Indian Journal of Ecology (2021) 48(1): 304-307

Manuscript Number: 3211
NAAS Rating: 4.96

Energy Input-Output Analysis in Wheat, Barley and Oat Production

Aqeel Johny Nassir, Marwan Noori Ramadhan and Ali Abdul Majeed Alwan

Department of Agriculture Machines and Equipment, College of Agriculture
University of Basrah, Iraq
E-mail: ramadhanalali0@gmail.com

Abstract: The consumed energy, energy input-output relation of wheat, barley, and oat production in was analysed in Al-Qarneh al-Ghamayj (31° 1' 5.5956'' N and 47° 25' 23.4192'' E.). The irrigation consumed 32.99, 31.83 and 31.96% of the total energy inputs on wheat, barley and oat, respectively. Fuel is the second source of consumed energy in tractors, harvesting engines, pumps being. 8466.21 (27.84%), 9415.03 (28.45), and 8757.33 (28.41) for wheat, barley, and oats, respectively. The fertilizers consumed energy (Nitrogen especially) were 7291.94 (23.98%), 7658.35 (23.14%), and 7444.72 (24.15%) MJ ha^{-1} for wheat, barley, and oats respectively. The average energy output for grain wheat , barley and oat was 60469.63, 71960.66 and 70017.61 MJ ha^{-1}. Barley was the most energy-efficient crop (1.9 %) followed by wheat and oat (1.71 and 1.59 %). Barley yield was 4945.75 Kg ha^{-1} with input energy of 37776.46 MJ ha^{-1} while wheat yield was 4113.58 Kg ha^{-1} with input energy of 38095.52 MJ ha^{-1}.

Keywords**:** Input and output energy, Energy efficiency, Wheat, Barley, Oats