



MALAYSIAN SOCIETY OF SOIL SCIENCE (MSSS)

NEWSLETTER

Issue 1, 2020

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2019/2020

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Message by the MSSS President

Year 2020, MSSS celebrates its 49th year as a professional body representing the interest and aspirations of the soil scientists in Malaysia. This year, we face the challenges that COVID-19 has placed upon us. In the efforts to contain the spread of the Covid-19 pandemic, Malaysia government had embarked on Movement Control Order (MCO) and Movement Control Order Condition (MCOC) imposing travel restrictions and movement controls. MSSS committee decided to postpone all events including SOILS2020, as our priority is to ensure the health and safety of our members. Nevertheless, I hope that this challenge should not stop us from supporting IUSS initiatives to raise awareness of the importance of soil quality for human well-being, food security and ecosystems and to highlight soil's importance on Earth.

In December 2013, the 68th session of the UN General Assembly declared 5 December as the World Soil Day. For the year 2020, the theme for World Soil Day is 'Keep soil alive, Protect soil biodiversity!' aims to raise awareness of the importance of maintaining healthy ecosystems and human well-being by addressing the growing challenges in soil management, fighting soil biodiversity loss, increasing soil awareness and encouraging governments, organizations, communities and individuals around the world to commit to proactively improve soil health. At MSSS levels, we have already planned a few programmes in collaboration with the Department of Agriculture. It is my wish to see active involvement and participation from all members in support of our activities. I also welcome ideas from members and together we promote wise use of our soil resources. We are all trying to adapt to this new reality in the hope that the pandemic will end soon. Stay safe and stay healthy.



Soil is Life

DR. ROSAZLIN ABDULLAH

President MSSS 2019/2020

Investigating Soil Chemical Properties under Organic Cocoa Farming in Madai, Kunak, Sabah

Organic farming is a production system that does not involve modern synthetic inputs such as synthetic pesticides and chemical fertilizers. Although such farming is relatively young and has less spectacular history in Malaysia, but it is towards improvement on research area mainly on the soil quality. Therefore, a two-year study on soil chemical properties under organic cocoa farming system was carried out at Pusat Pembangunan dan Penyelidikan Koko Madai, Kunak, Sabah using Vertisol. Vertisol have low organic matter content and high clay content. The soil also was quite acidic with pH below 5, thus contributed to low CEC and it affected the availability of some plant



Field staffs taking soil samples for analysis



Study plot, Kunak, Sabah

nutrients. Soil was sampled randomly using a stainless steel auger and analyzed in soil laboratory. Twenty-one (21) months after the first amendments applied, the soil pH was slightly increased and the positive effect of organic fertilizers on nitrogen, phosphorus and potassium concentration in soil was translated into yield production, that was comparable with conventional or inorganic fertilizer.

Thus, the importance of biology in maintaining soil health and fertility has always been priority in establishing organic farming. Improved soil quality may also be able to influence the ability of crops to withstand or repel insect attack and plant disease. This study was funded by Ministry of Science, Technology and Innovation (MOSTI), under part of “Effect of Different Types of Organic Fertilizer (Materials) on the Yield, Bean Quality and Flavor in Cocoa (*Theobroma cacao* L.)” project which was completed in January 2018. Recently, this organic cocoa farm have been audited by the Sabah Agriculture Department in process of obtaining organic farm certification. Once approved, this farm will be the first cocoa organic farm in Malaysia.



Cocoa pod husk utilized as organic fertilizer

By: Mr. Boney Muda,
Malaysian Cocoa Board (MCB), Tawau, Sabah

Summary : Lessons Learnt from COVID-19 Pandemic

The COVID-19 pandemic swept the world without a warning, disrupting many industries and food supply chains, hampering economic growth, increasing poverty and affecting food security of many nations, including vulnerable small holders and rural farmers. Malaysia was not left out of the crisis as she is dependent on other countries on food imports and exports. The current period calls for revolutionary approaches in providing stable food production, sustainability and accessibility for consumption. Some of the approaches to be considered are as follows :

- * Supporting local agricultural products
- * Urban gardening for self-sufficiency
- * Adhering to National Food Security Policy
- * Crop-tree diversification systems
- * Smart strategic partnerships between government, industry and community



The Asia Pacific region is the largest producer of agricultural and fish commodities. It is anticipated to account for 51% of global agriculture and fish output by 2029. The growing population and diet preferences will continue to drive food supply demands but the disruptive factors both natural and anthropogenic needs such as the current pandemic we are facing needs to be addressed to strike a balance between people, planet and profits.

