Physical and chemical treatment of biochar to increase capacity to filter phosphorus and nitrogen runoff from stream water

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Biochar has recently become a cure all for countless environmental problems. Like many wonder cures, objective scientific study is lacking in aspects to assess biochar for specific applications. This study aims to assess the ability of biochar to be used as a filtration medium for stream water with high soluble reactive phosphorus (SRP) and nitrogen. Biochar was collected from a local producer and sieved to 1-2 mm size. Homogenized biochar was then treated with deionized water, calcium carbonate and magnesium sulphate and/or high heat (500 °C), washed and then packed into columns where fixed volumes of contaminated stream water was passed through. Adsorption of SRP and nitrogen was determined pre and post filtration as well as volume of stream water absorbed. Effluent pH was also measured to assess possibility of environmental applications. Data gathering is in process.