



ASPAC Digest – March 2020

14th Edition, March 2020

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Greetings from the Chair

Welcome to our latest issue of the ASPAC newsletter.

ASPAC has had a busy year. We onboarded four new members on the executive committee last year, we have an upgraded website, and thanks to Rob De Hayr and his team, we had our first event within the Pacific RESOLAN initiative at last year's AGM. An ISSPA International Governance Committee has been established, with ASPAC taking a leading role. Our thanks to Warren Webber and Roger Hill for their ongoing contributions in this initiative.



In November this year, ASPAC will be joining with Soil Science Australia and the New Zealand Society of Soil Science to hold a conference in Cairns, which will include ASPAC's AGM. Planning for the conference is well underway, with a theme of 'Soils, investing in our future'. ASPAC is coordinating a section on the program with regard to future technology advances in soil testing like near-infrared and mid-infrared spectroscopy, and other analysis related topics that could include proficiency testing of soil physical properties, a current techniques presentation and method development. Please follow this link to see the most up to date details: <https://www.soilscienceaustralia.org.au/2020-joint-conference/>

Hopefully by now you will have received your 2020 Membership renewal notice. If you have not received your invoice on the email please contact our executive office, Warren Webber: wwebber@outlook.co.nz

Finally, I'll draw your attention to information in this newsletter: (1) The location and dates for this year's Training Workshop is May 2020 in Canberra. Please keep your attention on incoming emails and the ASPAC website for invitations and further details; and (2) The article on the 1st meeting of the Pacific Soil Laboratory Network (ASPAC), held in November 2019 where The Regional Soil Laboratory Network (RESOLAN) for the Pacific was officially established under the auspice of ASPAC. It was a great success and makes for interesting reading.

Paul Kennelly
ASPAC Chair



2019 ASPAC Plant & Soil Analysis Workshop Report

The 2019 ASPAC workshop was held over two days, 7th and 8th of November 2019 at Environmental Analysis Laboratory at Southern Cross University in Lismore with 23 participants. A special thanks to all of the presenters Nell Peisley, Rob DeHayr, Criag Newman, Michael Hall, Matt Pocock & Nick Ward and especially the host Graham Lancaster.



Participants and Presenters at the 2019 ASPAC Workshop

2020 ASPAC Plant & Soil Analysis Workshop

Please save the date for our upcoming ASPAC Soil and Plant Workshop. This year's event will be hosted by the **CSIRO Analytical Chemistry Group in Canberra**, from 13th-15th May 2020.

Save the Date, Canberra, 13-15 May, 2020

With the successful workshop held at Lismore's EAL Southern Cross University last year the 2020 format will remain the same combining both Plant and Soil topics to be discussed over two-days on Thursday 14th and Friday 15th. In addition to this if there is enough interest, we will be holding an optional Field day to the new CSIRO farm at Boorowa to be held on Wednesday 13th.

More detailed information about the proposed schedule and the registration form will be circulated soon.

If you are interested in attending the workshop and field day or presenting a topic, also sponsorship packages are available please contact Nell Peisley at the following email address: nell.peisley@csiro.au

ASPAC Methods Committee Report

Plant Grinder contamination testing

It has previously been raised by Paul Milham that plant grinders in particular need to be checked for contamination introduced by its parts. Following further discussion, the MC has developed a protocol for labs to follow to check their own equipment using rice. This has yet to be circulated to the membership. There had been some discussion about whether there was scope for an intra-laboratory study, but final consensus was that it was best left up to labs to take it upon themselves to perform grinder checks. To facilitate this, the MC sought approval from the LPC to propose that Global Proficiency be engaged with the aim of them sourcing brown rice, preparing it and having it tested so that it can be used as a reference material for labs wishing to test their grinders.

Mo-Blue P Measurement range

The committee had been made aware of the possibility of extending the linear calibration range for P measurements using colouring reagent described by Murphy and Riley (1962), by increasing the amount of potassium antimonyl tartrate in the reagent mix. This was circulated to the membership in the August 2019 Newsletter, along with a note of caution to ensure that any changes made by member laboratories should still be validated.

