PROFILE - THE OFFICIAL NEWSLETTER OF THE
AUSTRALIAN SOCIETY OF SOIL SCIENCE INC

ISSUE 122
APRIL 2000

Sodicity Conference a Success

The recent Sodicity Conference held at the Institute of Sustainable Irrigated Agriculture at Tatura in Victoria was hailed as a success by participants. One hundred and thirty of the delegates hailed from accross Australia and ten travelled from China, India, Israel, New Zealand or the US to attend. The proceedings of the conference will be published in a special issue of the Australian Journal of Experimental Agriculture due to be released in early 2001. See page 6 for a review of the conference by Dr Bob Sojka from the US Department of Agriculture.

ABOVE: One hundred and forty delegates attended the Sodicity Conference at Tatura in February.

In this issue

Profile

Profile

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC.
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The Australian Society of Soil Science Incorporated (ASSSI) was founded in 1955 to work towards the advancement of soil science in the professional, academic and technical fields. It comprises a Federal Council and seven branches (Qld, NSW, Riverina, ACT, Vic, SA and WA). Liability of members is limited.

Objectives

- To advance soil science
- To provide a link between soil scientists and members of kindred bodies within Australia and in other countries.

Specific Objectives

- To promote the field of soil science
- To further the expertise in soil science of members
- To be a forum for discussion on soil science
- To increase government and community awareness of soil science
- To liase and cooperate with other organisations in support of mutual interests
- To encourage research and extension in soil science
- To promote wise management of the soil resource throughout Australia

Membership

For all membership and CPSS application and renewals, subscription, queries and address changes contact Alice Bass, ASSSI executive officer on Mon-Tues 10.00am - 4.30pm and Wed 10.00 - 1.30pm. See back page for contact details.

ASSSI Website

http://asssi.rivercorp.com.au

PROFILE

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30 June, 30 September, 30 December

Advertisements

Advertisements relevant to some aspect of soil science are welcome. Charges are full page $200, half page $100, quarter page $50. Information about conferences, soil science courses, scholarships etc is published free.

Cover

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Contents

All contributions are welcome, text preferably by email. Please send to the editor, Jonnie White, PO Box 936, Biloela Q 4715, tel 07 4992 6041, fax 07 4992 6043, email jrwhite@tpg.com.au

From the president

The lead article in the last issue of Profile (121), Coffee rock discovery 'rocks' geomorphology, certainly caused a reaction, as evidenced by the letters to the editor received over the past few weeks. I would encourage members to use Profile as a sounding-board for ideas, concepts and healthy scientific debate. This type of activity then creates a demand for the publication and possibly increased interest in and membership of our Society . Those whom we should encourage to join are the young graduates and undergraduates, and to that end Lyn Abbott, our Vice-President, has taken on the chair of a Student Development sub-committee. Lyn is keen to develop a framework for the future encouragement of young people with an interest or career in soils, to have input from members on how to target activities and to canvas the range of suitable activities by liaison with them. If anyone would offer their time and ideas, please contact Lyn (see inside back cover for contact details). The future of our Society depends on the recruitment of the young to drive it into the next decade with enthusiasm.

During February, I came across two articles which challenge conventional wisdom in soil science. Both articles were published in the Soil Science Society of America Journal, September-October issue. I would encourage all members to read these articles as a salutary reminder of the influence of popular belief, with little regard to the scientific evidence. The first, an editorial, "Reservations regarding the soil quality concept", by R E Sojka and D R Upchurch is summarised briefly on page 22 of this Profile. Incidentally, Bob Sojka visited Queensland recently and presented talks in Toowoomba and Emerald, see report in Queensland Branch Newsletter, page 8, for February 2000, on the internet site and page 6 of Profile for his review of the Sodicity Conference. The second, article under the subject : History of Soil Science, "On the origin of the theory of mineral nutrition of plants and the Law of the Minimum" by RR van der Ploeg, W Bohm and M B Kirkham, (SSSAmJ 63(5) : 1055), who present a strong case to associate another person, Carl Sprengel, with Justus von Liebig as equal participants in the development of the Law of the Minimum. The authors propose that in future we refer to this concept as the Sprengel-Liebig Law of the Minimum, as they suggest from the evidence they examined, that Sprengel be recognised as a co-founder of agricultural chemistry.

Both articles should challenge us to question popular and general beliefs which gain the attention of the media, yet may be without thorough scientific evaluation of data and concepts.

Graham Price

MAKE SURE YOU ARE PROTECTED

If you or your branch are organising an event you MUST notify the federal executive, to guarantee insurance cover.

An event is any activity other than ordinary meetings - workshops, training sessions, and ESPECIALLY field trips.

Send an outline of the activities involved, the time, date and venue of the event to:

David Lester
Incitec Ltd, PO Box 623 Toowoomba QLD 4350
tel 07 4639 7403 fax 07 4639 7410
David.Lester@incitec.com.au

Please notify David at least one week before the event.

From the editor's desk

Welcome to this big autumn issue of Profile. Happy Easter to everyone and I hope you had a nice holiday.

There has been quite a bit of discussion about the cover story from the last issue of Profile (see Letters). As a society newsletter, prepared on a voluntary basis, Profile depends on contributions in order to be an effective communication tool. Obviously those groups which are prolific contributors will have their message communicated more than others. I am always very keen to hear what sort of material members would like to see in their newsletter - I am even more keen to RECEIVE it! If nothing else, Profile is a vehicle by which we, as members of the society, can debate just these kinds of issues and I am pleased that people have taken this opportunity.

Also included in this issue is a report from the general meeting of the society held in March, and the audited figures for 1997-98. On a lighter note, there is a terrific article on soil survey activity in the Northern Territory, along with all the regular features. Hope you enjoy this issue and I look forward to hearing from you soon.,

Jonnie White

Letters

Coffee Rock Article (Profile 121)

The lead article in your ASSSI newsletter (Profile 121) is an example of science by press release. I would have thought that the claims of inventing cold fusion were warning enough to wait until the evidence is in before making such claims. This work should await review and publication in reputable journals prior to hitting the front page. At the very least, if the science has been done to justify the claims, then the dating methods and results should have been quoted. Or if papers have been published then the reference should have been cited.

We have recently drilled about 40 deep bores in "Pleistocene" barrier sands at Stuarts Point in NSW and will be conducting extensive analysis on the sediments and groundwater as part of a joint UNSW (James Smith PhD) and DLWC project. We have identified interbedded mud facies below the coffee rock some of which have low ASS values but none of which had a high pyrite content. Lateral movement of iron in pleistocene sands from pyrite oxidation is not a new concept. It is an obvious source of iron for concentration as coffeerock in the sand mass but we would argue post pleistocene not post holocene.

Regards
Glenn Atkinson,
Resource Assessment Manager
DLWC North Coast Region

Re: Advertorials in the Profile newsletter, Issue 121, January 2000

Dear Editor

As a firm of soil scientists involved in commercially driven scientific consulting, who undertake numerous investigations of soil and groundwater on Quaternary aged sediments (including studies involved in determination of soil sulfide levels), we would like to comment on your 'cover story' for the January 2000 issue.

Firstly, the occurrence of sediments containing sulfides both within and below coffee rock layers has been known for some time. A pertinent example is the eastern extremity of the Cumberland Plateau, most notably the Botany Basin. Sulfides associated with iron minerals tend to be concentrated in discontinuous bands of loamy sand to clay loam sediments within sand dominated profiles to depths of up to 20 metres, where the coffee rock layer is encountered at around 2 metres from the surface. Pyrite is also known to be a precipitate on sand grains within these profiles.

On more swampy landscapes loamy sands to sandy clay loams containing sulfides have been noted directly beneath coffee rock layers. Other coastal NSW areas are also known to exhibit these characteristics.

The cover story for Issue 121 discussing this 'discovery' can be seen as a blatant advertorial for both QASSIT and the Geoprobe. While scientific principles other than use of the word 'discovery' are not questioned, the format in which it is presented would make John Laws or Alan Jones (not to mention the Independent Broadcasting Inquiry) raise their eyebrows!

Yours in soil science Mark Stuckey, Philip Mulvey (Environmental & Earth Sciences Pty Ltd)

Reply from Trevor Graham

Dear Editor,

As one of the people credited in the article with having made the 'coffee rock discovery', I somewhat reluctantly feel the need to join the tirade at this time. Reluctantly because, having read the various comments on the article prior to having actually read it, the reaction appears to be unduly parochial and adversarial in nature. This reminds me of past 'patch wars' in other disciplines that have generally been to the detriment of the science.

Before addressing specific issues I believe it is worth noting that the journalistic spin put on the article (particularly the heading) has probably placed undue emphasis on what was originally intended to be an observational note. That aside, I find the analogy of Messrs Stuckey and Mulvey with the John Laws situation rather odd. I'm wondering which of the already overtaxed QASSIT staff is going to either receive a 'red cent' or welcome the additional business from this 'advertorial'? Perhaps the accountants at Geoprobe Systems in the USA will wonder at the sudden surge in their worldwide sales figures, and celebrate their good fortune.

It appears from some of the comments received to date that there is some confusion about what is

***Profile* welcomes letters, particularly those which promote debate and discussion. Please send contributions to the editor.**

being proposed as a new 'discovery'. The discovery of pyritic sediments below 'coffee rock' is in itself not new. What is new in my experience (ie. 20+ years of coastal geomorphology and 700+ boreholes) is the discovery of unripe, estuarine, central basin, mud facies (with fresh organic debris) underlying a 'coffee' layer (refer later discussion). Neither do I recall encountering this facies sequence in the extensive literature by the current patriarchs of coastal geomorphology on the eastern Australian seaboard: Professors Bruce Thom and John Chappell, and Dr. Peter Roy. Although confident in my assessment that these sediments are Holocene, it is intended to pursue 14C verification of the age of this material in the first part of this year. Field pH changes after peroxide oxidation from natural values in the range 6-7 to values in the range 0.8-1.5 would tend to support a Holocene age. Only once (in the Clarence Valley) have I encountered Pleistocene age estuarine muds that by their immaturity might be confused with Holocene estuarine muds. These sediments, which were overlain by an analagous Holocene estuarine central basin facies and a palaeosol, had similar colour and texture to their overlying counterparts, and had reasonably well preserved shells. On close examination of the shells in the field it was determined that the finer ones were 'chalky' and the thicker ones had developed a diagenetic rind. This appeared to be a rare situation where a 'closed system' during the late Pleistocene had preserved these sediments, and was recognised as such in the field and later verified by age determinations.

