.O. Box 150, Kuala Lumpur, Malaysia.

16-20 August 1976

International Conference on Managing Saline Water for Irrigation Planning for the Future, (Subcommission on Salt Affected Soils, ISSS), Texas Tech University, Lubbock, Texas.

Topics: – Problems in the use of saline water for irrigation and on procedures for predicting the impact of irrigation on soil salinity and the salinity of irrigation return flows.

– Guidelines for predicting salinity and alkalinity hazards and on standardization of analytical methods.

Field tours from 21 to 27 August.

Information and registration (see also Notice of Intent): Dr. H.E. Dregne, Dept. of Plant and Soil Science, Texas Tech University, Lubbock, Texas, 79409, U.S.A.

23-27 August 1976

Modification of Soil Structure (Commission I, ISSS), **Adelaide, Australia.**

Topics: – Modification of soil structure in relation to aggregate stability and water movement.

1. Physics of soil structure: interparticle forces and the arrangement of soil constituents in relation to the stability and mechanical strength of aggregates.

2. Treatment of soil: the use of conditioners, inorganic amendments, tillage and biological agents for crop production, dams, water shedding, sand stabilisation and waste disposal.

There will be 3 days devoted to papers covering these two themes. One full day and one half day will be spent looking at soil structure in the field.

Information and registration: Dr. W.W. Emerson, CSIRO Division of Soils, Private Bag No. 1, Glen Osmond, South Australia, 5064.

8-10 September 1976

Symposium on Water in Heavy Soils (Commissions I and VI, ISSS), **Bratislava, Czechoslovakia.**

This joint meeting of Commissions I and VI of the ISSS will be organized in cooperation with the International Commission on Irrigation and Drainage (ICID). The meeting will be hosted by the Institute of Hydrology and Hydraulics of the Slovak Academy of Sciences in collaboration with the National Committee of the ICID. The technical sessions will take place from 22-25 September 1976 and will be followed by a field tour from 26-29 September. The main topics suggested for the presentation of papers are:

(1) Solid-liquid interface phenomena as related to flow of water in swelling soils.

(2) Flow of water in swelling and shrinking soils. Laboratory and field data and methods.

(3) Theory and practical determination of design parameters for reclamation of heavy soils (e.g. the spacing and depth of underground drainage and the dimensioning of land constructions drainage exclusive of technological aspects of reclamation).

Papers should not exceed 4000 words, 2 tables and 5 illustrations. Manuscripts are requested to be in English, French or Russian. Applications and title of proposed papers should be sent to the Organizing Committee by 1 September 1975. Abstracts should be submitted by 1 May 1976.

Information and registration: Organizing Committee, Symposium on Water in Heavy Soils, Trnavská, 88146 Bratislava, Czechoslovakia.

6-10 September 1976

11th Agrochimica Symposium on Soil Organic Matter; Symposium on the Use of Isotopes and Radiation in Soil Organic Matter Studies, Braunschweig, Federal Republic of Germany.

Two symposia organized jointly by the FAO/IAEA joint division, Agrochimica and Commission II, ISSS.

Topics: – Humus dynamics and soil productivity;

– Effect of natural material and synthetic products on nitrogen economy in the soil ecosystem;

– Modern techniques in soil organic matter research;

– Biochemical transformation of organic materials added to the soil;

– Special properties of single components of soil organic matter;

- Soil organic matter and environmental protection;
- Organic materials as fertilizers;
- Convention about methods for isolation and identification of humic substance.

Papers to be submitted by end April 1976.

Information and registration: Prof. Dr. W. Flaig, Institut für Biochemie des Bodens, Forschungsanstalt für Landwirtschaft, 3301 Braunschweig, Bundesallee 50, Fed. Rep. of Germany.

1977

May 1977

5th International meeting of the ISSS Working Group on Soil Micromorphology, Granada, Spain.

The meeting is being organized by the University of Granada and the Instituto Nacional de Edafología y Agrobiología José María Albareda. It will include plenary lectures, presentation of papers as well as round table discussions on selected topics. A field trip through the south of Spain visiting Córdoba and Sevilla will follow the scientific sessions.

Included in this bulletin is a notice of intent to attend and/or participate in the meeting. A preliminary programme with tentative schedule and information concerning accommodation will be sent to all who return this form.

Information and registration: The Secretary, Prof. Dr. D. Miguel Delgado Rodríguez, Departamento de Edafología, Facultad de Farmacia, Universidad de Granada, Granada, Spain.

4-11 September 1977

Symposium on "Soil as a Site Index for Forests of Temperate and Cool Zones", Zvolen, Czechoslovakia.

The session will be organized by the Working Group on Forest Soils, Commission V of the ISSS. It will deal with current problems of forest soil science and enhance contact among specialists in the field. The sessions will be held from 4-6 September 1977; excursions will be organized from 7-11 September 1977.

All contributions to the symposium should fall under one of the following subjects:

1. Forest soils of the temperate and cool zones, their classification, mapping and evaluation.
2. Utilization and man's influence on forest soils, through silvi-cultural measures, chemical effects, fertilization and other activities.
3. Methods for the analysis of forest soils.

The excursion from Zvolen to High Tatras, Big Fatra and Brno, will demonstrate the principal soils of the Western Carpathian mountains (some of them in natural forests) as well as forest research plots, thinnings and fertilization trials.

Information and registration: Prof. Dr. Rudolf Sály, Faculty of Forest Sciences, Sturova 2, 960 53 Zvolen, CSSR.

4-11 September 1977

Symposium "Boden als Standortsfaktor der Wälder der gemässigten und kühlen Zonen", Zvolen, CSSR.

Die Tagung wird von der Arbeitsgruppe für Waldböden der V. Kommission der IBG organisiert und soll zur Behandlung aktueller Probleme der forstlichen Bodenkunde und zur Herstellung von Kontakten unter Fachkollegen dienen.

Folgende Termine sind vorgesehen: Tagung 4.-6. September, Exkursion 7.-11. September 1977.

Alle Beiträge zur Tagung sollten sich unter die folgenden Themen einordnen lassen:

1. Waldböden der gemässigten und kühlen Zone, ihre Klassifikation, Kartierung und Bewertung.

2. Nutzung und Beeinflussung von Waldböden durch den Menschen (waldbauliche Massnahmen, Chemisation und Düngung u.a.).

3. Methoden zur Untersuchung von Waldböden.

Während der Exkursion auf der Route Zvolen Hohe-Tatra Grosse-Fatra Brno werden Hauptbodentypen der Westkarpaten (einige davon in Urwäldern) und forstliche Versuchsflächen (Durchforstungen, Düngungsflächen) demonstriert.

Auskunft und Anmeldung: Prof. Dr. Rudolf Sály, Fakultät für Forstwirtschaft, Sturova 2, 960 53 Zvolen, CSSR.

10-17 October 1977

International Seminar on Soil Environment and Fertility Management in Intensive Agriculture (Commission IV, ISSS), Tokyo, Japan.

This Seminar will be organized by the Society of the Science of Soil and Manure, Japan.

Suggested topics for the Seminar are:

1. Management of Soil Fertility for Maximizing Crop Yield
 - Method of Fertilizer Application
 - Management of Soil Organic and Inorganic Components
 - Control of Irrigation and Drainage
 - Behaviour of Nutrients in Plant and Soil
2. Effects of Intensive Farming on Soil and Water Environment
 - Effect of Heavy Application of Fertilizers on Soil Properties
 - Effect of Heavy Application of Fertilizers on Water Quality
 - Soil Fertility as Influenced by Farming Systems
3. Soil Environment as a Basis for Intensive Agriculture
 - Land Use Planning for Intensive Agriculture
 - Evaluation Methods of Soil Productivity
 - Biological Aspects of Soil Fertility
 - Pollution problems in Farmland
4. Disposal and Utilization of Agricultural Waste
 - Crop Residues
 - Wastes from Animal Husbandry
 - Re-cycling of Bioelements in Soil-Plant System.

The language of the Seminar will be English. Intent of participation should be communicated not later than June 1, 1976 (see Notice of Intent). Deadline for acceptance of papers is January 1, 1977. Papers should not exceed 3000 words.

Information and registration: Prof. K. Kawaguchi, Chairman, Organizing Committee of SEFMIA, Faculty of Agriculture, Kyoto University, Kyoto, Japan.

1978

19-28 June/juin/Juni 1978

11th Congress of the International Society of Soil Science

11ème Congrès de l'Association Internationale de la Science du Sol

11. Kongress der Internationalen Bodenkundlichen Gesellschaft

Edmonton, Canada.

Organized by the Canadian Soil Science Society.

Theme: Optimum Soil Utilization Systems under differing climatic restraints.

Thème: Systèmes optimum d'utilisation des sols sous différentes contraintes climatiques.

Thema: Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen Grenzbedingungen.

Information: Organizing Committee, 11th ISSS Congress, Box 78, Sub. 11, The University of Alberta, Edmonton, Canada.

**MEETINGS, CONFERENCES, SYMPOSIA
RÉUNIONS, CONFÉRENCES, SYMPOSIUMS
TAGUNGEN, KONFERENZEN, SYMPOSIEN**

1976

2nd Annual Conference of the Consortium of Arid Lands Institutions (CALI), Tucson, Arizona, U.S.A., 4-7 February 1976.

Theme: A look at the Sonoran Desert as an International Multisociety Example.

Information: Office of Arid Lands Studies, 1201 E. Speedway, Tucson, Ar. 85719, U.S.A.

Symposium on Arid Land Irrigation in Developing Countries, Alexandria, Egypt, 16-21 February 1976, organized by ICSU Scientific Committee on Water Research (COWAR) (see also ISSS diary).

Information: Mr. Gamul Abdel Samie, 101 Kasr el Ainy Str., Cairo, Egypt.

Workshop on Information Systems for Soil and Related Data, Canberra, A.C.T., Australia (Commission V, ISSS), 2-4 March 1976 (see also ISSS diary).

Information: A. Moore, c/o C.S.I.R.O. Cunningham Laboratory, Mill Rd., St-Lucia, 4067 Canberra A.C.T., Australia.

Land Application of Waste Materials, a symposium sponsored by the Soil Conservation Society of America with ASA and SSSA cosponsoring, Des Moines, Iowa, March 15-18, 1976.

Information: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, (608) 274-1212.

4ème Congrès International de la Recherche Agronomique, Rome, Italie, 15-19 mars 1976.

Thème: La recherche agronomique et la qualité de la vie.

- Sections:
1. Inventaire des ressources naturelles
 2. Mise en valeur du milieu naturel
 3. Protection des ressources naturelles.

Information et inscription: Secrétaire général, CICRA, 106 Piazza S. Bernardo, 00187 Rome, Italie.

16th International Technical Scientific Meeting on Space, Palazzo dei Congressi, Rome, Italy, 18-20 March 1976.

- Themes:
- Scientific and earth resources satellites;
 - Space technologies;
 - Earth's exploration from space;
 - Solar energy and terrestrial non conventional energy sources.

Languages: English and Italian.

Information: Organizing Committee, Rassegna Internazionale Elettronica, 9 Via Crescenzo, 00193 Roma, Italy.

10th Biennial Conference of the West African Science Association, University of Sierra Leone, Freetown, Sierra Leone, 29 March-2 April 1976.

Theme: Conservation, development and utilization of resources for better quality of life.

Languages of the Conference are English and French.

Information: Organizing Committee, 10th Conference of WASA, University of Sierra Leone, Freetown, Sierra Leone.

3rd General Assembly of SCOPE (Scientific Committee on Problems of the Environment), Paris, France, 17-19 May 1976.

Information: Ex. Sec. of SCOPE, 51 Bd. de Montmorency, 75016 Paris, France.

5th National Congress of the Yugoslav Society of Soil Science, Sarajevo, 23-31 May 1976.

Information: Organizing Committee, Soil Science Congress, Sumarski fakultet, 71000 Sarajevo, Yugoslavia.

Symposium on Cycling of Mineral Nutrients in Agricultural Ecosystems, Amsterdam, The Netherlands, 31 May-4 June 1976, organized by Elsevier (Scientific Publishing Company), Amsterdam.