Colwell/Olsen P FIA improvement and IP issue

The Methods Committee has been trying to get a response from Ward Labs (USA), who presented a poster on a small modification to the FIA manifold for Colwell and Olsen P at the ISSPA in Queenstown, which allows for more efficient management of the CO₂ emitted when extracts are acidified than the currently recommended practice of gas-permeable membranes. The modification is understood to be used by a number of member laboratories, but the MC has yet to circulate the modification to the membership in case it is considered Ward labs' Intellectual Property and is thus seeking their approval.

Recovery of Al and Fe from soil contamination during digestion of plant material

We are discussing the potential contamination from soil material on plant samples inflating apparent plant Al and Fe values, and the significance in terms of diagnosing plant nutrient status. There has been an observed difference in proficiency data between pseudo-totals and real totals for these analytes in the IPE program offered by WEPAL. The suggestion so far been to contact Wageningen regarding this issue. If you have any information available concerning the possibility of more selective digestion with/without soil removal by washing samples please let us know.

ASPAC Methods Committee

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ASPAC Proficiency Committee Report

After a distinguished period of service, Dave Lyons has withdrawn from his activities within the Laboratory Proficiency Committee. In his place will be two new members, Graham Lancaster and Paul Kennelly. The fact that it takes two people to cover Dave speaks to the depth of his knowledge and experience.

Over the time Dave served in the LPC, he worked tirelessly to both promote and ensure the veracity of the ASPAC proficiency programs. In particular, the maintenance and development of the soil and acid sulphate soil programs. Writing many reports with thorough statistical analysis, all of which are available online at the ASPAC website, Dave has helped ensure the integrity of ASPAC member lab's results, identified areas for improvement, and has helped maintain ASPAC's reputation towards the promotion of accurate and fit for purpose analysis of soil and plants.



On behalf of all of ASPAC, we would like to thank Dave for all of his past work with ASPAC, especially acknowledge his time on the ASPAC executive committee, his period as chairperson, his work on the Laboratory Proficiency Committee and the Methods Committee, his co-editing of the "green book", Soil Chemical methods – Australasia, and indeed his distinguished career in testing and advising of soil and plant analyses within Queensland and Australia.

ASPAC Proficiency Committee

Graham Lancaster: Graham.Lancaster@scu.edu.au

Paul Kennelly: paul.kennelly@incitecpivot.com.au

International Plant Nutrition Institute (IPNI) Resources now available

In June 2019, the International Plant Nutrition Institute (IPNI) ceased operations globally, including supporting and developing the information provided through their website. The website contained a significant amount of research and publications by IPNI regional staff and collaborators from across the globe, including local resources developed by Australia New Zealand director Dr Rob Norton.

IPNI President Dr Terry Roberts agreed to make the Australian research and publications available to the industry through Fertilizer Australia. This can now be accessed on the Fertcare section of the Fertilizer Australia website. A wealth of IPNI information is available covering topics such as:

nutrient
information

fertilizer
products and
technologies

nutrient
stewardship

4R guides

Fertilizer Australia would like to thank IPNI and Rob for providing this incredibly useful information (which can be [found here](#)).

Dairy Australia and Fertcare® FAA Performance Standards Update

The development of the dairy technical standard / “supplement” to the FAA Performance Standards has been led by Dr Cameron Gourley with input from a technical Working Group appointed by Dairy Australia. Feedback has also been sought from Fertcare Assessed System Managers and experienced FAA dairy agronomists.

A key element of the FAA program is to provide assurance that advisor competence is being routinely applied. It also provides mechanisms to improve and rectify any under-performance by agronomists. The minimum standard for nutrient advice can be found in the FAA Performance Standards which has been developed and reviewed by ASPAC. The FAA Performance Standards are mapped to Units of Competency in the Rural Training package within the Australian Quality Training Framework (AQTF). The Standards are appropriate for all plant-based production industries in Australia and as such are general in nature. The current FAA Performance Standards can be found in Appendix II of the [FAA Participants Manual](#).

The standard will:

- Inform dairy specific content which Fertcare Assessed Systems providing Fertcare Full Service & Qualifying Service would be asked to include in training leading to FAA recognition for dairy focused agronomists.
- Form the minimum standard to assess the competence of advisors and quality of nutrient management plans and recommendations in ongoing FAA audits.

