Issue 2, 2022

NEWSLETTER

Malaysian Society of Soil Science (MSSS)

World Soil Day
From the MSSS President's Desk

World Soil Day (WSD) is an annual event held on December 5th to promote awareness about soil's value and the need to protect it. The United Nations General Assembly inaugurated the day in 2013, and has been celebrated yearly since then. Soil is a fundamental natural resource that is essential to the survival of life on Earth. It serves as the cornerstone of the food chain, supplying necessary nutrients for plant development. Soil also aids in the regulation of water and nutrient cycles, the filtering and buffering of pollutants, and the storage of carbon. Soil deterioration, on the other hand, is a substantial worldwide issue that jeopardises food security, climate resilience, and ecosystem health. Erosion, deforestation, overgrazing, unsustainable farming methods, and pollution are all causes of soil deterioration. World Soil Day aims to increase awareness about the importance of soil and encourage people to take action to protect and conserve soil resources. The day gives governments, organisations, and people a chance to learn about the importance of soil, exchange best practices, and take action to protect and restore soil health. ***More reports on WSD celebration inside... !!***

Photos during WSD 2022 celebration in MARDI Cameron Highlands

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Photos of WSD celebration in Cameron Highlands

By: Dr. Khasifah Muhamad, MARDI

Celebrating World Soil Day 2022 at UPM Bintulu Sarawak Campus (UPMKB)

SOCIETY ACTIVITY

On 5th and 6th of December 2022, Department of Crop Science (JST), Faculty of Agricultural and Forestry Sciences, UPMKB proudly organised World Soil Day celebrations. The chairman of the celebration, Dr. Wan Asrina Wan Yahaya, was also a Vice President of MSSS for Sarawak, successfully brought this celebration into a 2-day competition targeting undergraduate students of Diploma and Bachelor with the official theme **"Soil, Where Food Begins"**. On the day, 3 competitions with 2 categories were held, and their participation was in grouping (Figure 1). The first competition was a short video, followed by a poster, and lastly was a soil-plant model or specimen. The category was based on JST Student's and Non-JST Student's. E-certification was provided to all participants with a surprising hamper to the winner achieving first, second, and third places.

Figure 1: WSD 2022 with 3 competitions and 2 categories

This celebration was held for the first time in UPMKB, a photo booth was built to show the importance of soil to mankind (Figure 2). This is in line with the celebration theme proposed by the Food and Agriculture Organisation of the United Nations. A variety of fruits and vegetables was shown as the source of food to humans and also attractant to the visitor that came to this celebration. About 40 grouping participations received from both categories, with Diploma participants mostly representing the Non-JST Student's while Bachelors represent JST Student's. The winner for each competition and category is evaluated based on different criteria. Evaluation criteria started with Competition Rules to ensure they followed the theme, including rules and regulations. Failing to follow the competition rules will be subject to entry disqualification. Aspects of Cinematography, Quality, and Originality were among the important criteria for short video evaluation. This includes Creativity, Quality, and Originality for model or specimen evaluation. While the poster evaluation is more casual and based on conference style. All the hard work and dedicated devoted from all participants paid off, and the group winner is listed as follows:

JST Student's		
(a) Short Video Competition		
1st place	:	Maharhishi Parthipan
2nd place	:	Chaistella Gabih
3rd place	:	*Entry disqualified*
(b) Poster Competition		
1st place	:	Daniel Thien Swee Sing
2nd place	:	Mimi Marshiela Lengiau binti Zulkarnain
3rd place	:	Christie Rekan AK Patan
(c) Soil-plant Model or Specimen Competition		
1st place	:	Fong Shui Ying
2nd place	:	Susan Wong Weng Yee Devi
3rd place	:	Maharhishi Parthipan

Non-JST Student's		
(a) Short Video Competition		
1st place	:	Chia Yi Hua
2nd place	:	Ellyan Chendan AK Nully
3rd place	:	*Entry disqualified*
(b) Poster Competition		
1st place	:	Maxilliana AK Mentrick
2nd place	:	Muhammad Syazani Irfan bin Jeffri
3rd place	:	*Entry disqualified*
(c) Soil-plant Model or Specimen Competition		
1st place	:	Chia Yi Hua
2nd place	:	Sulfikar bin Osman
3rd place	:	*Entry disqualified*

Figure 2: Photo booth constructed to emphasised WSD 2022 theme

Figure 3: Participants ready to present their soil-plant model or specimen to the judges

Even though this celebration was a competition, the main objective to educate the students was achieved by involving them in finding all the information related to soil. This opened their eyes to the importance of conserving and protecting the soil, which had a major impact on food sources in the long term. Moreover, this competition provides an academic platform by addressing the global issues that need to be addressed from time to time.