Information: Mr. K.C. Plaxton, Secretary of the Organizing Committee, P.O. Box 330, Amsterdam, The Netherlands.

The Role of Phosphorus in Agriculture, a symposium sponsored by the Tennessee Valley Authority, ASA, CSSA and SSSA, to be held in the Auditorium of TVA's National Fertilizer Development Center, Muscle Shoals, Alabama, June 1-3, 1976.

Information: Soil Science Soc. of America, 677 South Segoe Road, Madison WI 53711, U.S.A.

Agrochemicals in Soils (Commissions II, IV and VII, ISSS), Jerusalem, Israel, 13-18 June 1976 (see also ISSS diary).

Information: Agrochemicals in Soils, P.O. Box 16271, Tel Aviv, Israel.

7th Conference of the International Soil Tillage Research Organization (ISTRO), Uppsala, Sweden, 15-18 June 1976.

Themes of the Conference: Tillage problems in ploughless farming systems (reduced tillage), secondary tillage and plant establishment, soil compaction and plant growth performance of tillage tools and implements.

Information: ISTRO, Department of Soil Sciences, S-750 07 Uppsala 7, Sweden.

16th Congress of the International Union for Forest Research Organisations (IUFRO), Oslo, Norway, 20 June-2 July 1976.

Information: University Congress Service, Box 55, Blindern, Oslo 3, Norway.

6th International Soil Zoology Colloquium, Agricultural College, Uppsala, Sweden, 21-25 June 1976 (Commission III, ISSS). (See also ISSS diary).

Information: Dr. U. Lohm, Dept. of Entomology, University of Uppsala, Box 561, S-75122, Uppsala 1, Sweden.

8th International Fertilizer Congress

8ème Congrès International des Engrais Chimiques

8. International Kongress für Handelsdünger.

Moscow, U.S.S.R., 21-27 June/juin/Juni 1976.

Theme: Mineral fertilizers – harvest – nature

Theme: Les engrais chimiques – le rendement – la nature

Thema: Kunstdünger – Erträge – Natur.

Information: Organizing Committee, Orlikov per., 1/11 Moscow 107138, U.S.S.R.

Third International Symposium on Machine Processing of Remotely Sensed Data, a symposium sponsored by the Laboratory for Applications of Remote Sensing (LARS), Purdue University, Lafayette, Indiana, with ASA, CSSA and SSSA cosponsoring, June 29-July 1, 1976.

Information: Soil Science Soc. of America, 677 South Segoe Road, Madison, WI 53711, U.S.A.

International Conference on "Very Long-Term Fertilizer Experiments and their

Results", organized under the patronage of the Ministry of Agriculture and under the Chairmanship of the Director of the Institut National Agronomique.

Centre de Grignon, 78850 Thiverval Grignon (15 km of Versailles), 6-8 July 1976.

Theme and objective: This conference is taking place on the centenary of the initiation in 1875 of Deherain's experiments and its objective is to analyse the recorded results of fertiliser trials of more than 50 years' duration and to extract information on: the interest in and scientific incentive for the work: the effects on soil and vegetation; the conduct of the experiments and their interpretation.

Information: Mr. R. Gervy, 58, Av. Kléber, 75784 Paris Cédex 16, France.

Colloque International sur "Les essais de fertilisation de très longue durée et leurs enseignements", colloque organisé sous le patronage de Monsieur le Ministre de l'Agriculture et sous la présidence du Directeur de l'Institut National Agronomique.

Centre de Grignon, 78850 Thiverval Grignon (15 km à l'ouest de Versailles), 6-8 juillet 1976.

Thème et but: A l'occasion du centenaire du dispositif expérimental mis en place par Deherain en 1875, ce colloque a principalement pour objet d'analyser les résultats des essais de fertilisation d'une durée supérieure à 50 ans qui ont été recensés et d'en tirer les enseignements suivants: intérêt et motivations scientifiques; effets sur le sol et les végétaux; conduite et interprétation de ces expériences (contraintes diverses).

Information: M. R. Gervy, 58, Av. Kléber, 75784 Paris Cédex 16, France.

Internationales Kolloquium über "Langzeit-Düngerversuche und ihre Lehren". Das Kolloquium wird unter Ehreenschutz des französischen Landwirtschaftsministers und unter der Präsidentschaft des Direktors des "Institut National Agronomique" veranstaltet.

Centre de Grignon, 788750 Thiverval Grignon (15 km westlich von Versailles), 6-8 Juli 1976.

Thema und Zweck: Der Hauptgegenstand des Kolloquiums ist, aus Anlass des hundertjährigen Bestehens der Versuche, die Deherain im Jahre 1875 angelegt hat, die Ergebnisse von Düngeversuchen zu analysieren, die sich über einen Zeitraum von mehr als 50 Jahren erstreckt haben und ausgewertet wurden, und daraus die folgenden Lehren zu ziehen: Bedeutung und wissenschaftliche Motivierung; Wirkungen auf Boden und Pflanze; Durchführung der Versuche und deren Auswertung.

Information: M. R. Gervy, 48, av. Kléber, 75784 Paris Cédex 16, Frankreich.

13th Congress of the International Society of Photogrammetry, Helsinki, Finland, University of Technology, 11-21 July 1976.

Information: Dr. R.S. Halonen, Institute of Photogrammetry, Helsinki University of Technology, 02150 Otaniemi, Finland.

23rd International Congress of Geography, Moscow, U.S.S.R., 27 July-3 August 1976, organized by the International Geographic Union.

Information: The Secretary General, 23rd Int. Congress of Geography, 29 Staromenetny, per. Moscow 109017, U.S.S.R.

Classification and Management of Tropical Soils (Commissions IV and V, ISSS), Kuala Lumpur, Malaysia, 2-18 August 1976 (see also ISSS diary).

Information: Malaysia Society of Soil Science, c/o Soils and Crop Management Division, Rubber Research Inst. of Malaysia, Jalan Ampang, P.O. Box 150, Kuala Lumpur, Malaysia.

8th International Cartographic Conference, Moscow, U.S.S.R., 3-10 August 1976, organized by the International Cartographic Association.

Information: Organizing Committee, Onezhskaya 26, 125413 Moscow, U.S.S.R., or Prof. Dr. F.J. Ormeling, c/o ITC, P.O. Box 6, Enschede, The Netherlands.

Reclamation of Drastically Disturbed Lands, a symposium sponsored by ASA, CSSA, SSSA with the American Society of Agricultural Engineers, Society of American Foresters, Society for Range Management, Soil Conservation Society of America and The Institute of Ecology cooperating as cosponsors, at the Ohio Agricultural Research and Development Center, Wooster, Ohio, August 9-12, 1976.

Information: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, U.S.A.

International Conference on Managing Saline Water for Irrigation Planning for the Future (Subcommission on Salt Affected Soils, ISSS), Texas Tech. University, Lubbock, Texas, U.S.A., 16-20 August 1976 (see also ISSS diary).

Information: Dr. H.E. Dregne, Dept. of Plant and Soil Science, Texas Tech. University, Lubbock, Texas 79409, U.S.A.

Modification of Soil Structure (Commission I, ISSS), Adelaide, Australia, 23-27 August 1976 (see also ISSS diary).

Information: Dr. W.W. Emerson, C.S.I.R.O. Div. of Soils, Private Bag No 1, Glen Osmond, South Australia, 5064.

25th International Geological Congress, Sydney, Australia, August 1976.

Information: The Secretary General, 25th IGC, P.O. Box 1892, Canberra City, ACT 2601, Australia.

4th International Colloquium on the Control of Plant Nutrition, State University of Ghent, Belgium, 6-11 September 1976.

This Colloquium will bring together plant nutritionists and agronomists using plant analysis for nutrient diagnosis of crops and for studying the relationship between soil and qualitative and quantitative production.

Themes: 1. Methodology and analysis, 2. Fruit culture, 3. Vegetable crops, 4. Vine culture, 5. Ornamental plants, 6. Other Mediterranean crops, 7. Large culture crops, 8. Tropical crops.

Communications can be presented in English, French, Spanish, German, Russian and Dutch. An abstract in French and/or English will be required.

Information and registration: Prof. Dr. A. Cottenie, Coupure 533, B-9000 Ghent, Belgium.

4ème Colloque International sur le Contrôle de l'Alimentation des Plantes Cultivées, Université de l'Etat, Gand, Belgique, 6-11 Septembre 1976.

Ce colloque rassemblera les nutritionnistes et agronomes qui utiliseront l'analyse des plantes pour déterminer les besoins alimentaires des cultures et pour étudier les relations entre le sol et la production qualitative et quantitative.

Thèmes: 1. Méthodologie et analyse, 2. Cultures fruitières, 3. Cultures maraîchères, 4. Viticulture, 5. Plantes ornementales, 6. Autres cultures méditerranéennes, 7. Plantes de grande culture, 8. Cultures tropicales.

Les communications peuvent être présentées en anglais, français, espagnol, allemand, russe, néerlandais, mais avec résumé en français ou/et anglais.

Information et inscription: Prof. Dr. A. Cottenie, Coupure 533, B-9000 Gand, Belgique.

Symposium on Water in Heavy Soils (Commissions I and VI, ISSS), Bratislava, Czechoslovakia, 8-10 September 1976 (See also ISSS diary).

Information: Organizing Committee, Symposium on Water in Heavy Soils, Trnavska 20, 88146 Bratislava, Czechoslovakia.

5th International Peat Congress, Poznań, Poland 20-26 September 1976, organized by the Polish National Committee of the International Peat Society.

Theme: "Peat and Peatlands in protection of the Natural Environment".

Information: The Secretariat, 5th International Peat congress, ul. Wspólna 30, 00-930 Warsaw 71, Poland.

11th Agrochimica Symposium on Soil Organic Matter and Symposium on the Use of Isotopes and Radiation in Soil Organic Matter Studies (Agrochimica, FAO/IAEA, Commission I, ISSS), Braunschweig, Federal Republic of Germany, 6-10 September 1976 (See also ISSS diary).

Information: Prof. Dr. W. Flaig, Inst. für Bodenchimie des Bodens, Forschungsanstalt für Landwirtschaft, 3301 Braunschweig, Bundesallee 50, BRD.

Annual Meetings of the American Society of Agronomy, Crop Science Society of America and Soil Science Society of America, Houston, Texas, Nov. 28-Dec. 3, 1976.

Information: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, U.S.A.

Drainage for Increased crop Production and a Quality Environment, a symposium sponsored by the American Society of Agricultural Engineers with ASA and SSSA cosponsoring, Chicago, Illinois, Dec. 13, 1976.

Information: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, U.S.A.

1977

United Nations Water Conference, Mar del Plata, Argentina, 7-18 March 1977.

Themes:

- Assessment of the world water situation,
- Potential and limitations of technology,
- Policy options,
- Action proposals.

Information: Executive Secretary, United Nations Water Conference, United Nations, New York, U.S.A.

5th International Meeting of the ISSS Working Group of Soil Micromorphology, Granada, Spain, May 1977 (See also ISSS diary).

Information: Prof. Dr. D. Miguel Delgado Rodriguez, Dep. de Edafologia, Facultad de Farmacia, Univ. de Granada, España.

10th Congress of INQUA, Union Internationale pour l'Etude du Quaternaire, Birmingham, U.K., 16-26 August 1977.

Information: Secretary General, INQUA, c/o Dept. Geology, Keele University, Keele St. 55 BG, U.K.

Symposium on "Soil as a Site Index for Forests of Temperate and Cool Zones" (Commission V, ISSS), Zvolen, Czechoslovakia, 4-11 September 1977 (See also ISSS diary).

Information: Prof. Dr. R. Saly, Faculty of Forest Sciences, Sturovaz, 960-53 Zvolen, CSSR.

International Seminar on Soil Environment and Fertility Management in Intensive Agriculture (Commission IV, ISSS), Tokyo, Japan, 10-17 October 1977 (See also ISSS diary).

Information: Prof. K. Kawaguchi, Faculty of Agriculture, Kyoto Univ., Kyoto, Japan.