By Dr. Jeyanny Vijayanathan, Forest Research Institute Malaysia (FRIM)



Welcome to GLOSIS | Global Soil Information System

Global Soil Information System (GLOSIS) aims to develop a spatial data infrastructure that brings together soil information collected by national institutions. Soil information are needed to answer critical questions at the global scale, to provide the global context for more local decisions, and supply fundamental soil data for understanding Earth processes. **GLOSIS is envisioned as a federation of soil information systems**, which share interoperable soil data sets via web services. This approach will empower countries to develop their soil information systems as reference centres for national soil information.

Healthy Soils are the Basis for Healthy Plant

Successful farming and good crop production begins with the quality of soil which provide essential nutrients to the crops. Besides, combined with the appropriate amount of water and sunlight can significantly contribute to sustainable agriculture. Providing healthy soils is important because it is a foundation for profitable, productive, and environmentally sound agricultural systems. Healthy soil provides many functions that support plant growth, including nutrient cycling, biological control of plant pests, and regulation of water and air supply.

Many practices of soil management can be done to sustain healthy soil and one of them is the utilization of fertilization and organic amendments. Supplying adequate nutrients to the soil can help the plants to stay healthy and also producing a good yield. In respect to that, a research "Effects of Biochar and Compost Application on Soil Properties and Growth Performance of *Amaranthus* sp. Grown at Urban Community Garden" was done to see the effects of fertilizer and organic amendments usage which are compost and biochar for green spinach production. This research was done with the community of Taman Sri Sentosa, Lembah Pantai, Kuala Lumpur.

Fertilizers are chemical or organic substances added to soil to increase its fertility. Fertilizers contain nutrients which are macronutrients and micronutrients needed by plants. The right amount of fertilizer needed by plants must be considered to prevent plants from malnutrition or luxury consumption. Fertilizer usage should be efficient to maximize the yield production and prevent waste of fertilizer. Besides, usage of organic amendments such as compost and biochar is also important because of their benefits as soil amendments able to improve soil fertility. Compost is a decomposed organic material resulting from the biological degradation of organic materials under controlled, oxygen-present conditions. The usage of compost is a natural and ecological way to improve the fertility of the soil which leads to increased crop yield. Therefore, compost is a good organic amendment for the soil since it contains both nutrients and organic matter. Biochar is also another organic amendment that is rich in carbon and a byproduct obtained through biomass or agricultural wastes through pyrolysis under



Measuring growth performance of *Amaranthus* sp., known as green spinach at 20 days



One of the Taman Sri Sentosa community helps watering green spinach plants

high temperature and minimal presence of oxygen. The usage of biochar enhances the quality and fertility of the soil by increasing the soil pH, improving moisture-holding capacity, attracting more useful fungi and microbes, improvise cation exchange capacity (CEC), and also retain water and nutrients.



Growth performance of *Amaranthus* sp. Photo was taken 27 days after sowing the seeds. (FB) = 50% fertilizer and 50% biochar, (FC) = 50% fertilizer and 50% compost and (FBC) = 50% fertilizer and 50% combination biochar and compost.

The results for this study shows the application of fertilizer with combination of compost and biochar improves green spinach growth performance and provides better yield production compared to application of fertilizer with compost and biochar alone. The combined application of compost and biochar also improved the quality of the soil which gives a positive synergistic effect on the nutrient contents of soil under field conditions, improved nutrient performance, stabilized structure of the soil, increase water holding capacity and also reduced fertilizer input application. In conclusion, soil management practices should be done properly, particularly for the utilization of fertilizer and organic amendments to improve and sustain soil health and plants.

By: Noor Sharina Mohd Rosli, UM

What you can do to **stop** soil **biodiversity loss**

Grow greener cities and live sustainably

Invest in soil biodiversity research, knowledge and innovation

Raise awareness and **advocate** for living soils

Reduce, Reuse and Recycle

Manage soil resources sustainably



Food and Agriculture Organization of the United Nations

Working for #ZeroHunger

Do you know how we can measure root interactions of agroforestry or mixed cropping systems?

Agroforestry is the land use type where we can plant more than one species either crop or trees on the same piece of land. Usually, we can observe the growth competition between the trees or crops by the size of canopy, leaf area, size of trunk, the yield production per hectare for each crop or tree species and so forth. However, the above ground competition is not the same as below ground competition or interactions.

The main challenge is, there is no method that is able to distinguish or quantify especially in below ground interactions. In this case, the root is the main organ of trees or crops that we can measure in the soil. Then, the roots are hidden in the soil and are difficult and impossible to measure especially in mixed roots samples.

For many decades, root researchers are hindered due to the methodological issue in root studies. There are several methods that have been used until today. For example, root washing technique, digging and trenching, monolith, soil coring etc. All of these techniques are laborious, time consuming and the important thing is that they are not able to quantify or measure the interactions of mixed roots samples in a mixed cropping system.

