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(71)**Name of Applicant :**
1)Brainware University, Kolkata
Address of Applicant :398, Ramkrishnapur Rd, Near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Dr. Pabitra Kumar Ghosh
Address of Applicant :Assistant Professor, Department of Agriculture, Brainware University, Barasat, Kolkata, 700125 ---------- ----------
2)Dr. Soham Bachaspati
Address of Applicant :Assistant Professor, Department of Agriculture, Brainware University, Barasat, Kolkata, 700125 ---------- ----------
3)Mr. Sagar Banik
Address of Applicant :Assistant Professor, Department of Agriculture, Brainware University, Barasat, Kolkata, 700125 ---------- ----------
4)Dr. Sk Md Asif
Address of Applicant :Assistant Professor, Department of Agriculture, Brainware University, Barasat, Kolkata, 700125 ---------- ----------
5)Mr. Rajdeep Mohanta
Address of Applicant :Assistant Professor, Department of Agriculture, Brainware University, Barasat, Kolkata, 700125 ---------- ----------

(57) Abstract :
The present invention discloses an integrated method for sunflower cultivation in rice fallow fields by combining seed priming and micropot-based seedling propagation, enabling efficient crop establishment without the need for tillage or external irrigation. The process involves priming sunflower seeds using osmotic, halophilic, or microbial agents to enhance germination and early vigor, followed by nursery propagation in biodegradable micropots composed of coir pith, paper pulp, cow dung, or agro-waste. These micropotted seedlings are directly transplanted into rice fallow fields utilizing residual soil moisture, ensuring minimal root disturbance and eliminating transplant shock. The biodegradable micropots decompose in the soil, enriching it organically while supporting robust plant development. This invention promotes sustainable, low-cost sunflower production with improved flowering uniformity, enhanced oil yield, and adaptability to moisture-stressed environments, making it highly suitable for smallholder and resource-constrained farming systems. Accompanied Drawing [FIGS. 1-2]

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