1978

11th Congress of the International Society of Soil Science

11ème Congrès de l'Association Internationale de la Science du Sol

11. Kongress der Internationalen Bodenkundlichen Gesellschaft.

Edmonton, Canada, 19-28 June 1978.

Theme: Optimum Soil Utilization Systems under differing climatic Restraints.

Thème: Systèmes d'utilisation optimum du sol sous différentes contraintes climatiques.

Thema: Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen Grenzbedingungen.

Information: Organizing Committee, 11th ISSS Congress, Box 98, Sub. 11, The University of Alberta, Edmonton, Canada.

TRAINING COURSES COURS DE FORMATION FORTBILDUNGSKURSE

Post-graduate Courses in Soil and Water Engineering

National College of Agricultural Engineering, Silsoe, U.K.

Programme: Course directed towards the development of agricultural resources. Lecture courses include basic subjects (computer techniques, statistics, soil-plant-water relationships, resource survey methods, agriculture) and applied subjects (soil conservation, irrigation, land resources planning, drainage and groundwater hydraulics, soil mechanics, water supplies, land surveying).

Information: Academic Secretary, National College of Agricultural Engineering, Silsoe, Bedfordshire, U.K.

Interpretation of Aerial Photography for Soil Surveys

International Institute for Aerial Survey and Earth Sciences, The Netherlands, Enschede.

Programme: Interpretation of aerial photographs and other remote sensing data applicable to soil surveys and inventories concerning soil erosion, soil conservation, land classification, and appraisal of productivity potentials. The courses concentrate on two major activities:

- practical training, including fieldwork, in the use of aerial photography and remote sensing data in soil survey;
- lectures and seminars on the principles and problems of surveys of soils, soil erosion and conservation, and other agricultural aspects.

Duration: Standard courses begin annually in January and have normally a duration of one year, although it is sometimes possible for participants to join these courses for the first period of seven months only. A special course mainly in agricultural aspects lasts 11 months and begins in the first week of September.

Information: ITC Office of Student Affairs, P.O. Box 6, Enschede, The Netherlands, Cables: AERSUR.

International Course on Land Drainage

International Institute for Land Reclamation and Improvement, Wageningen, The Netherlands.

Programme: The course is intended to provide a thorough knowledge of the physical and agricultural principles of land drainage, surveying methods, and principles of design and construction of drainage works in both humid and arid regions. Structures for flood control or other major hydraulic engineering works are not covered by the course which is mainly addressed to engineers, agricultural hydrologists, and drainage and irrigation agronomists.

Next session: Aug. 16-Dec. 3, 1976.

Information: Director, International Agricultural Centre, Lawickse Allee 11, P.O. Box 88, Wageningen, The Netherlands. Cables: INTAS.

Post-graduate Courses in Soil Science

University of Reading, Department of Soil Science, U.K.

Programme: Three Masters courses are offered to students with a first degree in pure science, applied science including agricultural science, or geography:

(i) Soil Chemistry, one year; (ii) Pedology and Soil Survey, one year; (iii) Soil Science, two years.

Courses are designed to give a thorough understanding of the principles and applications of the subject.

Information: The Secretary, Dep. of Soil Science, University, Reading, U.K.

Phil Course in Integrated Land Resources Survey

University of Reading, Faculty of Science.

Programme: This taught course, commencing in October 1974, (and subsequently available each session) is designed for graduates from Britain or overseas who wish to follow careers in environmental survey and resource management in developing countries. It covers two years and leads to the M. Phil degree. The syllabus will include:

A. Relevant Aspects of the Earth and Physical Sciences:

Meteorology, Geology, Geomorphology, Pedology, Hydrology, Ecology.

B. Techniques of Land Resources Survey:

Integrated Terrain Analysis, Cartography, Survey, Photogrammetry,

Remote Sensing Applications, Integrated Survey Field Methods.

C. Land Use Planning and Plan Implementation.

Project work will play an important part in the course. Candidates should possess, or hope to obtain, a first degree (or cognate equivalent) in Science, Agriculture, Geography, or related disciplines.

Information and application: The Senior Assistant Registrar, Room 222, Whiteknights House. The University, Whiteknights Reading RG6 2AH, England.

Morphologie et utilisation des sols

Centre de formation continue, Ecole Nationale Supérieure Agronomique Rennes
Durée: 3 semaines – 8 au 12 décembre 1975, mai 1976, juin 1976.

Thème et objectifs du cycle: Description, genèse et fonctionnement des organisations pédologiques (structures, horizons, profils, chaînes de sols): leurs comportements vis-à-vis de toutes interventions anthropiques. Interrelations entre ces organisations (morphologiques) et les autres propriétés physiques et chimiques des sols. L'étude des organisations pédologiques comme base de l'aménagement et de la mise en valeur de l'espace rural.

Ce cycle est destiné aux ingénieurs, cadres et techniciens de l'agriculture, de l'aménagement de l'espace rural, des travaux publics; aux enseignants et chercheurs; aux étudiants de troisième cycle.

Renseignements et inscriptions: Professeur A. Ruellan, Département Formation Continue, E.N.S.A. 65, Rue de Saint-Brieuc, 35042 Rennes, Cédex, France.

Post-Graduate Training in Land Use Planning (Bonifica integrale), Soil Conservation, Water Control and Irrigation.

International Centre for advanced Mediterranean Agronomic Studies, Bari, Italy.

The subjects listed above are taught annually from November through June of the next year. Simultaneous interpretation in English, French and Italian. Short courses are offered each year from May through June in economic evaluation of irrigation projects, management of water resources, water pollution.

Information and enrollment: International Centre for Mediterranean Studies, Bari Institute, Str. Prov. Ceglie, Valengano, Italy.

Cours posts-universitaires en Aménagement du territoire (Bonifica integrale), Conservation du sol et contrôle des eaux, Irrigation.

Centre international de hautes études agronomiques méditerranéennes, Bari.

Les cours mentionnés ci-dessus sont enseignés annuellement de novembre à juin de l'année suivante. L'interprétation simultanée est assurée en Anglais, Français et Italien. Des cours de courte durée sont offerts de mai à juin traitant de l'évaluation économique de projets d'irrigation, la gestion des ressources hydriques, la pollution des eaux.

Renseignements et inscriptions: Centre international d'études méditerranéennes. Institut de Bari, Str. Prov. Ceglie, Valengano, Italie.

Licence en Science du Sol

Université de l'Etat, Gand, Belgique.

Programme: Le cours comprend deux années d'études. La première année est consacrée à la pédologie générale, la géologie des roches-mère, la morphologie et classification des sols, la géographie physique (climatologie), la pédologie régionale, la minéralogie des sols, l'interprétation des photos aériennes.

La seconde année permet une spécialisation soit en genèse et classification des sols soit en physique et chimie des sols. Une thèse de fin d'études complète le cycle.

Renseignements et inscriptions: International training centre for post-graduate soil scientists, RUG, 44 Rozier, 9000 Gand, Belgique.

Master in Soil Science

State University of Ghent, Belgium.

Programme: The course is of a two-year duration. The first year is devoted to general pedology, geology of parent materials, soil morphology and classification, physical geography (climatology), regional pedology, soil mineralogy, aerial photograph interpretation.

The second year offers the opportunity for specialization in either soil genesis and classification or in soil physics and chemistry. The course concludes with the preparation of a thesis.

Information and registration: International Training Centre for Post-Graduate Soil Scientists, RUG, 44 Rozier, 9000 Ghent, Belgium.

Pédologie et Aménagement des sols
D.E.A. Fédéral (Diplôme d'études approfondies)

Organisé en commun par l'Institut National Agronomique, les Universités Paris VI et Paris VII, l'office de la Recherche Scientifique et Technique Outre-Mer et l'Institut National de la Recherche Agronomique (Département de Science du Sol), le D.E.A. de Pédologie et Aménagement des sols est destiné à former des étudiants, dans les domaines de la Pédologie Générale, de la Pédologie Tropicale et de leurs applications.

Il vise à les entraîner à l'analyse des structures pédologiques aux différentes échelles, à l'étude des processus et des mécanismes de la pédogenèse appuyés sur les méthodes modernes de la chimie et de la minéralogie, au diagnostic du comportement des sols en vue de leur utilisation et de leur aménagement.

Programme: Cet enseignement de 3ème Cycle est organisé en modules de 50 heures chacun. Pour obtenir le D.E.A., l'étudiant doit obtenir 6 modules:

— 4 de ces modules doivent être choisis dans la liste A suivante: physique du sol; minéralogie et géochimie des sols; les niveaux d'organisation des sols et leur genèse; dynamique des versants et héritages paléo-climatiques; typologie des sols; géochimie organique.

— les 2 autres modules peuvent être choisis, soit dans la liste B suivante, soit parmi certains modules d'autres D.E.A.: sols des régions intertropicales, aptitude, fertilité et conservation des sols tropicaux; édaphologie et fertilisation; hydrologéologie et conservation des sols; aménagement des sols.

Renseignements et inscriptions: Université Pierre et Marie Curie (Paris VI). Service de la scolarité, 11 quai Saint-Bernard, Bâtiment C, Paris, France; Université Paris VII, 2 place Jussieu. Tour centrale. Paris, France.

NEW PUBLICATIONS *
NOUVELLES PUBLICATIONS *
NEUE VERÖFFENTLICHUNGEN *

The Chemistry of Clay-organic Reactions, by B.K.G. Theng, 1974. 343 pages, tables, graphs, 766 lit. ref., index. Adam Hilger, London.

This monograph is an attempt to summarize the data available on the interactions of organic compounds with clay minerals, indicating the classes of compounds which have been studied as complexing agents, and the factors which are known to influence the formation and properties of the resulting complexes. In seven chapters the author presents a most complete work based on the study of no less than 766 literature references. Starting with an introductory chapter on clay mineral structure he deals in the following two chapters with the interaction of polar organic compounds. Chapter 4 contains information on the interactions with organic compounds of biological importance. It is succeeded by a review on the dynamics of the adsorption of positively charged organic species. In chapter 6 special attention is paid to the complexes with the kaolinite group of minerals, whereas in a sense the reverse subject i.e. the catalyzing influence of clay minerals on organic reactions concludes this perfectly edited and printed volume. The index holds a new approach. Author entries, which are not in alphabetical order in the list that concludes each chapter, are easily traced by indication of the reference number and the page where it is found, whilst the page where the full reference occurs is also mentioned. A most valuable contribution to a rather intricate specialized aspect of soil science for which the author, scientist of the Soil Bureau of the Department of Scientific and Industrial Research at Lower Hutt, New Zealand, received well-merited recognition by the Adam Hilger Prize Award.

Price L. 16.00.

F.A. van Baren, Utrecht, The Netherlands

Forstliche Pflanzenernährung und Düngung, Fiedler, H.J., W. Nebe and F. Hoffmann. VEB Gustav Fischer Verlag, Jena, 1973. Pp. 481, 81 figures and 116 tables.

The authors call attention to the world's shortage of timber which can only be expected to increase in the future. For Europe alone the deficit in 1975 is estimated at some 100 million m³. On short term an increase in timber production can only be effected by application of fertilizers. On longer term afforestation of new suitable areas together with appropriate fertilization will be the answer.

This book deals extensively with the factors influencing the growth of wood e.g., climate, plant physiology, soil characteristics, macroelements as well as trace elements, etc. In addition to general discussions most of the prominent productive tree species growing in the temperate climate are dealt with in particular. Proposals are given to arrive at practical methods for fertilizer advisory purposes and a special chapter is devoted to nursery problems. In all, over 1300 references have been cited.

Although the work restricts itself to European conditions, those who work elsewhere in the world under similar conditions may of course equally well profit from the treasury of knowledge contained in it. For this reason it is regrettable that only those who master German have access to this treasury.

L.P. van Reeuwijk, Utrecht, The Netherlands

Etude expérimentale de l'action des animaux sur l'humification des matériaux végétaux. 2^e Action des animaux morts et des acides aminés. Conclusions générales. par G. Bachelier.

Travaux et documents de l'O.R.S.T.O.M. No. 30, 1973, 79 pages.