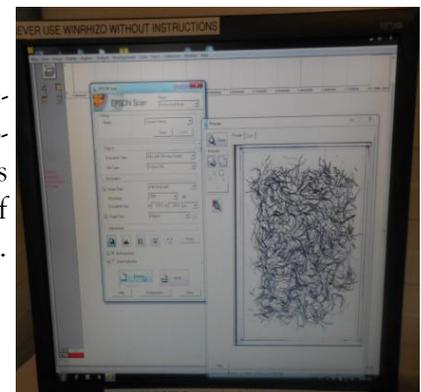
Hence, study done by Hassan et al. (2019) proved that, qPCR and amplicon sequencing techniques are able to measure the root interactions of mixed cropping system which is more precise if we want to measure the growth performance of crop/tree species in agroforestry or mixed cropping systems. For further reading, you can read the article;

⇒ Hassan, A. Dorte Bodin Dresbøll, D.B. Rasmussen, C.R. Lyhne-Kjærbye, A. Nicolaisen, M.H. Stokholm, M.S. Lund, O.S and Thorup-Kristensen, K. 2019. Root distribution in intercropping systems - a comparison of DNA based methods and 2 visual distinction of roots. Archives of Agronomy and Soil Science. 10.1080/03650340.2019.1675872.

By: Affendy Hassan
Forest Plantation and Agroforestry Programme
Faculty of Tropical Forestry UMS



Planting of red beet (red coloured root) with lucerne as plants model for experiment



Measuring root for Root Length Density (RLD) after root washing technique

MSSS Fellow



DR. WAN RASIDAH BINTI WAN AB KADIR

Current position:

Program Head, Forest Plantation Programme
Forest Research Institute Malaysia

Education History:

Ph.D (Ghent) 1995, M.Sc (UKM) 1991, B.Sc (UKM) 1984

Awards:

1. MAMPU Innovation Award 1997 for Research Partnership between the Government and the Private Sector (Project: Mulch mat from oil palm empty fruit bunches)
2. Geneva International Inventions Exhibition 1997 - Gold medal (Group - machine for the extraction of oil palm fibres)
3. FRIM Best Publication Awards for books and journals (several and over the years)
4. MAMPU Innovation Award 2000 for Research Partnership between the Government and the Private Sector (Project: A fibre shredding machine for oil palm empty fruit bunches)
5. FRIM Excellence Service Award 2001 & 2015
6. Other innovation awards including ITEX (Gold and Silver medals)
7. FRIM Club: Best Sport Manager 2006
8. FRIM Best Sport Team 2009 (Ladies Volleyball Team)
9. FRIM Excellence Service Award 2010 (Group: Soil Chemistry Laboratory)

Significant Publications:

- ROSZAINI AK, WAN RASIDAH K, MOHAMAD FAKHRI I & ANG LH. 2019. Acacia mangium, Hopea odorata and Khaya ivorensis grown in ex-mining and BRIS plantation plots: Resistance against subterranean termites. *Journal of Tropical Forest Science* 31(3): 362-370.
- ABD LATIF M, WAN RASIDAH K, JEYANNY V & LIM JS. 2019. Correlation of Soil Types and Tree Species Distribution for Peninsular Malaysia. FRIM Special Publication No. 34. Forest Research Institute Malaysia. 105 pp.
- ABD LATIF M, WAN RASIDAH K & AHMAD ZUHAIIDI Y. 2018. Is plantation forestry a wise investment? A perspective from Malaysia's initiatives. *Journal of Tropical Forest Science* 30(5): 461-467.
- WAN RASIDAH K, & MOHAMAD FAKHRI I. 2018. Setiuh New Forest: A Gift from Nature. Forest Research Institute Malaysia, Kepong. 103pp.
- KUBOTA VR, YONEDA T, UGAWA S, OKUDA T & WAN-RASIDAH K. 2018. Effects of selective management system on biomass structure and forest sustainability: A case study of a tropical rainforest in Peninsular Malaysia. *Journal of Tropical Forest Science* 30 (2): 259-268

Research Interest:

Soil chemistry, fertility and biomass utilization

MSSS contributions:

1. Registered as ordinary member in 1985
2. Representing MSSS in Balai Ikhtisas Malaysia since 2012
3. Management Committee Member from 2011 to 2019
4. Organizing Committee for SOILS 2008, SOILS 2012, SOILS 2013, SOILS 2014, SOILS 2016, SOILS 2018 & SOILS 2020.
5. President from 2014 to 2018