Desired Outcomes:

- FAA Performance Standards and the dairy technical standards adequately cover and are in alignment with Fert\$mart.
- Nutrient management plans developed by FAA support and meet the requirements of a Fert\$mart Nutrient Management guidelines.
- FAA program is recognised by the dairy industry as the minimum standard for professional soil and plant nutrition advice.
- Fertcare assists the Australian Dairy Sustainability Framework in providing assurance to Dairy Industry customers that:
- Nutrient management plans and fertilizer advice is based on objective measures such as soil and plant analysis
- Sound sampling and laboratory practice are employed
- Recommendations are based on accepted science in Australia
- Environmental risks are assessed & managed in the advice farmers receive.

Once advisors have been assessed as competent, they are subject to a biennial audit of randomly selected recommendations made in the preceding two year period. The audit of recommendations has two aims; to ensure that minimum standards are being applied; and to help advisors improve their recommendations.

Global Soil Laboratory Network Update

FIRST MEETING OF THE PACIFIC SOIL LABORATORY NETWORK (ASPAC), Brisbane, Australia, 17-18 October 2019.



As was reported in the September edition of the Digest, ASPAC has been collaborating with the Food & Agriculture Organisation of the UN's [Global Soil Partnership \(GSP\)](#) in developing a Global network of soil laboratories ([GLOSOLAN](#)). The Regional Soil Laboratory Network (RESOLAN) for the Pacific was officially established under the auspice of ASPAC through its first meeting in Brisbane, Australia on 17-18 October 2019.

The meeting was organised by ASPAC with the support of the Global Soil Partnership (GSP). Paul Kennelly, ASPAC Chair opened the meeting along with Ms. Francesca Mancini on behalf of Ms. Eriko Hibi, FAO Sub-regional Coordinator for the Pacific Islands and FAO Representative in Samoa. Seventeen lab managers from six countries made up of the Pacific Island nations and the ASPAC Executive attended the meeting along with five guest speakers.

Linking to the objectives of GLOSOLAN, ASPAC aims to strengthen the performance of soil and plant laboratories through use of standardized methods and protocols. The network agreed that the harmonisation of soil analysis results at the inter-regional level to make them comparable and interpretable across laboratories, countries and regions was an ASPAC goal. The meeting noted that a regional harmonization plan may not be needed as most if not all laboratories either implement the protocols or have validated methods based on the principles in the *Soil Chemical Methods – Australasia* book.

The objectives of the first Regional meeting were to (i) confirm the governance and organisational structure of the Pacific RESOLAN under the auspice of the Australasian Soil and Plant Analysis Council (ASPAC), (ii) review the performance of laboratories in the ASPAC Inter-laboratory Proficiency Trial, (iii) determine the areas of support that could be offered to help improve the performance of regional laboratories, (iv) assess the potential for harmonisation of soil data, and (v) discuss the requirements for further development of methodologies and their interpretation.





GLOBAL SOIL
PARTNERSHIP

The meeting lasted two full days and consisted of presentations to introduce the network, report on major events of relevance to ASPAC, assess the status of national laboratories participating, and explain technical concepts related to lab analysis and data and methods harmonization. Mr. Peter Wilson, Chair of the Pacific Soil Partnership (PSP), reported on the outcomes of the Pacific Week of Agriculture stressing that considerable attention was placed on the nutrient management system of the Pacific Islands. Mr. Roger Hill, Chair of the ASPAC ILPP, Mr. David Lyons, ILPP ret. and Mr. Rob De Hayr, PSP Pillar 5 Chair, reported on the results of the ASPAC proficiency trial and its implications for improvement. Ultimately, the presentations served to open the discussion and to define the work of ASPAC in 2020 and its position in GLOSOLAN.

Participants from the Pacific Island nations were given the opportunity to present their laboratory with a focus on the soil analyses they perform (type, number and equipment used), the projects supporting their work, the strengths and weaknesses of their laboratory, and to report about their expectations of GLOSOLAN and ASPAC. Overall, laboratories' expectation linked to the willingness to overcome their limitations in terms of (in order of priority):

- Staff number and qualification (training)
- QA/QC (also availability of reference material)
- Funds
- Lack of consumables and minor accessories
- Equipment maintenance and equipment update
- Data interpretation
- IT support (establishment of database and inventories) – Laboratory Management System
- Accreditation
- Reduce external interferences (contamination)
- Reduce costs of inter-lab studies
- Methods development and validation (link to research)
- Availability of research resources (books, forum membership, etc.)