This second report contains a review of the experiment on the humification of organic material by the soil fauna. Added materials included ureum, amino-acids, proteins and the like.

The influence of living and powdered dead organisms is studied.

The results confirm the expectation that the dynamics of the process depend on material and exogenic circumstances. Living soil-fauna, finally, was found to have an indirect influence and dead fauna, in particular through the production of amino-acids, a direct influence on humification. Both subject and conclusions are clearly presented. Part 1 of this study containing earlier considerations and preliminary results has been published in 1972 as No. 14 in the same series.

Orders to: Service Central de Documentation de l'O.R.S.T.O.M., 70-74, route d'Aulnay, 93140 Bondy, France. Price Ffr. 30.

L. Bal, Utrecht, The Netherlands

* Titles of new publications are listed here for information. Orders can however not be handled by the ISSS Secretariat but should be placed through a bookstore or directly with the publishers.

* Les titres de nouvelles publications sont mentionnés à titre d'information. Le Secrétariat de l'AISS ne peut toutefois pas se charger de commandes, celles-ci devant être adressées à une librairie ou directement aux éditeurs.

* Die Titel neuer Veröffentlichungen sind hier zur Information angeführt. Bitte richten Sie Ihre Bestellungen nicht an das IBG Sekretariat sondern an den Buchhandel oder direkt an die Verlage.

Soils for Agricultural Expansion in Indonesia. Driessen, P.M. and M. Soeprahardjo. Bulletin 1, Soil Research Institute, Bogor. 1974. Pp 63.

This publication, the first in a series on research on the potentialities and possible utilization of some Indonesian problem soils, discusses the soil condition in areas with Red-Yellow Podzolic Soils, Acid Sulphate Soils and Organic Soils. Data are given on soil formation, reclamation, management and conservation, while three case studies illustrate the practical implications of the preliminary research findings.

It is stated that the soils mentioned are marginal with respect to their agricultural potentialities and need further research.

In Indonesia most of the other soils, such as the Grumusols, Andosols, Mediterranean Soils and Latosols, being comparatively more favourable for agricultural production, are already in use.

Information of this nature will be useful for those involved in the planning and realization of agricultural development. The data and research findings are also of interest to soil scientists in other (sub) tropical countries where the same soils occur.

J.H.V. van Baren, International Soil Museum, Utrecht, The Netherlands

Remote Sensing of the Environment. Chapman & Hall, London. Curtis, L. and E.C. Barreth. 1975. Pp. 200. Price Hardback L 7.50, paper L 3.95 (ISBN 412- 124602, and 412-12470 resp.).

This book provides a general introduction to the theory, practice and applications of remote sensing of environmental features.

The broad coverage provides accounts of the use of techniques in the disciplines of geology, geography, hydrology, ecology, climatology, agriculture and town planning.

It contains chapters on Monitoring the environment, Physical bases of remote sensing, Radiation characteristics of natural phenomena, Sensors, Sensor platforms and packages, Collecting in situ data, Data interpretation, Numerical processing, Weather analysis, Climatology, Water, Soils, Rocks and mineral resources, Crops and land use, Forestry and ecological studies, Urban studies, Problems and prospects.

L'Aluminium dans les sols. Segalen, P. Orstom, Paris. 1973. Pp. 281. Price Ffr. 100.

This book, number 22 in the series Initiations-Documentations Techniques, gives in 281 pages a concise and thorough review of the occurrence and rôle of aluminium in the soil. The first part contains chapters on the characteristics of atoms and ions of aluminium; the occurrence in rocks, minerals, amorphous products, oxides and hydroxides; the synthesis and alteration in the laboratory; the influence on soil properties and plant growth; and methods for extraction, separation and measurements of this important element.

The second part deals with the dynamism of aluminium, including the processes of rock weathering and alteration and transformation of primary and secondary minerals; the occurrence of aluminium in different soils from the polar belt to the tropics; and a chapter on the accumulation of aluminium products, such as bauxites. The text and extensive bibliography with nearly 1400 entries shows that this study is based upon a careful survey of literature from all over the world. This in-depth report is strongly recommended.

J.H.V. van Baren, Utrecht, The Netherlands

Aspectos Científicos-Tecnológicos de la Calidad Ambiental del Aire, Las Aguas y los Suelos aplicados a Puerto Rico. Bonnet, Juan A. 1974. Pp. 55.

Dr. Bonnet, Chief of the Department of Soils at the University of Puerto Rico from 1931 to 1966 is well-known for his books Edafología de los Suelos Salinos y Sódicos (1960) and La Ciencia del Suelo (1968).

The present booklet has been written mainly for high-school students.

The author states that it is the first time that soil science is treated as a separate subject at Puerto Rican schools.

About half of the publication deals with the composition, quality and pollution of the air and water of Puerto Rico. In the second half different aspects of soils are given in a nutshell, including such topics as the weathering process, physical and chemical properties, biological processes and soil pollution. This useful booklet should make the students more soil-conscious.

J.H.V. van Baren, Utrecht, The Netherlands

Tropical Soils – Classification, Fertility and Management by F.S.C.P. Kalpagé, 1974, the Mac Millan Company of India, Delhi, 283 pages.

This book of Professor Kalpagé, who has a teaching career of nearly 25 years in Sri Lanka, West Germany and Malaysia, provides a concise study of the genesis, fertility and management of tropical soils. It is intended for university students in soil science and agriculture at undergraduate level. Chapters deal with the tropical environment, factors and processes of soil formation, classification in several soil classification systems (including the one suggested by Vine in 1966, which is followed here), physical and chemical properties and fertility status.

The second half of this textbook contains chapters on the use and management of tropical soils, such as shifting cultivation, intensive upland cropping, flooded rice soils, grassland, etc. The need for increased fertilizer use is stressed and some general recommendations are given in the last chapter.

The book also contains a useful glossary of over 400 soil science terms. Price Rs. 75.00.

International Soil Museum, Utrecht, The Netherlands

Soil Groups of New Zealand. Part 1: Yellow-brown Pumice Soils. Edited by N.E. Read. 1974. New Zealand Society of Soil Science. Government Printer, Wellington, New Zealand. 251 pages.

When the book "Soil Groups of New Zealand" appeared about a decade ago, it proved most popular. Since then many new data have become available and the Soil Science Society of New Zealand decided to update and upgrade the previous issue.

This first volume of the new series deals with Yellow-brown pumice soils, or Vitric Andosols in the legend of the FAO/Unesco Soil Map of the World. These soils occur extensively in the central part of the North Island and are exceptionally suited for forestry and moderately well suited for pastoral use. The monograph gives a comprehensive picture of the scientific and practical aspects involved: definition, classification, parent materials, the chemistry, physics and biology of the pumice soils, fertilizer status and trials, research on agriculture, forestry and animal health, land use, and risks of eutrophication and pollution of lakes in the region.

Although primarily of importance for New Zealand, this book is certainly of interest and may be of use in other countries where Vitric Andosols occur.

Orders to: Soil Science Society of New Zealand, Soil Bureau, Lower Hutt New Zealand.

International Soil Museum, Utrecht, The Netherlands

Ecological Studies 4,5, 7 and 15. Springer Verlag, Berlin. 1973/75.

Springer Verlag published four more titles in their Ecological Studies series.

Volume 4, Physical Aspects of Soil Water and Salt Ecosystems, edited by A. Hadas, D. Swartzendruber, P.E. Rijtema, M. Fuchs and B. Yaron contains the forty-four papers and relevant discussions presented at the symposium on Soil Water Physics and Technology, Rehovot, Israel, sponsored by ISSS and the Israeli Soil Science Society, held from 19 August to 4 September 1971.

The subject covered are the theoretical and practical aspects of the physical phenomena associated with water and ions movement in soils; the interactions of water and soil; the evaporation from soil and plants; the water requirements of plants, ion activity and migration in soils; soilwater management and salinity. It has been stated in the preface by Professor Gardner and Professor Marshall, Presidents of ISSS Commissions I and VI respectively, that a large gap exists between basic research and practical applications in the field mentioned. No doubt that this book will lead soil physicists and other soil scientists in their task to give answers to the practical problems put to them.

Volume 5, Arid Zone Irrigation, edited by B. Yaron, E. Danfors and Y. Vaadia, contains articles on irrigation fundamentals in arid and semi-arid zones. A short general introduction on climate and soils in these zones is followed by a chapter on water resources, in which emphasis is placed on arid-zone hydrology and the development and management of water resources in general. A chapter on the transport of water in the soil-plant-atmosphere continuum is followed by on the chemistry of irrigated soils. Here not only the theoretical considerations on the exchange properties of arid-zone soils and the accumulation and leaching of salts are presented, but also some practical examples of forecasting salt accumulation and nutrient supply to irrigated crops.

A chapter on the measurements for irrigation design and control discusses the methodology concerned with the selection of soils to be irrigated, the determination of water in soils and plants, and the measurement of water losses from soil and plant together. Attention is given to different irrigation systems and to practical ways for planning irrigation at the farm level by using suitable techniques, considering agronomical and environmental aspects. The last chapter on crop water requirements is concerned with the irrigation of a wide range of crops, largely based on the experience gained in Israel, where all but one of the contributors to this book work.

This book is recommended for agronomists, plant physiologists and soil experts who want to achieve maximum water-use efficiency in the irrigation of various crops.

Volume 7, Mediterranean Type Ecosystems, Origin and Structure, edited by F. di Castri and H.A. Mooney, deals with the structure and function of ecosystems in the mediterranean type of climate, embracing the areas fringing the Mediterranean Sea, California, Central Chile and the southernmost strips of South Africa and Australia. These regions present great similarities in climate, the physiognomy of vegetation, land use patterns and frequently in the general appearance of the landscape.

This book, containing twenty two contributions grouped into seven sections, is the outcome of an interdisciplinary research programme mainly carried out in the framework of the International Biological Programme, which resulted in a symposium in Valdivia, Chile, in March 1971. The papers presented here were further elaborated upon and finalized in 1972.

It is stated in the preface that the volume does not present a complete review of the different approaches to the study of mediterranean ecosystems. It shows that "different approaches can and should coexist in an interdisciplinary exercise, and that different levels of sophistication in ecological research can interplay to reflect the nature of the problem, the present development of different scientific fields, and the state of knowledge in different regions".

The book treats aspects of climatology; physiography and geomorphology; pedology; structure and functional responses of vegetation and litter-soil subsystems; origin of mediterranean plants and animals; parallel evolution and ecological niches; and man's impact on these ecosystems. Much attention has been given to show the interrelationships between the subjects treated, avoiding undue overlaps. An interesting publication for a large public.

Volume 15, Plants in Saline Environment, edited by A. Paljakoff-Mayber and J. Gale, 1975.

This book was written by a group of international scientists who are interested in the inter-relationships between plants and their environments. The world distribution of saline areas with special reference to natural halophytes, the general problems and economic prospects and uses of saline soils are briefly given in Chapter 1. Problems of salinity in agriculture and the possible practices to overcome or live with the problem are presented in Chapter 2. Although the severity of the problems is stressed, the remedies are mentioned in a very concise way. The basic physical and chemical characteristics of salt affected soils are discussed in Chapter 3 with a brief reference to their reclamation and salinity control. Chapter 4 deals with the subject of water quality for irrigated agriculture. The early and recent water quality classifications and criteria are discussed with special reference to applications to field conditions. The conclusion gives hope to those whose livelihood depends on what may be considered as very poor quality water. Chapter 5 examines factors influencing the distribution of soluble salts in the natural environment and the redistribution of salts which results from environmental disturbances. Irrigation, replacement of forest vegetation by crop and pasture species and increased recharge of saline water to groundwater are cited as common forms of disturbance. The next five chapters of the book are devoted to response of plants to salinity from the viewpoint of morphology and anatomy (Chapter 6), salt secretion devices and mechanisms (Chapter 7), metabolic and biochemical aspects of salt tolerance (Chapter 8), water balance and gas exchange (Chapter 9), and the combined effect of the aerial environment and salinity on plant growth (Chapter 10). This part of the book is therefore of an interest to a reader who wants to find out in some detail how plants respond to saline environment, why certain plants have the ability to withstand salinity and adapt themselves accordingly, and what is the nature of the damage caused by salinity to agricultural crops. The book ends with a general discussion by the editors evaluating the different aspects of the salinity problem and plant response to saline environments.

