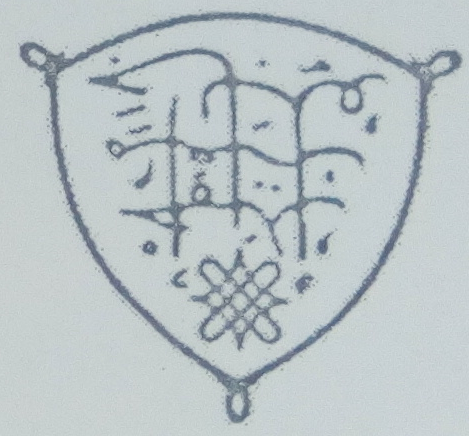
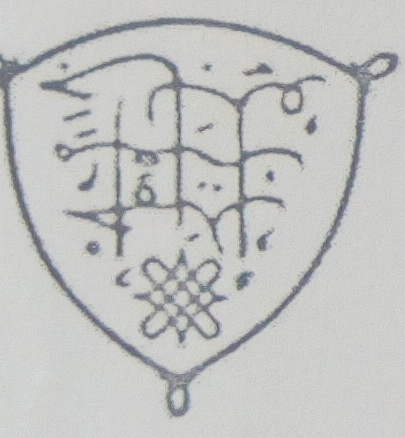


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INVESTIGATION OF SORPTION CAPACITY OF UMUNZE CLAY FOR THE REMOVAL OF CD AND NI FROM TEXTILE EFFLUENT

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Abstract: This study presents the investigation of the removal of Cd and Ni by using organic (acetic) acid activated (Umunze) clay. The clay was activated using 2.5 M concentration, at room temperature and revolution per minute of 190. In this study the effects of contact time and dosage were studied. Langmuir and Freundlich isotherms were used to analyse the equilibrium data, to determine the efficiency of the natural clay used as an adsorbent. Langmuir isotherm was found to be the better-fitting mode compared with Freundlich parameters for the adsorption of metals ion onto acetic activated clay. The results indicate that acetic acid can be used for activation of clay and thus can be used as an effective adsorbent for the removal of Cd and Ni.

Keywords: Adsorption, Clay, Textile wastewater.

questionnaire. The data were analyzed using descriptive statistics and proximate analysis. The result shows the mean age of the women processors was 32 years, more of the women (65%) have processing experience of 3-4 years, 50% of the women had some form of education, 75% of the women intend to use the training for income generation. Processing of soyabean into dadawa was found to be profitable. Proximate analysis was carried out with following result on soyabean; dry matter 84.83, moisture content 15.17, crude protein 25.81, ether extract 3.89, ash 8.40, crude fibre 18.00, nitrogen free extract 39.77 and energy 2799.19. The constraint encountered were unavailable capital, inadequate dehusking equipment, high price of soyabean, problem of marketing inadequate preservation facility and poor storage facility. Therefore processing of soyabean into dadawa is recommended and extension agents should introduce processing of soyabean into dadawa by training women to use the technology for income generation in order to enhance their livelihood.

Keyword: processing, soyabean, dadawa.