Participants worked in groups to develop a work plan to address the common needs they identified.

Table 1. ASPAC work plan to address regional common needs

Need	Activity description
Consumable and equipment	Online platform that works like a free market. Labs with surplus of consumables to make them available to Labs in need
Consumable and equipment	Make big orders at the national level so to reduce transportation costs or get bigger discounts
Staff training	Creating a training matrix for lab's staff (identification of gaps and individual strengths)
Staff training	People with strong competencies to train the ones in need (in house training). All knowledge should not stay with one person only
Staff training	Organization of national trainings (in person or online - videos, zoom, etc.) with external trainers when needed
Data interpretation	It can be addressed through staff training. It is another subject for training
QA/QC	Develop a protocol for improving QA/QC
QA/QC	Improvement through training
Reference material	Possible inclusion of national samples into the ASPAC PT
Laboratory Management System	Review USP system...if it is good, propose it to other labs

Australasian Soils Joint Conference November 2020

**SOILS, INVESTING
IN OUR FUTURE**
2020 JOINT CONFERENCE

**SOIL SCIENCE AUSTRALIA
& THE NEW ZEALAND
SOCIETY OF SOIL SCIENCE**
29 Nov—4 Dec 2020 Cairns, Australia



**SOIL SCIENCE
AUSTRALIA**



New Zealand Society of Soil Science

SOILS

INVESTING IN OUR FUTURE

29 Nov—4 Dec 2020, Cairns Australia

SPONSORSHIP & EXHIBITION

We invite you to be part of this memorable event. The prospectus outlines various levels of involvement to suit every budget and marketing objective

MORE INFORMATION

CALL FOR SPECIAL SESSIONS

The Scientific Committee invites proposals for Special Sessions to be held during the 2020 SSA & NZSSS Joint Conference. Submissions for special sessions close 14 Feb 2020

MORE INFORMATION

REGISTER YOUR INTEREST

Join our mailing list to be kept up to date with information on the Conference. The earlybird registration portal and online abstract submission will open in March 2020

JOIN OUR MAILING LIST



ASPAC

Australasian Soil and Plant

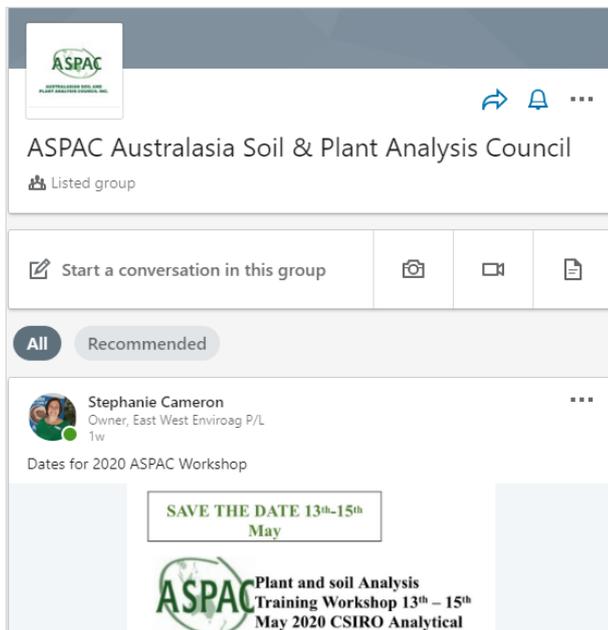
ANALYSIS

Council Inc.

ASPAC now on LinkedIn & Twitter

Please follow the link below and request an invitation to join the conversation on Linked In

<https://www.linkedin.com/groups/13643264/>



ASPAC is also on Twitter for those who like to "Tweet" please follow our handle @ASPAC13



REDDIT

This is desired to be a forum to discuss all things related to Plant and Soil analysis in an anonymous manner. Please feel free to ask questions, give you opinion on things and provide links and information that will benefit others. The more you get involved the more the forum will grow to reflect your needs so hop on over, sign up and join the community.

When we help each other everybody wins!

You can find us here <https://www.reddit.com/r/ASPAC/>



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