Central to adding some clarification to this discussion is a review of what we mean by 'coffee rock'. Over the years I have seen workers apply this description to a range of sediments from highly organic, but poorly cemented sands that have the distinctive 'coffee' appearance, to highly indurated 'coffee' pans. Further complicating this can be quite localised variation in the degree of induration in the same horizon. During past surveys in northern N.S.W Pleistocene-age barriers I have observed 'coffee sands', which when freshly exposed by non-continuous augering are often quite weakly cemented, but achieve a good measure of induration nearby where exposed by coastal erosion, or in creek banks. My observations in the Sunshine Coast suggest that the 'coffee layer' overlying Holocene estuarine sequence has a similar character. Although having the distinctive 'coffee' appearance it is generally weakly coherent, except where exposed, with some degree of pan formation observable in places. Underlying the full Holocene sequence at a number of sites is another, Pleistocene-age, 'coffee layer' which, consistent with its age can be substantially indurated. Generally when logging I will refer to the Holocene 'coffee' layer as 'incipient coffee rock' or 'coffee sands' and note any early pan development. The occurrence of this Holocene 'coffee' layer across a wide area of the Sunshine Coast appears to owe its genesis to a late phase of dune mobilisation in the area post dating the filling of major estuarine basins. This provided a similar progenitive environment to its Pleistocene counterpart. This surface dune-sand facies made it difficult for workers to penetrate with manual or underpowered sampling systems in the past, and upon encountering a 'coffee layer' the tendency was to allocate the sequence a Pleistocene-age (generally a fair assumption based on the N.S.W experience). The application of more powerful sampling systems (of which the Geoprobe is one) revealed that some caution is required in making this assumption (at least in S.E.Queensland), and this was the intention of the observational note in Profile.

In discussions with Bernie Powell we considered whether the high natural levels of iron in the groundwater, or iron sourced from the underlying Holocene sediments had contributed to the early pan development observed in some of these Holocene 'coffee' layers. As suggested in the article this 'requires further research'.

Finally, if for no other reason than to 'dragoon' more allies to the battle that appears to have developed, I would like to record that our colleague Greg Holland (from Gilbert & Sutherland P/L) was augering up similar evidence at another Sunshine Coast site contemporaneously with this 'discovery'.

Dr Trevor Graham
Principal Geomorphologist GeoCoastal (Australia) Pty Ltd

Publish or Perish

Despite the great importance of publications for individual careers as well as the prestige of research centres and universities, there seems to be little discussion in the soil scientific community on this subject - as opposed to some other disciplines where lively debates are held on the pros and cons of the present "publish or perish" culture. The first of a series of contributions on this topic have been published inthe Bulletin of the International union of Soil Science, but I think they deserve wide readership. A wide range of topics will be covered in the series including: number of soil science publications, author's role in a paper, fraud, journal covers, web journals et cetera. In the first papers we have a look at the price of journals and their impact factor. As a member of ASSSI, I thought it would be of interest if these notes were added to the ASSSI website.

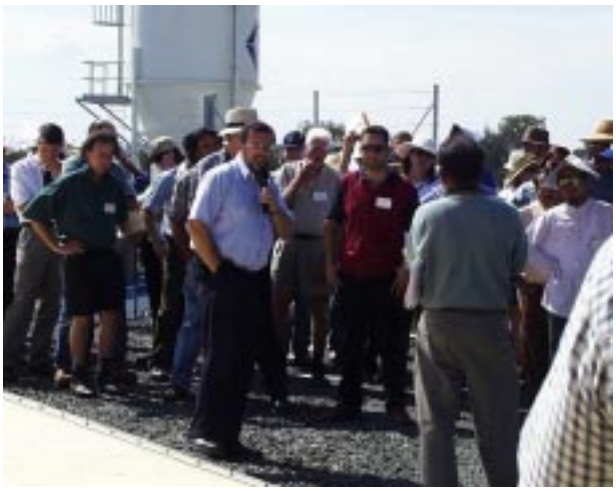
Alfred Hartemink
Int. Soil Reference and Information Centre

(The first two articles are now available on the ASSSI website at http:\\asssi.rivercorp.com.au - Ed)

Impressions from the Sodicity Conference

These impressions are written by Dr Bob Sojka from the USDA Agricultural Research Service, a visitor at the conference.

In January of this year I arrived for a two month visit of Australia, on a mission to assess the nature and extent of irrigation-induced erosion, its impact on surface water quality and the feasibility of using chemical polymers to help alleviate these problems. My visit coincided with the Sodicity Conference held in Tatura, Victoria, from 28 February through 1 March, and since I was not a formal conference participant its organizer, Dr. Aravind Surapaneni, asked if I could offer comment from, what he termed "an objective and unbiased viewpoint." While being humbled by a suggestion to offer comment on the contributions of so many fine scientists in a field in which I have only had a small personal role, I was also eager for the chance to offer comment on a topic that, as my own fact finding trip confirmed, is so central to the future fate of Australian agriculture. Sodicity is especially important to Australia's irrigated agriculture and its surface water ecology and its terrestrial and riparian management.



ABOVE: Peter Donlon from Goulburn Valley Water explains wastewater treatment processes during a conference field tour.

"Awareness" may be the word that best sums up the issue of greatest public importance, and it did not take long to surface at the conference. Several speakers noted that many Australian land managers are still unaware of the extent and potential severity of their country's soil and water salinity and sodicity problems. This may be related to the fact that the ambitious development of large irrigated tracts has been a relatively new occurrence and that even on tracts established in the 1950s and 1960s it has taken several decades for sodicity and salinity problems to manifest themselves. The problem of awareness takes on an even greater urgency now as widespread conversion from rainfed pasture and grazing lands, following a market-driven decline of the sheep and wool industry, is prompting many landholders to convert their operations to irrigated cropping. Many of these "new farmers" are unfamiliar with basic "on farm" aspects of soil chemistry and soil physics- even to the extent of not distinguishing the difference between salinity and sodicity. Indeed, it is not merely a farmer problem, as water quality criteria in some water management schemes are based solely on salinity, i.e. electrical conductivity management.

Water blending ("conjunctive water use" in American terms, or "shandying" in Australian terms) was identified as another major issue. Perhaps the issue is better framed as blending vs separating of relatively high quality primary water sources and saline, sodic, or saline/sodic waters from field tile drains or deep wells. The rationale for blending is to increase the total volume of water available by diluting problem waters with relatively high quality waters. The rationale for segregating impaired water from high quality water is to limit the extent of soil salinization and sodification to a minor fraction of the total land area irrigated, and in so doing limit the extent of land that requires special and higher order management. The logic of each approach was explored by several speakers. The conference keynote speaker, Dr. James Oster challenged the conference to consider the desirability of creating a system of monetary incentives based on acceptance of impaired water, thereby encouraging segregation and limitation of the extent of salt impairment of primary agricultural lands. A third unique, and certainly controversial idea, was the suggestion by Dr. Arie Nadler that the pervasive use of gypsum to combat sodicity may have become more widespread and frequent than is warranted by documented yield results. Further, he noted that solubility as influenced by common ion effects and evidence from mass balances in leaching studies suggests that not all calcium added via gypsum remains available in soil solution to affect the calcium/sodium balance of the soil exchange complex. His thesis, stemming from this caution against what he termed "gypsomania" was relatively simple: Gypsum is applied for two reasons, to reduce direct sodium impairment of plant growth and to improve infiltration- if there is no crop

response to gypsum, then other infiltration-enhancing practices should be used and further gypsum additions might well be curtailed.

An issue, the importance of which is obvious to anyone who has looked down on Australian waters from an airplane, is the role of sodicity in soil dispersion and runoff turbidity. The dispersive properties of sodium, related to the ion's hydrated radius and its relative inability to shrink the electrical double layer surrounding suspended clay particles plays a major role in soil erosion, infiltration impairment and transport and desorption of nutrients and pesticides from suspended soil into surface waters. Clarifying Australia's surface waters, estuaries or coastal waters and reducing their pesticide and nutrient contamination will be linked to managing soil and runoff water sodicity. This issue also has significant implications for rice production, which suffers severe stand reduction and maturity delay when water turbidity impairs photosynthetic light penetration and lowers temperature in paddy water.

These and many other technical issues were explored in the conference. The level of technical competence of the presenters and the quality of their work must be commended. I was gratified that more than one speaker noted that when studying salinity and sodicity one must keep in mind that outcomes and effects of treatments and management strategies are dependent on long lists of interactive and sometimes subtle but important factors-physico-chemical, biological, system architecture and operations related, societal, economic etc. In the soil alone, mineralogy, organic matter, iron chemistry, cropping system artifacts and climate all need to be appreciated and accounted for to understand or predict the influences of salinity and sodicity. Finding a normalization rationale to evaluate what has been learned from one set of circumstances for use in Australia is no small part of the challenge facing Australian soil scientists, agronomists and engineers.

"We are all so used to technology and take it so for granted...we forget that before technology comes knowledge"

If there were any aspect of the conference that may have been improved it might relate to this latter issue, which is really a statement of the need for "perspective." The Sodicity Conference provided a top-notch forum among sodicity experts— soil scientists, water and agricultural engineers and even a few policy makers. Absent were influential farmers or representatives of the popular environmental community. It might have been better to have heard from the policy makers at the end of the conference, after they had had the benefit of the scientific presentations. And the scientific presentations might have had more impact if grounded by a questioning audience of other than, largely, scientists and engineers. These are small deficiencies for so well organized and so high quality a scientific conference, and are meant more as a reflection than a criticism.

Science seems to be losing some of its allure and emotional authority in this new world of ours, where toddlers are weened on gigahertz microprocessors. We are all so used to technology and take it so for granted that we forget that before technology comes knowledge. Certainly if we are to convince governments and other funding bodies of the need to do research and the need to transfer technology to users and to policy makers, we need first to educate them and engage them in the dialogue (at the risk of being educated ourselves). Accomplishing this kind of interaction is a common oversight in scientific communities. It makes us uncomfortable and sometimes it takes a real effort to establish genuine cross communication among scientists and the public. I would argue, however, that in this "information age" (misinformation age?) the old traditional patterns of dealing with environmental problems from within the scientific infrastructure need some rethinking. The benefits of inclusivity are potentially considerable, and we as scientists will probably be surprised at how astute the lay public can be at assimilating the knowledge we present them, if it is indeed relevant to real problem solving. Perhaps the conference proceedings can be "translated" for broader dissemination to the public through a final act of "extension." And perhaps at the third sodicity conference, which I definitely want to attend, we can all enjoy presentations and panel participation aimed at and drawn from our customers in the farming and environmental communities, as well as from our colleagues at the bench.

All in all, I commend the conference organizers and sponsors on a job very well done. The topics explored and the technical challenges presented by conference participants will chart a path of scientific investigation lasting several years. One of the best indicators of a great conference is one that sends the participants home with more questions than answers. The sodicity conference met this test, and its organizers and sponsors are to be commended.

