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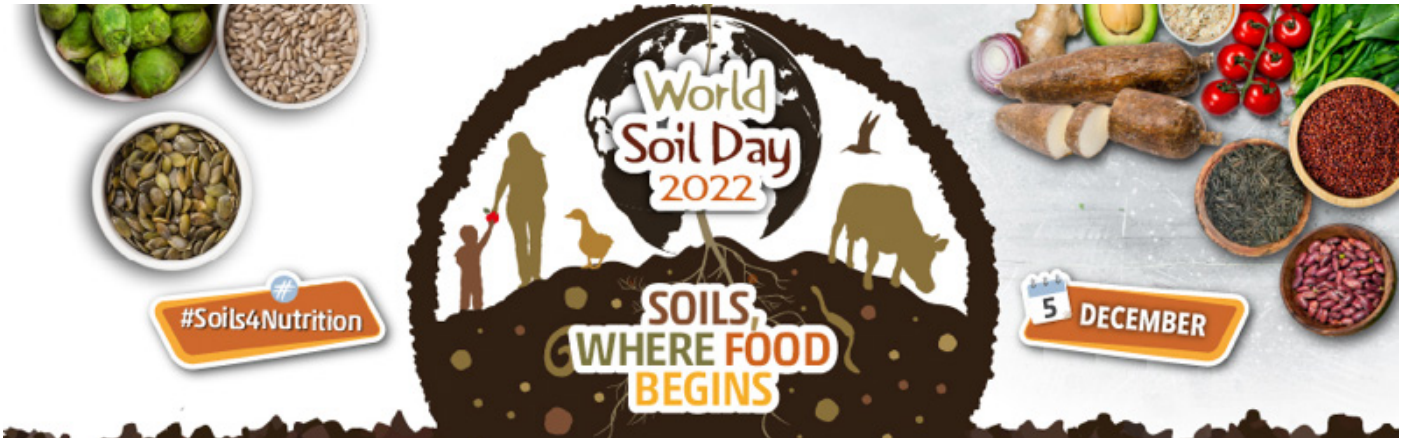
KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH

Kuwait Biochar Initiative (KBI)

Dr. Hana'a A Burezq, Founder & Chairperson KBI Newsletter Volume 2 No 4 December 2022

KBI is Official Sustaining Member of International Biochar Initiative



Dr. Hana'a A. Burezq
Chairperson & Founder- KBI

The 2022 World Soil Day Message

Rhizosphere enrichment with liquid biofertilizer-activated biochar, which provides nutrients, mycorrhizal connections, increased microbial population, and stability in the arid environment, may play a significant role in biodiversity and ecosystem preservation. The World Soil Day (5 December) theme for 2022, ***"SOILS WHERE FOOD BEGINS #Soils4Nutrition"***, aims to raise awareness of the value of soil for multiple benefits, including supporting healthy ecosystems and providing food to eight billion people on the globe. Therefore, I urge everyone who uses soil to adopt practices that restore soil health and conserve soil to cater to future services. There is a huge responsibility on all of us to keep the soil healthy for succeeding generations.

Dr. Hana'a A Burezq
National Focal Point (UN-FAO Global Soil Partnership)
Chairperson - Kuwait Biochar Initiative

In-house Training on the Importance of Biochar to Increase Crop Production (27-29 November 2022)

In-house training was conducted at KISR from 27-29 November 2022. The three-day training covered the multi-dimensional use of biochar in various sectors (agriculture, desert rehabilitation, water purification, soil remediation, etc.). The trainers shared their experience in biochar production at multiple levels (home, pilot, and commercial scales) and biochar uses to improve crop production in improvised soils. In addition, biochar's role in mitigating climate change through soil carbon sequestration and enhanced photosynthesis was also discussed. Finally, the procedure to calculate the desired quantity of biochar for specific soil types, to grow crops, was also shared. After the training, the participants were awarded certificates.

