URBAN FARMING CIK TEBU MANIS: CHANGES IN BEHAVIOR AND INTERESTS OF STUDENTS WITH SPECIAL NEEDS (MBK)

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ABSTRACT

The Best DuA Integration Special Education Program became first in the Hulu Selangor District to carry out the “Urban Farming” fertigation project which was carried out in early 2018 until now. Urban Farming Cik Tebu targets medium and low functional students in the teaching and learning process in schools. Therefore, this study was conducted to find out the extent to which the influence of specific vocational skills subjects and basic crop skills can build students' interest in the field of agriculture and in turn make the agricultural sector as a career opportunity. Preliminary observations found that students were not focused during the teacher's teaching process, were too active to be disciplined and unskilled in using their psychomotor skills. The study of the Urban Farming project, which was conducted over a period of 6 months, focused on the preparation work of the Urban Farming project by planting various types of vegetables such as solok chillies, rice chillies, large chillies, cabbage and bitter gourd in locations close to special education classes. The project requires only limited space and is equipped with a structured system. Pupils have the opportunity to learn about agriculture in interesting and fun methods. The results of the study found that all students involved showed positive changes in behavior and interest in agriculture. This project was found to be able to provide opportunities for students with medium and low functioning to form self -identity and independence and can even be applied in daily life with an interesting and fun atmosphere using the work procedure manual that has been provided.

Keywords: Urban Farming, low functioning, Special Education Integration Program, fertigation and behavior, psychomotor.

1. Introduction

The Ministry of Education Malaysia in 1986 issued the Philosophy of Special Education “Special Education in Malaysia is a continuous effort to create people who are skilled, oriented, capable, independent,capable and manage life and self-awareness as individuals and members of a balanced society and productive in line with the National Education Philosophy”.

Agricultural activities are one form of activities outside the classroom that can improve students' skills more effectively for the future. Modern agriculture is a more effective concept of agriculture with the needs of students with special needs. This program is an effort to involve low-functioning students with the concept of fertigation that can increase students' understanding as well as generate government policy to develop the concept of modern agriculture throughout society. It is hoped that through this program, will be able to increase the interest of students with special needs to a better level in the future.

Fertigation is a combination of two English words, fertillization and irrigation which is fertilization and irrigation. A method of cultivation in which the crop will be supplied with a solution of fertilizer and water through an irrigation system. Through this method it uses a piping system to channel water and fertilizer systematically, complete with water reservoirs and organic fertilizers before being automatically drained to the crop every three minutes, thus helping to produce fresher vegetables and free from chemical fertilizers that can be harmful to health. Through this method, the provision of complete nutrients required by the root zone can be controlled according to the needs of the plant based on the type and growth stage of a plant. Fertigation belongs to the hydroponic group which is the production of crops without using land. In general, all types of crops or vegetable crops can be grown using this method such as tomatoes, chillies, bitter gourd, cabbage and melons are encouraged.

The Chief Officer of the Rehabilitation and Treatment Service Center (CCSC) of the National Anti -Drug Agency (AADK) Alor Gajah Melaka, Noralizah Kasmin in 2017 stated that this Urban Farming concept garden can relax the mind and calm and can generate income as well as provide satisfaction to students and anyone who interested in agriculture.

2. Problem Statement

People with special needs are also like other human beings who do not only depend on their families and wait for kindness from others to meet the needs of their daily lives. This study was conducted to see to what extent the Basic Agriculture subjects found in the Life Skills component can change the behavior and interest of students of the Best DuA Special Education Integration Program (PPKI) in producing independent human beings.

Before this agricultural project was carried out in schools, students were not interested in following the teaching and learning process (pdp). Their focus on pdp was brief and often showed a protested character in the classroom and not doing the assigned assignments. Sometimes there are also students who sleep in the class. In terms of behavioral problems, students with special needs were found to be unfocused during the teacher's teaching process and too active. In addition, they like to move around in the classroom and often disturb other students during the teaching process. Therefore, this student will always be scolded by the teacher. In fact, his emotions will also be affected and it will not be fun to come to school.

As a result, the monthly attendance percentage declined because they always did not come to school. Based on the findings of the attendance data the month before the agricultural project was implemented, the attendance of students in each class was at an alarming level.

2.1 Research Objectives

This study was conducted to:

i. Attract students to ensure student attendance to school.
ii. Change negative student behaviors and form positive behaviors.