Covering the Territory

The Northern Territory is generally regarded as Australia's last frontier and soil survey is no different. However Brian Lynch of the territory's Department of Lands Planning and Environment tells us of the ambitious survey schedule ahead of members in the Top End.

Although a Northern Territory Branch is yet to be established, there are a few ASSSI members that have maintained an affiliation with their previous Branch after moving to the Top End.

Much of the soils related work in the Northern Territory is involved with the mapping and assessment of land resources. The 'land unit' approach and, to a lesser extent, the broader scale 'land system' approach, provide the mainstay for expanding knowledge on the association of landforms, soils and vegetation.

The most attractive aspect to land resource asessment (from the assessment officer's point of view) has always been the field component. Although much of the fieldwork involves the standard drive-stop-auger-describe-classify routine, there are not too many field trips that pass without memorable highlights.

Currently plans are being made for a very ambitious field season, which should see the mapping phase of two projects rounded off, and the commencement of fieldwork for another four. The two projects going into the final round are the Victoria River District (VRD) land resource mapping project and the Finnis-Dundee (Finnis River Station - Dundee beach area) land resource mapping project.

The VRD project has been a mammoth undertaking, which began in 1990 at the request of the Victoria River District Conservation Association (VRDCA). The VRD is located south west of Katherine and is a major beef producing area. The primary objective of the project (jointly funded by the NT Government and NHT) was to map, describe and evaluate the pastoral areas and provide this information to property managers as well as relevant Government agencies. Some 17 properties covering 44, 000 square kilometres have been assessed.

Many land resource officers have been involved throughout this project (some learning the trade in the process) and collating all the information gathered still requires a committed effort. The coming dry season promises to see the last of the great polygon musters, with extensive travesing and checking of the land unit mapping, before the 'completed' brand is applied.

Another project drawing to a close is a detailed land unit mapping exercise of the Finnis-Dundee area. The area is around 100 km south west of Darwin and is bounded by Fog Bay and Bynoe Harbour. This is a growth area for rural dwellers and weekenders (particularly those with an interest in fishing). The information is proving invaluable for determining and assessing subdivision and development proposals, as well as assisting potential landowners with block selections.

The four projects sitting on the tee are the Mary River Catchment, Fergusson River Catchment and Sturt Plateau in the north and the Finke River Catchment in Central Australia (all jointly funded under the NHT).

The Mary River is 100 km east of Darwin. the lower catchment has yielded a number of land resource surveys since the early 1970s, largely due to agricultural potential on both the extensive coastal floodplains and the upland 'lateritic' plains.

The remaining 70% of the catchment has very different landscapes, formed on granite, sandstones, siltstones and greywacke with intervening alluvial floodplains. Consequentially, the landuse and management options in the upper catchment differ to the lower catchment.

The project aims to incorporate existing mapping to provide a complete coverage for the catchement at 1:50 000. The dilemma of marrying historic spatial data with current GIS technology will again provoke much thought. This information will

ABOVE: Land Resource Assessment Officer Jason Hill enjoying a red kandosol, a stringybark open woodland and landowner hospitality in the Finnis-Dundee area.

provide the basis for a land degradation assessment and monitoring program, in addition to providing more traditional information for land use planning.

The Fergusson River Catchment is located just north of Katherine. The project to map the land resources of this area resulted as a request from the Jawoyn Association (representing the traditional owners) to explore opportunities for more intensive land uses. The project will add considerable coverage to the information base to assist in the compilation of the Natural Resource Management Strategy for the Katherine-Daly Basin.

ABOVE: Mike vanCuylenburg (with crowbar), Phil McLeod and Bob Karfs (in pit) getting down to business in the VRD.

The Sturt Plateau, south of Katherine, ia an extensive, level surface with an intricate distribution of soils; predominantly red, brown, yellow and grey kandosols interspersed with vertosols. Considerable interest continues to be shown in the opportunities for more intensive agricultural developments in a largely pastoral region. A project is underway to map the land units using satellite imagery. Of particular interest is the extent and distribution of uniform areas of deep red kandosols. The information will provide invaluable input into the Land Use and Management Strategy for the Sturt Plateau.

The land resource assessment of the Finke River Catchment is being undertaken primarily to provide land capability information to property managers and extension officers to assist in land management. The project area is extensive, with diverse and complex landscapes, low and extremely variable rainfall, erodible soil types and susceptibility to rabbit infestation.

As mentioned earlier, an ambitious field season is planned for the coming seven months. For anyone interested in taking a break from the southern winter, there will no doubt be the occcasional spare seat for those skilled in the art of auger turning.

SOIL PHYSICS FAMILY TREE

The 2000 Soil Science Society of America Meetings will be held in Minneapolis, Minnesota from 5-9 November 2000. The organizers plan, as part of these meetings, a symposium on the “past, present and future of soil physics”. Within this they wish to present a worldwide data base of past and present “soil physicists”.

Jan Hopmans, the current Chair of Section 1, Soil Science Society of America, has conceived and will orchestrate this project. I have agreed to act as postbox/collator for the Australian contingent of participants.

The database will comprise a CV together with what Jan is calling a “family tree”. The latter seems to be a network that links individuals through their teaching and research associations. I have completed examples of both documents to help people participate. Their completion does not represent a major time commitment. The documents are available from me, on request, by mail, e-mail or fax. The first pass for this material must be completed for transfer to Jan Hopmans by June 1, 2000.

If you wish to participate, I need your responses by that date. David Smiles CSIRO Land and Water, Canberra, PO Box 1666, Canberra. ACT 2601. Phone: 61 2 6246 5966; Fax: 61 2 6246 5913; E-mail: david.smiles@cbr.clw.csiro.au.

Branch news

RIVERINA

Life Membership of Branch Awarded

At the March meeting of the Riverina Branch in Deniliquin presentations were made to the meeting by Lindsay Evans , NSW Agriculture, Deniliquin on "Experiences in Bhutan, Masoud Edraki CSIRO Land & Water / Murray Irrigation Limited Deniliquin "Runoff and interflow on a duplex soil under irrigation with secondary treated effluent" and by Warren Muirhead on "Research Career Highlights". Warren's presentation and "reckonings" for the future were well received by the meeting and provided a background to the awarding of life membership of the Riverina Branch of ASSSI to Warren for his substantial contributions to the Riverina Branch, to soil science, and to the productivity of the irrigation industry.

Warren's involvement with ASSSI goes back over 30 years. He has been an active member throughout that period, at both the Riverina Branch and Federal levels. This has included organisation of the programs for many of the meetings held at Griffith, attendance and presentation of papers at many Branch, Tetra-branch and Federal conferences, and numerous official positions at the Branch and Federal levels.

Warren's research has made a substantial contribution to the understanding and management of the soils of the Riverine plains, starting in the mid-1950s with the amelioration and revegetation of scalds in dry land areas.

His early work in high watertable areas demonstrated the potential for crops sown after rice to use groundwater and lower the watertable, however this resulted in upward mobilisation of salt, with implications for irrigation management.

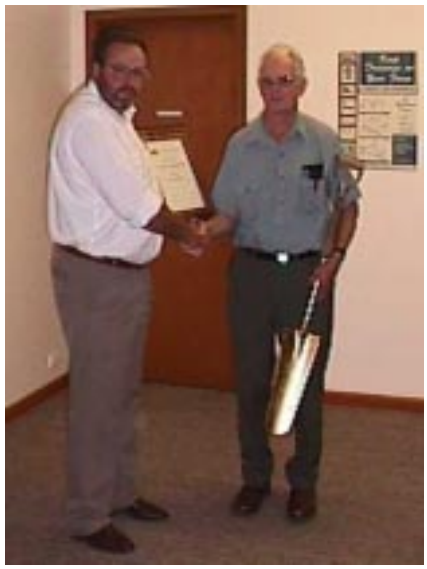
Warren's research on the impact of ameliorants such as gypsum and deep ripping showed the short-lived effects of deep ripping and the variable response to surface applications of gypsum. This understanding helped to spawn the concept of gypsum enriched slots as a means of amelioration.

He initiated and carried out work on rice stubble disorder, the poor growth of crops sown after rice. The condition was shown to be caused by adsorption of phosphate on the amorphous ferric hydrous oxides formed after the rice fields are drained, and that the problem can be overcome by banding the phosphorus fertilizer rather than mixing it in the soil.

Warren initiated and supervised research that has improved the use efficiency of nitrogen fertilizer in irrigated crops including maize, sunflower, rice and wheat. His innovative work with the application of urea in irrigation water has been widely adopted. His involvement with other members of CSIRO, state agencies and universities has been fundamental to understanding nitrogen dynamics in rice and other irrigated crops, including quantifying the interaction between water management and nitrogen fertilizer transformations. More recently Warren tackled the need to find ways for farmers to continue to grow high return crops (eg. vegetables) in high watertable situations. He was able to demonstrate the feasibility and benefits of adapting mole drainage technology to heavy clay soils in high watertable areas.

Warren has always adopted a very practical yet holistic approach to his work. He has been a soil scientist, agronomist, plant pathologist, agricultural engineer, environmental scientist, and of late an economist and social scientist. He has worked very closely with farmers where he has been at the forefront in responding to their agronomic and soil-related problems. He has been credited with awakening scientists to the "principle of listening" and of encouraging lateral thinking to solve problems. He holds enormous respect from farmers and their organisations for his professionalism and his ability to find practical solutions to their problems. He is an innovative experimenter who has produced both understanding and practical management strategies.

Warren has always given a human face to scientific research, and has made a substantial contribution to science and its application, both through his own endeavours and through his unselfish encouragement of others.



RIGHT: Warren Muirhead receives life Membership of the Riverina Branch from President Geoff Beecher.

VICTORIA

Wastewater irrigation in Malaysia

Helen Suter and Robert van de Graaff of van de Graaff and Associates visited the state of Perlis, Malysia during March 2000 to help establish a trial to investigate the effect of irrigation of wastewater resulting from the processing of molasses to ethanol, on sugarcane growth.

The trial was established to assess whether 1) the wastewater had a detrimental effect on plant growth, and 2) the wastewater could be a source of nutrients, specifically K, for the sugarcane and thereby reduce the costs of fertiliser purchase for the sugarcane growers in Perlis.

The project was a joint project between ASEAN and AUSAid, and involved OPCV, EPA, CRC for Waste Management and Pollution Control, Egis Consulting Australia and van de Graaff and Associates from Australia, SIRIM from Shah Alam, Malaysia, the ethanol manufacturer and the sugarcane plantation in Perlis, Malaysia. The project has been designed to promote cleaner production within this industry in Malaysia.

Closer ties with China

The Soils Group at ILFR, The University of Melbourne are forging close ties with Chinese scientists through visits and joint projects.