Figures 4: Photos during WSD 2022

By: Dr. Izzah Abd Hamid and Dr. Wan Asrina Wan Yahaya, UPM

The 15th International Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS 2022)

SOCIETY ACTIVITY

The 15th International Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS 2022) was held from August 22nd-26th, 2022. The conference brought together soil scientists from across the region to discuss the latest research findings, technological advances, and policy developments in the field of soil science. The event featured keynote speeches, plenary sessions, and oral and poster presentations on topics ranging from soil fertility and nutrient management to soil erosion and conservation. Attendees had the opportunity to network with fellow scientists, exchange ideas, and learn about the latest trends in soil science. Overall, the conference was a successful platform for fostering collaboration and promoting advancements in soil science in the region. Congratulations to MSSS for jointly organizing such event.

By: Intan Nadhirah Masri, MARDI

ESAFS 2022: From our local media

SOCIETY ACTIVITY COVERAGE

The 15th International Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS 2022) was successfully held on the 22nd—26th August 2022 at Royal Chulan Hotel, Kuala Lumpur. This prestigious event was widely covered by the media and was broadcasted on RTM TV1 during the late night news report, reaching international audience through streaming from the website. The conference brought together top researchers, educators, and industry leaders in the soil science community to discuss the latest advances in soil research, conservation, and management. With a wide range of topics from soil biology to environmental pollution, ESAFS 2022 provided a unique opportunity for 242 attendees to connect with the researchers, educators, and industry leaders, as well as learn about the latest findings, trends, and developments in the field. Here are some excerpts of our local (in Bahasa Melayu) media coverage of the event.

30 k² Kosmo! RABU 12 OKTOBER 2022

Infiniti

Pengurusan tanah secara lestari

Oleh SAIED AHMAD TARMIZI

SUMBER tanah yang subur diperlukan untuk mendapatkan hasil tanaman yang optimum.

DR. ROSAZLIN

PARA peserta dari negara-negara Asia Timur dan Asia Tenggara berhimpun dalam program persidangan ESAFS 2022 di Kuala Lumpur baru-baru ini.

Wilayah Ku 14 - 20 OKTOBER 2022 ISU 15

13 Persatuan Sains Tanah Asia Timur dan Asia Tenggara kongsi ilmu sains tanah

ESAFS 2022: 'Tanah Kita, Masa Depan Kita'

KEMEROSOTAN kualiti tanah disebabkan hakisan, pencemaran, kekurangan bahan organik dan pelepasan karbon, pengedap tanah, kepadatan tanah, keasidan, kealkalian dan kemasinan tanah telah memberi kesan negatif terhadap pengeluaran makanan yang berkaitan dengan keselamatan makanan, ekonomi nasional, penyediaan perkhidmatan ekosistem, penyesuaian kepada perubahan iklim dan peningkatan kadar kemiskinan. Situasi ini diburukkan lagi dengan perubahan iklim dan pengurusan tanah yang tidak mampan yang sebahagiannya berpunca daripada pembangunan ekonomi yang pesat dan pembandaran yang berlaku di beberapa buah negara di rantau ini. Oleh itu, kesedaran untuk mengekalkan dan meningkatkan kesuburan dan kualiti tanah adalah amat penting untuk memastikan pengeluaran makanan yang mencukupi untuk populasi di masa hadapan.

Bagi membincangkan isu tanah, Persatuan Sains Tanah Malaysia (MSSS) dengan Kerjasama Institut Sains Biologi (ISB), Fakulti Sains, Universiti Malaya (UM) telah menganjurkan '15th International Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS 2022)' pada 22 – 26 Ogos 2022 di Hotel Royale Chulan, Kuala Lumpur yang bertemakan 'Our Soils Our Future'; Tanah Kita, Masa Depan Kita.

Persidangan ini mendapat kerjasama daripada Kementerian Pertanian dan Industri Makanan (MAFI) serta beberapa agensi lain seperti Institut Penyelidikan Dan Kemajuan Pertanian Malaysia (MARDI) dan Jabatan Pertanian Malaysia. Selain itu, MyCEB juga telah bersetuju untuk menyokong dan menaja persidangan ini atas dasar kesungguhan penganjur dan kepentingan persidangan kepada Malaysia dengan membawa hampir 100 peserta luar negara walaupun selepas pasca pandemik COVID-19.

Persidangan ESAFS 2022 didedikasikan untuk perkongsian kemajuan terkini dalam bidang sains tanah di rantau Asia Timur dan Asia Tenggara, memberikan pemahaman yang lebih baik berkaitan sifat kualiti tanah dan cara memulihara tanah serta kualiti alam sekitar yang berkaitan untuk keselamatan makanan yang mampan dan kehidupan sihat di Timur dan Asia Tenggara serta penduduk dunia.

