

CREATING AND TRAINING OF PAKCOY HYDROPONIC CULTIVATION IN ORDER TO IMPROVE THE WELFARE OF USTADZ WIVES PONDOK PESANTREN RIYADHUSSHOLIHIN-CIMANUK-PANDEGLANG

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ABSTRACT

The hydrogenic farming method is a plant cultivation method that combines hydroponic and organic (no chemicals) farming systems. In this hydrogenic method, the natural fertilizer comes from fish waste that flows together with the flow of pond water through pipe installations. Vegetables produced from hydroponic technology are considered healthier and more environmentally friendly because they utilize a variety of organic fertilizers. Pondok Pesantren Riyadhushsholihiiin is an Islamic educational institution located in Rocek village, Cimanuk sub-district, Pandeglang district, Banten which is engaged in formal and non-formal Islamic education. At the boarding school, there are the wives of the ustadz who help meet the daily consumption needs of the boarding school residents so this training activity can be useful in improving the welfare of the ustadz's wives through entrepreneurial activities and improving consumption patterns through hydroponic vegetables, especially pakcoy. The results of the activities that have been carried out that the target audience is very enthusiastic and gives a positive response to the community service activities that have been carried out. This can be seen from the results of the questionnaire that has been given which states that 51.26% strongly agree on the activities of making and training in the cultivation of hydroponics pakcoy vegetable plants.

Keywords: Training, Vegetable Hydroponics, Riyadhushsholihiiin Cimanuk Islamic Boarding School

1. INTRODUCTION

One of the important commodities in supporting national food security comes from vegetables. Vegetables are a source of vitamins and minerals needed to regulate metabolic processes in the body. Nowadays in the modern era, new health problems arise related to the pattern of food consumption by the community. One of the dangerous diseases feared by humans today is cancer. One of the triggers for cancer is the harmful chemicals contained in junk food. Some people are starting to turn to the concept of organic food or even the concept of food based on back to nature. Nowadays, people's awareness of quality and safe vegetables is increasing because they can provide health benefits, look attractive, do not contain pesticide residues, and remain affordable. Therefore, efforts are needed to produce quality, safe vegetables, available throughout the year, and in sufficient quantities. One of the new breakthroughs for the fulfillment of a healthy lifestyle from the fulfillment of healthy food needs is the optimization of vegetables by utilizing hydroponic technology.

In 1980 this hydroponic method began to enter Indonesia and at that time Bob Sadino introduced this planting method to the wider community. (<https://petanidigital.id/hidroponik/>). Today, hydroponics is no longer new to Indonesians. This agricultural practice is gaining interest as it offers an easier way to manage daily food sources. Hydroponics is the cultivation of plants using water as a growing medium by prioritizing the fulfillment of plant nutritional needs.

The aquaculture business in Indonesia continues to grow with increasing public awareness and awareness of the importance of physical and environmental health in supporting the development of hydroponics so that the business in this field is very promising to improve welfare and productivity without exception housewives, especially the wives of ustadz in Pondok Pesantren Riyadhushsholihiiin.

Islamic boarding school is one of the oldest forms of religious education institutions in the archipelago which is at the heart of the spread of Islam (Zakaria, 2010) in (Dhanny & Choiriah, 2020). Pondok Pesantren Riyadhushsholihiiin is an Islamic educational institution located in Rocek village, Cimanuk sub-district, Pandeglang district, Banten which is engaged in formal and non-formal Islamic education. The boarding school, which was established on July 1, 2010, is located at the foot of two mountains, namely Pulau Sari mountain and Karang mountain.

Pondok Pesantren Riyadhushsholihiiin is built on the foundation of TAQWA with the principles of Al-Qur'an and Sunnah. Carrying out the Message of the Prophet's Da'wah, through the path of the Scientific Cadreization Institution in the form of an Islamic Boarding School in the form of a salaf manhaj is the vision of Pondok Pesantren Riyadhushsholihiiin. The mission is as follows (Setiyawati, 2019)

1. Restoring the teachings of Islam to the Qur'an and the authentic Sunnah with the understanding of the Salafusshaleh.
2. Tashfiyah (purifying Islamic teachings) from all stains of shirk, bid'ah, khurofat and thoughts that can damage Islam.
3. Tarbiyah (educating) the Muslims to the pure teachings of Islam.
4. Reviving scientific thinking based on the Qur'an and Sunnah with the understanding of Salafusshaleh.
5. Inviting Muslims to live an Islamic life in accordance with the manhaj ahlusunnah wal jama'ah.

Pondok Pesantren Riyadhushsholihiiin is expected to be able to foster not only the students but also the wives of the ustadz in terms of ruhiyah with religious knowledge and in terms of rupiah, namely by training and fostering the wives of the ustadz to be able to do entrepreneurship, one of which is in the form of hydroponic agribusiness. Housewives can cultivate these hydroponic plants and the results can be consumed by themselves so that they can save on household expenses. The results of hydroponic plant cultivation are cleaner and healthier because they use planting media instead of soil and are not exposed to pesticides (Dhanny & Choiriah, 2020). In addition, hydroponic crops can be sold to increase the value of welfare.