Dr Bingning Zhang, senior agronomist and Director of Yangzhou Soil and Fertilizer Station, China, is working with the Soils Group in ILFR at the University of Melbourne from 14 February 2000 to 14 February 2001. He holds a visiting research scholarship provided by China's National Scholarship Council.

He is in charge of the project "Decision-making Supporting System of Agriculture", which is sponsored by National Agro-technical Extension and Service Center, P.R.China; Science and Technology Department Jiangssu Province, China. The main task of this project is to set up an agricultural information management system based on GIS (Geographical Information Systems) and to use this system to supply advice for agricultural policy decisions and farming. This project will involve GIS techniques, dynamic models of plant nutrients and water in the soil, and methods on managing land and agricultural resource. His research will be relevant to the ACIAR project 'Water and Nitrogen Management to Increase Agricultural Production and Improve Environment Quality', being led by Professor Robert White and Dr Deli Chen.

Recent visitors to the Group have been Professor Li Baoguo, Head, Department of Soil and Water Sciences at China Agricultural University, Beijing and Mr Ma Shiqing, Director-General, Department of Research, Education and Rural Environment, Ministry of Agriculture, Beijing. Both are involved in the ACIAR project focussing on intensive irrigated agriculture on the North China Plain. Another visitor was Professor Russ Tillman, Head of the Institute of Natural Resources at Massey University New Zealand, who had been attending the International 'Sodicity Conference' at the Institute of Sustainable Irrigated Agriculture at Tatura. Both Mr Ma and Professor Tillman gave seminars to the Soils Group. The Group will be sorry to say goodbye to Dr Yuangfeng Huang from CAU, Beijing who has been working with them for the past year. Dr Huang returns to China on 25 March.

TASMANIA

There have been several changes to soil science staff in Tasmania during the past few months.

Bill Cotching has a new Technical Officer, Kerri Hawkins, working with him on a soil conservation project funded by the Natural Heritage Trust. It is the intention of this project to ascertain the effects of erosion on crop yield, and so crop value, as well as the effects on soil properties on steep sloping krasnozem soils in northwest Tasmania. It will provide intensive cropping farmers and staff from local processing companies with quantitative information about soil degradation, crop yield decline and economic consequences of erosion. This increased awareness will be used as a driver for adoption of low cost soil conservation techniques. Known eroded sites will be selected in areas where best use of the information can be made in extension to surrounding farmers eg. Kindred, North Motton, Burnie, Wesley Vale, Sassafras. Field evaluation will be undertaken to assess a simple new contour mulching technique which reduces surface water runoff and soil loss during the critical autumn/ winter/ spring period. The technique involves laying out strips of cereal straw across the contour immediately after planting. Rates of runoff and soil erosion will be measured from paddocks with/without current erosion control measures as well as contour mulching.

Two postdoctoral fellows, Sigrid Resh and Andrew Mitchell, have joined CSIRO Forestry and Forest Products and the CRC for Sustainable Production Forestry. At Colorado State University, Sigrid used carbon isotope methods to study the C and N status of soils in Hawaii and Costa Rica after conversion from sugar cane to monocultures or mixtures of eucalypts and albizia, a nitrogen fixer. In Tasmania, she plans to determine the effects of fertilizer practices on C allocation to coarse and fine roots of eucalypts, including the use of carbon dioxide efflux methods. At Massey University, Andrew studied magnesium availability in forest plantation soils, a

theme which he will broaden in Tasmania to include potassium and calcium availability as affected by nitrogen fertilizer practices in Australian forest plantation soils.

Phil Moody from DNR Indooroopilly spent a week in March as visiting scientist with the Tasmanian Institute of Agricultural Research. While there, Phil had discussions with Leigh Sparrow and Bill Cotching and colleagues on the impact of current cropping systems on the soils of the northern midlands, and inspected trials on P fertilizer placement in potatoes run by Masters student Peter Johnson. Phil also spent time with Phil Smethurst's group at CSIRO Forest and Forest Products in Hobart discussing indicators of soil quality for the forest industry. Over 30 people attended a seminar at which Phil spoke on "Soil Health, Sustainable Agriculture and Soil Organic Matter". Sigrid Resh immediately followed on the same theme with a seminar on "Soil Carbon Changes Under Forest Plantations: Carbon Isotope Studies".

As part of a visit to varous organisations in Tasmania interested in forestry codes of practice, Jerry Michael, Research Ecologist, USDA Forest Service, Auburn, Alabama, presented a well attended seminar entitled "Chemical and sediment movement in forested landscapes" at CSIRO Forestry and Forest Products and the CRC for Sustainable Production Forestry.

QUEENSLAND

Effluent Irrigation Training Course

The fifth of these courses, run through the Department of Natural Resources, in conjunction with NHT and CIRM was held on the 5-6 April 2000 in Cleveland. The course aims to provide technical staff and consultants from the public and private sector with practical guidance on the use of effluent for irrigation in a range of applications. Field based demonstrations, case studies, open forum discussions and specialist guest speakers were included in the two-day agenda.

Regional presentations from Dr Sojka

Dr Bob Sojka of the US Department of Agriculture recently visited Queensland as part of a national tour investigating issues that are affecting irrigation industries on behalf of LWRRDC. Dr Sojka is based at Kimberley, Idaho and has been one of the pioneers in the very successsful use of polyacrylamide (PAM) to reduce erosion in irrigated agriculture. He gave presentations on PAM research and its wide range of potential application in both Toowoomba and Emerald. In Emerald Bob spoke to an audience of 30 people, comprising cotton industry representatives, QDPI and QDNR staff.

THE PLANT NUTRITION AWARDS

THE PLANT NUTRITION TRUST has been established to encourage and promote research and technology transfer in the mineral nutrition of plants, soil fertility and fertiliser and soil amendment technology, and includes areas where these impinge on other fields such as plant breeding.

THE TRUST invites applications for awards to assist in carrying out a study tour or to attend a conference or such other activity related to the stated objectives. In making an award an applicant's scholastic achievement and recent contribution to industry, research or technology transfer, and their potential for future contribution will be considered. The amount of each award will depend on circumstances but is likely to be under $2,000.

In 2000 there are to be two categories of awards:

**** THE ALF ANDERSON AWARD***.
Applicants must be actively involved in any of the areas of plant nutrition mentioned above.

Applicants must be Australian citizens or permanent residents based in Australia, except that for the Sam Tisdale Award, Australian citizens may sponsor candidates from Asia and the south west Pacific region.

Applications close on 19 May 2000 and application forms can be obtained from:
Dr Peter Randall, CSIRO Plant Industry
Fax: (02) 6246 5000 P.Randall@pi.csiro.au

**** THE SAM TISDALE AWARDS***.
Applications should have a strong emphasis on sulfur nutrition of plants.

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About the Plant Nutrition Trust

The Management Committee includes people associated with the Fertiliser Industry Federation of Australia, the Australian Institute of Agricultural Science and Technology, the Australian Society of Soil Science, the Australian Society of Plant Physiologists, the Australian Soil and Plant Analysis Council and several co-opted members. The funds come from surpluses from International conferences held in Australia and donations from The Sulphur Institute, ASPAC and individuals.
Further donations are welcome.

AJSR Contents

Contents of the Australian Journal of Soil Research, Volume 38, No 1 and 2, 2000.

Volume 38, No 1

Volume 38, No 2

AJSR is available on the web at www.publish.csiro.au/journal/ajsr/index.html

New Member Profiles

This month we introduce David Houlbrooke from the Western Australian Branch and Vanessa Hood from the Victorian Branch.

Vanessa Hood

I have been working for Agriculture Victoria for the past 4 years at the Institute for Horticultural Development, Knoxfield. I completed a Bachelor of Science at the University of Melbourne, with Honours in Plant Pathology.

I am relatively new to the soil science game. My first position at Agriculture Victoria was as a plant pathologist, looking at a disease of chestnuts. In my current project, I am greatly involved in the development of the composting industry in Victoria. I am currently the Secretary of the peak industry body for composting in Victoria, called 'Compost Victoria'. This group's mission is to foster industry development, promote the benefits and uses of recycled organic products, and demonstrate quality through the development, implementation and promotion of best practice systems and training programs.

ABOVE: Vanessa supports the composting field trial program

At Agriculture Victoria we have developed a 'Guide to Best Practice Composting Green Organics' which is the basis for the 'Quality in Composting' training course that we are currently running. We also run seminars and field days on other topics relevant to the composting industry.

We also have a large field trial program to assess the benefit of using composts in horticulture. We act as the vital link between compost producers and horticultural industries. There is growing interest from growers to address soil quality and water efficiency issues, and compost may play a role in amending these problems. We are testing compost products (such as mulches and soil conditioners) in horticulture (orchards, vineyards, park landscaping, and vegetable cropping). We are monitoring the effects of these products on soil properties, such as moisture, organic matter levels and nutrient status. I am particularly interested in following the changes in soil biology after compost application.

Through my involvement with the ASSSI I look forward to learning new techniques and skills through participating in workshops and seminars. I would also like to foster links with scientists interested in soil biology and sustainable farming practices.

EcoRecycle Victoria, the Horticultural Research Development Corporation and the National Heritage Trust fund our work.

David Houlbrooke

I currently work for Agriculture Western Australia as a Technical Officer in the cropping systems section (formerly the soil management group) in the Albany district office.

I enrolled in the University of Waikato, Hamilton, New Zealand in 1991 where I completed a Bachelor of Science with an Earth Sciences major, followed by a Master of Science (Hons). My 18 month research thesis investigated deep ripping and soil compaction effects on soil physical properties and pasture response. My research was done in association with the Dairying Research Corporation (DRC) and under the supervision of Dr R Chapman and Dr C McLay from the University of Waikato and Dr E Thom of the DRC.

A key objective of my research was to investigate the relationship between cattle treading and ryegrass pulling. Pulling of ryegrass clumps by cattle during grazing results in a loss of plants and tillers and a decrease in long-term yields. In a glasshouse pot trial,

ABOVE: David sets up a solar powered time domain reflectrometry (TDR) system for measuring changes in soil moisture.

