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A Report on the “Soil-Plant-Atmosphere Continuum 2015 Conference” held on 13th-14th October, 2015 at Rothamsted Research Station

The “Soil-Plant-Atmosphere Continuum 2015 Conference” a two-day conference (13th to 14th October, 2015) held at Rothamsted was organized by Delta-T Devices (Delta-T).

The conference was very well attended and was very informative. The topics discussed during the conference spanned across cross-section of some areas of soil chemistry, soil biology, plant physiology, agronomy, geophysics, and engineering in relation to the complex interactions and activities going on at the soil-plant interface.

Among the highlights of the conference was the intriguing and challenging questions posed by Prof. Mark Kibblewhite whose presentation was: “Is complexity too complicated to optimize? Can we design and manage later successional stage agro-ecosystem that produces more food more efficiently”. Mark challenged the researchers and agronomists that the primary end product of most agricultural research was to produce more food. Hence, researchers should not only concentrate their research on above ground study while the below ground study is neglected and poorly developed. According him, there is need for more studies and understanding into what is going on below the ground. Among the puzzling questions he asked were: (1) is there a viable alternative to the present technological path in arable agriculture? (2) Can we design mixed arable agro-ecosystem that produces more efficiently?

The conference was very relevant to my PhD work “Restoring soil health and productivity of degraded soils using organic amendments” particularly the presentations by Prof. Bill Davies (*Food security*), Prof. Ty P. A. Ferre (*Can we trust pedotransfer functions*) and Dr Tony Miller (*Soil health and nutrient supply to plants*) were key to what I was seeking to address in my research. From there presentations and one-on-one interactions I had with the speakers, I now have a good knowledge (60%) of the processes going on in the plant-soil inter-phase with respect to water and nutrient absorption. This knowledge will give credence to my first year research findings and help me in critically analysing and interpreting my results for the 21-month review which is due November 2nd.

More so, the comments by Dr John Passioura (the keynote presenter), that grain yield at draught is directly proportional to the amount of water in the soil during flowering; also gave me some insight to what I observed in my first year research findings. Hence, I can confidently plan my next experiment having learnt how plants interact with soil at various soil moisture conditions. In addition, the conference provided me the opportunity to interact with other researchers and soil scientists and also increase my “networking web”.

I wish to thank immensely the Douglas Bomford Trust and all the members of the board of trustees for giving me the golden opportunity to attend this all important conference. I am very grateful.