Persidangan ESAFS merupakan platform untuk para saintis tanah terutamanya dari kalangan negara Timur dan Asia Tenggara untuk berkongsi pengalaman dan pengetahuan saintifik. Ia juga merupakan platform untuk mempromosi penyelidikan dan perkembangan terkini dan menyebarkan ilmu pengetahuan serta teknologi yang berkaitan dengan sains tanah.

Tuan rumah bagi persidangan ESAFS digilirkan di kalangan negara anggota Timur dan Asia Tenggara untuk memastikan penglibatan sama rata daripada kalangan saintis tanah tempatan dan pusat perkongsian maklumat yang adil. ESAFS 2022 merupakan peluang kali kedua bagi Malaysia sebagai penganjur dan tuan rumah. Malaysia telah menjadi tuan rumah buat kali pertama 27 tahun lalu, pada tahun 1995.

Persidangan ini telah disertai oleh 242 orang peserta dari 21 negara berbeza di mana seramai 101 peserta adalah dari luar negara. Peserta yang hadir terdiri daripada pensyarah, penyelidik, pengguna ladang, pegawai kerajaan dan pengusaha ladang.

Turut hadir dalam persidangan ini ialah Presiden Kesatuan Sains Tanah Sedunia (IUSS), Profesor Dr Laura Bertha Reyes Sánchez.

Kehadiran beliau dalam persidangan ini menunjukkan komitmen Kesatuan Sains Tanah Dunia terhadap isu semasa tanah di kawasan negara Asia Timur dan Asia Tenggara.

Turut bersama dalam persidangan ini, 13 Presiden Persatuan Sains Tanah mewakili keanggotaan ESAFS telah hadir iaitu Bangladesh; China, India; Indonesia; Jepun; Filipina; Korea Selatan; Sri Lanka; Thailand, Mongolia, Vietnam, Nepal dan Malaysia. Dr Rosazlin Abdullah selaku Pengerusi bagi ESAFS 2022 dan juga merupakan Presiden Persatuan Sains Tanah Malaysia.

Persidangan ini bermula dengan program pra-persidangan di Perkampungan Budaya Mah Meri, Pulau Carey pada 22 Ogos 2022 di mana seramai 25 peserta telah menyertai program ini. Lawatan sambil belajar selama setengah hari itu diadakan untuk mendedahkan budaya unik orang asli Malaysia dan merasai tradisi serta kemahiran arca di perkampungan budaya tersebut.

Seterusnya, sesi saintifik pada 23 dan 24 Ogos 2022 telah dijalankan diikuti dengan program lawatan di Cameron Highland pada 25 dan 26 Ogos 2022. Seramai 54 orang peserta telah menghadiri lawatan ilmiah pasca-persidangan ini. Peserta berpeluang melawat Muzium Geologi di Perak, Taman Teknologi Agro di MARDI Cameron Highlands dan dua pedon tanah untuk memahami pembentukan dan ciri-ciri tanah tanah tinggi di suhu rendah.

Melalui persidangan ESAFS 2022, seramai empat pelajar cemerlang yang terpilih daripada Jabatan Pendidikan Wilayah Persekutuan Kuala Lumpur telah diberikan penghargaan atas kecemerlangan mereka dalam bidang akademik. Para pelajar telah menerima wang tunai dan sijil di mana ini memberi pengiktirafan, semangat dan pendedahan kepada pelajar sekolah tersebut terhadap kepentingan tanah.

Selain itu, presiden-presiden Persatuan Sains Tanah bagi rantau Asia Timur dan Asia Tenggara telah bersetuju untuk menganugerahkan Prof Dr Shamsuddin Jusop sebagai penerima anugerah ESAFS 2022 dari Malaysia (ESAFS Award) di atas bakti dan jasa beliau terhadap penyelidikan tanah, selari dengan tema persidangan ini.

Program ini telah berjalan lancar dengan adanya kerjasama dan sokongan daripada semua pihak. Program seperti ini perlu dilaksanakan untuk memberi pendedahan dan berkongsi ilmu serta inovasi agar ia memberi manfaat dan pengetahuan kepada peserta untuk melaksanakan pengurusan secara lestari.

REAKSI

"ADALAH menjadi harapan ESAFS 2022 akan menjadi platform penglibatan aktif daripada penyelidik, ahli akademik, pengurus, penggubal dasar dan orang yang berkaitan untuk berkongsi dan bertukar-tukar pengetahuan, pencapaian serta pengalaman yang berkaitan dengan tema dan topik persidangan untuk meningkatkan lagi dan merangsang kerjasama masa hadapan."

Pengerusi ESAFS 2022 dan Presiden Persatuan Sains Tanah Malaysia

Dr Rosazlin Abdullah.