NEW MEMBERS

The ASSSI would like to welcome the following new members:

Siva Sivapalan
BSc MSc PhD
Charles Sturt University
Riverina Branch
Areas of Interest: soil and water engineering

David Houlbrooke
BSc MSc
Agriculture WA
WA Branch
Areas of interest: soil compaction and waterlogging

Budiman Minasny
BSc MAgSc
University of Sydney
NSW Branch
Areas of interest: soil physics and pedometrics

Adrian Fisher
BSc
University of NSW
NSW Branch
Areas of interest: arid zone geomorphology

Augustine Okom
B Sc M Sc
Griffith University
Qld Branch
Areas of interest: soil physical and hydraulic properties, soil conservation

Alice Melland
B Ag Sc (Hons)
University of melbourne
Vic Branch
Areas of interest: P in surface runoff from grazed pastures

Arshad Islan
M Sc
University of Melbourne
Vic Branch

Kathryn Page
B App Sc
University of Queensland
Qld Branch
Areas of interest: solute movement in soils, subsoil acidity

Mark Imhof
B App Sc
Department of Natural Resources and Environment
Vic Branch
Areas of interest: pedology, soil survey, information product development

Geoff Morrow
B Agr Sc Dip Ed
Department of Natural Resources and Environment
Vic Branch
Areas of interest: soil sampling, classification and land use assessment

Cliff Dillon
B Agr Sc
Soil surveyor and soil consultant
Vic Branch
Areas of interest: soil survey for agriculture, soil testing and mapping, soil management advice

Simon Eldridge
BSc MSc
CSIRO Land and Water
Qld Branch
Areas of interest: soil survey, pedology and erosion control

Graham Merrington
BSc PhD
University of Adelaide
SA Branch
Areas of interest: trace metals, organic soil amendments

Alison Cassar
B Agr Sc
State Chemistry Laboratory
Vic Branch
Areas of interest: land suitability assessment, laboratory techniques

A copy of the ASSSI membership application form is available in this issue of Profile.

root length and mass differences were found across a bulk density range from 0.9 to 1.2 Mg/m3, resulting in a decrease in ryegrass herbage yield with increasing soil bulk density.

Following an extended period of travel I joined Agriculture WA in April 1999 to work on the Raised Bed cropping project with Dr D Bakker and Mr G Hamilton . Raised Bed farming is a soil management technique for improved cropping of waterlogged soils. The research is taking place on Department Research Stations and on farmers properties in the South West of WA where shallow sand/gravel on clay duplex soils are very prone to waterlogging due to poor hydraulic properties in the subsoil.

The Raised beds are 1.8 m wide with furrows approximately 30 cm deep and operate on a controlled traffic type farming system. They are designed with furrows matching tractor wheel spacing. After three seasons of research we have measured substantial yield benefits from a variety of traditional annual crops. This is as a result of improved soil physical conditions that provide increased aeration and drainage and therefore encourages greater root exploration.

By joining the ASSSI I hope to keep informed and up to date on all the latest issues and personalities making the news in Australian soil science circles.

Life Member Profile

In this issue we continue the series by talking to Professor Jim Quirk, Honorary Research Fellow at the University of Western Australia.

Early Years

As an undergraduate and an Honours student at Sydney University, Jim was fortunate enough to study under Gordon Hallsworth and considered him an 'inspiring' teacher. Jim was an all-round sportsman and for two years was NSW schoolboy half-mile champion and for four years was University mile champion. He played District tennis in Adelaide.

Research Highlights

In 1947 Jim joined CSIRO's soil physics group where he worked with Tim Marshall who 'led by example'. He was also fortunate that Keith Norrish was in the group and as a result, over the years, Jim has benefited from the sound advice of one of the world's leading soil and clay mineralogists. During his time with CSIRO, Jim worked with R.K Schofield at Rothamsted and his pioneering work on electrolyte concentration and soil permeability represented a turning point in the management of sodic soils and is used universally in irrigation practice. With Jim Davidson from CSIRO Plant Industry these principles were successfully applied to establish pastures on the heavy clay soils of the Riverina district of NSW.

In 1956 Jim joined the University of Adelaide at the Waite Agricultural Research Institute and in 1963 he was invited to be Professor of Soil Science in the University of Western Australia and established the outstandingly successful Department of Soil Science and Plant Nutrition. During his time in Adelaide and Perth, and with chosen colleagues Graham Aylmore, Dennis Greenland , David Lewis and the late Alan Posner and students, Jim applied the principles of surface and colloid chemistry to considerably advance our knowledge of soil physics and soil chemistry. These achievements were later extended working with Rob Murray and Phil Slade of CSIRO.

Since his retirement, Jim has worked on fundamental aspects of interparticle forces, being privileged to work with Stjepan Marcelja (Applied Mathematics) and Richard Pashley (Chemistry) at the Australian National University where Jim is a Visiting Professorial Fellow in the Department of Applied Mathematics.

Involvement with ASSSI

As President of the Society in 1964, Jim was successful in obtaining the 1968 IX International Soil Science Congress for Adelaide. From 1964-68 he was Vice-President of the International Society.

Director of Waite Institute

As Director of the Waite Institute from 1974 to 1989, Jim Quirk took a special interest in cereal breeding and related plant protection studies. He established research in DNA-RNA technology, weed science, horticultural science and established a Department of Soil Science. The scientific health of the Institute as a result of his efforts is revealed by the fact that within three years of his retirement a large number of the newly established Commonwealth Co-operative Research Centres were set up within the Institute and on the Campus.

His negotiations with the State government, the University and grower organisations leading to the transfer of the research activities of the South Australian Department of Agriculture to the Waite Institute Campus are especially noteworthy The Government agreed on the level of funding required for the transfer and establishment of special joint facilities including a state-of-the-art controlled environment structure. This was the basis for a major building programme, involving an expenditure of $60 million immediately following his retirement as Director.

ABOVE: Jim Quirk during his time as Director of the Waite Institute.

Future of Soil Science

Since the 1970s quite dramatic changes have taken place in the funding of science generally, and in the agricultural sciences, tending towards a greater emphasis on short-term pragmatic studies. Jim feels that as a result of this, the balance between basic and applied research has shifted and the detrimental effect can be seen not only in the quality of work being done but also in staff morale. He suggests that this will need to be vigorously addressed in order to secure the future of soil science in Australia.

Recognition

Professor Quirk's achievements have been recognised in many ways including election to the Australian Academy of Science in 1973, and receipt of the Farrer, Mueller and Prescott medals. Recently he was elected to be one of the twenty honorary life members of the International Union of Soil Sciences. In 1983 he was appointed an Officer of the Order of Australia (A.O.) for service to agricultural science.

STOP PRESS... Graeme Blair receives International Fertilizer Award

Dr Graeme Blair from the University of New England in Armidale has been awarded the International Fertilizer Award for the year 2000 by the International Fertilizer Association (IFA).

Graeme was nominated by Incitec Fertilizers, for his work on sulfur nutrition. He and his wife Nelly will be invited to Oslo in May to receive the award at the IFA Annual Conference. Graeme was ranked first by a panel of nine eminent agronomists from different regions of the world.

The Federal Council are sure that those who know Graeme will join us in congratulating him on receiving this award.

ASSSI Marketing Sub-Committee Report

In 1999 the Federal Council re-established a marketing sub-committee to discuss the marketing of the Society and soil science in general.

A small group comprising members of the Riverina, Queensland and Western Australian Branches have put together a short report which discusses the most appropriate focus for a marketing plan, and outlines opportunities for increasing the recognition of the Society.

The following were identified as key methods for increasing the membership and profile of the Society:

- Targeting Students
  Includes ideas such as to advertise casual and vacation job vacancies in Profile, support student exchanges, award and advertise prises for university and high school students, develop soils learning tools for younger students.

- Forming Linkages
  Includes ideas such as forming closer associations with AJSR, other societies, commercial enterprise, publishing companies, and overseas soil societies.

- Learning From Others
  Includes ideas such as liasing with other societies or groups which are performing well, contracting professional marketing personnel.

- Other Ideas
  Includes such ideas as corporate membership, maintain members skills database, meetings in regional areas, publishing 'short communications' in Profile, holding fora on topical issues.

A copy of the marketing committee report is available from the editor of Profile. Input on this topic from members is welcome.

FEDERAL COUNCIL - ANNUAL REPORT FOR THE PERIOD ENDING 31 DECEMBER 1999

COUNCIL MEMBERS

President:	Mr Graham Price
Vice-President:	Associate Prof Lyn Abbott
Honorary Secretary:	Dr Steven Raine
Honorary Treasurer:	Mr David Lester
Honorary Editor:	Ms Jonnie White
Branch Representatives:	Dr David Freebairn 1/1/99-30/6/99 (President, Queensland)
	Dr Mark Littleboy 1/7/99-30/9/99 (President, Queensland)
	Associate Prof Leigh Sullivan (President, New South Wales)
	Dr Neal Menzies (Proxy, Victoria)
	Mr Col Ahern (Proxy, ACT)
	Mr John Standley (Proxy, Riverina)
	Associate Prof David Edwards (Proxy, South Australia)
	Dr Rob Loch (Proxy, Western Australia 1/1/99-30/9/99; President, Qld 1/10/99-31/12/99)

COUNCIL MEETINGS

The Council met on four occasions throughout the year to conduct the Society's business, planning and administration. The Vice-President and Executive Officer were each able to attend one meeting in person and contributed to the other meetings via telephone conferencing. Between Council meetings, the Executive Sub-Committee were involved in undertaking the Society's business which necessitated one formal telephone conference meeting. Council also identified a range of issues requiring a more detailed review than was possible by the individual Council members. Hence, Council formed three Sub-Committees during the year to review the Society's activities and make proposals to Council in relation to (i) accreditation, (ii) student development and (iii) marketing. These sub-committees did not formally submit any proposals to Council during the year.

Major Federal Council activities/actions during 1999 include the following.

Society Awards

The Council awarded Dr John Freney (ACT Branch) with an Honorary Membership for Life in March 1999. Dr Freney gained international recognition for his innovative research into soil sulphur and nitrogen, which has led to the development of more efficient ways of using fertilisers and reducing environmental contamination. Dr Freney has been a member of the ACT Branch since 1961 and served as Federal Council president from 1986-88.

The 1999 J.A. Prescott Medal of Soil Science was awarded to Dr Albert Rovira in August 1999. The award recognised Dr Rovira's lifetime achievement in increasing our understanding of interactions between plant roots and micro-organisms in the rhizosphere.

Annual Returns

During the year, the Council finalised the annual returns for the 1997 and 1998 financial years in accordance with the Society's incorporation requirements and submitted the reports with the Australian Capital Territory Department of Justice and Community Safety.

Operation of the Certified Practicing Soil Scientist Scheme

The Council spent a considerable period of time over the last twelve months renegotiating the Certified Practicing Soil Scientist agreement with the Australian Institute of Agricultural Science and Technology. The current two year agreement includes a more significant ASSSI role in the management and potential modification of the Standards associated with this scheme.

Student Support - 2000 National Conference attendance

The Council agreed to contribute matching funding up to a maximum of $1000 per Branch for student attendance at the 2000 National Soils Conference to be held in New Zealand. Branches are to determine individual allocations to students.

ASSSI Representative on the AJSR Editorial Board

The Council nominated Associate Professor Leigh Sullivan as its representative on the Editorial Board of the Australian Journal of Soil Research for a period of three years from July 1999.

