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Keyword 2	: Nutrient management
Keyword 3	: Water management
Title of Entry	: Energy budgeting of aerobic rice-wheat cropping system as influenced by potassium fertilization
Presenting author	: Dr. VIJAYAKUMAR S
Presenting author email	: vijitnau@gmail.com
Co author 1	: Dinesh Kumar
Co author 2	: Saravanane P
Co author 3	: Raghavendra Goud B
Co author 4	: Rubina Khanam
Co author 5	: Dinesh Jinger
Co author 6	:
Co author 7	:
Co author 8	:
Co author 9	:

Co author 10	:
Co author 11	:
Co author 12	:
Co author 13	:
Co author 14	:
Affiliation presenting author	: Scientist
Affiliation 1	: Principal scientist
Affiliation 2	: Associate professor
Affiliation 3	: Scientist
Affiliation 4	: Scientist
Affiliation 5	: Ph.D. Scholar
Affiliation 6	:
Affiliation 7	:
Affiliation 8	:
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: A two year field experiment was conducted during the Kharif (rice) and rabi (wheat) seasons of 2015–16 and 2016–17 at IARI research farm, New Delhi, to study the effect of different rate, method and time of potassium (K) application on energy budget of aerobic rice-wheat cropping system (RWCS) with 12 treatments (T1:No K = 0 kg K/ha; T2: Basal 100% RDK (recommended dose of potassium) through MOP (muriate of potash) = 33.2 kg K/ha; T3: Basal 50%RDK = 16.6 kg K/ha; T4: Basal 50%RDK + 50% at PI (panicle initiation) = 33.2 kg K/ha; T5: Basal75% + 25%RDK at PI = 33.2 kg K/ha; T6: 2 foliar sprays (FS) of 2.5% KNO3 (potassium nitrate) = 8.8 kg K/ha; T7: Basal 100%RDK + 2 FS = 42 kg K/ha; T8: Basal 50%RDK + 2 FS of KNO3 = 25.4 kg K/ha; T9: Basal 75%RDK + 2 FS = 33.7 kg K/ha; T10: Basal 50%RDK + 50%RDK at PI + 2 FS = 42.2 kg K/ha; T11: Basal 75%RDK + 25%RDK at PI + 2 FS = 42 kg K/ha; T12: Basal 150%RDK = 49.8 kg K/ha) and replicated thrice. For each of the rice, wheat crop the RDK is 33.2 kg K/ha. Averaged across two years, treatments T12 recorded the highest system energy input (37.48 MJ ha-1) followed by T7, T10, T11 (37.01 MJ ha-1) whereas T1 recorded the lowest (35.47MJ ha-1). With respect to system energy output, net energy, energy use efficiency, energy productivity, energy profitability, and energy output efficiency treatments viz. T4, T5, T7, T9, T10 and T11 recorded the highest whereas T1 recorded the lowest. Averaged across two years, treatments viz. T4, T5, T7, T9, T10, T11 increased system energy output, net energy, energy use efficiency, energy productivity, energy profitability and energy output efficiency by 11-12; 7-9; 11-12; 15-16; 12-13; 13-14 % whereas T2 and T12 increased 7-9; 8-9; 4-6; 7-8; 5-7; 8-9 % respectively over T3. Thus split application of RDK with or without supplementation of foliar spray is a win-win strategy in aerobic RWCS for efficient utilization of energy. Read Less»

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