"PERSIDANGAN ESAFS di peringkat rantau Asia Timur dan Asia Tenggara menunjukkan komitmen ahli pakar bidang sains tanah dalam mengukuhkan lagi sokongan dan kerjasama dengan IUSS untuk mencapai matlamat bersama iaitu menjaga, memelihara, memulihkan tanah di dunia demi masa depan generasi akan datang."

Presiden Kesatuan Sains Tanah Sedunia (IUSS)

Prof Dr Laura Bertha Reyes Sánchez

GAMBAR peserta semasa melawat Cameron Highlands.

By: Intan Nadhirah Masri, MARDI

An Indicator of Soil Erosion

GENERAL ARTICLE

By: Dr. M. Ghulam Hashim, MSSS Fellow

Figure 1: Grass growing sparsely under some trees

Figure 2: Sand grains deposited on a concrete foot path after being eroded from soil under the trees

Figure 3: Sand grains and, gravel and stone fragments, deposited after soil erosion. Note that the relatively smaller grains of sand are deposited farther away from the source

Sometimes, physical features that one observes casually can tell a lot more about what has happened or is happening in certain landscapes. Public parks, for example, may have different tree species, grass, flowering plants and bushes planted within them. Some parks may be rather flat, while others are on sloping terrain. Immediately after heavy rain, one can observe evidence of soil erosion that had taken place. After the event, physical features may be left behind as a result of it. These features may allow a keen observer to work out what erosion processes had taken place. Taman Aman, located close to Section 14 and Kampung Tunku, Petaling Jaya, is popular with walkers, joggers and other exercise freaks. It has a rolling topography. The south side is at a slightly higher elevation than the other parts. There are many trees of different sizes, many flowering shrubs, a lake and a network of footpaths (Figure 1). After heavy rain, it is common to see sand grains that have spilt onto the footpaths (Figure 2). These sand particles were washed from the slightly steep part of the park adjacent to the trail. Although trees, grasses and other vegetation grow in this area, the soil is susceptible to erosion because several parts of the surface are exposed. Grass that covers parts of the soil surface grows thinly and does not prevent surface water flow. As you know, the soil comprises clay, silt, sand, organic matter and other materials. Usually, in the presence of various types of microbes, these soil components form stable soil aggregates. However, the conditions in this area do not seem to favour good soil aggregation. Therefore, you will notice that many of the soil particles are unaggregated. Those that are aggregated are rather loosely held together. During rainy periods, especially after a big rainstorm, raindrops easily disperse the aggregated soil particles into individual grains of sand, silt, clay and organic matter. Organic matter is usually attached to clay. Despite this attachment, the particles are very mobile due to their minute size. During heavy rain and immediately after, water flows over the soil surface. The flowing water transports these loose grains or particles downslope. The individual grains/particles differ greatly in size and density. For example, the larger ones, such as stones and pieces of gravel, are shifted only for a short distance. In contrast, sand, which is smaller and lighter than gravel and stone, is moved at a longer distance, sometimes spilling onto the concrete footpath (Figure 3). Silt, clay and organic matter are very, very fine. These are, therefore, the earliest to be transported by flowing water. Certainly, they will be transported much further than sand particles. In the case of Taman Aman, all these fine materials ultimately end up in the large drains and in the lake itself. The lake and drains have been receiving these materials for a long time and must have accumulated a substantial amount of eroded soil particles. The organic matter that could have been sequestered in the soil had erosion not occurred, now lies at the bottom of the drains and lake. These processes are, of course, not unique to Taman Aman. Any place with a similar setting would be subjected to soil aggregate dispersal. The dispersed soil is moved by flowing water, transported downslope and finally deposited. However, the sand grains on the footpath indicate that a more complex process has occurred in the surrounding area.

Assessing Soil Carbon Sequestration in Pristine and Protected Forest of Imbak Canyon

SCIENTIFIC EXPEDITION

On the 2nd—8th of October 2022, Universiti Teknologi MARA (UiTM) Sabah Branch, Kota Kinabalu Campus, in collaboration with Sabah Foundation, organized a Scientific Expedition to Imbak Canyon Conservation Area (ICCA). One of the research studies has focused on soil sampling to determine the soil carbon content and assess the potential of soil carbon sequestration in different vegetation and elevation at ICCA.

