Retraction

Retraction: Organic Hydroponic Farming Incorporated with Recycles Water (J. Phys.: Conf. Ser. 1916 012105)

Published 23 February 2022

This article (and all articles in the proceedings volume relating to the same conference) has been retracted by IOP Publishing following an extensive investigation in line with the COPE guidelines. This investigation has uncovered evidence of systematic manipulation of the publication process and considerable citation manipulation.

IOP Publishing respectfully requests that readers consider all work within this volume potentially unreliable, as the volume has not been through a credible peer review process.

IOP Publishing regrets that our usual quality checks did not identify these issues before publication, and have since put additional measures in place to try to prevent these issues from reoccurring. IOP Publishing wishes to credit anonymous whistleblowers and the Problematic Paper Screener [1] for bringing some of the above issues to our attention, prompting us to investigate further.

[1] Cabanac G, Labbé C and Magazinov A 2021 arXiv:2107.06751v1

Retraction published: 23 February 2022

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Organic Hydroponic Farming Incorporated with Recycles Water

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Abstract. Recent The cultivation of flora by way putting the root in liquid nutrient solution is referred to as Hydroponic. Agriculture is the backbone of the growing us of like India, agriculture is disturbed with the aid of number of issues like manures, pesticides, small and fragmented land holdings, chemical used for plant growth etc. Hydroponics can be a higher idea to unravel these difficulties and moreover with the aid of using hydroponics we can go organic. Hydroponics is the quickest developing zone of agriculture and it is the technique of creating vegetation life in liquid with delivered vitamins on the other hand besides soil. The whole manner can be finished in room terrace, balcony and additionally in closed environment. Since it can be extended vertically, it has a acquire that many numbers of plants can be planted in a limited space. The plant boom is monitored weekly as soon as for the yield purpose. Since the drift of the used and smooth water for the watering the plant is automatic, few integral parameters like water level indicator, pH sensor, Automatic water dropper and DC motor. These parameters are controlled by Arduino board. Hence the plant is grown by way of capability of Eco-friendly method.

Keywords: food processing, Organic farms, sustainable farming, monitoring.

1. Introduction

“HYDROPONICS” is growing of plants in an exceedingly in nutrient water resolution. Usually used mediums embrace improved vermiculite, brick shards, styrene packing peanuts and timber fibre. It has been known as practicable methodology for manufacturing lettuce, cucumbers as correct as decorative vegetation like herbs and foliage plants. The ban on bromide in soil, the demand for hydroponic medium mature turn out fleetly exaggerated within the recent years [1].

A greenhouse could be a structure partitions and roofs created particularly of obvious substance like glass. It reduces the strength consumption needed for plant growth. The utilization of inexperienced house has several edges. Victimisation greenhouse, the vegetation will be mature regardless of the climate. This techniques build use of sensing element to show the water and continues the pH scale level. In aquacultural farming, the plant growth is faster and it is fully free from plague. The production is double than the standard farming method. Additionally seeds can be planted within the same space and consequently the yield is more [2].

2. Literature Survey
Many micropollutants are widely talked about as a result of the continued influx of prescription drug and private care products (PPCPs) around recent approaches. PPCP residues are commonly found in the application of liquid resources, sewage treatment plants (STPs), and water purifiers due to their widespread use, low human energy and improper disposal (WTPs) and half of the limited PPCPs square transferred to STPs, adverse effects on biological therapies; therefore, standard STPs are insufficient when it comes to PPCP removal. In addition, the excreted metabolites can be further modified in the acquisition of water bodies. Many high-care systems, combined with membrane filtration, granular coal, and advanced connectivity procedures, are used for high-quality removal of individual PPCPs. This judge incorporates patterns of PPCPs occurrence in watersheds and is therefore the accepted method for their treatment in STP / WTP unit methods that are applicable in many countries. The purpose of this judge is to provide a comprehensive framework for the termination and end of PPCP in alternative therapies as the most effective means of removing STP and WTP programs [3]

