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Energetics and economics of green gram [*Vigna radiata* (L.) Wilczek] as influenced by varying level of nitrogen

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ABSTRACT : A field experiment was carried out at Instructional farm of Uttar Banga Krishi Viswavidyalaya, West Bengal, India during 2016 and 2017 to find out energetics and economics of green gram as influenced by varying levels (9) of nitrogen fertilizer. Randomized Block Design was adopted with three replications. Results of the experiment showed that 25 kg nitrogen ha^{-1} in the form of urea, at constant level of phosphorus and potassium recorded highest growth attributes, which leads to more grain (914.54 and 926.83 kg ha^{-1} during 2016 and 2017, respectively) yield followed by 30 kg N ha^{-1} (T_7) and 35 kg N ha^{-1} (T_8). Treatment receiving no nitrogen recorded significantly lowest plant height, number of branches $plant^{-1}$ and grain yield of green gram. For every kg increase of nitrogen beyond 25 kg there was a yield reduction to the extent of 8 to 16 kg ha^{-1}. Energy productivity (0.14 kg MJ^{-1}) and efficiency (2.07 kg MJ^{-1}) was also found to be highest under T_6, whereas plot receiving no nitrogen recorded highest values of specific energy (12.23). Economic analysis also revealed that T_6 recorded highest B: C ratio (1.52 and 1.54) during both the year of investigation.

KEY WORDS : Economics, Energy productivity, Green gram, Specific energy

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