Photos of scientific expedition to ICCA

By: Ts. Jacqueline Joseph

"Konvo Run" in Conjunction With The UPM 46th Convocation Ceremony And World Soil Day 2022

SOCIETY ACTIVITY

Universiti Putra Malaysia (UPM) through Pusat Pertanian Putra (PPP), together with the cooperation from the Malaysian Society of Soil Science (MSSS), successfully organized a Konvo Run 2022 on 3rd December 2022 with the participation of 200 people from various backgrounds. This event aims to celebrate the graduates of UPM's 46th Convocation Ceremony (2nd Session) and World Soil Day 2022. In addition, this event also aims to increase awareness of the importance of soil and empower the excellence of students, university personnel, UPM alumni and external communities towards promoting healthy lifestyles and prospering the values of community engagement. Did you know that healthy soil is essential for the food we eat and the well-being of our planet? That's why World Soil Day 2022 (#WorldSoilDay) launched this campaign: "Soils: Where food begins". This initiative aims to highlight our soil's challenges and promote the importance of healthy ecosystems for a thriving society. By increasing awareness of soil management and encouraging communities to prioritize soil health, we can ensure a sustainable future for generations to come.

Flag off by the Deputy Vice -Chancellor (Academic & International) UPM, Prof. Dr. Ismi Arif Ismail.

Dr. Rosazlin Abdullah, President of MSSS, emphasized the importance of soil for the "Soils: Where food begins" campaign in celebration of WSD 2022.

A group photo of President MSSS, Dr. Rosalin Abdullah and Honorary Secretary MSSS, Dr. Adibah Mohd Amin with the UPM Registrar, Mr. Muhazam Mansor and Director Pusat Pertanian Putra, Associate Professor Dr Siti Zaharah Sakimin.

A group photo of some participants.

Konvo Run participants doing the warming-up.

By: Dr. Adibah Amin, UPM

Evaluation of Soil Loss and Effect on Soil Erodibility Factors using Revised Universal Soil Loss Equation 2 in Durian Orchards of Raub, Pahang

RESEARCH FINDINGS

Soil erosion problems in Malaysia have been recognized for a long time. However, management of upland areas might expose soil erosion and soil degradation risk if improper soil conservation practices are ignored. Therefore, the loss of soil due to the effects of erosion must be monitored in its implementation in durian farms. Soil erosion problems can be predicted and measured if the factors such as climate, soil erodibility, topography, and land use are identified. One of the essential factors in determining soil loss or sediment yields is soil erodibility, commonly known as the K-Index. K-Index determination consists of soil texture, organic matter (OM) content, permeability, structure, compaction, and strength. Adopting appropriate soil conservation measures can improve and minimize soil erosion and the loss of nutrients from the durian orchards.

The study aims to investigate the soil loss by erosion processes using the RUSLE2 model on the selected durian orchards and the effect of the K-Index and correlation between the variables. Data such as rainfall pattern, soil type, topography, cover crop management, and support practices were utilized in the RUSLE2. The study was conducted in two areas at Kg. Sungai Chetang, Tras, Raub, Pahang (Figure 1) with different management practices. The study area usually receives average annual precipitation of about 2,046 mm, and the mean minimum and maximum temperatures are 26 °C and 38 °C, respectively. In terms of soil texture, there were classified under groups three (3) and four (4) in the soil structure code, whose soil texture varies from silt loam to clay.

Total of 24 experimental units for eight (8) treatments and three (3) replications. Two (2) soil management practices with four (4) slope gradient classes (SGC) were replicated three (3) times each across the plots. The treatments and replications were applied as follows: (T1): Organic Management Practices (OMP) + C1 SGC; (T2): OMP + C3 SGC; (T3): OMP + C5 SGC; (T4): OMP + C7 SGC; (T5): Inorganic Management Practices (IMP) + C1 SGC; (T6): IMP + C3 SGC; (T7): IMP + C5 SGC; and (T8): IMP + SGC. Sampling was conducted randomly on four (4) SGCs and different management practices. The data obtained from this study were soil loss from RUSLE2, soil physicochemical properties such as pH, EC, soil OM content, soil hydraulic conductivity, bulk density, soil porosity and soil compaction. Correlation analyses were conducted to observe the interaction between soil loss and soil erodibility factors. The two-way ANOVA (Analysis of Variance) was used to determine the significant difference in treatment effect at ($P < 0.05$). Tukey's Honest Significant Difference (HSD) comparison of means was used to detect the significant difference between all means.