2010 IUSS Congress Bid

During the year, Council initiated steps to bid for the International Union of Soil Sciences Congress to be held in 2010. The bid documents will be presented to the Extraordinary General Meeting of the IUSS to be held in April 2000.

Profile newsletter

Four issues of the Society newsletter "Profile" were published during 1999 with the first issue of the year being produced by the previous honorary editor, Rebecca Lines-Kelly. The Council purchased a copy of the desktop publishing programme "Pagemaker" to assist in maintaining the high standard of production. A series of special topic articles were introduced to Profile during the year including "Life member profiles" and the "Soil Scientist's Scrapbook". Listings of new members have also been included along with profiles of selected new members. The level of paid advertising in Profile has remained small throughout the year. However, a special thanks is due to Incitec Fertilizers Ltd who have been a consistent supporter of "Profile" throughout the year.

MEMBERSHIP

The total membership of the Society as at the 31st December 1999 was 957 of which 645 were financial. A total of 63 new members were admitted to the Society during the year. The distribution of new members by Branch were as follows:

ACT:	2	NSW:	21	QLD:	19
RIV:	5	SA:	2	VIC:	12
WA:	2	INT:	0		

The membership details by Branch and membership category is provided below. Note that the numbers in brackets indicate the financial members (as at 31/12/99) in each category.

BRANCH	ORDINARY	CPSS	STUDENT	RETI
ACT	48 (36)	17 (9)	5 (1)	8 (
NSW	119 (82)	55 (36)	18 (10)	8 (
QLD	136 (102)	67 (39)	26 (14)	15 (
Riverina	40 (32)	4 (2)	3 (3)	2 (
SA	60 (36)	28 (9)	10 (4)	20 (
Victoria	93 (67)	22 (10)	11 (7)	8 (
WA	68 (50)	12 (5)	8 (4)	7 (
International	12 (8)	7 (2)	1 (1)	1 (

TREASURER'S REPORT

ASSSI Account Balances

At 31st December 1999, ASSSI had accounts with the St George bank as follows :

Account number	Account name	B
054 798 020	Business account	
054 542 403	Salary account	
161 624 391	Workshop account	
107 175 610	Conference account	
161 624 404	Investment account	
	TOTAL	

ASSSI Income and Expenditure

The figures stated below are a summary from all accounts and transactions conducted during the period 1/1/99 to 31/12/99. These figures are provided as an estimate only as they are yet to be audited.

Income	$	Expenditure
Deposits	$ 51893.31	Audit Costs
Advertising	$ 855.00	Bank & credit card fees
Interest	$ 5035.20	Branch Payments
		Contaminated Lands Worksh
		AIAST - CPSS fees
		Executive consumables & ex
		Insurance
		Profile (Printing, postage, et
		1998 Soils Conference
		2000 Soils Conference
		Govt charges
		Executive Officer salary
Total	**$57783.51**	**Total**

Notes

* The expenditure figures above represent the unsubsidised cost of operating the Society during the year; * A subscription price rise occurred during 1999;
* The Society has introduced systems to accept credit card payments from members; and
* The GST implications for the Society and Branches for future years are still being investigated.

PRESIDENT'S REPORT

General comments

The first 12 months of this Council being in office have just flown, but we have achieved a number of objectives. The change-over of Council from NSW to Qld was relatively smooth, although time constraints made the transition longer than was hoped. The new Executive Officer, Ms Alice Bass, has been essential to the administration of the Society, although the new arrangements took time to become settled. The CPSS scheme was re-negotiated and this took some time as well, but now appears to be more efficient than in previous years. The publication of the Society's newsletter, Profile, has been another achievement and Jonnie White should be congratulated on maintaining the standard and usefulness of this publication.

Planning for Joint National Soils Conference

I attended one meeting of the Organising Committee in New Zealand in early November. At that stage it seemed that everything was progressing well. Since then, the second announcement and registration brochures have been sent to all members through Profile. I would encourage all those who intend preparing papers or attending to register early to take advantage of the early registration discount.

Direction for next 12 months

Over the next 12 months, Council will continue to work towards assisting the NZSSS with the Joint National Soils Conference, Soils 2000. I hope to attend another meeting of the Organising Committee in June. The Secretary and I will also continue to liaise with the IUSS on our proposal to hold the 19th World Congress in Brisbane in 2010. Hence, a visit to Bangkok is planned for mid-April, to present our case to the Council of IUSS. The assistance of Brisbane Tourism and the Brisbane Convention and Exhibition Centre in preparing the proposal have been appreciated.

The various Council Sub-Committees will be providing feedback to Council from time to time. The purpose of these committees is to progress towards the vision of this council to ensure the valuable contribution of past and present soil scientists is recognised. In addition, the value of our greatest natural resource needs to be kept in the public eye, through the ASSSI and the way it projects the knowledge base of its members.

Future activities of Council

Towards the end of the year, at the Conference in NZ, this Council will hand over to the new Council from WA. We will attempt to make this transition as smooth as possible.

AUSTRALIAN SOCIETY OF SOIL SCIENCE INCORPORATED ARBN 080 783 106

Biological Factors in Regolith Formation - Symposium

Second Notice and Final Call for Papers

Rapidly escalating interest in the importance of this topic means that this workshop will go ahead. The CRC for Landscape Evolution and Mineral Exploration will be sponsoring a two day workshop on the **29th and 30th of June** in Canberra with a 1 day field trip on the **1st of July** between Canberra and Sydney (ending in Sydney with free connection to the Australian Geological Conference which follows immediately).

Some of the papers already offered include:

** A keynote paper honouring the late Gunther Bischoff and reviewing biodegradation and accumulation (particularly of gold) in the regolith.*

** the importance of soil biota to soil formation and management.*

** the role of organisms in mobilising aluminium and silica in ambient conditions that will not normally lead to dissolution.*

** Microbial fossils in ferricretes and silcretes*

** The number and diversity of organisms in ground water.*

** "Superbugs" operating kilometres down in weathering reactions.*

Those interested in taking part in this symposium should register before 31st May by contacting John.Field@anu.edu.au, (02) 6249 3566. Those interested in presenting written or poster paper should make contact before 30th April.

Cost for 2 day symposium including lunches and a dinner is approx. $100. The field trip will cost a further $90. Accomodation is available at the University for between $50 and $85 pp per night.

John Field Convenor BFRF

'Soil Quality' - A Warning

President Graham Price brings to our attention a paper recently published in the Soil Science Society of America Journal, and discusses its warning on the ill-defined concept of 'soil quality'.

The Sept-Oct issue of the Soil Science Society of America Journal, (1039-1054), contains a very useful editorial, 'Reservations regarding the soil quality concept'. (Sojka and Upchurch, 1999). I would encourage all soil scientists to read this thought-provoking article.

The authors present a compelling argument in expressing their concerns about the use of subjective perceptions of soil quality in relation to its value in its natural state (original form) and position in the environment. They claim there is a new paradigm, which is moving away from the scientific basis of the study and evaluation of soil properties, in which most of us have been trained and to which we espouse.

This new paradigm, according to the authors, is 'incompletely formulated and largely untested, with potentially, unintended outcomes'. This has injected some emotional aspect into the arguments, by lining up a range of conflicting personal, cultural, institutional and economic value systems against one another.

Their reservation comes from the fact that these ideas appear to have been accepted in some circles without the usual scientific scrutiny. They put their case by looking at the definitions of air quality, water quality and soil quality and projecting that the first two have a different connotation than the latter. We can define, on a scientific basis, what we mean by clean water or clean air. We don't define quality of air and water for every conceivable use. But we do, and need to, define soils, each for their distinctive uses.

Sojka and Upchurch go into the various ways in which soils are of value to keeping the planet healthy as well as the various productive uses. They also propose that there are conceptual contradictions in the paradigm, for example, increasing soil organic matter content necessitates an increase in the requirements for some soil-incorporated pesticides. They also claim that there is regional and taxonomic bias, in that the quality concept seems to have 'evolved from a "mollisol-centric" and temperate climate and cropping system outlook'.

The lack of balance in the institutional promotion of these concepts also draws comment. They are appealing to scientists to put the science before the vested interest and political expediency. In other words, we should not forget our basic scientific training; we record what we see, measure and understand, but should stand firm in our beliefs in the processes that have brought us such great understanding of the soil's productive capacity.

The final comments then relate to the problems of soil management, of which we are all aware, but often we do not have answers and if we do, we are not able to encourage the adoption of the remedies. Our objectives, as soil scientists, should still be to raise the productivity of the soil, while minimising any negative environmental effects, so that there is sufficient food to feed the future generations.

I hope we in Australia will not allow our science to be hijacked in such a way as to diminish the good scientific work, which has brought this country so much credit. I trust this gives you a bit of "food for thought".

COMMITTEE CHANGES

Soil Science Standards Committee

The Soil Science Standards Committee makes recommendations on the standards for CPSS accreditation. The committee currently consists of the following members:

Pam Hazelton	ASSSI representative	Robert van de Graaff	ASSSI representative
Larry White	AIAST representative	Henry Smolinski	AIAST representative

Soil Science Assessment Panel

The Soil Science Assessment Panel (SSAP) makes recommendations for CPSS accreditation. The SSAP currently consists of the following members:

Warren Muirhead	ASSSI representative	David McKenzie	ASSSI representative
Mark Seeliger	AIAST representative	Ian Hollingsworth	AIAST representative

A New Era in Soil Biology

Contributing to the discussion on indicators of soil quality, Lyn Abbott from the University of Western Australia's Faculty of Agriculture, talks about the role of soil biology in sustaining the soil resource.

It is timely to reconsider the knowledge-base of soil biology in the context of land management practices - in agriculture, agroforestry, horticulture, minesite rehabilitation, forestry and reclamation of contaminated sites. In 1996 at the ASSSI conference in Melbourne, Professor Bob White considered the 'low public profile' of soil science in the light of the 'widespread general concern about food supplies and our collective ability to sustain soil resources for agriculture' (White 1997). However, even within the discipline of soil science, the application of knowledge of soil biological processes in decision-making for maintaining the soil resource lags far behind other considerations.

Biological processes in soil are complex and indicators of the biological state of soil are not as easy to implement as physical and chemical indicators (Walker and Reuter 1996). The excellent compilation of knowledge underlying biological indicators of soil health edited by Pankhurst *et al.* (1997) highlighted a dilemma of the soil biologists who reviewed their areas of expertise. Scientists in disciplines across all areas of soil biology have difficulty in identifying widely applicable indicators of the biological state of soil. Therefore, a more holistic approach to identifying biological indicators at a farming system level is probably necessary to take account of the dynamic nature of soil biological processes. Soil biological information may be pivotal to identifying an upper limit of production in different farming systems on the same soil type to ensure that the soil resource is sustained.

