

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :28/04/2025

(21) Application No.202531040691 A

(43) Publication Date : 02/05/2025

(54) Title of the invention : A hydroponic farming system for soil-less plant cultivation

<p>(51) International classification :A01G0031020000, A01G0031060000, A01G0031000000, A01G0027000000, A01K0063040000</p> <p>(86) International Application No :NA</p> <p>Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA</p> <p>Filing Date :NA</p> <p>(62) Divisional to Application Number :NA</p> <p>Filing Date :NA</p>	<p>(71)Name of Applicant : <b>1)Swami Vivekananda University</b> Address of Applicant :Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>Name of Applicant : NA</b> <b>Address of Applicant : NA</b> (72)Name of Inventor : <b>1)Dr. Tanmoy Sarkar</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>2)Dr. Sudip Sengupta</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>3)Dr. Suprabuddha Kundu</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>4)Dr. Parijat Bhattacharya</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>5)Dr. Ria Mukhopadhyay</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>6)Dr. Mahafuzar Rahaman</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>7)Dr. Anirneeta De</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>8)Dr. Animesh Ghosh Bag</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>9)Mr. Rakesh Das</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>10)Mr. Tanmoy Majhi</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>11)Ms. Sayani Bhowmick</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>12)Aritra Deb</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. ----- <b>13)Dipty Mondal</b> Address of Applicant :Swami Vivekananda University, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, Kolkata, West Bengal 700121, India. -----</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

(57) Abstract :

The present invention relates to a hydroponic farming system designed for efficient, soil-less plant cultivation. The system incorporates various hydroponic techniques such as Nutrient Film Technique (NFT), Deep Water Culture (DWC), aeroponics, and drip systems, which deliver a nutrient-rich water solution directly to plant roots. It consists of components such as a nutrient reservoir, pump system, air pump and air stone system, light sources, and sensors for monitoring critical parameters like pH, electrical conductivity, and temperature. The system is automated through timers and controllers, providing efficient, year-round farming. The invention is adaptable for urban farms, vertical farming, and commercial agricultural operations, offering increased resource efficiency and reduced environmental impact compared to traditional farming methods.

No. of Pages : 18 No. of Claims : 9