Planting vegetables (Pakcoy) hydraulically can be done by the community in a narrow area such as a home yard. Planting vegetables in home yards is very profitable because it is easy to do, easy to control and the plants to be planted are tailored to the tastes and needs of the household. However, many people do not understand how to grow vegetables using hydroponic technology. In order for plant production to increase, it is also necessary to consider the air humidity factor. The techniques and materials used in this hydroponic method are very simple and easy to obtain, so they can be applied by anyone, including housewives (Almaarif, Belasunda, Rahadianto, & Tohir, 2022).

Hydroponics is growing plants without soil and can be done on a small area with relatively easy maintenance, making it suitable for Ustadz wives who have limited time to care for plants. The benefits of hydroponic plants include cleaner, fresher plants and more consistent growth. In addition, maintenance is relatively easy and the products have a high selling value in the market. Hydroponic products can also fulfill the nutritional needs of the boarding school by consuming vegetables, so that the nutritional adequacy of the boarding school can be fulfilled independently (Yulianti & Rahayu, 2022).

The ideal nutrient medium for hydroponics includes supporting plant growth, having pores for ventilation, not clogging hydroponic equipment and not attacking the nutrient solution. (Yulina, 2019). The hydroponic method can produce a variety of healthy plants without the use of pesticides. It is practical and simple because it uses water without soil. All types of plants can be grown with a hydroponic farming system, including vegetable plants, fruit plants, ornamental plants, and medicinal plants. While the types of plants that can be grown with a hydroponic system include flowers (for example chrysanthemums, gerberas, orchids, cacti), vegetables (for example pakcoy, lettuce, mustard greens, tomatoes, carrots), fruits (for example: melons, tomatoes, cucumbers, watermelons, strawberries) and also tubers (Pratiwi, Putra, & Reza, 2021).

2. METHOD

In this community service activity, the activity plan is to instill understanding and improve the welfare of the wives of the ustadz at the Riyadhushsholihiiin Islamic Boarding School-Cimanuk-Pandeglang through the Making and Training of Pakcoy Vegetable Hydroponic Cultivation. The target audience of this Community Service Programme based on Science and Technology for the Community (IbM) is the wives of ustadz at the Pondok Pesantren Riyadhushsholihiiin - Cimanuk - Pandeglang. The methods of implementing PKM activities carried out as a solution to the problems that arise are lecture methods, interactive discussions, and field practice. These methods were chosen to solve the problem because they were in by the partner's situation. The following is a mechanism in activity evaluation, among others:

- a. Evaluation of activities carried out through pre and post tests: related to the material
- b. Instructor evaluation questionnaire: related to material presentation
- c. Activity implementation evaluation questionnaire: related to the implementation of training activities

3. RESULTS AND DISCUSSION

Improving the Welfare of the Wives of Ustadz Riyadhushsholihii Islamic Boarding School-Cimanuk-Pandeglang. This activity was carried out with the following details:

Days : Jum'at
Date : 24 Maret 2023
Time : 08.00 s/d 15.00
Location : Riyadhushsholihii Islamic Boarding School-Cimanuk-Pandeglang
Number of attendees: 50 participants

This activity consists of two sessions, namely:

- 1) The first session was the opening of the activity which was attended by invited guests such as the Head of Cimanuk Village, the Chief of Police and the teachers of Pondok Pesantren Riyadhushsholihii, then explained about hydroponic cultivation, especially pakcoy vegetables.
- 2) The second session is the practice of making hydroponic media for pakcoy vegetables to seedlings and the cultivation process

Activity 1: Opening and Socialisation of Pakcoy Vegetable Hydroponics to Seedlings and Cultivation Processes



Picture 1. Welcome and Opening of PkM Activities by the Head of PonPes Riyadhushsholihii