All these books are completed with bibliographies and a subject index. They have a sturdy cloth cover.

Price:

Ecological Studies 4, 460 pp, 221 figures, 61 tables, DM 94.

Ecological Studies 5, 434 pp, 181 figures, DM 94.

Ecological Studies 7, 405 pp, 88 figures, DM 78.

Ecological Studies 15, 213 pp, 54 figures, DM 40.

Published by Springer Verlag, Berlin, Heidelberg and New York.

Distribution rights for U.K., Commonwealth and traditional British market (excluding Canada): Chapman & Hall, London.

J.H.V. van Baren, Utrecht, The Netherlands (Vol. 4,5,7)

and F. Massoud, FAO, Rome (Vol. 15)

Química de Suelos (con énfasis en suelos de América Latina), by Hans W. Fassbender, published by the Instituto Interamericano de Ciencias Agrícolas de la OEA, Turrialba, Costa Rica, 1975, 398 pp..

This book is composed of three main parts: (1) Composition; (2) Characteristics; and (3) Dynamic chemistry of plant nutrients. The book is based on the courses on soil chemistry, at the graduate level, held at the Centro Tropical de Enseñanza e Investigación of the Instituto Interamericano de Ciencias Agrícolas de la OEA, in Turrialba, Costa Rica. Its purpose is to serve as a guide in this matter in courses on the topic; it is mainly meant for the use by students interested or specializing in soils and can be adapted to study programmes of Latin American universities. It may also serve as a reference for those working or interested in problems of soil chemistry in tropical areas of Latin America.

Orders to: Instituto Interamericano de Ciencias Agrícolas de la OEA, Turrialba, Costa Rica.

Proceedings of the Second ASEAN Soil Conference, Vols. I and II, published by the Soil Research Institute, Bogor, Indonesia, 1973.

These proceedings of the Second ASEAN Soil Conference held in Jakarta from 18-21 July 1972 contain the papers read at the meetings and the essential discussions which followed their presentation. Volume I comprises the general lectures and the recommendations formulated by the Conference. Volume II groups the papers in three sections: (1) Soil physics, management and conservation; (2) Soil chemistry, soil biology, soil mineralogy and sedimentology; (3) Soil fertility, plant nutrition and soil productivity.

Price: US \$ 35

Orders to: Soil Science Society of Indonesia, Jl. Ir. H. Juanda 98, Bogor, Indonesia.

Characteristics, Classification, and Adaptation of Soils in Sierra Leone, West Africa, by R.T. Odell, J.C. Dijkerman, W. van Vuure, S.W. Melsted, A.H. Beavers, P.M. Sutton, L.T. Kurtz, and R. Miedema; Bulletin 748, Agricultural Experiment Station, College of Agriculture, University of Illinois at Urbana-Champaign; Bulletin 4, Njala University College, University of Sierra Leone, 1974, 194 pp.

This publication reports about the cooperative work carried out in Sierra Leone on the study of soils in six of the 16 soil provinces of Sierra Leone. Soil maps for parts of five of these

provinces are included. The description of 44 profiles representing 34 soil series including analytical data are given. Besides soil characteristics, genesis and classification, this report devotes an entire chapter to the adaptation and management of the different soils studied. A special section is devoted to the comparison of different systems of soil classification (USDA Soil Taxonomy, FAO/Unesco Soil Map of the World and French systems of soil classification) as applied to the soils studied. This very comprehensive review of Sierra Leone soils constitutes an important contribution to the knowledge of the soils of the country and will serve as a basis for their effective use.

Orders to: Copies can be obtained free of charge from one of the following addresses: Agricultural Publications Office, 123 Mumford Hall, University of Illinois, Urbana (Ill.) 61801, U.S.A.; Agronomy Department, Njala University College, Private Mailbag, Freetown, Sierra Leone; Dr. J.C. Dijkerman, M.Sc. — Course in Soil Science and Water Management, P.O. Box 37, Wageningen, The Netherlands.

Carta dei suoli della Sicilia, by G.P. Ballatore and G. Fierotti, 1968, 39 pp., map.

This first soil map of Sicily prepared at a scale of 1:250 000 shows 26 soil associations which are combinations of 18 different soil units, namely lithosols, regosols, protorendzinas, rendzinas, rankers, andosols, vertisols, brown calcareous soils, brown soils, acid brown soils, leached brown soils, red mediterranean soils, alluvial soils, hydromorphic alluvial soils, hydromorphic soils, organic soils, coastal dunes.

Orders to: Industria Grafica Nazionale, Palermo, Italy.

Seminario Internazionale sulla valutazione delle terre delle zone aride e semiaride dell'America Latina, Istituto Italo Latino Americano, Rome, 1974, 720 pp.

Proceedings of a seminar on the Evaluation of Arid and Semi-Arid Lands in Latin America, organized jointly by the Istituto Italo Latino Americano, Rome; FAO, Rome; and the Consiglio Nazionale delle Ricerche (CNR), Rome. The papers are published in the language in which they were presented, namely Italian, Spanish or English. The papers are grouped under 4 major themes: (1) General principles of land evaluation with special reference to arid regions; (2) Diagnostic criteria used in land evaluation; (3) Collection of data required for land evaluation and their classification and representation; (4) Application of land evaluation for development purposes.

Orders to: Istituto Italo Latino Americano, Piazza G. Marconi 1, Rome, Italy.

Mineral Nutrition of Maize, International Potash Institute, Bern, Switzerland, 1975, 452 pp.

The older literature on the fertilizer requirements of maize is no longer fully relevant for areas with progressive agriculture. Important changes which have taken place more recently in crop production methods have influenced responses and effects of fertilizer practices. This book is therefore mainly devoted to inter-relationships between mineral fertilization and other farm practices, such as cropping systems and rotations, tillage, sowing, disease and insect control, irrigation and harvesting. Against this background major sections of the book are devoted to nutritional requirements of maize, the effects of fertilizers on yield, composition and quality of maize, interactions between nutrient elements and the determination of amounts and types of fertilizers to be applied. The book is based on a considerable amount of literature and constitutes a synthesis of relevant results of research on the mineral nutrition of maize.

Orders to: Institut International de la Potasse, Boîte Postale, CH-3048 Berne-Worblaufen, Switzerland.

A Description of Australian Soils, by K.H. Northcote, G.D. Hubble, R.F. Isbell, C.H. Thompson, E. Bettenay, published by CSIRO, 1975, 170 pp., soil map, 58 coloured illustrations.

This book completed work begun with *A Factual Key for the Recognition of Australian Soils* and the *Atlas of Australian Soils* by providing general descriptions of all important soils defined by the Key and identified during the mapping for the Atlas. The 1:5 000 000 soil map included provides a generalized picture of the continental distribution of these soils as dominant components of the soil landscapes of Australia. The soil subsections and classes and the division of organic soils are described and discussed under seven general headings: Specification and general features; Principal profile forms; Description; Occurrence; Land use; Analytical data; Related units in some other classifications.

Price: AUS \$ 10.00

Orders to: The Editor-in-Chief, CSIRO, Editorial and Publications Service, 314 Albert Street, East Melbourne, Victoria, 3002, Australia.

Dränanleitung für Landbau, Ingenieurbau und Landschaftsbau, von Rudolf Eggelsmann, 1973, 304 S., 133 Bild., 14 Nomogr., 57 Tafeln.

Die "Dränanleitung" wendet sich an den Praktiker, der, erfahrungsgemäss aus ganz verschiedenen Fachrichtungen kommend, Dränprobleme lösen muss. Daher wurden alle wichtigen Tatsachen und Erkenntnisse kurz dargelegt. Die Theorie der Bodenentwässerung aus dem mathematisch-physikalischen Bereich wird nur soweit erläutert, wie es für die praktische Anwendung unumgänglich schien. Der DIN 1185 "Dränung" (Ausgabe 1973) entsprechend behandelt die "Dränanleitung" neben Rohrdränung und rohrlöser Dränung (Maulwurfdränung) auch die Unterbodenmelioration (Tieflockern und Tiefpflügen). Für alle zu planenden oder auszuführenden Dränmassnahmen wird dem Praktiker immer wieder die Frage nach der Art der Bodenvernässung gestellt, d.h. ob Grundwasser-, Stauwasser- und/oder Haftwassereinfluss besteht. Ein dafür entwickelter Frage-

katalog soll anleiten und helfen, im Gelände Ursache und Wirkung einer Bodenvernässung zu klären.

Preis: DM 48,50

Bestellungen: Verlag Wasser und Boden, Axel Lindow & Co., 2 Hamburg 55, Am Sorgfeld 110, BRD.

Soil Microscopy. The Proceedings of the 4th International Working Meeting in Soil Micro-morphology held at the Department of Geography, Queen's University, Kingston, Ontario, Canada.

This publication includes 53 articles on various aspects of the broad field of soil and sedimentary microscopy including: Soil mechanics; Weathering; Physical geography; Agriculture; Experimental pedology; Soil classification; Erosion; Sedimentology; Moon soils. As there is an ever-increasing range of techniques available to the soil microscopist and an intensified interest in the field, the working meeting organizers were glad to invite position papers by leading researchers on Soil Mechanics, Soil Organic Matter, Soil Micromorphometry, Soil Classification, Integration of Techniques and Soil Microscopy. There are approximately 900 pages with more than 240 black and white illustrations and figures, 77 tables and 16 pages of colour plates.

Price: Can \$ 30

Orders to: The Limestone Press, P.O. Box 1604, Kingston, Ontario, K7L 5C8, Canada.

Diagnostic Phyto-écologique et Aménagement du Territoire, Tome 1, Principes généraux et méthodes; Recueil, analyse, traitement et expression cartographique de l'information, par Gilbert Long, Collection d'Ecologie, volume 4; Planches en couleurs publiées avec le concours du Centre National de la Recherche Scientifique, 1974, 256 pages, 76 figures dont 22 hors texte (21 en couleurs), 16 x 24.

Cet ouvrage se propose de faire connaître une discipline scientifique, la phyto-écologie générale, dont les travaux fondamentaux ou appliqués, se situent le plus souvent en amont des préoccupations actuelles sur la planification de l'Aménagement du Territoire et sur le contrôle des équilibres écologiques et de l'environnement.

L'ouvrage est conçu pour être utilisé en premier lieu par des généralistes; l'écologie végétale est abordée en ayant en vue d'une part, les relations générales entre la végétation et le milieu, l'étude de leur variabilité dans l'espace et dans le temps, et, d'autre part, les rapports avec des problèmes d'application, d'aménagement du territoire, de mise en valeur des terres et d'utilisation rationnelle des ressources naturelles. Le tome 1 qui paraît à partir de quelles bases scientifiques, de quelles notions, de quels concepts, à l'aide de quelles méthodes et techniques, et selon quels principes d'organisation de leurs activités et de relation avec les autres corps professionnels, les phyto-écologues généralistes peuvent contribuer à la connaissance et à la gestion des ressources de la biosphère.

Prix: 110 Ff.

Commandes: Masson & Cie., Paris.

Handbook on Reference Methods for Soil Testing, Council on Soil Testing and Plant Analysis, University of Georgia, 1974, 101 pp.

The objective of this publication is to evaluate current methods of soil testing and to pave the way for the adoption of standardized procedures. This review was prepared by the Council of Soil Testing and Plant Analysis, University of Georgia, U.S.A., which comprises 136 members, essentially from U.S. testing laboratories. The Council aims at attracting overseas members and interest with a view to broaden its activities and widen the implications of its work.

Orders to: Council on Soil Testing and Plant Analysis, Horticulture Department, Plant Science Bldg., University of Georgia, Athens, Georgia 30602, U.S.A.

Pedologie und Fruchtbarkeit tropischer Böden, Referate der Arbeitstagung der Kommissionen IV und V der Deutschen Bodenkundlichen Gesellschaft, 2.-4. 10. 1974 in Mainz, Mitteilungen DBG S. 54-280.

