

## YIELD AND CHEMICAL COMPOSITION OF CHLORELLA SPECIES CULTIVATED IN PIG, POULTRY AND COW DUNGS IN SOUTHERN NIGERIA

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### ABSTRACT

A study was conducted to examine the yield and chemical composition of chlorella species, a single cell protein (SCP), cultivated on poultry, pig and cow dungs in southern Nigeria. The experiments were carried out using the completely randomized design in plastic bowls instead of ponds usually used for the culture. The cultures were enhanced by inoculating them with *Actinomyces* bacterium which helps to break down the nutrients available in the organic materials for the chlorella species utilization. The yields of the chlorella from the poultry, pig, cow dungs and the control were 131.26, 128.42, 119.55 and 32.65, respectively, in 4 days harvesting interval. The crude protein values of 39.77% for poultry, 35.3% for pig, 35.3% for cow were not significant different values also range between 5.4 to 7.30% for ether extract while crude fibre varies between 4.64 to 5.47%. The ash contents were generally high in all cultures and there was no significantly difference ( $P>0.05$ ) except the culture with pig dung having ash content of 10.90%. The nitrogen free extract content was significantly different ( $P<0.05$ ) with the highest value obtained from poultry culture at 39.77%. The results have shown that chlorella species cultured in poultry droppings yielded the highest crude protein of 39.77%. For the cultivation of chlorella species, poultry dung is therefore recommended. Chlorella species is a suitable alternative source of protein in animal feeds.

**Key-words:** Chlorella species, animal dungs, Actinomyces

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