Group photo of the participants with trainers

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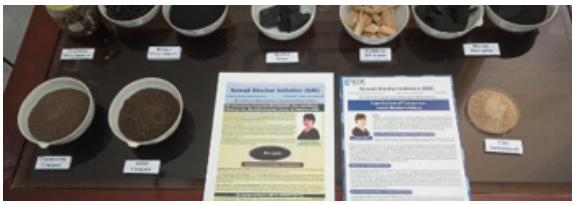
Views from the Biochar Training Course



Biochar and G2 products – exhibition

Training session

INTERNATIONAL NEWS

International Biochar Initiative–IBI Annual Symposium: Rising Climate Ambitions with Biochar, 06-08 December 2022

A three-day virtual event was focused on quantifying biochar's actual climate change impacts and providing an update on the state-of-play for the global biochar industry and biochar in climate mitigation. More information is available at https://events.hubilo.com/raising-climate-ambitions-with-biochar/register.

Biochar at COP27 Egypt 2022–»We Don›t Have Time»

The video was broadcasted live during the whole Climate Summit, reaching millions of people worldwide (https://www.youtube.com/watch?v=g9Rbse0q3Y4).

Wageningen Soil Conference–The Future of Soils

The WSS 2023 will be held at Wageningen University during 28 August – 1 September 2023 (a combination of conferences and workshops). For more information: https://wageningensoilconference.eu

Global Conference on Sandy Soils–Properties and Management 2023

Globally, sandy soils cover approximately 900 million hectares. Sandy soils occur mostly in arid or semiarid regions, including Kuwait, where true sandy soils, "Entisols", cover 27% of Kuwait's deserts. Sandy soils are used for cultivation, although their fertility is low, which is compensated by the addition of organic and inorganic fertilizers. The deadline for Abstract submission is 15 March 2023. The deadline for registration is 15 April 2023. The papers from the conference will be published in the Progress of Soil Science Series (Springer). The conference will be held at the University of Wisconsin–Madison. Madison is the capital of the U.S. state of Wisconsin. For more information:https://sandysoils.org/

Prof. Okechukwu Chude, New President of the International Union of Soil Sciences (IUSS)Management 2023

Prof. Okechukwu Chude, former President of the Soil Society of Nigeria, will assume the role of President-Elect on 1 January 2023. He will serve as the first African IUSS President in the organization's history (2025-26) and will join us in celebrating the 2026 World Congress of Soil Science in China. To learn more about Prof. Chude, please click here: https://www.iuss.org/about-the-iuss/iuss-presidential-election/

Intergovernmental Panel on Climate Change (IPCC) Addressed Biochar in its Sixth Assessment Report, "Climate Change 2022-Mitigation of Climate Change"

Improved and sustainable crop and livestock management, and carbon sequestration in agriculture (the latter includes soil carbon management in croplands and grasslands, agroforestry, and biochar) can contribute to 1.8–4.1 GtCO2-eq yr-1 reduction (page SPM-43).

Human or natural disturbances can reverse the removal and storage of CO2 through vegetation and soil management; it is also prone to climate change impacts. In comparison, CO2 stored in geological and ocean reservoirs (via bioenergy with carbon dioxide capture and storage [BECCS], direct air carbon dioxide capture and storage [DACCS], and ocean alkalization) and as carbon in biochar is less prone to reversal (page SPM-48).

Carbon dioxide removal (CDR) methods, such as soil carbon sequestration and biochar, can improve soil quality and food production capacity (page SPM-53). Agriculture provides the second largest share of the mitigation potential, with 4.1 (1.7–6.7) GtCO2-eq yr-1 (up to US$100 tCO2-eq-1) from cropland and grassland soil carbon management, agroforestry, use of biochar, improved rice cultivation, and livestock and nutrient management (page TS-86).

An essential feature of bioenergy is that it can be used to remove carbon from the atmosphere by capturing CO2 in different parts of the conversion process and then permanently storing the CO2 in biochar (pages 6–41).

Besides BECCS, the production of biofuels through pyrolysis and hydrothermal liquefaction creates biochar, which could also be used to store carbon, as 80% of the carbon sequestered in biochar will remain in the biochar permanently (pages 6–41).

In addition to its ability to sequester carbon, biochar can be used as a soil amendment (pages 6–41).

Source: IPCC_AR6_WGIII by Intergovernmental Panel on Climate Change (2022).

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