3. Literature Review

Urban Farming is an effort implemented to the pupils with needs and helped them getting better in daily life. It was fertigation methods that succeeded helping schools in tackling the school attendance problems. After introducing the UF to the special needs pupils, The number of students skipping decreased significantly. All the students involved are eager to come to school because they want to take care of their crops. The schedule for this gardening activity is allocated for two

times a day for each class, which is for one hour. Students will handle the crops in this garden. Therefore, on this initiative, I thought it would be practiced for PPKI Best DuA students who have various problems and difficulties to learn. Furthermore, they are not interested in learning in the classroom because they feel constrained. Therefore, it is hoped that these skills in agriculture will transform them to attend school every day cheerfully.

When the Faculty of Education, Department of Agricultural Science, Universiti Pendidikan Sultan Idris (UPSI), introduced vegetable cultivation using fertigation method through the Cucumber Planting Pilot Project at Sekolah Kebangsaan (SK) Bandar behrang 2020. The opportunity provided by UPSI was worthwhile, more- more and more students are getting excited to come to school to ensure the success of the project.

The school took this initiative as an effort to address the problem of absenteeism of special education students by creating planting skills in schools using fertigation systems. Apparently this effort can solve the problem of students who often do not attend school. This effort has an effective impact on special education students to implement fertigation projects in schools, especially for students with learning difficulties. They are exposed in every planting process starting from sowing, planting and caring for the seedlings until they produce results. More interestingly, they were also given exposure on dealing and recording crop yields.

4. Research Methodology

According to Chua Yan Piaw (2006), study design is a planning that allows teachers to conduct research. teachers to record what is observed systematically and systematically. The research method used was a qualitative method, as I used observations on student behavior and a set of checklists to conduct this study. The teacher's observation method is through a table and a checklist which consists of two parts, namely to study the interests and changes and behaviors of students. A checklist is an observation form or a document used the data collection period is for 6 months starting from January to June. A total of 10 students were involved, were observed in the teaching and learning process in the garden. These are students who always do not come to school and are not interested in following the teaching and learning in school which results in a high percentage of skipping every month.

By 2020 the country was hit by the Covid 19 pandemic, many problems we have experienced. Among them is the destruction of many crops due to the long closure of schools. But we bounced back when the school reopened around early September 2020 and started planning to build a gazebo and a kelulut honey project. The bittersweet memories changed my mind a lot to make Urban Farming better and more systematic as a lesson from the effects of Covid 19. The school plans to increase the number of vegetable trees in the next project and honey farming project will also be carried out as well.

5. Findings

This study was conducted to: Attract students to ensure student attendance to school. Change negative student behaviors and form positive behaviors.

Table 1: Findings of students having fun with the project Urban Farming Cik Tebu Manis.

Student	Student attendance of KVS &KAV during UF classes	Summary
Student A	Yes	Interested
Student B	Yes	Interested
Student C	Yes	Interested
Student D	Yes	Interested
Student E	Yes	Not Interested
Student F	Yes	Interested
Student G	Yes	Interested
Student H	Yes	Interested
Student I	Yes	Interested
Student J	Yes	Interested

Figure 1: Changes in pupils interests

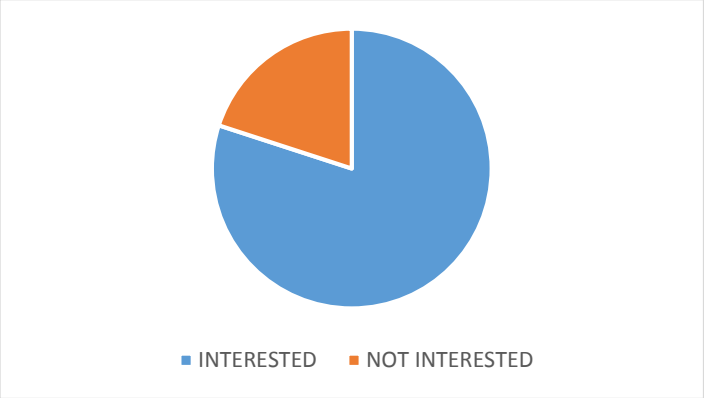


Table 2 below shows the observation form entries through the checklist. The notes show that students are beginning to be interested in learning about the teaching and facilitation process (PdPc) of Agriculture. Teachers have used this checklist to record the aspects that want to be observed throughout the teaching and learning is carried out.

