

Hydroponic Training for Women Farmers Group in Jaten, Sendang Rejo, Yogyakarta

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Abstract

Optimizing land and yards as well as producing healthy plants and minimal pest disturbances can be done with hydroponic farming techniques. Hydroponic plants such as vegetables have high nutrition and are healthy because they are free from the use of pesticides. In addition, hydroponics can also beautify the yard of the house. For this reason, this community service will be carried out on how to grow crops using hydroponics. With this activity, it is hoped that the Women Farmers Group at Jaten, Sendang Rejo will be more productive and can make the best use of the land by farming. It can also save expenses on kitchen herbs, such as vegetables, spices, etc. Hydroponics is carried out in several stages, namely: sowing seeds, carrying out hydroponic workshops, and implementing hydroponic practices. Hydroponic activities have been carried out well so that further plant care is necessary until the plants can be harvested.

Keywords: Hydroponic, farming, community service.

INTRODUCTION

To empower the community to increase and optimize the use of land or yards that are narrow and limited, it is necessary to try that can increase the usability of the yard or land. It is hoped that by carrying out a hydroponic, people can grow vegetables, fruits, and raise fish in narrow areas (Masduki, 2018; Mulasari, 2019). In addition, the increasingly difficult economic conditions and the many needs that must be met, make one way to reduce expenses by planting kitchen needs independently. This can be done by utilizing the narrow yard around the house (Irianto et al., 2022). To be more efficient, the hydroponic method can be used without reducing the quality of the harvest. In addition, with hydroponics, plant pests that will arise can be minimized and free of pesticides. Hydroponics is a method of growing crops without using soil media, but by using a nutrient solution of minerals or other materials containing nutrients such as coconut fiber, mineral fiber, sand, broken bricks, sawdust, etc. as a substitute for soil media (Ferijal et al., 2017; Halim & I, 2019).

The problem that occurs in Jaten, Sendang Rejo Village is that there are not many people who do not know the development of hydroponic technology and its benefits so that the yard of the house cannot be utilized optimally by the community, especially groups farmer women (Latuheru & Tiwery, 2020; Mustikarini et al., 2019). With the development of increasingly modern agricultural technology, community service activities in the form of farming using hydroponic techniques will be held among the women farmers group at Jaten, Sendang Rejo Village (Permadi et al., 2020). The hydroponic technique that will be applied is in the form of a wick system technique, by utilizing nearby tools and materials, such as used bottles, husks/charcoal, etc. The seeds to be planted are vegetables/kitchen plants (Roidah, 2014).

METHOD

Workshop on Hydroponic.

The first step that will be taken is to provide understanding to women farmers group about how to grow crops using hydroponic techniques. The material that will be delivered is expected to open insights about hydroponic techniques, how to apply and care for hydroponic plants. The community service team will make observations at the location of community service partners and approach the women farmers group in that location, then the women farmers group will be

collected on the day of the activity. The activity is in the form of workshop about hydroponics and its potential, which will be delivered in the form of presenting material using the lecture method.

Prepare Materials and Equipment

Furthermore, arrangements will be made regarding the tools and materials needed. Tools and materials consisting of used bottles, scissors, cotton/foam, flannel, charcoal/husk, vegetable seeds, etc.

Practice How to Grow Crops with Hydroponic Techniques

After the tools and materials are prepared, the practice of hydroponic farming is carried out guided by the experts. Farming is practiced by women farmers group directly. This community service will apply a simple Wicks system technique. This method can be applied using simple materials such as used plastic bottles, flannel cloth, charcoal, etc.

Plant Care

After the practice, just waiting for the results of the seeds planted depending on the harvest period of the plant. Treatments such as giving fertilizer and watering plants are done independently.

RESULTS

Seeding Seeds

Seedling is the first step of the hydroponic process; seeds will be sown on media in the form of used trays. Seedlings that are sown include kale and mustards, due to easy and fast care and growth (Swastika et al., 2017).

