Thesis Title : A STUDY OF ENERGY DEPENDENCE IN COTTON PRODUCTION OF THAILAND.

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Abstract

The energy use in cotton production process in 1984/1985 Cropping Year of Thailand consists of 2 sources. They are direct and indirect energy use. The direct energy use is 1,155.4 MJ/HA.while the indirect energy use is 6,679.8 MJ /HA. Energy use from indirect ener-gy consists of energy from insecticide 4,965.8 MJ./HA.,fertilizer 80.1 MJ./HA., labor 934.4 MJ./HA. and capital energy of farm machine-ry 699.5 MJ./HA. Total energy use is 7,835.2 MJ./HA.

The relationship between basal energy use in cotton produc-tion and the response of cotton yield from the energy use in the country is $Y_H = (181.9)(1.6)^{\log E_H}$; where Y_H is yield of cotton and E_H is energy input.

The energy dependence in cotton production of the country in 1984/1985 cropping year is 547,458,743.8 MJ. for 69,871.7 HA. of cotton cultivation.

The possible consequences form full scale cotton production will be 168,948 family employment, save 3,844,225,170 baht due to cotton import, 582,163 barrels of crude oil import, 9,110.9 tons of pesticide import and 4,059 tons of K_2O or 4,639 tons of P_2O or 492 tons of N fertilizer import. About 337,896 cotton farmers will face unpredictable harmful adverse effects from cotton production process.

For whole cotton import, the possible consequences will be 168,948 family employment opportunity loss, loss about 3,844,225,170 baht from cotton import, save 582,163 barrels of crude oil import, save 9,110.9 tons of pesticide import, save 4,059 tons of K_2O or 4,059 tons of K_2O or 4,639 tons of P_2O or 492 tons of N fertilizer import. 337,896 cotton farmers will safe from newly adverse effects due to cotton production.