Auf der "Tropentagung", deren weitgestecktes Programm Subtropen und tropische Höhenlagen einschloss und ein Abbild der Aktivität bodenkundlicher Tropenforschung in der BRD abgab, wurden 27 Referate gehalten.

Bestellungen: Deutsche Bodenkundliche Gesellschaft, Von-Siebold-Str. 4, D-34 Göttingen, BRD.

Methodische Probleme der Stoffbilanz von Böden und Ökosystemen, Referate der Arbeitstagung der Kommission II der Deutschen Bodenkundlichen Gesellschaft, Göttingen, 10./11. 10. 1974, Mitteilungen DBG S. 281-516.

Die Tagung umfasste 27 Referate und schloss mit einem Arbeitskreis über "Bodennutzung in Wasserschutz- und Wasserschongebieten" mit drei weiteren Referaten zum Thema.

Bestellungen: Deutsche Bodenkundliche Gesellschaft, Von-Siebold-Str. 4, D-34 Göttingen, BRD.

Soil Fertility and Fertilizers, by Tisdale, S.L. and W.L. Nelson. Macmillan Publ. Co., New York Third edition, 1975. Pp. 694, 213 figures and 110 tables.

This book is the third edition of the standard work by Tisdale and Nelson published in 1956 followed by a second edition in 1966. The work was intended to be a textbook of fundamental principles of soil fertility and fertilizer manufacture and use suitable for students of agriculture up

to senior level. However, the rapid developments of knowledge in the field of soil-plant relationship necessitated such extensive updating and reworking of the material that the original 430-page work has expanded to the present nearly 700-page volume. This is also the result of the policy of the authors not to let quality suffer from quantity of the discussion of so many topics involved.

This elaborate treatise on soil fertility and fertilizers including the economic aspects of their use is a very valuable guide for each student in this field.

L.P. van Reeuwijk, Utrecht, The Netherlands

Les sols ferrallitiques. Tome IV; La matière organique et la vie dans les sols ferrallitiques, par P. de Boissezon, C. Moureaux et G. Bachelier. Initiations-Dokumentations Technique No 21. ORSTOM, Paris 146 pages.

This volume contains a review of literature on organic matter and biological activity in ferrallitic soils.

The basic question analyzed is whether the type of humus in these soils has a direct influence on pedogenetic processes. The answer is not conclusive. A second chapter deals with the microbiological activity in ferrallitic soils, whereas in a final chapter soil fauna and termites are discussed. Notably the role of termites in the formation of lateritic hard pans gets attention. Price Ffr. 38.

Orders to: Service central de Documentation de l'ORSTOM, 70-74, route d'Aulnay, 93140 Bondy, France.

L. Bal, Utrecht, The Netherlands

Agrochemistry of the soils of the USSR: Volga Region. Sokolov, A.V. Editor. 1966. PP. v and 381. Price L 13.45.

Agrochemistry of the soils of the USSR: Far East. Sokolov, A.V. Editor. 1971. PP. iv and 335, Price L 8.90

Agrochemistry of the soils of the USSR: Central Siberia. Sokolov, A.V. and N.V. Orlovskii, Editors. 1971. PP. v and 292. Price L 11.70.

All three books were translated from Russian by I.P.S.T., Jerusalem, and published by I.P.S.T., Jerusalem.

These books draw an inventory of the agricultural potential of some vast areas of the USSR, viz. the Volga Region, the Far East, and Central Siberia.

The first book describes the two large regions of Volga-Vyatka and Volga, in total 27 million hectares of cultivated land, supplying large quantities of grain, industrial raw materials, meat, wool, and dairy products.

The other two books deal with very extensive remote areas, making out more than a quarter of the territory of the USSR. These are rich in natural resources, but due to the severe climatic conditions and the mountainous landscape, industrial growth is inhibited by a food supply problem. In order to overcome this, agricultural research has for decades been conducted at a number of experimental stations. The results of this pioneering are summarized in these volumes. Many of the different soils are described at type and subtype level (in the sense of the Russian soil classification system) and the many tables include data on soil analysis, fertility status, fertilizer experiments and irrigation experiments in the dry parts. Because of the long-term nature of several experiments, the influence of cultivation over a long period on biological, physical, and agrochemical properties could be described. In the wealth of information the reader will find some inconsistencies in the presentation of the analytical data e.g. the particle size analyses; other analyses are done according to less well-known methods. Accompanying soil and other maps would have been useful.

Orders to: John Wiley & Sons.

L.P. van Reeuwijk, Utrecht, The Netherlands

Land Use in Advancing Agriculture, by Vink A.P.A., Springer Verlag, Berlin, Heidelberg and New York. 1975. Pp. approx. 450, 95 figures, 115 tables. (ISBN 3-540-07091-5).

Agriculture is continuously advancing toward the economic and social goals demanded by human society. To achieve this advance, old and new technologies are being applied to various kinds of land resources. A careful study of land use of different types of land resources involves a variety of methods for research and evaluation. Land management offers a means for maintaining a sound ecologic balance with meeting the demands of society. For optimal success land use and land management have to be well adapted to both land resources and ecologic conditions. Land improvement is one way of adapting land resources to human requirements.

The aim of the present publication is to promote sound methods for land use that will meet human needs without infringing ecological principles.

The book contains chapters on land use surveys, land utilization types, land resources, landscape ecology and land conditions, land evaluation, development of land use in advancing agriculture. It is addressed to agronomists, soil scientists, geographers, and planners, and to post-graduate students in these sciences.

Price: DM 60

Orders to: Your bookseller or Springer Verlag, Berlin, Heidelberg, New York.

Soil Components: Volume I, Organic Components, Edited by John E. Gieseking, 1975, 534 p. Springer-Verlag, Berlin, Heidelberg and New York.

Organic substances returned to the soil by plants, animals and microorganisms go through

biochemical cycles and subcycles that provide essential media for the growth of plants in the soil. These cycles involve numerous, complicated and interdependent chemical reactions. This book, therefore, deals with: 1. Chemical composition and physical properties of humus substances; 2. Saccharides; 3. Nitrogenous substances; 4. Other organic phosphorus compounds; 5. Sulfur in soil organic substances; 6. Fats, waxes and resins in soil; 7. Micromorphology of soil organic matter; and 8. Humus of virgin and cultivated soils. Numerous references are given with each chapter.

Price: DM 178,40;

Orders to: Your bookseller or Springer-Verlag, Heidelberg, Berlin, New York.

Soil Components: Volume II, Inorganic Components, Edited by John E. Gieseking, 1975, 684 p. Springer-Verlag, Berlin, Heidelberg, New York.

Large amounts of inorganic colloids, which are the weathering products of rocks and minerals, are essential in soils if they are to support luxurious plant growth. The colloids adsorb water and nutrient elements that might be lost from the soil system and they release these as plants need them. They also adsorb and buffer the soil system against large excess of soluble toxic substances that might otherwise exist as free moieties in soils. Much of this volume is, therefore, devoted to the arrangement of ions in crystalline mineral particles commonly occurring in soils and the properties that these particles contribute to soil systems. The subject is dealt with in 17 chapters under the following headings: 1. The Classification of Soil Silicates and Oxides; 2. Micas in Macroscopic Forms; 3. Fine-grained Micas in Soils; 4. Smectites; 5. The Crystallography of Minerals of the Kaolin Group; 6. Vermiculites; 7. Chlorites; 8. Interstratified Clay Minerals; 9. Fibrous Minerals; 10. Allophane; 11. Oxides and Hydrous Oxides of Silicon; 12. Feldspar Minerals; 13. Heavy Minerals; 14. Bioliths; 15. Water in Soils; 16. The Thermal Characteristics of Soil Minerals and the Use of These Characteristics in the Qualitative and Quantitative Determination of Clay Minerals in Soils; and 17. The Characterization of Soil Minerals by Infra-Red Spectroscopy. Numerous numbers of references are attached in each chapter.

Price: DM 183,30;

Orders to: Your bookseller or Springer-Verlag, Heidelberg, Berlin New York.

Soil Map of the World, Vol. II, North America, 210 p., 7 figures, 2 soil maps at scale 1:5 000 000, 1975, Unesco, Paris.

This volume describes the North American section of the 1:5 000 000 scale Soil Map of the World. This publication deals with the four factors of the environment of North America that have close relationships with soil distribution in this part of the world, namely: soil climate, vegetation, physiography and surface geology. A major part of the publication is devoted to a description of the soils of the continent and a discussion of land use and soil suitabilities for agriculture. The description and distribution of soils are discussed on the basis of 18 major soil regions. Profile description and analysis are given in an appendix for the main soil units of the continent.

This comprehensive study of the soils of North America indicates that only 5% of the soils of Canada are used for farm enterprises. An additional 2% of the land area of the country has potential for agricultural development. In the United States about 20% of the land area is used as crop land. Potentially, an additional 11% of the country could be brought into cultivation, although some of it is marginal for crop production.

Orders to: Unesco Press, place de Fontenoy, Paris 7ème, France or National Sales Agents of Unesco Publications.

Price: explanatory text FF 48; map sheets FF 50 each.

Basic Procedures for Soil Sampling and Drilling, by W.L. Acker III, 1974.

This non-technical book is presented by the Acker Drill Company as a source of elementary information on generally accepted field procedures and on the utilization of equipment for obtaining accurate samples and cores of both soil and rock. For experienced drilling contractors or professional soils engineers the contents of this book will appear to be over-simplified. However, the book is intended as a simple guide for builders, architects, surveyors, about current procedures and tools for soil sampling and core drilling. The first part of the book is devoted to soil drilling, the second part to safety and first aid and a third part to core drilling.

Price: US \$ 5.00

Orders to: Acker Drill Company, Marketing Dept., P.O. Box 830, Scranton, Pa. 18501, U.S.A.

Optimizing Agricultural Production Under Limited Availability of Fertilizers. Proceedings of Seminar held in New Delhi, India, 13-14 December 1974, organized by the Fertilizer Association of India and FAO, 568 p.

Thirty-five papers dealing with the more efficient use of fertilizers under conditions of scarcity and high prices. The four major themes of the Seminar were: 1. Fertilizers and their efficient use; 2. Increasing fertilizer use efficiency through better management; 3. Soil testing and fertilizer recommendations; 4. Additional resources of plant nutrients and their production. The Seminar formulated a series of recommendations aiming at maximizing agricultural production from available mineral and manurial plant nutrients.

Orders to: The Fertilizer Association of India, Near Jawaharlal Nehru University, New Delhi - 110057, India.

Price: Rs. 25 (plus postage).

Ein Beitrag zur Genese und Systematik polnischer Lössböden (Lubliner Hügelland), von Friedrich Lenhardt. Osteuropastudien der Hochschulen des Landes Hessen, Reihe I, Giessener Abhandlungen zur Agrar- und Wirtschaftsforschung des europäischen Ostens, Band 68, (123 Seiten, 20 Tabellen, 23 Bilder und 20 Abbildungen).

Das Ziel der vorliegenden Arbeit ist Grundlagen zu schaffen, die einen Beitrag zur Entwicklung der internationalen Bodenklassifikationen liefern sollen, mit besonderer Rücksicht auf die polnische Klassifikation. Vier entkalkte Böden aus Würmlöss des Lubliner Hügellandes (Polen) wurden chemisch, tonmineralogisch und in Dünnschliffen untersucht. Diese Böden sind gekennzeichnet durch eine starke Entbasung des Oberbodens und Versauerung bis in den B_t-Horizonte. In allen Böden hat eine Tonverlagerung stattgefunden. Eine Podsolierung im Sinne einer lösungsschemischen Verlagerung von Oxiden hat in diesen Böden keine stärkeren Ausmasse erreicht. Bei den untersuchten Lössböden handelt es sich um holozäne Parabraunerden und Parabraunerden-Fahlerden mit Tonbändern.

Zu beziehen: Duncker & Humboldt - Berlin.

Transactions of the 10th International Congress of Soil Science
Actes du 10ème Congrès International de la Science du Sol
Berichte des 10. Internationalen Bodenkundlichen Kongresses

11 volumes including the papers presented at the sessions of the seven Commissions and the six Symposia. The papers are written in one of the following languages: English, French, German or Russian, followed by summaries in the four languages.