Workshop On Hydroponics

This hydroponic workshop was held to increase the knowledge of women farmers group about the benefits of hydroponics and the techniques that will be applied to this hydroponic activity. The speakers in this workshop are activities that have experience in the world of hydroponics.

Hydroponic planting practice

The practice of hydroponic planting is carried out after the workshop activities. The seeds that have been sown will be transferred to the planting media, the media used has been prepared in advance in the form of plastic bottles, etc (Diharja et al., 2022).

The realization of the implementation of this work program is right according to the initial plan due to the good response of the residents. The speaker chosen to assist in the hydroponic cultivation process is Mr. Wiguna Jaelawijaya who is an agribusiness consultant who also often takes part in filling cultivation materials. Hydroponic cultivation uses easy and practical planting media, namely by utilizing styrofoam boxes left over from fruit storage, and plastic cups used for drinking water. This media was chosen not only because it is easy to manufacture but also the costs incurred to provide this media are very economical. The selected seeds are mustard and kale seedlings, which are not difficult to plant, and the growth period is less than a month, so that in the process of development they can assist the Womens farmer groups to control the growth of hydroponic cultivation.

Seedling was carried out at the Maggot house, which is a plant and animal cultivation house belonging to members of the Jati Mekar's Women Farmers Group. The implementation of seeding has received a good response from women farmers group itself, because before this event they had tried hydroponic cultivation but failed due to lack of information and insight. In the second week, a workshop on hydroponics and the practice of hydroponic planting was held at the Hamlet head's house, with supporting factors being the presence of residents who attended the event so that the event ran well and smoothly.

CONCLUSIONS AND RECOMMENDATIONS

Hydroponic cultivation is carried out in several stages such as sowing seeds, workshops on hydroponics and hydroponic planting practices. The purpose of holding this event is to make it easier for the Women Farmers Group to cultivate hydroponic plants with easy media.

ACKNOWLEDGMENTS

Thank you to the “Lembaga Pengabdian Masyarakat (LPM)” Universitas Muhammadiyah Yogyakarta for the internal service grant.

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APPENDIX

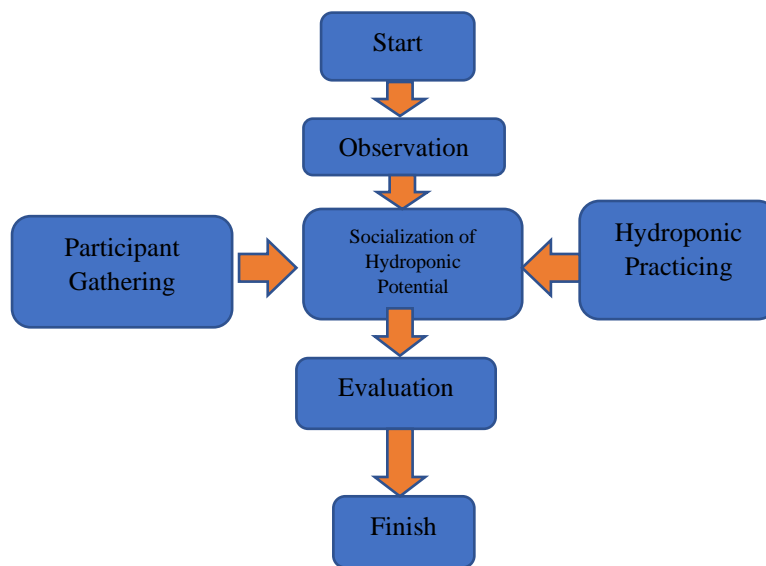


Figure 1. Flowchart of Science and Technology Community Service.



Figure 2. Simple Hydroponic Wicks System Method (Natalia et al., 2020)



(a)



(b)

Figure 3. (a) The process of collecting participants (b) Preparing seeding media



Figure 4. Workshop on Hydroponic



(a)



(b)

Figure 5. (a) Hydroponic planting process (b) After Hydroponic practice