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INFLUENCE OF PETROLEUM ASH DERIVATIVE ON COWPEA (*VIGNA UNGUICULATA*) AND POINCIANA (*DELONIX REGIA*) SEEDS GERMINATION.

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ABSTRACT

The effect of fly ash (FA), and treated boiler ash (TBA) aqueous extracts upon Cowpea (*Vigna unguiculata*) and Poinciana (*Delonix regia*) seeds germination studies were investigated using different ratios (2, 4, and 6 % W/V) of ash samples soaking in distilled water at different times and adjust the aqueous extracts at different pHs as 4.6, 5.6, and 6.6. Then, the concentrations of elements adsorbed by the concerned seeds were analyzed as well as the numbers of germinated seeds were counted and the seedling lengths were measured. The petroleum ash samples, fly ash and boiler ash were obtained from El Kriymat, Egyptian Electricity Power Planet. Firstly, the boiler petroleum ash sample was leached applying the optimum leaching conditions such as 200 g/l H₂SO₄ acid, 6 % (solid/solid ratio) of manganese oxide as catalyst agent, 80 °C temperatures, 6 hours as agitation time, 1/10 solid/liquid ratio and -200 mesh grain sizes. The residue then washed twice with water. Also the results' show the adsorption of elements increased by increased the concentration of aqua's fly ash, the maxim adsorption of elements was at pH 5.6 , Also the prolongation of the soaking time at 16, 24 hours' positively affected the adsorption elements of (FA),(TBA) respectively, On anther view the maxim seedling lengths was 14.55,14.6 at pH 5.6 on 6% concentrations in (FA,TBA) respectively in Cowpea seeds , in Poinciana seeds the maxim germination and seeds length was at 2, 3 days and 3,4 days of two kinds of fly ash (FA ,TBA) respectively.

Key words:, Agriculture, Cowpea (*Vigna unguiculata*), Seedling growth , Petroleum fly ash, Poinciana (*Delonix regia*)