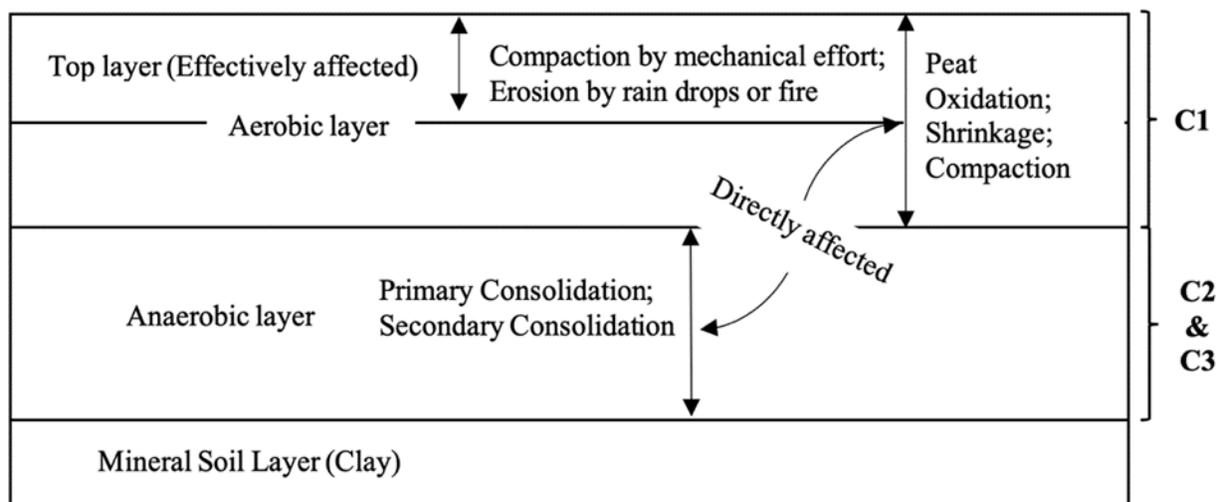
Outlook on soil science on the next 20 years:

- ♦ Soils will always be an integral part of lives on earth. Soil scientists need to move in parallel with technology, IR and AI, to make soils more fascinating and attractive, and always relevant.

Tropical peat artificial compaction?

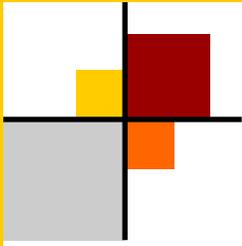
Soil compaction refers to incremental increase of bulk density as a result of macro pores reduction from either single or multidirectional loads. Adapting the theory of tropical peat soil compaction processes, there are two main forces that induce peat compaction. Namely, external and internal forces. External load is a static and dynamic load that derives from the lateral forces to the soil surface, while internal load refers to the process that occurs due to alteration of soil physical changed by water suction gradient. In general, compaction in peat can occur with or without peat oxygen availability (i.e. aerobic and anaerobic) at peat horizons that are divided into three main components (see Fig. 1), which I called “The triple-C”. The first component (C1) is a combination of compaction and shrinkage, which is considered as an entity of peat subsidence in the aerobic layer beside peat oxidation that can increase the bulk density value. At the unsaturated soil peat layer (aerobic layer), the induced loads may be immediate or temporary. The impact on the peat surface could be caused by several factors, such as heavy machinery wheels, rainfall drops, and animal tracks. The second and third components are associated within anaerobic layer at saturated peat (anoxic horizon), which are described as primary and secondary consolidation. The primary consolidation (C2) is induced by rapid decrease of moisture regime, whereas the secondary consolidation (C3) is linked with resistance of peat materials to compaction. Since soil consolidation is affected within the saturated soil peat layer or anaerobic horizon, the load is applicable over a longer time period and continuous, for example, over a wetting and drying cycle or with long-term water table fluctuation.

In literature review on the terminology of peat compaction. I mentioned the need for a critical level of understanding of tropical peat compaction due to the coupled processes between oxidative, consolidation, and shrinkage and man-made compaction (also known as artificial compaction). By defi-



Tropical peat subsidence mechanisms or compaction illustrated by

Samuel, M. K (2020).