Five simple, but key points about soil biology are:

1. Many biological characteristics of soil and soil biological processes are intimately linked with physical and chemical characteristics and processes.

2. The organisms in soil are highly diverse - far more so than organisms we observe aboveground, even in the most species-rich ecosystems.

3. Some soil biological processes are carried out by very diverse groups of organisms (e.g. mineralization of organic matter), but other ubiquitous processes, such as nitrification and uptake of P by mycorrhizal fungi into plants, are carried out by relatively few species.

4. Production levels in most of agriculture and horticulture are unrelated to the overall biological state of the soil resource (except when large quantities of plant pathogens are present). The concept of what makes a soil 'fertile' (or gives it a high rating for 'quality' or 'health') needs to be reviewed. Many commonly estimated soil fertility ratings are likely to be based almost entirely on chemical and physical properties. Indeed, it is possible to grow high-yielding plants in hydroponics completely side-stepping the contributions of soil organisms. Such conditions are certainly not 'fertile' in the sense that is necessary for sustaining the soil resource.

5. More soil biological activity is not necessarily better. Various soil fungi and bacteria may contribute either to plant disease or to beneficial soil biological processes, depending on their type and the soil environment. An increase in plant biomass production can increase total microbial biomass without improving the soil.

Over the last 10 - 15 years, many technological advances have facilitated studies of soil biological processes. These include methods for assessing the activities of the total mass of soil organisms (e.g. respiration and catabolic response to carbon substrates) and pools of nutrients in soil organisms (e.g. N, P and S in the microbial biomass). Biodiversity in soil can now be assessed using molecular techniques such as DNA profiles and fatty acid analyses without the need for culturing or identifying organisms. Although relatively little is gained from cataloguing organisms in soil, an understanding of the role of microbial diversity in soil processes is likely to be important for evaluating the impact of land management practices on the soil resource.

Finally, with the development of innovative microbial solutions to pollution of soil and groundwater, soil scientists could become side-tracked from asking the important question: Is it appropriate to dump wastes into our soils? (see Cameron et al. 1997). Education programs about the need to reduce the risk of contamination of soil may be just as important as exciting new microbial advances for eliminating contamination once it has occurred.

Cameron, K.C., Di, H.J. and McLaren, R.G. (1997) Is soil an appropriate dumping ground for our wastes? Australian Journal of Soil Research 35: 995-1035

Pankhurst, C.E., Doube, B.M. and Gupta, V.V.S.R. (1997) Biological indicators of soil health. CAB International. 451pp

Walker, J. and Reuter, D.J. (Eds) (1996) Indicators of catchment health - a technical perspective. CSIRO Publishing, Collingwood.

White, R.E. (1997) Soil Science: raising the profile. Australian Journal of Soil Research 35: 961-77

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC.
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE YEAR 1 JANUARY 1998 TO 31 DECEMBER 1998

	12 MONTHS 31 DEC 98 $	18 MONTHS 31 DEC 97
TOTAL RECEIPTS	143,864	39,425
Less: TOTAL PAYMENTS	(134,313)	(137,752)
NET FUND INFLOW (OUTFLOW)	**9,551**	**(98,327)**
Represent by the Movement in:-		
Cash at Bank	9,551	(56,376)
Investments – Cash Management Account	-	(41,951)
	9,551	**(98,327)**

STATEMENT OF FINANCIAL POSITION
FOR THE YEAR 1 JANUARY 1998 TO 31 DECEMBER 1998

	Note	12 MONTHS 31 DEC 98 $	18 MONTHS 31 DEC 97 $
Cash at Bank	2	55,018	45,467
Investments	3	67,733	67,733
		122,751	**113,200**
MEMBERS FUNDS			
Balance at Beginning of period		113,200	211,527
Surplus/(Deficiency) for period	5	9,551	(98,327)
		122,751	**113,200**

NOTES TO AND FORMING PART OF THE ACCOUNTS
FOR THE YEAR 1 JANUARY 1998 TO 31 DECEMBER 1998

1 STATEMENT OF ACCOUNTING POLICIES

The Society is not a reporting entity as in the Council's opinion, there is unlikely to exist users who are unable to command the preparation of reports tailored so as to satisfy specifically all of their information needs, and these accounts are therefore 'Special Purpose Financial Reports' and have been prepared solely to meet the Council's requirements to prepare accounts. No accounting standards have mandatory applicability, and consequently none have been adopted unless otherwise stated below.

Significant accounting policies that have been involved in the preparation and presentation of the accounts are:

Basis of Accounting

The accounts have been prepared on a cash basis whereby income and expenses represent receipts and payments during the financial year, and do not reflect accruals of income and expenditure (except where specifically stated).

Income Tax

Under the provisions of the Income Tax Assessment Act the Society is considered exempt from Income Tax on the basis that it is a non-profit organisation whose dominant purpose is to promote the agricultural industry in Australia.

Comparatives

Comparative balances have been adjusted where necessary, to conform with presentation of the current year.

		1998 $	1997 $
2	**CASH AT BANK**		
	St George Bank – General Account	1,086	8,635
	St George Bank – General Support Account	22,415	26,668
	St George – Salary Account	11,974	-
	St George Bank – Conference Account	19,543	10,164
		55,018	**45,467**
3	**INVESTMENTS**		
	St George Bank – Term Deposit	67,733	67,733
		67,733	**67,733**

		31 DEC 98 $	31 DEC 97 $
4	**ACCUMULATED FUNDS**		
	General Fund		
	Balance at Beginning of period	103,668	101,843
	Surplus/(Deficiency) for period	21	1,825
	Transfer to Conference Fund	(481)	-
		103,208	103,668
	Conference Fund		
	Balance at Beginning of period	9,532	109,684
	Surplus/(Deficiency) for period	9,530	(100,152)
	Transfer from General Fund	481	-
		19,543	9,532
	Total Members Funds	**122,751**	**113,200**

Soil Scientist's Scrapbook

Soil and water management early 20th century style. This farmer is constructing a water storage facility on a heavy clay soil using eight horse-power and an open cab.

Contributions for the Scrapbook are welcome. If you have photos of historical interest or of equipment used in earlier days of soil science please send them to the editor.

* ARE YOU A DUAL CPSS/CPAg MEMBER?

If so, have you paid your accreditation fee to the AIAST? Then by now you should have received a form offering CPSS accreditation from the AIAST. The amount you need to pay will depend on which ASSSI branch you belong to. All you need to do is complete the form, make the payment out to ASSSI, and SEND IT BACK TO THE AIAST, as they need to record that you are a dual member. They will then forward everything on to me for processing and banking.

* HAVE YOU CHANGED CONTACT DETAILS?

If you change any of your contact details, be it your postal address, phone/fax number or email address, please let me know ASAP. It means you receive your ASSSI correspondence on time, especially Profile.

Queensland Soil Compaction Survey

Queensland's first detailed survey on the nature and extent of soil structural degradation has been released by the Department of Natural Resources and is the result of 10 years of research and farmer contact by ASSSI member Dr Des McGarry. Funding for the survey came principally from Landcare with contributions from the Cotton Research and Development Corporation and the Department of Natural Resources.

As part of the work, the major cropping industries of the state have been assessed in terms of the risk level of land management practices. The survey includes a map depicting the problem in terms of both risk for degradation associated with current farming practices and the current implementation of repair and control practices.

High risk soils are associated with cane growing around Bundaberg, Mackay, Home Hill, Ayr, areas south of Townsville , Ingham and Innisfail. Medium risk areas are the grainlands from south of Emerald to Clermont, around Roma and the Darling Downs. Low risk production systems are predominated by cotton production on the clay soils west of Toowoomba.

The low risk associated with cotton industries has been attributed to the successful incorporation of many prevention and repair strategies for soil structural degradation by this industry, and by the self-repairing shrink-swell nature of the soils in these areas.

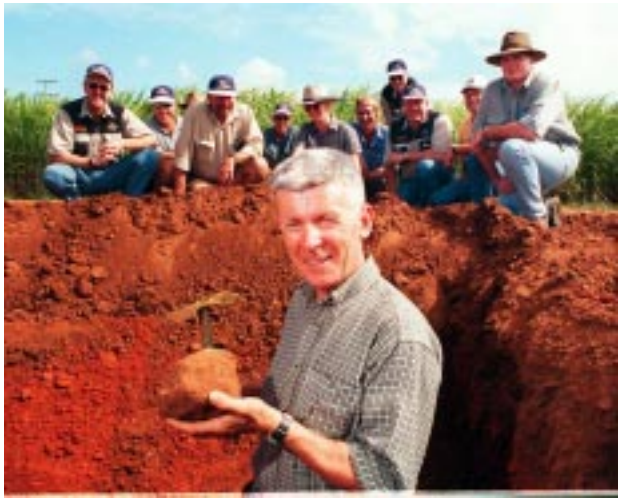
Repair and prevention strategies to rid cropping industries of the problem are discussed in the report and are the basis of current industry-funded research.

Some cropping systems have adopted best practices, including retained beds, defined traffic zones, minimum tillage and crop residue retention.

The cane industry is actively examining "strategic tillage" where, instead of complete cultivation of the field after the last ratoon, only the plant row is cultivated. There have been no yield penalties with these new practices and earthworms are returning to the strategic till plots.

Even so, the survey concludes that 14 percent of the state's cropping land is at high risk of soil structural degradation and 81 percent is at medium risk.

Copies of the survey report are available from the DNR Marketing Officer (rsk.publishing@dnr.qld.gov.au)



ABOVE: Des McGarry discusses soil compaction with a group of Bundaberg canegrowers.

* ARE YOU A NON-FINANCIAL MEMBER TWO YEARS IN A ROW?

Then please pay your fees owing! As discussed in the covering letter accompanying the year 2000 renewal notices, those members who owe 1999 fees and have not paid their year 2000 fees by March 31st 2000, will have been removed to an inactive list. They will not receive any correspondence from the society. If you have an amount owing for 1999 listed on this year's renewal notice then please pay as soon as possible.

The Society can not continue to support non-financial members any longer. These members will not receive the Profile Newsletter nor will they receive any branch correspondence. Non-financial members will of course be placed back on the active list once they pay all fees owing for 1999 and 2000.

Alice Bass, Executive Officer

Federal Council minutes

The193rd ASSSI Federal Council Meeting was held on the 24th February 2000 at the University of Southern Queensland, Toowoomba.

1. Welcome

The President opened the meeting at 10.40 a.m. with a special welcome to J Thompson attending his first meeting in his capacity as WA proxy delegate.