Picture 2. Welcome by the Head of Cimanuk Village - Pandeglang, Banten

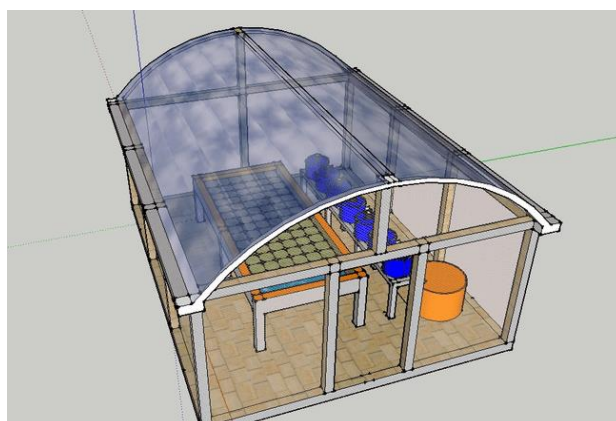




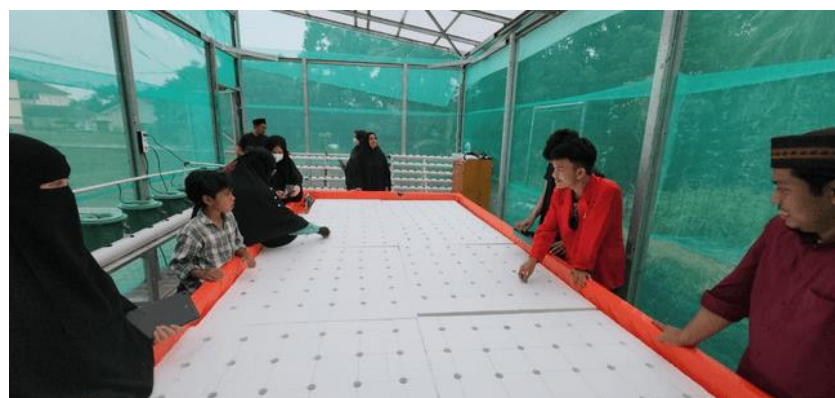
Picture 3. Pongpes, Community Service Team and Students

Activity 2. Process of Activity Implementation

The implementation of the activity was carried out by designing a green house as a place for media until the seedling process and harvesting the results. The hydroponic growing room was made in stages starting from the frame and planting media. After the green house is ready for use, the next stage is planting pakcoy vegetable seedlings and setting up the water supply and fertiliser.



Picture 4. Green House Design and Hydroponic Planting Media for Pakcoy Vegetable



Picture 5. Hydroponic Growing Room (Real View)

Discussions

Manufacture and Training of Pakcoy Vegetable Hydroponic Plant Cultivation to the target audience, namely the wives of the ustadz of the Riyadhushsholihii Islamic Boarding School to improve welfare through entrepreneurial activities both within the Pondok Pesantren Riyadhushsholihii and outside the Pondok pesantren area.

Table 1
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Total	35	44	55	51.26	3.837
Valid N (listwise)	35				

In the table above are descriptive statistics derived from processing questionnaire data to the participants of community service activities at Pondok Pesantren Riyadhussholihiiin with the number of questionnaires successfully filled in as many as 35 participants. The questionnaire given consisted of 11 questions with 5 Likert scales (strongly disagree, disagree, neutral (disagree and disagree), agree, and strongly agree).

In the results of the table above, the minimum value is 44, which means that the least answer with a scale of 4 (Agree) and the maximum value is 55, which means that the most answer with a scale of 5 (Strongly agree). The average (mean) has a value of 51.26%, which means that the average participant answers strongly agree to each question asked.

Table 2
Descriptive Statistics Per Item Kuesioner

	N	Minimum	Maximum	Mean	Std. Deviation
Whether the implementation of this activity can solve the problems faced by the community by utilising the expertise of relevant academicians?	35	4	5	4.66	.482
Does the implementation of this activity utilise appropriate technology	35	4	5	4.66	.482
Is the implementation of this activity useful for the development of science and technology?	35	4	5	4.71	.458
Is the implementation of this activity useful as teaching materials or training modules for enrichment of learning resources?	35	4	5	4.69	.471
Can the implementation of this activity increase income?	35	4	5	4.69	.471
Can the implementation of this activity increase knowledge?	35	4	5	4.74	.443
Has the implementation of this activity increased production?	35	4	5	4.60	.497
Can the implementation of this activity change behaviour towards a positive direction?	35	4	5	4.60	.497

Has the implementation of this activity improved environmental quality?	35	4	5	4.66	.482
Cooperation carried out with UMB through Community Service activities is beneficial to the community	35	4	5	4.71	.458
Cooperation carried out with UMB through Community Service activities meets the cooperation target	35	4	5	4.54	.505
Valid N (listwise)	35				

In table 2 are the details of each question asked where the lowest value on a scale of 4 (Agree) and the highest value on a scale of 5 (Strongly Agree). This indicates that participants in community service activities at Riyadhushsholihiiin Islamic Boarding School are satisfied and useful for the target audience where they provide suggestions for the continuation of activities that have been carried out with other types of activities.

4. CONCLUSION

Based on the results of the activity, training participants obtained information about hydroponic cultivation, especially on pakcoy vegetables where the harvest can be used to meet daily food needs and can even be sold to parties outside the boarding school to improve the welfare of the boarding school, especially the wives of the Ustad. Overall, the training participants understood the material presented and could practice how to cultivate pakcoy vegetable hydroponic plants to improve the welfare of the wives of Ustad Pondok Pesantren Riyadhushsholihiiin -Cimanuk-Pandeglang. The atmosphere of the activity was very conducive and the participants were active in discussing and overall the participants expressed great satisfaction with the activities held and hoped that similar activities would be held again with different themes. In addition, this activity can be used as a means of communication and friendship and Universitas Mercu Buana with the community, as well as a manifestation of the social responsibility of Higher Education Institutions - Tri Dharma of Higher Education

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