In hydroponics and aquaponics, the germination time of spinach was much longer than in conventional farming technique. Since water and vitamins were delivered directly to the roots in hydroponics and aquaponics, the nutrients and water were consumed in an unfavourable manner. The peak of traditionally cultivated spinach wont to be the simplest position (60th day) that was once twenty three cm than the hydroponically (18cm) additionally as aquapically (20.5cm) cultivated spinach. Aquapically grown spinach was supposed to be only a little taller than hydroponically grown spinach. The top of historically grown spinach used to be the highest, which may be due to the fact that the area for roots in hydroponics and aquaponics is less established, causing the top to be stunted. Traditional spinach had the highest surface position (on the tenth). The hydroponically (on the 10th day, it was 10 sq.cm and on the 60th day, it was 79 sq.cm) was larger than the hydroponically (on the 10th day, it was 10 sq.cm and on the 60th day, it was 79 sq.cm) and aquaponically (on the 10th day, it was eight sq.cm, and on the 60th day, it was in the 70s q.cm). It was 72 sq.cm on the sixty-fifth day. It was 72 sq.cm on the sixty-fifth day. It was 72 sq.cm on the sixty-fifth day. The yield of aquapically grown spinach (4455 kg) was higher than that of hydroponically and historically grown spinach. The yield of spinach grown hydroponically (3780 kg) was slightly higher than that of spinach grown conventionally (3780 kg). [4]

3. Proposed System

The implementation of aquacultural farming is that the quickest growing sector of agriculture and it may alright dominate the food production. Aquacultural farms 90-95% less water than the traditional farms and also farm may be placed anywhere as no soil is needed. In our project we have proposed an idea that would control the certain parameters automatically. The 230V from the power supply is step downed to 12V by a stepdown transformer. The transformer has two windings such as 9V and 15V; here the components are operated in 12V so 15V winding is chosen. The 12V AC is converted into DC using bridge rectifier. Arduino controller is finely operated at 12V. The pH sensor, water level indicator and automatic water dropper is controlled using Arduino. Here the motor is used to pump recycled drained water into hydroponic system. The drained water from the system is recycled by using it as a feed for the fishes. After a week the pH of the water is sensed, if the water is basic the required amount of citric acid is mixed automatically into the water. The water which is neutralized (pH=7) is filled in the container. Then the organic nutrient solution is mixed with water for nourishing the plant samplings in the hydroponic system. The process made here is cycled for three yields of the farm. In this method water is re-circulated, so hydroponic plants consume only 10% of water is used comparatively to field grown plants. An efficient hydroponic setup will minimize water loss to a greater extend [6-8]. Figure 1 shows the Block diagram
The goal is to see whether growing plants in a water-nutrient solution rather than soil results in a healthier plant. Since there are no molecules of unnecessary material obstructing a plant's roots, nutrients which be absorbed more quickly, allowing it to grow faster and healthier. Because of the constant feeding of nutrients and water, hydroponic plants have grown much taller and developed more leaves than plants grown in normal soil. Aquaponics (Fish) is used to disinfect the water in this case. As a result, the null hypothesis is dismissed because the data contradicts its reason. The application of fertiliser at a consistent rate throughout the day allowed the plants to grow at a controlled and consistent rate.

**Figure 1. Block diagram**

**Figure 2. Model block diagram**

**4. Result**

With the help of sensors and an Arduino microcontroller, an automated device for hydroponic gardening was successfully designed. It effectively regulates the nutrient solution's pH. It also provides gardening information to the consumer and saves the information for future use. This programme aids the consumer in increasing efficiency and producing the healthiest product possible in hydroponic gardening. The first task was to develop a simple agriculture automation system that farmers could use without any previous technical expertise, i.e., an automated system for a layperson. Science is only useful if it can be applied in real-life situations. The second challenge was to create a
key agriculture automation system that farmers could use without any previous technical knowledge. Though there is plenty of room to automate even more with water pipes and valves, doing so would be too difficult and expensive. Since this product is for Indian farmers, we will do all support for this idea and launch it in the retail market.

Hydroponics is also accustomed manufacture food in some lower developed countries with limited space. Areas with poor soil conditions, such as deserts, hydropponically growing is also possible. After the salts have been removed, the nutrient solution may be mixed with desert sand or seawater. Hydroponics' popularity has gone up significantly, spurring further creativity and analysis within the space of indoor and out of doors aquicultural horticulture.

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