nition, compaction comprises two coupled elements, compression and consolidation, whereby compression refers to the reduction of material due to the displacement of the oxic phase, and consolidation refers to the increase in mechanical strength of the material due to particle-to-particle interaction resulting from the collapse of peat soil under its own weight. In contrast, the compressibility of peat soil does not make it easy to conduct direct measurements because of the different interrelated parameters such as peat depth, maturity, and bulk density. Most present works that have focused on artificial compaction and peat soil have only considered peat from the context of a soil conditioning agent and an additive for mineral soils due to the 99% organic matter content. Hence, this type of peat soil has a compressibility level of 300% to 400% and a far greater capacity to return to its original condition – unless the hydrophobicity characteristic is achieved. Yet grouping subsidence and compaction (i.e. shrinkage, compression, and consolidation) together has led to some confusion. The application of tropical peatland compaction as a subsidence index has increased. For example, peat subsidence has been used as a measurable indicator to determine carbon loss by observing changes to peat depth. In contrast, I argued that the compaction process of natural peat ecosystems does not always represent peat subsidence. This is because of incompressible layers that dominate peat subsurface, that compaction does not always mean peat loss and the fact that the peat expands and contracts in response to water table fluctuation level due to high porosity and buoyancy characteristics, also independently of carbon loss. As such, data on peat subsidence and surface level growth is heavily depend on water table level and should not be interpreted as a measure of carbon loss without being corrected against soil bulk density.

The complexity underlying compaction magnitude is derived from several factors, such as abiotic, biotic, and anthropogenic factors (man-made/artificial compaction). Nevertheless, the combination of compaction and shrinkage as an entity seems very difficult to distinguish. Most literature works defined tropical peat compaction based on the nature of the study site. For instance, in logged-over or drained forest ecosystems, peat compaction source is always described as a result from water table fluctuation between seasonal variations that causes shrinkage (bulk density increase), or oxidation (by microbial activity), which decreases bulk density. As for developed peatland ecosystems, such as agri-systems, most of the authors described peat compaction as a coupled process caused by heavy machinery or shrinkage by drainage, which contribute to increased bulk density. This particular landscape-based definition leads to confusion towards the clarity definition mechanism of compaction on tropical peatland among researchers. Therefore, in order to better understand the terminology of ‘peat compaction’, research should be initiated to separate the first component (C1) from oxidation and C loss effects, but rather, considers compaction caused by heavy machinery and shrinkage as a single entity. So, what do you think? ‘Yay’ or ‘nay’ to the existence of active peat compaction?

By: Dr. Marshall Kana Samuel

Soil Science & Water Programme, MARDI Saratok, Sarawak



Carbon Footprint – PUTRA@ECO-YOUTH at SMK Bandar Bintulu, Sarawak



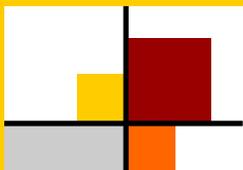
Educating youngster on the effect of carbon is crucial to create awareness and prepare them to sustain and protect the environment. Through the initiatives, Universiti Putra Malaysia Bintulu Sarawak Campus (UPMKB) in collaboration with SMK Bandar Bintulu and supported by the Malaysian Society of Soil Science and Club of Agricultural Sciences (KESPER) proudly organised a day program with 150 members of Nature Lovers Club and Peer Counsellors Club aged 13 to 17 years old. This program was organised by Agricultural Extension subject (CES2241) and advised by Miss Izzah binti Abd Hamid @ Ghazali with overall 108 participation of Diploma in Agriculture Semester 6 and Diploma in Fisheries Semester 5. The opening ceremony was officiated by Dr. Wan Asrina binti Wan Yahaya, Vice President (Sarawak), Malaysian Society of Soil Science (MSSS) and then symbolic of tree planting were performed in front of Lotus Hall, SMK Bandar Bintulu with other representative of SMK Bandar Bintulu, Madam Valerie Soon Lai Meng and Department of Crop Science, Faculty of Agriculture and Food Sciences, UPMKB. Plenty of activities were organised, such as Tree Planting, Filter Efficiency, Seed Inside Me, and Explore Race with about 16 fun stations as one-stop knowledge involved delivering information on agriculture and fisheries to the youngsters. The program has provided a platform to the UPMKB's student to become a youth ambassador in promoting nature conservation, especially regarding carbon emission. Moreover, this day event was indirectly promoting UPMKB and MSSS to the youngsters and highlighted the importance of agricultural aspect to them.



Picture (Starting from Top Clockwise): Group photo of all participant from UPMKB and SMK Bandar Bintulu; Symbolic of the program by planting *Tabebuia rosea* by Dr. Wan Asrina binti Wan Yahaya, Vice President (Sarawak), Malaysian Society of Soil Science; Tree planting activity performed with SMK Bandar Bintulu to mitigate carbon and produce a healthier environment; Terrarium evaluation by UPMKB's students on creativity and uniqueness created by the participant of SMK Bandar Bintulu



By: Izzah Abd Hamid and Dr Wan Asrina Wan Yahaya, UPMKB



WCSS22

1000 days until the World Congress of Soil Science in 2022 (WCSS22)



The logo of the 22nd World Congress of Soil Science was launched by the British Society of Soil Science on November 4, 2019.

What is it?