Figure 1. Map of Kampung Sungai Chetang, Tras, Raub, Pahang

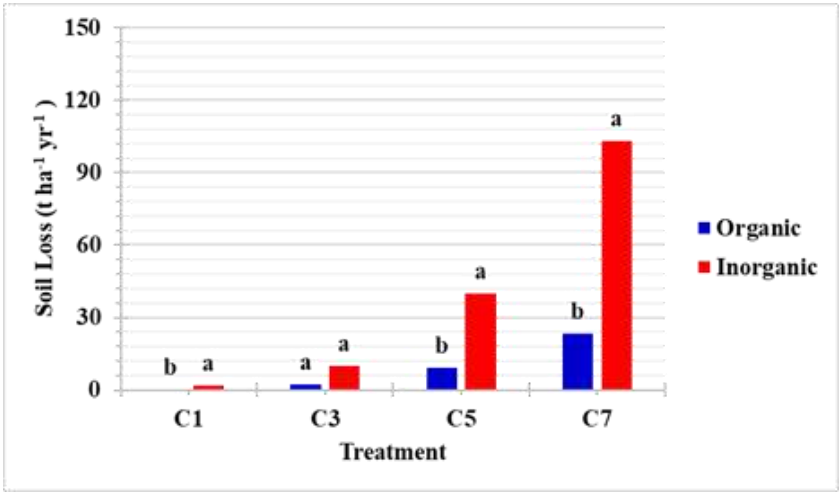

Figure 2. Soil Loss with Different Management Practices and SGC

The Pearson Correlation coefficient analysis was used to examine the correlation between selected variables.

This study estimated the annual average soil erosion rates in Sg. Chetang, Raub, Pahang was at the low-risk erosion problems ranging between 8.97 to 41.66 t ha^{-1} yr^{-1} for both management practices areas. The OMP exhibited significant results in the soil's physical properties. A significant effect was observed on soil textures, soil bulk density, soil porosity, SHC, soil pH, soil EC, SOC, STN, OM content, K-Index, soil loss (Figure 2) and ROM Scale (Figure 3). Furthermore, the different management practices significantly affected the SGC. A substantial effect was observed on soil textures, SHC, soil EC, OM content, K-Index, LS-Index, soil loss and ROM Scale. In this experiment, soil loss was low in OMP at the C1 SGC at 0.4 t ha^{-1} yr^{-1}. High OM content, clay content, low bulk density, and low slope gradient showed the best results, allowing a decreased soil loss. Correlation analyses were conducted to observe the interaction between soil loss and soil erodibility factors. The results showed that soil loss values significantly correlated with different agronomic practices and SGC. From the finding, OM matter content correlated with clay content, soil bulk density, SHC and K-Index. In addition, clay content might be associated with soil bulk density, SHC, SOC and ROM Scale. Whereas some variables also showed high correlations with each other, such as SHC and K-Index. Soil loss showed a correlation with LS-Index. K-Index also correlated with OM content and soil hydraulic conductivity. The ROM Scale was also significant in determining the erodibility index and its effect on soil erosion.

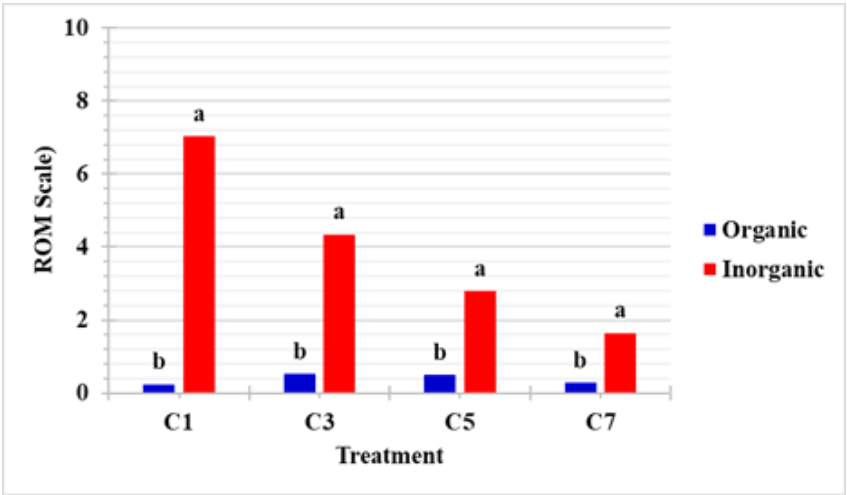

Figure 3. ROM Scale with Different Management Practices and SGC

Acknowledgement: Special dedication to my supervisor Allahyarham Isharudin Md. Isa. May Allah S.W.T bless you and count him among the ones to follow Prophet Mohammed S.A.W. to Al-Jannah Firdaus.

By: Mohammad Zuhairi bin Ali , IADA

MSSS-UNDP-GEF successfully organized a biochar mid-scale production and knowledge sharing

SOCIETY ACTIVITY

Under the GEF-Small Grant Project, the Malaysian Society of Soil Science (MSSS) held a mid-scale production and knowledge-sharing session with a prominent industry player from 17th-18th December 2022. The workshop's main goal is to help participants from Kg Kuantan, Kuala Selangor, acquire valuable information on mid-scale biochar production, technical know-how on costings and challenges and opportunities in the biochar industry. The 2-day event was held in Tadom Hill Resort, Kampong Labohan Dagang, Banting Selangor. The guest speaker was Dato Lai Yeng Fock, owner of Tadom Hill Resort. He has experience producing bamboo biochar in his premise and marketing these products as a deodorizer and wood vinegar.