Table 2. Behavioral checklist of students with skills during the Urban Farming project.

SKILL OBJECTIVES	**ACTIVITY**	**HAVE NOT MASTERED**	**MASTER**
Get to know the tools used	1. Naming equipment a. Scissors b. Sprinkler c. Scraper d. Hoe e. And others	0/10 students 0/10 students 1/10 students 0/10 students 3/10 students	10/10 students 10/10 students 9/10 students 10/10 students 7/10 students
Manage and use equipment properly	1. Operate equipment in a proper manner	3/10 students	7/10 students
	2. Clean the equipment	3/10 students	7/10 students
	3. Store equipment in the right place	1/10 students	9/10 students
	4. Manage equipment properly	3/10 students	7/10 students
Sowing seeds	1. Know the medium (ready mixed soil) of the nursery	4/10 students	6/10 students
	2. Fill the medium in the nursery container	2/10 students	8/10 students
	3. Prepare the seeds	2/10 students	8/10 students
	4. Insert and water the seeds into the tray	2/10 students	8/10 students
Care of seedlings	1. Arrange the seedlings in a tray	0/10 students	10/10 students
	2. Enter the nursery	0/10 students	10/10 students
	3. Water the nursery daily	2/10 students	10/10 students
	4. Transfer the rooted seedlings into a polybag after 3 weeks	3/10 students	7/10 students
Crop management	1. Transfer the tree to the garden site	3/10 students	10/10 students
	2. Installation of drip to the crop	3/10 students	3/10 students
	3. Put water and fertilizer into the barrel that has been scheduled fo 8 times entry per day	5/10 students	6/10 students
	4. Final work and inspect the crop.	3/10 students	7/10 students