The WCSS is a leading international soil science conference, held every 4 years in different countries and attended by over 3000 soil scientists from around the globe. The next Congress is being organised by the British Society of Soil Science on behalf of the International Union of Soil Sciences. The Congress theme, **'Soil Science – crossing boundaries, changing society'** will focus on the link between soil and society, with sessions covering soil systems, soil processes, soil management and how we interact with and use soils around the world. There will be opportunities for specialist workshops and discussion sessions across a wide range of soil disciplines. The core programme is supported by tours and a cultural and arts programme for delegates and the wider public to explore our diverse environment and culture.

Where and when is it?

The Congress will take place at the award winning and world-class Scottish Event Campus, a riverside venue minutes from central Glasgow in Scotland, UK. The Congress is between 31st July - 5th August 2022.

Who should attend?

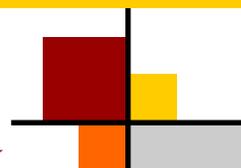
Research scientists, policy makers, regulators, NGOs and anyone who has an interest in the sustainable use of soils.

Why should I attend?

At a time of global concern for our planet and its growing population, managing our soils sustainably has never been as important. 90% of our food comes from soil, as does all of our timber and other fibre. Soil, and the ecosystems it supports, have a huge role in mitigating against climate change, is a vast reservoir of biodiversity, plays a significant role in flood management and contains key evidence of past civilisations. Our understanding of the importance of these functions is developing rapidly and the Congress provides the ideal setting to discover the international state of the art in these critical global issues and an opportunity to connect across all who work with and rely on soils.

Follow us on Twitter: [@Soil_Science](https://twitter.com/Soil_Science) and [@WorldSoils2022](https://twitter.com/WorldSoils2022)

Read more: <https://www.soils.org.uk/wcss2022>



Members of Malaysian Professional Bodies, Regional and Global Soil Scientist Network

MSSS registered as a member of the Malaysian Professional Centre (Balai Iktisas Malaysia). BIM was set up with the assistance of the Commonwealth Foundation in the year 1973 to serve as the umbrella body for all professions recognized by legislative Acts of Parliament in Malaysia. MSSS is also part of the regional (East and Southeast Asia Federation of Soil Science Societies (ESAFS) promoting researches in soil and related sciences and disseminating the acquired knowledge and technology for the benefit of the member societies in the region of East and Southeast Asia. MSSS as part of the global soil scientist network are committed to actively support IUSS initiative and MSSS is working towards increasing awareness on soil issues in Malaysia .



