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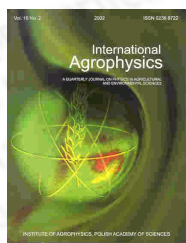
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Effects of tillage methods and depth on fuel consumption and profitability of late season okra productions

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Asoegwu S.N.

Department of Agricultural Engineering, Federal University of Technology, P.M.B.  
1526, Owerri, Nigeria

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abstract The disc plough and disc harrow were used singly and in combination to produce seedbeds of depths 10, 15, 20, and 25 cm for late season okra (*Abelmoschus esculentus*) production. During the seedbed preparation, the time used for tilling and the fuel consumed were used to calculate the tillage energy as well as the specific power requirement. Using the different tillage methods, the cost of seedbed preparation was estimated for the various tillage depths. Yield from the plots and the benefits accruing from the sale of harvested okra fruits were used to compare the tillage methods at the different tillage depths. Total cost, fuel consumption, time of operation, fuel and tillage energies increased with tillage depth and were higher for combined tillage operations than the single ones. Specific power requirement decreased with increased tillage depth and was not statistically different in any tillage method. Yield and economic profitability were higher for the combined tillage operations but were varied between tillage depths. Harrowing once after ploughing at 15 and 20 cm depths were the most profitable tillage method and depths for late season okra production.

keywords *Abelmoschus esculentus*, fuel consumption, okra, profitability, tillage method and depth