11 volumes comprenant les communications présentées aux sessions des sept Commissions et des six Symposiums. Les communications sont rédigées dans une des langues suivantes: Anglais, Français, Allemand ou Russe et sont accompagnées de résumés dans ces quatre langues.

11 Bände einschliesslich der Berichte die in den Sitzungen der sieben Kommissionen und der sechs Symposien vorgetragen wurden. Die Berichte sind in einer der folgenden Sprachen abgefasst: English, Französisch, Deutsch oder Russisch mit jeweiligen Zusammenfassungen in allen vier Sprachen.

Orders/Commandes/Bestellungen:

Organizing Committee, 10th International Congress of Soil Science, 44, Vavilov Street, Block 2, Room 89, Moscow, 117333, U.S.S.R.

Price/Prix/Preis:

- 15 Rbs + 1 Rb for surface mail or 15 Rbs + 11 Rbs for air mail
- 15 Rbs + 1 Rb *par courrier ordinaire* ou 15 Rbs + 11 Rbs *par voie aérienne*
- 15 Rbs + 1 Rb mit normaler Post oder 15 Rbs + 11 Rbs mit Luftpost.

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Vneshtorgbank

Neglinnaya Str. 12, Moscow, U.S.S.R.

Account/Compte/Konto:

No. 70102348 of the Organizing
Committee 10th Congress.

NEWS OF THE ISSS SECRETARIAT

Financial Situation

The **Ad Hoc** Committee on Finances, established by the ISSS Council during the Moscow Congress, met in Ghent on 15 September 1975 under the chairmanship of Prof. R. Tavernier and with the participation of Mr. J. Drouineau, Prof. Dr. P. Buringh and Dr. R. Dudal. The Committee reviewed the accounts of the ISSS for the period 1 January 1968-31 December 1974. The financial situation of the ISSS, as at 31 December 1974, accepted by the Committee is reflected by the following balance sheet.

Receipts and Payments Account

for the period 1 January 1968 - 31 December 1974

Receipts	D. Fl.	Payments	D. Fl.
Cash balance brought forward	11,511.35	Secretarial assistance	45,273.28
Membership fees	190,192.66	Purchase publications	73,774.87
Sale publications	105,781.45	Subventions and representation	100,016.83
Subventions	71,185.01	Equipment and supplies	10,069.11
Advertisement	2,897.54	Bank charges	142.86
Interests	7,102.57	Printing costs	114,637.08
Sale of bonds	42,049.71	Auditor's fees	1,225.00
		Postal charges	46,234.66
		Purchase of bonds	23,006.62
			414,380.31
		Balance carried forward as of 31 Dec. 1974	16,339.98
	430,720.29		430,720.29

At the closing of the accounting period on 31 December 1974, additional income was due from the sale of furniture. On the other hand, the Society had the following outstanding liabilities: subscriptions collected by the ISSS for the Soil Biology Bulletin to be remitted to the editors; printing costs of the Jubilee Book; postal charges; and reimbursement of a subvention received by the ISSS on account of the International Soil Museum. These credits and liabilities amount to:

Credits	D.Fl.	Liabilities	D.Fl.
Sale of furniture	2,000.00	Subscriptions for the Soil Biology Bulletin	4,096.95
		Jubilee Book	2,865.42
		Postal charges	550.45
		Subventions Int. Soil Museum	3,379.70
	2,000.00		10,892.52

The working means available to the ISSS as of 1 January 1975, therefore amount to:

	D. Fl.	
Balance brought forward	16,339.98	
Sale of furniture	2,000.00	
Liabilities	(10,892.52)	
Actual balance	D. Fl. 7,447.46	(US \$3,077.46)

The Committee noted that the working means at the beginning of 1975 were rather limited as compared to the expenditures which need to be incurred annually for the smooth operation of the Secretariat and the publication of the ISSS Bulletin. It recommended that members and national societies promptly settle their annual contributions at the beginning of each year. The Committee would recommend to the Council that measures be taken to strengthen the financial basis of the Society's activities. A further consultation with the Secretary General was foreseen with a view to formulating concrete proposals.

Committee on Rules

The Committee on Rules met in Ghent on 13 September 1975, under the chairmanship of Dr. E.G. Hallsworth and with the participation of Prof. Dr. P. Buringh, Prof. Dr. E. Schlichting, Prof. Dr. R. Tavernier and Dr. R. Dudal. Dr. I. Garbouchev was not able to attend the meeting but had sent his suggestions in writing. The meeting reviewed the proposals which had been received for the amendment of the rules. A first revised draft is now being circulated among the officers of the Society for comments.

Further suggestions for amendments should be sent to Dr. Hallsworth, CSIRO, Division of Soils, Private Mail Bag 1, Glen Osmond, S.A. 5064, **prior to 30 June 1976** at which time a final draft will be prepared for the consideration of the Society's membership.

Soil Biology

The ISSS Secretariat is no longer in a position to handle subscriptions for the Soil Biology Bulletin. Subscriptions should be sent directly to the editor:

Dr. M. Bouché

Institut de Recherches sur la Faune du Sol

7, Rue Sully, 21000 Dijon, France.

Payment can be made at: Banque Nationale de Paris
Agence de Dijon, Place Darcy, Dijon France.
Acct. No. 020 993/67.

Advertisements

The ISSS Secretariat will accept advertisements, for publication in the Bulletin, on materials, equipment, services and publications related to the study of soils, to the application of soil science, and to land development. Conditions and rates of advertisement can be obtained from the Secretary General, c/o FAO, Via delle Terme di Caracalla, 00153 Rome, Italy.

In the next issue . . .

This Bulletin is a newsletter issued twice a year to members of the International Society of Soil Science. It aims at keeping members in touch with developments related to the world of soil science. Contributions from members and national societies for the next issue are requested and should reach the Secretariat General (c/o FAO, Via delle Terme di Caracalla, 00153 Rome, Italy) in one or more of the three languages of the ISSS, English, French and German, prior to 30 April 1976.

NOUVELLES DU SECRETARIAT AISS

Situation financière

Le Comité financier ad hoc, établi par le Conseil de l'AISS au cours du Congrès de Moscou, s'est réuni à Gand le 15 septembre 1975 sous la présidence de Prof. R. Tavernier et avec la participation de M.J. Drouineau, Prof. Dr. P. Buringh et Dr. R. Dudal. Le Comité a examiné les comptes de l'AISS pour la période 1er janvier 1968-31 décembre 1974. La situation financière de l'AISS, au 31 décembre 1974, acceptée par le Comité, est exposée dans le bilan suivant.

Etat des recettes et des dépenses

pour la période allant du 1er janvier 1968 au 31 décembre 1974

Entrées	Fl.h.	Sorties	Fl.h.
Report au 1.1.68	11 511,35	Secrétariat	45 273,28
Cotisations	190 192,66	Achat de publications	73 774,87
Vente de publications	105 781,45	Subventions et représentations	100 016,83
Subventions	71 185,01	Equipement et fournitures	10 069,11
Publicité	2 897,54	Frais de banque	142,86
Intérêts	7 102,57	Frais d'impression	114 637,08
Vente d'obligations	42 049,71	Honoraires du vérificateur	1 225,00
		Frais postaux	46 234,66
		Achat d'obligations	23 006,62
			414 380,31
		Report au 31.12.74	16 339,98
	430 720,29		430 720,29

A la clôture de la période comptable au 31 décembre 1974, un crédit supplémentaire provenant de la vente de matériel de bureau, restait encore dû. D'autre part, l'Association avait des engagements en cours correspondant aux abonnements reçus au Bulletin "Biologie des sols" qui doivent être remis aux éditeurs, aux frais d'impression du Livre du Jubilé, à des frais postaux et à un remboursement d'une subvention reçue par l'AISS pour le Musée international des sols. Ces crédits et engagements s'élèvent à:

Crédits	Fl.h.	Engagements	Fl.h.
Vente de matériel de bureau	2 000,00	Abonnements au Bulletin	
		Biologie des sols	4 096,95
		Livre du Jubilé	2 865,42
		Frais postaux	550,45
		Subvention Musée int. des sols	3 379,70
	2 000,00		10 892,52

Les ressources disponibles pour le fonctionnement de l'AISS au 1er janvier 1975 s'élèvent donc à:

	Fl.h.	
Report au 1.1.75	16 339,98	
Vente matériel de bureau	2 000,00	
Engagements	(10 892,52)	
Solde réel Fl.h.	7 447,46	(\$ E.U. 3 077,46)

Le Comité a pris note des moyens de travail relativement limités à disposition au début de 1975 compte tenu des dépenses à assurer pour le déroulement régulier des activités du Secrétariat et la publication du Bulletin AISS. Les membres et les associations nationales sont priés de bien vouloir acquitter rapidement leurs cotisations annuelles au début de chaque année. Le Comité est d'avis de recommander au Conseil de prendre les mesures nécessaires en vue de renforcer les assises financières des activités de l'AISS. Une consultation ultérieure avec le Secrétaire général est prévue le but dans de formuler des propositions concrètes.

Comité du Règlement

Le Comité du Règlement s'est réuni à Gand le 13 septembre 1975, sous la présidence de Dr. E.G. Hallsworth et avec la participation de Prof. Dr. P. Buringh, Prof. Dr. E. Schlichting, Prof. Dr. R. Tavernier et Dr. R. Dudal. Dr. I. Garbouchev, empêché, fit parvenir ses suggestions par écrit. La réunion examina les propositions reçues pour amender les Règlements. Un premier projet révisé a été distribué aux membres du bureau de l'Association pour commentaires.

D'autres **propositions d'amendements** éventuelles doivent être envoyées à Dr. Hallsworth, CSIRO, Division of Soils, Private Mail Bag 1, Glen Osmond, S.A. 5064, **avant le 30 juin 1976**, date à laquelle un projet définitif sera préparé et soumis à l'approbation des membres de l'Association.

Biologie des sols

Le Secrétaire de l'AISS n'est plus en mesure d'accepter les souscriptions pour le Bulletin de la biologie des sols. Les souscriptions doivent être envoyées directement à l'éditeur:

M.M. Bouché
Institut de recherches sur la faune du sol
7 rue Sully
21000 Dijon, France

Les versements peuvent être effectués à la Banque nationale de Paris, Agence de Dijon, Place Darcy, Dijon France, Compte No 020 993/67.

Publicité

Le secrétariat de l'AISS accepte des annonces publicitaires concernant du matériel, de l'équipement, des services et des publications relatifs à l'étude du sol, l'application de la science du sol et la mise en valeur des terres. Les conditions et tarifs de publicité peuvent être obtenus au Secrétariat Général, c/o FAO, Via delle Terme di Caracalla, 00153 Rome, Italie.

Dans le prochain numéro . . .

Ce Bulletin, destiné aux membres de l'Association internationale de la science du sol, paraît deux fois par an. Son but est de tenir les membres informés des progrès accomplis dans le monde de la science du sol. Les contributions des membres et des associations nationales pour le prochain numéro doivent être envoyées au Secrétariat général (c/o FAO, Via delle Terme di Caracalla, 00153 Rome Italie) dans une ou plusieurs des trois langues de l'AISS: anglais, français et allemand avant le 30 avril 1976.