International Union of Soil Sciences
<https://www.iuss.org>



<https://www.esafs-support.com>



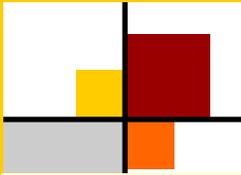
<https://www.bim.org.my>

LET'S CELEBRATE SOIL - WORLD SOIL DAY 2020



It's your day!
Share your plans

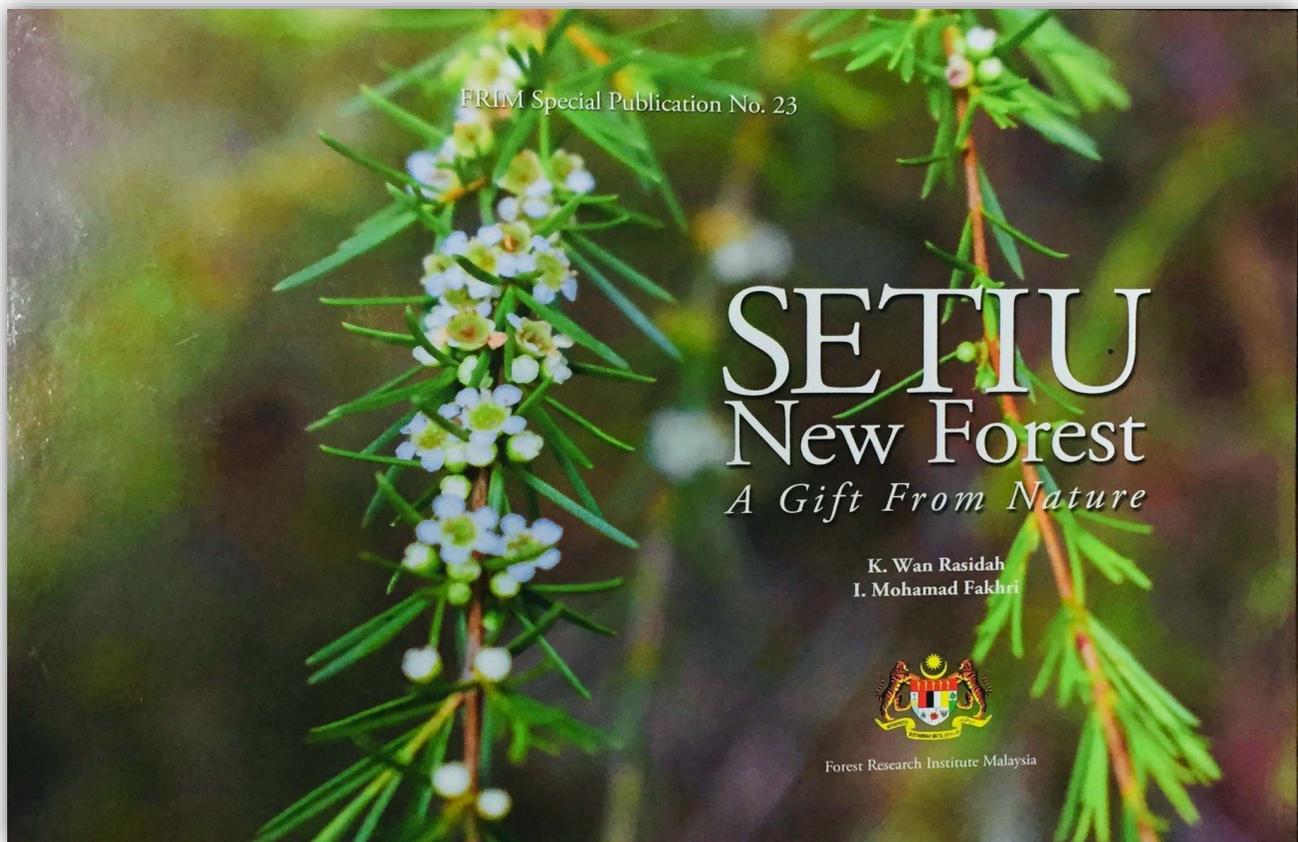
Keep soil alive,
protect soil biodiversity
World Soil Day
5 DECEMBER 2020



SETIU New Forest : A Gift from Nature

SETIU New Forest: A Gift from Nature is a comprehensive book on improving Beach Ridges Interspersed with Swales (BRIS) soil from nothing into something precious written by Dr. Wan Rasidah Wan Ab Kadir and Mohamad Fakhri Ishak. This book was published in 2018 by Forest Research Institute Malaysia. The authors revealed that excellent planning of development activities and researches are the key point in converting the 60% of 53.27 ha problematic land into environmentally sustainable and economically viable land. Four types of BRIS soils with soil profile and maps were presented. The difference from one soil types to another was excellently explained. For more than two decades hard work with a lot of passion, they claimed that the unfavourable BRIS soil turned into green forest with valuable flora and fauna. Various valuable timber (Dipterocarps and non Dipterocarps) and fruit trees as well as herbal species were planted by them. In addition, the authors also stated that limited capability in holding water and mineral nutrients of BRIS soil able to provide a habitat to various species of fauna. In this book, the authors also used excellent images of flora and fauna with scientific and common names which can attract the readers. Worth read book - a useful reference for future research and development activities with regards to BRIS soil. Congratulations to the team as they proved that innovative and creative thinking made it possible.

By: *Dr. Wan Zaliha Wan Sembok,
Universiti Malaysia Terengganu (UMT)*





Food and Agriculture
Organization of the
United Nations

Soil biodiversity: the hidden world beneath our feet

Soil Community

MEGAFUNA



Toads, moles, beavers, rabbits and badgers are the principal agents of soil turnover and distribution.

MACROFAUNA



Earthworms, termites, ants, millipedes and woodlice help with soil drainage and aeration.

MESOFUNA



Small invertebrates such as tardigrades, mites and insects like collembolans, diplurans and proturans are biological regulators of decomposition.

MICROFAUNA AND MICROORGANISMS



Bacteria, protozoans, fungi and nematodes are the smallest and most numerous organisms in the soil. That are responsible of biogeochemical processes.

Plants nurture a whole world of creatures in the soil, that in return feed and protect the plants.

This diverse community of living organisms keeps the soil healthy and fertile.

This vast world constitutes soil biodiversity and determines the main biogeochemical processes that make

life possible on Earth.

Thanks to the financial support of



SOIL SCIENCE CONFERENCE OF MALAYSIA

SOILS 2020

6 - 8 October 2020

Holiday Villa Johor Bahru City Centre, Johor

SOIL MANAGEMENT TOWARDS
PLANT PRODUCTIVITY &
ENVIRONMENTAL SUSTAINABILITY



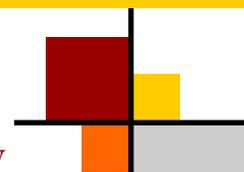
New norm and strict SOPs outlined by the National Security Council (MKN) will be adopted for your safety.