2. Attendance

Present: G Price, L Sullivan (NSW), J White, J Thompson (WA proxy), J Standley (Riverina proxy), A Bass (Executive Officer on telephone for item 6) and S Raine (Item 9 onwards). Apologies: D Lester, R Loch, D Edwards, C Ahern, N Menzies, S Raine (am). *J Standley appointed minute secretary in the absence of S Raine.*

3. Minutes of the 192nd meeting

G Price noted that Section 8.1 should read "A request for sponsorship was received from the Institute of Sustainable and Irrigated Agriculture to support..."(not Victorian Branch). J Standley moved that with the above amendment, the minutes of the previous meeting be accepted as a true and correct record, seconded G Price. Motion carried.

4. Business arising from minutes

4.1 Re: 4.1: Submission on By-Laws prepared for discussion.

4.2 Re: 4.2: Submission from SA Branch on revising By-Law 29 yet to be received.

4.3 Re:4.3: Substantive sections of the CPSS/AIAST Agreement have been published in the January Profile.

4.4 Re: 4.4: The ACT Branch has nominated J Field as the ASSSI Public Officer (succeeding W Bond). The audited 1998 Annual Return has been submitted to the ACT Dept of Justice and Community Service.

4.5 Re: 4.6: D McKenzie (Orange, NSW) is the replacement ASSSI representative on the CPSS Soil Science Assessment Panel.

4.6 Re 4.7: P Hazelton (NSW) and R van de Graaff (Vic) have agreed to be the ASSSI representatives on the CPSS Standards Committee.

4.7 Re: 7.2 and 7.3: Membership payments for 1999 have been made to the Branches.

4.8 Re: 7.3: Surplus share from the 1998 workshop has been paid to the Australian Contaminated Land Association.

4.9 Re 10.6: The ASSSI General Meeting was advertised in the January Profile.

5. President's Report

G Price reported that the draft brochure for the Joint National Soils Conference in N.Z. had been revised to incorporate comments from the last Federal Council Meeting and had been distributed with Profile. His comments on changes to the Constitution and the 19th World Congress are included under 10.1 and 10.4, respectively.

6. Executive Officer's Report

6.1 A Bass reported that 627 members had paid subscriptions in response to the mailing of 939 notices during 1999. For 2000, 316 subscriptions had been received to date. Those who had paid for this year but not last year would be sent a reminder notice. It was noted that some members may have paid through the AIAST to be members of the ASSSI and that the AIAST office may not have advised us. A Bass advised that those members who are dual CPAg/CPSS and who have paid through the AIAST, will receive a form from AIAST about mid March indicating the ASSSI fee due to be paid.

6.2 Applications for membership from fourteen people were tabled. *G Price moved that all the applicants be admitted to the Society, seconded J Standley. Motion carried.*

6.3 A Bass initiated discussion regarding the draft certificates for Honorary Life Membership and general membership. Details regarding the text, style, and printing were discussed. It was resolved that ordinary, student and retired members would receive a single certificate this year and that additional certificates would only be issued if the status of the member changed. *L Sullivan moved that the revised drafts of the certificates be accepted, seconded J Thompson. Motion carried.* **Executive committee would finalise the production details with the distribution to occur as soon as practicable.**

7. Treasurer's Report

G Price spoke to a report prepared by D Lester.

7.1 The audit of the Society's accounts for the 1998 calendar year was tabled at the meeting. **J White to publish in the next issue of Profile.**

7.2 The audit of the Society's accounts for 1999 is currently being prepared in conjunction with accountants in Toowoomba.

7.3 Branch payments totalling $4758 for subscriptions received in 1999 were made in December.

7.4 Other payments made during the last period included $11165 to the AIAST for administration of the CPSS scheme during 1999 and $6484.50 to the Australian Contaminated Land Consultants Association being the 1998 workshop surplus.

7.5 G Price indicated that the accounting firm preparing the Society's 1999 audit would be asked about the implications for the Society of the pending GST. J Thompson raised a concern on behalf of I Fillery about the refundability of the GST for Branches and whether it is appropriate for the Federal Council to act as an umbrella agency with regard to GST for all Branches? G Price suggested that he would check whether the AIAST has addressed any of these issues yet. *J Thompson moved that an ATO Field officer be invited to brief the next Federal Council Meeting, seconded J White. Motion carried.*

7.6 *G Price moved that the accounts paid during the previous period be endorsed and that the outstanding accounts be approved for payment. Seconded J White, motion carried.*

8. Secretary's Report

8.1 G Price tabled the listing of correspondence in and out for Council and *moved that the inwards correspondence be accepted and that the outwards endorsed. Seconded J Standley. Motion carried*

8.2 G Price noted that he had also written to G Davis expressing concern that the 2000 Contaminated Site Remediation Conference is to be held in Melbourne at the same time as the National Soils Conference in NZ.

9. Editor's Report

9.1 J White reported that the January issue of Profile had been printed on time but the charge for 24 pages seemed to be the same as for 28 pages last time.

9.2 Discussions with the likely Honorary Editor for 2001-2 have started with a view to a smooth transition.

9.3 Incitec Ltd has indicated that it is are unlikely to continue advertising on the back page of Profile. Hence, suggestions for future advertising in this space is sought. *J White moved that Incitec Ltd be thanked for its support in the past. Seconded S Raine. Motion carried.* **G Price to pass on the Council's thanks to Incitec Ltd.**

9.4 J White noted that Rivercorp is still willing to host our website but that greater responsibility for maintenance of the site by the Society should be considered.

10. General Business

10.1 Proposed revisions to the Society's By-Laws were tabled. The Committee discussed and finalised the proposals for revisions. **S Raine to circulate revised proposals to the Branches and to seek input from the SA Branch specifically in relation to By-Laws 29 & 31.**

10.2 L Sullivan tabled the draft discussion paper prepared by the accreditation sub-committee. Discussion centred on the requirements for specific areas of expertise, a code of ethics, mechanisms for complaints, screening of applicants and professional development. It was resolved that **the discussion paper would be circulated by R Loch to the CPSS accredited members for input and that a condensed version would be published in the next issue of Profile to seek broader input.**

10.3 J White provided a summary of the Marketing Sub-Committee activities. It was resolved that **J White would prepare a summary to be published in Profile to seek input from both individuals and Branches.**

10.4 S Raine indicated that the Secretary-General of the IUSS has responded positively to the proposal to host the 2010 World Congress. S Raine and G Price have met representatives of Brisbane Tourism and the Brisbane Convention Centre and prepared a draft submission to the Bangkok meeting in April. One crucial issue is financial underwriting and sponsorship as well ideas for the programme - scope for tours etc. It was agreed that a steering committee should be established to oversee the planning during the period prior to the establishment of a formal organising committee (expected to be in 2002). L Sullivan requested additional details regarding the implications for Branches, expectation for tours, expected sponsors, implications of financial losses, the involvement of the Commissions and collaboration with the NZSSS. It was noted that a more complete proposal would be referred to Branches for comment by the 31st March. It was suggested that a phone conference of the Council and Branches could be of use if thought appropriate and if there are outstanding issues. G Price expects to present the bid documents to the IUSS in Bangkok but noted that P Hazelton has also indicated willingness to act on the Society's behalf if necessary at the meeting. (Later news - Pam unable to attend)

10.5 The IUSS document proposing revisions to the structure of the IUSS was circulated and written responses to the Secretary invited.

11. Closure

The president declared the meeting closed at 5.10 pm. The next meeting of the Federal Council will be held at USQ on the 25th May 2000.

Conferences

Any conferences, courses, seminars or workshops coming up?
Send *Profile* the details and we'll feature them here.

26 April 2000
4th WA Symposium on Ions in the Soil-Plant-Water Continuum, Perth
tel (08) 9222 3031
fax (08) 9325 7767
dallen@ccwa.wa.gov.au

29-30 June 2000
Biological Factors in Regolith Formation Symposium, Canberra
tel 02 6249 3566
fax 02 6249 0746
john.field@anu.edu.au

2-7 July 2000
Tillage at the Threshold of the 21st Century: Looking Ahead, 15th International Conference of the International Soil Tillage Research Organisation, Texas
www.agen.tamu.edu/organizations/istro

4-5 July 2000
Understanding Soil Data and its Application to Land Management, Toowoomba, QLD
tel: (07) 4688 1391
david.freebairn@dnr.qld.gov.au

10-14 July 2000
International Symposium on the role of erosion and sediment transport in nutrient and contaminant transfer, Ontario, Canada
mstone@fes.uwaterloo.ca

11-12 July 2000
Soils 2000 - ASSSI WA Branch triennial conference, Avon Valley, WA
tel (08) 9333 6299
fax (08) 9387 8991
m.wong@ccmar.csiro.au

12-18 July 2000
First International Conference on Soils of Urban, Industrial, Traffic and Mining Areas, IUSS, Germany
www.ni-essen.de/bodenkunde

16-19 July 2000
5th International conference on Precision Agriculture, Minneapolis, USA
probert@soils.umn.edu

16-22 July 2000
6th International congress on applied Mineralogy, Hannover, Germany
ICAM2000@bgr.de

14-18 Aug 2000
X International Colloquium on Soil Zooology, Czech Republic
rusek@upb.cas.cz

21-25 Aug 2000
Advances in Carbon and Nutrient Cycling and Catchment Processes in Managed Forests, Brisbane
tel (07) 38757494
fax (07) 38757459
p.saffigna@mailbox.gu.edu.au

4-6 Sep 2000
Eurosoil 2000, University of Reading, UK
Dr JH Gauld
tel 01221 318611
fax 01224 208065
www.bsss.bangor.ac.uk

17-23 Sep 2000
The First International Symposium on Phosphorus in the Soil-Plant Continuum, Beijing, China
www.general.uwa.edu.au/u/soilweb/welcome

3-8 Dec 2000
NZSSS/ASSSI National Soils Conference 2000. New Horizons for a New Century, Lincoln University, New Zealand
Shrewsbh@lincoln.ac.nz
tel 64 3325 2811
fax 64 3325 384
www.lincoln.ac.nz/cted/NZSSS

8-13 July 2001
Third International Conference on Mycorrhizas, Adelaide
tel (08) 8303 7351
fax (08) 8383 6511
sally.smith@adelaide.edu.au

3-9 Aug 2001
12th World Fertilizer Congress on Fertilization in the Third Millenium, Beijing, China
http://www.pb.fal.de

14-20 Aug 2002
17th World Congress of Soil Science, Bangkok Soil Science: confronting New Realities in the 21st Century
tel (662) 940 5787
fax (662) 940 5788
www.17wcss.ku.ac.th

NZSSS/ASSSI Soil 2000 Conference
3-8 December 2000

New Horizons for a New Century

visit the website at
www.lincoln.ac.nz/cted/nzsss/

Deadline for Abstracts - 1 June
Early Registration - 2 October

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