The first lecture was from Dr. Jeyanny Vjayanathan, who presented the milestones achieved, the current status of the GEF-SGP Project, expectations from the participants, and future plans for project completion. The second session was conducted by Miss Nur Saadah Abd. Halim, a PhD candidate from Universiti Malaya. Miss Saadah shared her involvement in biochar production and community empowerment. Finally, Mr. Puad Elham, a FRIM senior officer, shared his experience on research related to biochar and coal production via gasification techniques and the challenges involving forest products as feedstocks.

The final session was a talk from Dato Lai. During the lecture sessions, participants also learned about the business owner's perspective. They were exposed to real-world scenarios and learned about the hitches related to biochar production. Dato' Lai went beyond the scope of his initial talk to address issues of making money from biochar and how to expand the range of products available for the end users.

Success depends on the ability to acquire new knowledge and make use of improving our livelihood. The UNDP-GEF grant obtained under MSSS hopes this training will increase and strengthen all participants' knowledge. Dato Lai presented souvenirs of locally made biochar products as an inspiration and moral support. Engaging and transforming communities is pivotal for achieving UN Sustainable Development Goals regarding planetary health.

By: Muhammad Zamir Abd Rashid, MARDI and Dr. Jeyanny Vijayanathan, FRIM

Post-Graduate Thesis Award

SOCIETY AWARD & ACKNOWLEDGEMENT

Dr. Kevin Muyang Tawie Anak Sulok has been awarded the first PGTA (Postgraduate Teaching Assistant) award for his thesis titled "Use of Fermented Fruit Juice/Biocar and Compost in Black Pepper (Piper nigrum L.) Cultivation." The award includes a monetary prize of RM 1,000 and a certificate. Congratulations Dr. Kelvin!!! Here's the summary of his thesis.

From google

The use of organic amendments is an ecological farming approach in most developed countries to produce organic based food with no usage of chemical fertilizers. It practices lower cost production as well as able to improve soil health. In pepper farming, overuse compound fertilizers, and the usage of other chemical-based farming inputs usually incurred high cost. This could degrade the ecological environment besides shortening the life span of pepper. Currently, there is dearth of information on the effectiveness of organic soil amendments in black pepper cultivation in Malaysia. The aim of this study was to examine the changes in soil conditions as well as pepper yield effect on farmer's return on investment (ROI) following the use of fermented juices, biochar, and compost in black pepper cultivation. Analyses were conducted on the organic amendments to determine their properties. Soil properties were also determined. The morphological and physiological characteristics of black pepper were recorded. The economic analysis was done to determine the viability of implementing organic soil amendments. Analyses of fermented juices, palm kernel shell biochar, and compost found that these amendments possessed favourable characteristics and complied with the Malaysian Organic Certificate Scheme. In immature pepper farm, improvement of certain soil characteristics showed that the fermented juices, biochar, and compost intervention were comparable with that of the NPK fertilized soils. The economic feasibility study for immature pepper vines showed that using fermented juices only or combination of fermented juices together with biochar and compost were comparable with NPK fertilizer. For mature pepper, enhancement of certain soil characteristics showed that soils intervened with fermented juices, biochar, and compost performed better. Economic study for mature vines showed that only fermented juices together with biochar and compost was feasible. Study on sandy-textured soil showed that certain soil properties following application of fermented juices, biochar, and compost achieved better results. Soils treated with fermented juices only performed poorly. The economic study for vines grown on sandy-textured soil showed that incorporating fermented juices, biochar, and compost was economically viable. Therefore, introducing fermented juices, biochar, and compost in black pepper cultivation is a reasonable option due to its contribution to pepper yield that can lead to income sustainability for farmers.

By: Intan Nadhirah Masri, MARDI

AWARD & ACKNOWLEDGEMENT

UPM Faculty of Agriculture Graduate Excellence Awards

The Faculty of Agriculture organized a Graduate Excellence Awards Ceremony in conjunction with the 46th UPM Convocation. The ceremony took place on November 24th, 2022 at the Agriculture Hall, Faculty of Agriculture. At the ceremony, the MSSS awarded the Graduate Excellence Awards for Agriculture Student to Mr. Mohammad Zuhairi Ali for his outstanding performance. I had the opportunity to interview him a week after the ceremony, and he expressed his gratitude to the society for the award. He dedicated it to his family, acknowledging the challenges of balancing family and studies. Despite the difficulties, he persevered and graduated with a CGPA of 3.938. He received a certificate and prize money. Congratulations Mr. Mohammad Zuhairi!!