Organised by :



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The International Union of Soil Sciences (IUSS)

WHY JOIN THE IUSS?

The International Union of Soil Sciences (IUSS) is the global union of soil scientists. The objectives of the IUSS are to foster all branches of the soil sciences and their applications, and to give support to soil scientists in the pursuit of their activities. In addition, the IUSS aims to put soils and soil science on the global agenda. Annual subscriptions from National Soil Science Societies, either directly or indirectly via National Academies, are essential for maintaining a strong presence of the IUSS for effective promotion of soil science and its wide range of applications to fellow professionals, policy and decision makers, and the general public. This is critical to keep our discipline strong and viable and to enhance its visibility and impact in all parts of the world.

The IUSS is the umbrella organisation for six important regional societies, one in Asia (the “East and South East Asian Confederation of Soil Science Societies”), three in Africa (the “African Soil Science Society”, the “East African Soil Science Society”, and the “West and Central African Soil Science Society”), one in Latin America (the “Latin American Society of Soil Science Societies”), and one in Europe (the “European Confederation of Soil Science Societies”). All these regional organisations act under the umbrella of IUSS and have specific tasks for promoting soil science.

Source <https://www.iuss.org/about-the-iuss/why-join-the-iuss/>

MSSS Publications for Sale!

BOOKS (RM 10/each)

1. Bibliography of Malaysian Soils
2. Recent Developments in Land Evaluation
3. Sustainable Land Management
4. Secondary & Micronutrients in Malaysian Agriculture
5. Developments in Soil Research In Malaysia
6. Soil Management for Food and Fruit Crop Production

JOURNALS (RM 10/each)

1. Malaysian Journal of Soil Science (Volume 1–12)
2. Malaysian Journal of Soil Science (Volume 15–16, 18)

PROCEEDINGS (RM 10/each)

1. Soil Science Conference of Malaysia year ('91, '93, '94, '95, '97, '98, '99)
2. Soil Science Conference of Malaysia year ('02, '03, '04, '06)
3. International Conference on Fertilizer Usage in the Tropics 1992
4. Workshop on Soil Science in Malaysia-Towards the year 2020
5. Proceedings of the International Conference on Fertilizer Usage in the Tropics (FERTROP) 1992

Announcements!

CONFERENCES and WORKSHOPS:

1. *Soil Science Conference of Malaysia (6 to 8 October 2020), Holiday Villa Johor Bahru*
2. *30th Malaysian Society of Plant Physiology Conference (17- 18 November 2020), Bangi Resort Hotel*

MSSS Newsletter

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CONTRIBUTE TO OUR NEWSLETTER!

We are a big group of almost 300+ soil enthusiasts and we like to hear from you! We are looking for article contributions on soil related issues, mainly

GENERAL ARTICLES: If you have a story/report about an activity related to soil, such as soil training/workshop/conference/meetings;

YOUNG SCIENTISTS: If you are currently a young soil scientist (below 40 years of age) working on a research project related to soil dynamics, you may send in your research article about 500 to 600 words which states on the intro, justification, brief methods, results and conclusion. Please include a digital copy of your research image.

THE EASTERN CONNECTION: Dedicated for any soil research endeavors and information from Sabah and Sarawak.

ANNOUNCEMENTS: Of trainings or educational opportunities, forthcoming meetings, conferences or other international announcement regarding soil, agriculture, forestry, etc.

BOOK/PAPER REVIEW: If you have come across a recently published article you think may be of interest to other MSSS members, please alert the Newsletter Editor and we will highlight it for our readers.

ADVERTISEMENTS: Submit your advertisement for RM 40 for half page and RM 80 for full page in our newsletter. Gain more visibility with your services and products! Submission information: For text send a word document with Arial font (11) to jejanya@frim.gov.my or rosazlin@um.edu.my and for photos .jpg is preferred.

MJSS - CALL FOR PAPERS

The Malaysian Journal of Soil Science (MJSS) is a scientific journal published by the Malaysian Society of Soil Science. It contains research papers in English on matters related to soil and soil-plant interactions. The journal welcomes original research works not previously or simultaneously published in any other scientific or technical journal from MSSS members as well as other scientists in Malaysia and abroad. The aim of the journal is to promote the development of soil science in Malaysia, other tropical and subtropical regions. **MJSS is a peer-reviewed, fully open access journal, is now indexed by Scopus and published annually.** Instruction for authors and other details are available on our website <http://www.msss.com.my/journals/instruct.php>



MEMBERSHIP



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The IUSS song

*It is our life! We call it soil
It is the stuff, in which we toil
From soil we've sprung, to soil we'll go
Protect the soil of this earth so we can grow*

LIFE in the **SOIL**