

## **Abstract**

Humic acids (HA) are widely used in agriculture because of their capability as chelator, organic matter, soil improver and growth promoter. However, their isolation differs in terms of origin or source because of wetting and solubilization factors. This study was conducted to determine extraction period for HA from Fewage Sludge, Animal Manure and Biochar. Standard procedures were used to extract HA from Fewage Sludge, Animal Manure and Biochar at different method The new possible extractants for humicacid and determinationofqualitative and quantitativecharacteristics ofhumicacid that extracted with new extractants. In the present study, Fewage Sludge, Animal Manure and Biochar , a plant growth promoting biofertilizer containing many humic substances, was used as initial substrate for humic acid extraction. commonly used methods: derived humic acids (CHA)were extracted with a slightly HA modified procedurerecommended and used by the IHSS to isolate standards of humic acid. The dried soil and compost samples were sieved through a 1 cm sieve. The sample was treated with 0.1 M HCl at room temperature at a final ratio solution-raw sample 10-1. The suspension was shaken for 4 h and the supernatant was separated from the residue by low speed centrifugation. The soil residue was neutralized to pH 7.0 with 1 M NaOH and 0.1 M NaOH added to result in a final extractant to soil ratio of 10:1. The suspension was extracted by shaking for a minimum of 8 h in N atmosphere. The alkaline suspension was allowed to settle overnight and the supernatant collected by centrifugation. The supernatant was acidified with 6 M HCl with constant stirring to pH 1.0 and then allowed to stand for 24 h. It was then centrifuged to separate the humic acid (precipitate) fractio. It was reported that humic substances can have an effect on plants influencing several physiological processes such as hormonal biostimulation photosynthesis and mineral nutrition fact, it is now clearly demonstrated that humic substances (HS) can exert beneficial effect on plant growth. This growth promoting activity seems.

Key words: Humic acid, sludge, biochar , animal manure, Sunflower



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Yield in Calcareous Soil

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