MITTEILUNGEN DES IBG-SEKRETARIATS

Finanzsituation

Das vom IBG-Beirat während der Moskauer Konferenz eingesetzte Ad-Hoc Finanzkomitee trat am 15. September 1975 in Gent zusammen. Unter dem Vorsitz von Prof. R. Tavernier nahmen Herr J. Drouineau, Prof. Dr. P. Buringh und Dr. R. Dudal teil. Das Komitee prüfte die Buchhaltung der IBG für den Zeitraum 1. Januar 1968 bis 31. Dezember 1974. Die Finanzsituation wurde vom Komitee angenommen und spiegelt sich in der folgenden Bilanz wieder:

Einnahmen- und Ausgabenrechnung

für den Zeitraum vom 1. Januar 1968 bis 31. Dezember 1974

Einnahmen	Hol. G.	Ausgaben	Hol. G.
Übertrag per 1.1.1968	11.511,35	Bürohilfe	45.273,28
Mitgliedsbeiträge	190.192,66	Ankauf v. Veröffentlichungen	73.774,87
Verkauf von Veröffentlichungen	105.781,45	Zuschüsse u. Repräsentationen	100.016,83
Subventionen	71.185,01	Bürogeräte u. -material	10.069,11
Anzeigengebühren	2.897,54	Bankspesen	142,86
Zinsen	7.102,57	Druckkosten	114.637,08
Verkauf von Obligationen	42.049,71	Buchprüfergebühren	1.225,00
		Postgebühren	46.234,66
		Ankauf v. Obligationen	23.006,62
			414.380,31
		Übertrag per	
		31. Dezember 1974	16.339,98
	430.720,29		430.720,29

Beim Abschluss der Rechnungsperiode am 31. Dezember 1974 entstanden zusätzliche Guthaben aus dem Verkauf von Einrichtungsgegenständen. Andererseits hatte die Gesellschaft unerfüllte Verpflichtungen folgender Art: die Subskriptionen für das Bulletin über Bodenbiologie sind noch offene Verpflichtungen den Herausgebern gegenüber; des weiteren die Druckkosten für das Jubiläumsbuch, Postgebühren und die Rückzahlung eines Vorschusses, den die IBG vom Internationalen Bodenmuseum erhalten hatte. Diese Guthaben und Verpflichtungen sind:

Guthaben	Hol.G.	Verpflichtungen	Hol.G.
Verkauf von Einrichtung	2.000,00	Subskriptionen für das Bodenbiologie-Bulletin	4.096,95
		Jubiläumsbuch	2.865,42
		Postgebühren	550,45
		Rückzahlung an das Int. Bodenmuseum	3.379,70
	2.000,00		10.892,52

Die finanziellen Mittel der IBG betrugen daher per 1. Januar 1975:

Übertrag per 1.1.1975	16.339,98	
Verkauf v. Einrichtung	2.000,00	
Verpflichtungen	(10.892,52)	
Saldo	Hol.G. 7.447,46	(\$ V.S. 3 077,46)

Das Komitee stellte fest, dass die der Gesellschaft am Anfang des Jahres 1975 zur Verfügung stehenden Mittel äusserst begrenzt waren verglichen mit den Ausgaben, die für den Unterhalt des Sekretariats und die Veröffentlichung der IBG-Mitteilungen zu erwarten waren. Das Komitee empfiehlt Mitgliedern und nationalen Gesellschaften, ihre Jahresbeiträge unverzüglich am Beginn des Jahres zu entrichten. Das Komitee fordert den Beirat auf, Schritte zur Stärkung der Finanzbasis der Tätigkeit der Gesellschaft zu unternehmen. Eine weitere Beratung mit dem Generalsekretär ist vorgesehen, um konkrete Vorschläge zu erarbeiten.

Satzungskomitee

Das Satzungskomitee trat am 13. September 1975 in Gent zusammen. Unter dem Vorsitz von Dr. E.G. Hallsworth nahmen Prof. Dr. P. Buringh, Prof. Dr. E. Schlichting, Prof. Dr. R. Tavernier und Dr. R. Dudal an der Sitzung teil. Dr. I. Garbouchev konnte nicht teilnehmen, hatte aber seine schriftliche Stellungnahme eingereicht. Die Sitzung prüfte die eingesandten Vorschläge zur Änderung der Satzungen. Ein erster überarbeiteter Entwurf liegt jetzt den Vorstandsmitgliedern der Gesellschaft zur Stellungnahme vor.

Weitere Änderungsvorschläge werden bis zum 30. Juni 1976 an die folgende Adresse erbeten: Dr. E.G. Hallsworth, SCIRO, Division of Soils, Private Mail Bag 1, Glen Osmond, S.A. 5064. Nach Einsendeschluss wird den Mitgliedern der Gesellschaft ein endgültiger Entwurf vorgelegt.

Bodenbiologie

Das IBG-Sekretariat ist nicht in der Lage, Abonnements für das Bodenbiologie-Bulletin anzunehmen. Interessenten werden gebeten, sich direkt an den Schriftleiter zu wenden:

Dr. M. Bouché
Institut de Recherches sur la Faune du Sol
7, Rue Sully, 21000 Dijon, Frankreich.

Zahlung erfolgt auf das folgende Konto:

Banque Nationale de Paris
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Kto. No. 020 993/67

Werbung

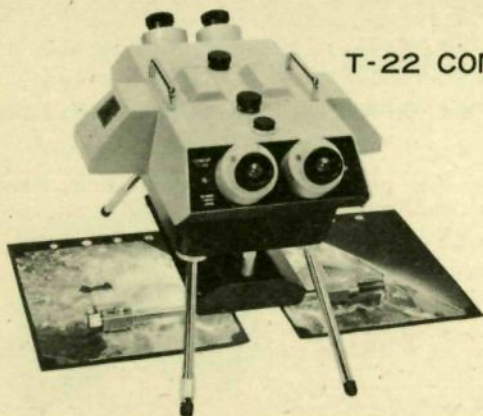
Das IBG-Sekretariat nimmt Anzeigen entgegen, die in den Mitteilungen veröffentlicht werden und sich mit Materialien, Geräten, Dienstleistungen und Veröffentlichungen aus den Gebieten der Bodenforschung, der angewandten Bodenkunde und der Landentwicklung befassen. Anzeigenbedingungen und -preise sind von dem Generalsekretariat, c/o FAO, Via delle Terme di Caracalla, 00153 Rom, Italien, zu erfahren.

In den nächsten Mitteilungen . . .

Das Mitteilungsblatt der Internationalen Bodenkundlichen Gesellschaft erscheint zweimal im Jahr. Sein Ziel ist, die Mitglieder laufend mit Nachrichten und Neuheiten aus der Welt der Bodenkunde zu versorgen. Beiträge von Mitgliedern und nationalen Gesellschaften zur nächsten Ausgabe des Mitteilungsblattes sollten bis 30. April 1976 beim Generalsekretariat (c/o FAO, Via delle Terme di Caracalla, 00153 Roma, Italien), eingehen. Manuskripte sollten in einer oder mehreren der offiziellen Sprachen der IBG verfasst sein (englisch, französisch, deutsch).



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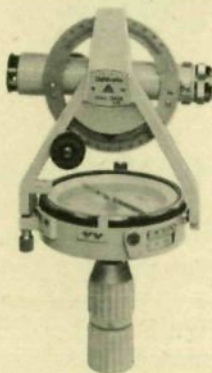
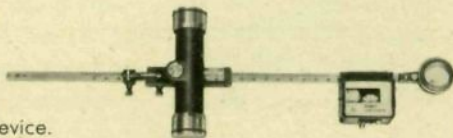
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International Conference on Land for Waste Management, Proceedings

This Conference, organized by the Canadian Society of Soil Science, was held in Ottawa in October 1973.

The Proceeding is in one volume, hard cover, illustrated, 388 pages. It contains the six theme papers, thirty one research papers, six chairman's summaries, and the discussion, under the following themes:

- Climate, vegetation and soils as factors in waste disposal, including special problems in the North
- Soil properties and processes in relation to waste recycling and disposal
- Hydrogeology and geomorphology as factors in waste management
- Nature of waste in relation to disposal on land
- Socio-economic and land use planning for disposal, including health and legal aspects
- Land waste disposal systems--present and future designs

The book is available at a price of \$ 15.00 (Canadian) from:

The Agricultural Institute of Canada
151 Slater street,
Ottawa, Canada K1P 5H4.

SOIL INFORMATION SYSTEMS

Proceedings of the meeting of the ISSS Working Group on Soil Information Systems held at Wageningen, The Netherlands September 1-4, 1975, 93 pages.

Edited by: Stein W. Bie

Published by: Centre for Agricultural Publishing and Documentation
Wageningen, The Netherlands

Computer-aided soil information systems allow powerful analysis of the state of our soil resources. Soil survey generates large numbers of descriptions, tables and maps. New techniques of data handling and spatial analysis now enable all data to be stored and processed so that the user can get more specific soil information.

Under the auspices of the International Society of Soil Science and the Food and Agriculture Organization of the United Nations, designers of soil information systems, and their geological, geographical and cartographic colleagues reviewed current methods of data capture and input, management systems for advanced data bases and automated cartography, and discussed user needs in developed and developing countries.

Price \$US 6.00

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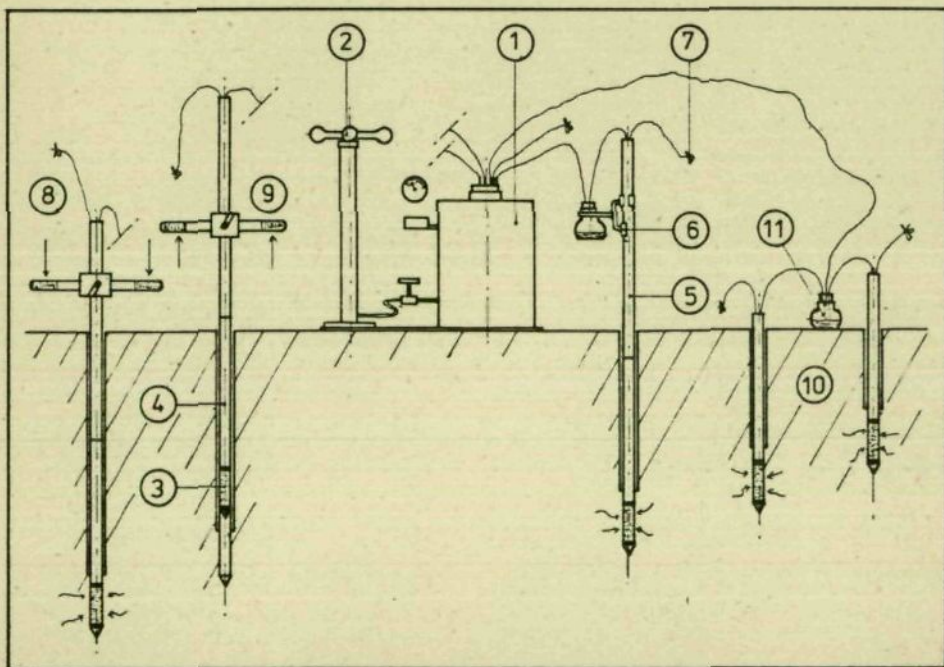
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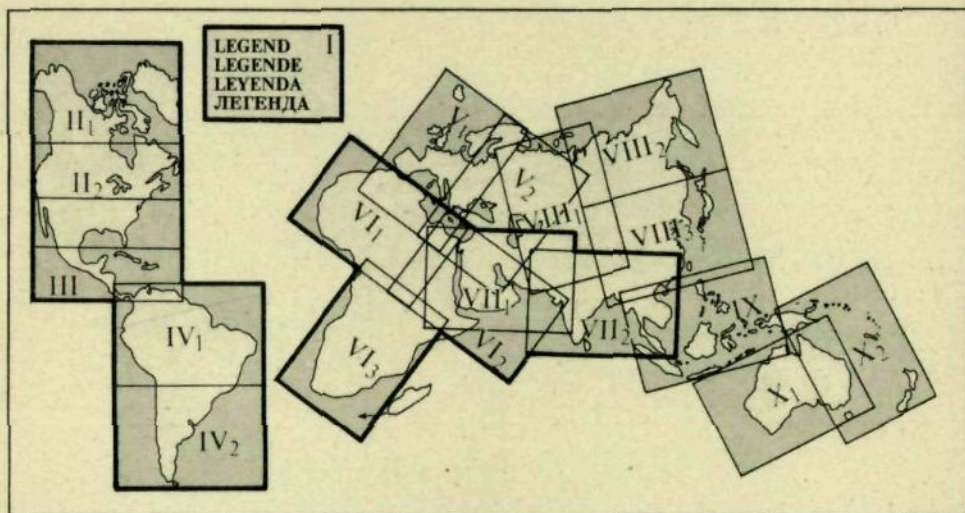
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