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Biochar and its potential benefits

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Biochar is produced under high temperatures using crop residues, animal manure, or any type of organic waste material. The combined production and use of biochar is considered a carbon-negative process, meaning that carbon is removed from the atmosphere and will not be released into the atmosphere at a later time. Biochar carbon is recalcitrant due to its high degree of aromaticity. It has multiple potential agricultural and environmental benefits, foremost the potential to sequester carbon in the soil for hundreds to thousands of years at an estimate. Its large surface area gives it a high adsorptive capacity per unit mass. Biochar addition to soil can improve cation exchange capacity allowing for more efficient nutrient delivery to plants and improve water retention. Studies suggest that crop yields can increase as a result of applying biochar to the soil. Some contend that biochar has value as an immediate climate change mitigation strategy. Scientific experiments suggest that greenhouse gas emissions are reduced significantly with biochar application to crop fields.

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Population dynamics of major sucking pests of Bt cotton in North Saurashtra region of Gujarat, India

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Field experiment was conducted on population dynamics of major sucking insect pests on Bt cotton variety G Cot Hy 6 (BG II) at KVK Farm, Junagadh Agricultural University, Targhadia (Rajkot) during *Kharif* 2012-13. It was observed that *Aphis gossypii* Glover initiated its activity in 37th std. week (2nd week of September) and reach at a peak (37.3/3 leaves) in 47th std. week (3rd week of November). *Amrasca biguttula biguttula* Ishida initiated its activity in 33rd std. week (2nd week of August) and reach at a peak (14.8/3 leaves) in 45th std. week (1st week of November). Thrips *tabaci* Lindeman initiated its activity in 33rd std. week (2nd week of August) and reach at a peak (54.4/3 leaves) in 39th std. week (4th week of September). Bemisia *tabaci* Gennadius initiated its activity in 33rd std. week (2nd week of August) and reach at a peak (21.1/3 leaves) in 46th std. week i.e., 18th week after sowing (2nd week of November) on the Bt cotton. Aphid population had exhibited highly significant negative correlation with morning RH and afternoon RH and positive with bright sunshine hours whereas, it was significantly negative correlated with rainy days. Jassid population had exhibited highly significantly negative correlation with afternoon RH and significantly positive correlation with maximum temperature and negative with morning RH. Thrips population had exhibited highly significantly positive correlation with maximum temperature and minimum temperature. Whitefly population had exhibited highly significantly positive correlation with maximum temperature and significantly negative correlation with rainy days.

Biography

M K Ghelani completed BSc (Agri.) and M.Sc. (Agri.) & continued with Ph.D. (Agri.) at the age of 23 years from Junagadh Agricultural University (Gujarat). He has got 20 Gold Medal for being first/highest OGPA in BSc (Agri.) and also in different subjects of BSc (Agri.) during 8th Annual Convocation held at JAU, Junagadh. He has secured first rank at the University level examination in subject of Entomology in M.Sc. (Agri.) at Junagadh Agricultural University, Junagadh.

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