

Kuwait Biochar Initiative (KBI)

Dr. Hana'a A Burezq, Founder & Chairperson

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KBI is Official Sustaining Member of International Biochar Initiative

KBI Chairperson Presented BIOORGANIC Soil Conditioner Patent at The 4th KISR Invention Forum 15 February 2022

The 4th KISR Invention Forum was organized under the Patronage of Acting Director General Kuwait Institute for Scientific Research Tuesday, 15 February 2022. **Dr. Hana'a Burezq** Chairperson of Kuwait Biochar Initiative stepped onto the **4th KISR Invention Forum** and started introducing the new patent "**Bioorganic Soil Conditioner**" and its role in soil health improvement and crops intensification. Her highlights are shared here.

Statement of the Problem—The main challenge facing the agriculture sector in Kuwait is growing crops in sandy soil. Sandy soil is very poor in structure (i.e. very loose) and has poor organic content. Therefore, the continuous addition of water or fertilizers to sandy soils is not really effective, because it could not retain water and fertilizers in the root zone, which will end them leaching down and contaminating the underground water. Furthermore, sandy soil could be easily eroded by wind or rain.

Conventional Solution—The conventional solution which is used by many farmers is the continuous addition of animal waste (organic fertilizers) to sandy soils to improve the physical structure and to increase the fertility of sandy soil.



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



Bioorganic

Patented Biochar Based Organic Soil Conditioner

Side Effect of the Conventional Solution - Animal wastes contain some heavy metals that could leach and contaminate the underground water. In addition, it should be added to the soil continuously every 4 -6 months.

My Patent (Bioorganic Soil Conditioner) - The novel **Bioorganic Soil Conditioner** is an organic product, which is consisted of biochar sprayed with a mixture of different compounds. The addition of the **Bioorganic Soil Conditioner** to the sandy soil, will help in improving the structure of sandy soil, enhance the organic carbon, stabilize the soil and reduce erosion. In addition, it could be added to the soil only once.

Economic Returns - Using **Bioorganic Soil Conditioner** could have many positive effects, such as but not necessarily limited to, Increase crop production by 50%, save irrigation water by 25%, save fertilizers by 40%, considerable improvement in the structure of sandy soil, control soil erosion and act like a magnet to adsorb nutrients at the surface and make them available to the plants.

UN Climate Conference COP 27 (UNFCCC COP 27)

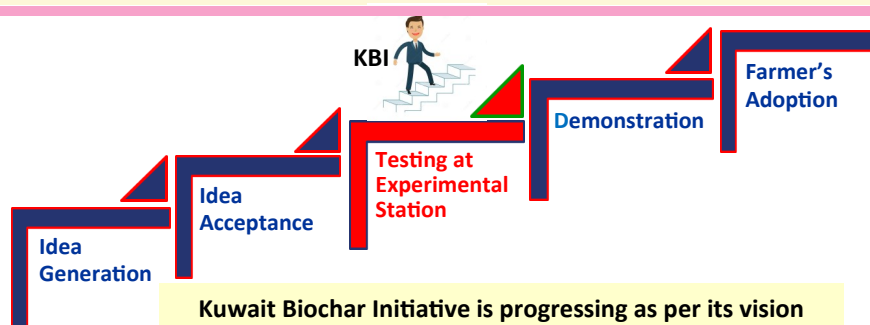
The United Nation Climate Change Conference – Conference of Parties (UNFCCC COP 27) will take place during 7-18 November in Sharm El-Sheikh, Egypt. The country would work to make the conference "a radical turning point in international climate efforts in coordination with all parties, for the benefit of Africa and the entire world". The COP is the decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC).

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Kuwait Biochar Initiative (KBI) Expanding Biochar Communication in Kuwait

KBI needs to push out biochar information, expanding and improving the way we reach out to farmers. As Chairperson of KBI my role continued to further the vision and mission of KBI in Kuwait. In addition I also have to keep the full portfolio of KBI activities by operating and planning for what we will look like in the next five years to reach to farmers of Kuwait. I wish to ramp up more of the good programming that KBI currently has and to consider new and innovative ways to do more work that increases biochar's prominence nationally. In this context we are planning to host a national Biochar workshop on "**Biochar Communication in Kuwait**" to share local experience with multi-disciplinary biochar stake-holders in Kuwait to upscale biochar production and use in Kuwait. We will formally issue an announcement via next KBI newsletter once all arrangements are fully programmed. I would like to hear from you about KBI newsletter constituents, especially what programs and services are most appropriate to fulfill your needs. Our proposed initiative to reach to you is five stepped, see below, and we reach to halfway on this five years projected KBI ladder.



Among the Five Steps Mission of KBI, today KBI has crossed the 3rd step and moving to **4th step** to demonstrate the value of biochar at farmers field. For the next five years we will be able to reach to final step (Farmers adoption) of biochar technology. This would require support from policy makers to provide funds to KBI for national level adoption.

International News About Biochar Activities and Publications

A scoping review on biochar-based fertilizers: enrichment techniques and agro-environmental application.

<https://www.sciencedirect.com/science/article/pii/S2405844021025767>

Gross A, Bromm T, Glaser B (2021) Organic Carbon Sequestration after Biochar Application: A Global Meta-Analysis. *Agronomy* 11 (12), 2474 <https://www.mdpi.com/2073-4395/11/12/2474/htm>

Wang, H et al. (2021) "Stability of Biochar in Mineral Soils: Assessment Methods, Influencing Factors and Potential Problems." Elsevier. <https://www.sciencedirect.com/science/article/pii/S00489697211058678>

Anyanwu IN, Nwajiuba CU, Chamba EB, Omoni V, Semple KT (2021) Biochar behaviour and the influence of soil microbial community. In: Gupta DK, Palma JM (eds) *Plant Growth and Stress Physiology. Plant in Challenging Environments*, vol 3. Springer, Cham. https://doi.org/10.1007/978-3-030-78420-1_9

Mishra B, M Aggarwal and N Remya - *New Trends in Emerging Environmental*, (2022) "Application of Biochar for Removal of Emerging Contaminants." Springer. https://link.springer.com/chapter/10.1007/978-981-16-8367-1_10

BUSINESS OF BIOCHAR SYMPOSIUM RECORDINGS

Presentation recordings of **The Business of Biochar Symposium**, hosted by the **International Biochar Initiative and U.S. Biochar Initiative** in December 2021, are now available for purchase at \$75. Please visit IBI's website at <https://biochar-international.org/the-business-of-biochar-online-symposium/> to purchase and download the recordings.

Biochar - a Soil Conditioner to Protect the Climate

GIZ (<https://www.giz.de/en/html/worldwide.html>) has released an updated version of the study that was first published on 17 September 2021. The updated version is at https://wiki.afri.org/display/4COP2/Biochar?preview=/106664891/132324359/Synthesis_paper_biochar_v2.pdf. The main new features are a meta-meta-study and a weighting of how effects of Biochar on soil water balance are evaluated (cf. IBI Newsletter).

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