ESAFS 2022 Awards

We are pleased to announce that during The 15th International Conference of the East and Southeast Asia Federation of Soil Science Societies (ESAFS 2022) held on August 22nd-26th, 2022, Professor Dr. Shamshuddin Jusop from Malaysia was awarded the ESAFS 2022 award for his outstanding devotion and contribution towards soil research. This achievement is in line with the conference's theme, which focuses on the latest advances in soil research, conservation, and management. We extend our heartfelt congratulations to Professor Dr. Shamshuddin Jusop for this prestigious award and his remarkable achievements in the field of soil science.

Prof. Shamshuddin received the award from Prof Laura, IUSS President

MSSS in Action !!

The MSSS has taken the opportunity to engage with our public by joining the Malaysia International Agriculture Technology Exhibition, held from the 22nd to 24th September 2022 at Setia City Convention Centre Shah Alam.

By: Intan Nadhirah Masri, MARDI

UPCOMING EVENTS

YOU'RE INVITED!

SOILS2023 will be organised on the 9–11 of May 2023 at Hotel Seri Malaysia, Kangar, Perliis. Join us as participants (oral or poster presenter) and extend the research network among researchers inside or outside Malaysia!

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/

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

MSSS Membership

Membership is open to all professionals and graduate students, within and outside Malaysia. The membership fee is either:

(1) **RM50.00** per year for ordinary membership, or

(2) **RM400.00** for life membership (one time payment for life)

Please download (http://www.msss.com.my/Application.pdf) and complete the form and mail to us at:

Honorary Secretary,
Malaysian Society of Soil Science,
Department of Land Management,

Faculty of Agriculture,
43400 UPM Serdang, Selangor, Malaysia

All payment should be made payable to:

THE MALAYSIAN SOCIETY OF SOIL SCIENCE
(CIMB Bank Berhad)
A/C No.: 8602990800

**Please contact us to confirm or email your receipt/ bank-in slip for further action.*

Member ID	Name
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1129	Dr. Ch'ng Huck Ywih
1130	Ts. Tan Say Peng
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1133	Goh Chin Siong
1134	Enzuzan Nyelang
1135	Dr. Norhidayah binti Che Soh
1136	Dr. Jamilah Syafawati bt Yaacob
1137	ChM. Punitawati Maniam
1138	Dr. Hartinee binti Abbas

MJSS - CALL FOR PAPERS

The Malaysian Journal of Soil Science (MJSS) is a scientific journal published by the Malaysian Society of Soil Science (MSSS). 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

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Contact Us

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SOIL RELATED ISSUES

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.

MSSS Publications for Sale!

Title	RM	
	Members	Non-Member
Proceedings of Soil Science Conference of Malaysia 2005 (Kedah)	45	60
Proceedings of Soil Science Conference of Malaysia 2004 (Pulau Pinang)	45	60
Proceedings of Soil Science Conference of Malaysia 2003 (Kota Bharu, Kelantan)	45	60
Proceedings of Soil Science Conference of Malaysia 2002 (Kangar, Perlis)	45	60
Proceedings of Soil Science Conference of Malaysia 2001 (Kota Kinabalu,Sabah)	45	60
Proceedings of Soil Science Conference of Malaysia 2000 (Johor Bharu)	45	60
Malaysian Taxonomy (2nd approximation) - S. Paramanathan	20	25
Soil Science Toward the Year 2020	15	20
National Seminar on Progress in Soil, Plant and Fertilizer Analysis in Malaysia, 1993	30	35
Proceedings of International Conference on Fertilizer Usage in the Tropics (FERTROP), 1992	60	70
Developments in Soil Research in Malaysia, 1991	25	35
Proceedings of Seminar on Soil Management for Food and Fruit Crops, 1991	25	39
Proceedings of Workshop on Recent Developments in Soil Genesis and Classification, 1990	25	30
National Seminar on Land Evaluation and Development, 1990	30	35
Workshop on Phosphate Sources for Acid Soils in the Humic Tropics of Asia, 1990	30	35
National Seminar on Secondary and Micro Nutrient in Malaysian Agriculture, 1988	20	25
Proceedings of International Symposium on Urea Technology and Utilisation (Urea-Tech), 1987	50	80
Proceedings National Seminar on Recent Advances on Soil and Water Management in Malaysian Agriculture, 1986	18	25
Proceedings of Conference on Soil Climate Relationship on Crop Production in Malaysia, 1985	18	25
Proceedings of International Conference on Soils and Nutrition of Perennial Crops, 1985	55	75
Proceedings of Seminar on Fertilizer in Malaysian Soils, 1983	18	25
Proceedings of Seminar on Land Application of Palm Oil and Rubber Factory Effluents, 1983	20	30
Proceedings of Seminar on Nitrogen in Malaysian Soils, 1982	18	25
Proceedings of Seminar on Management of tropical Soils, 1981	18	25
Bibliography of Malaysian Soils, 1981	4	5