Figure 2 : Get to know the tools

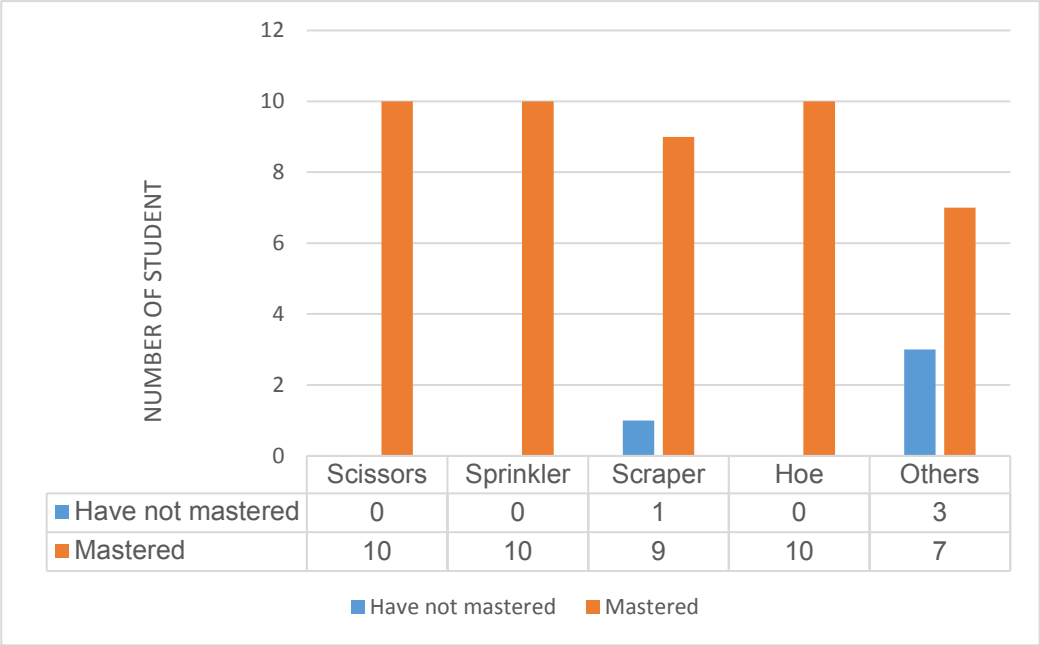


Figure 3 : Manage and use tools

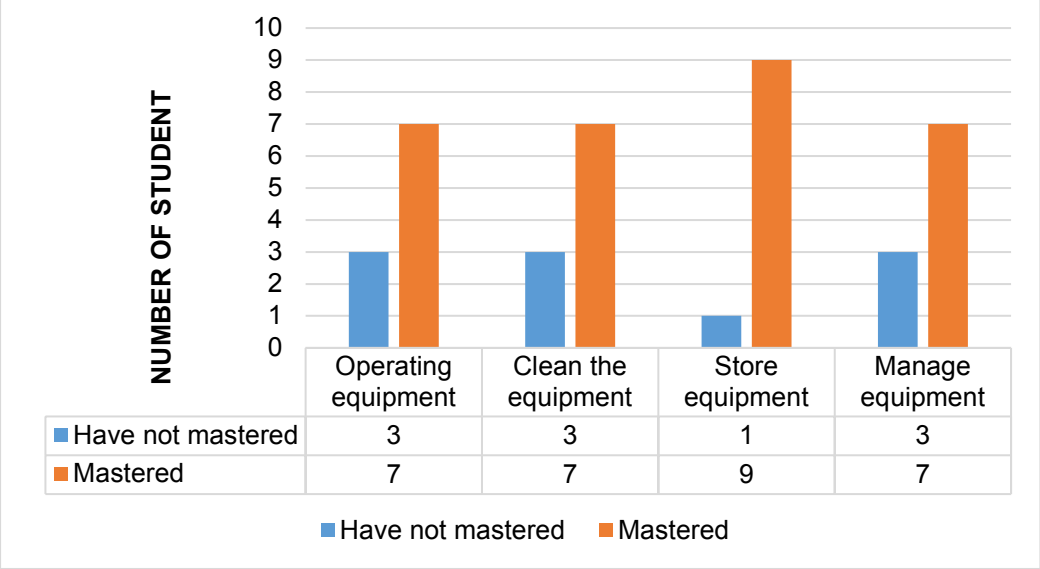


Figure 4 : Sow the seeds

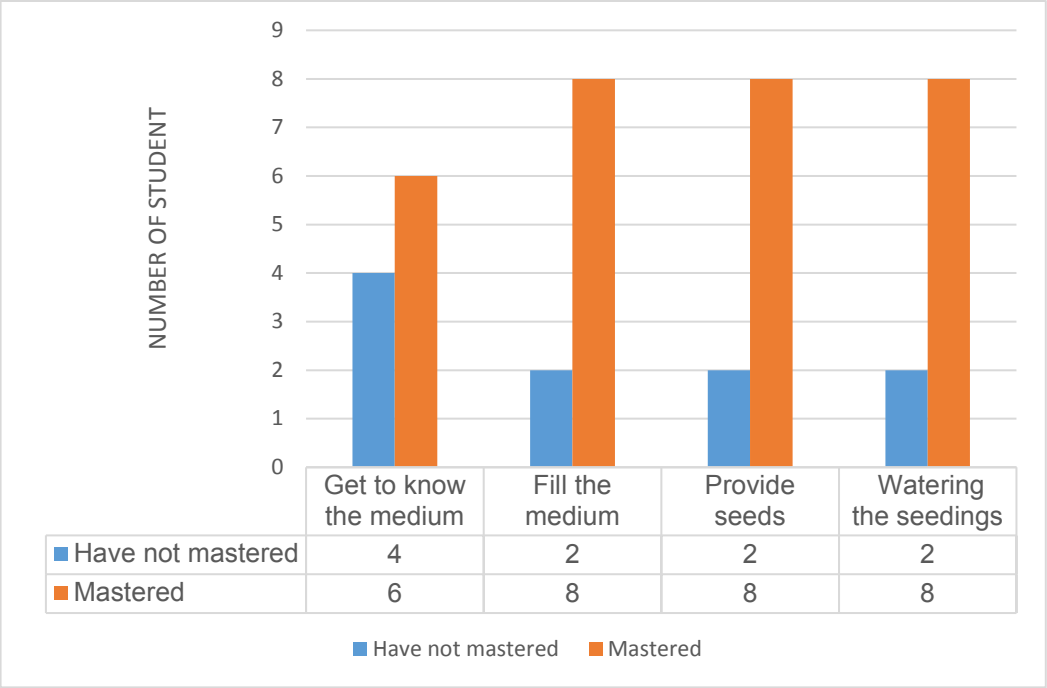


Figure 5 : Crop management

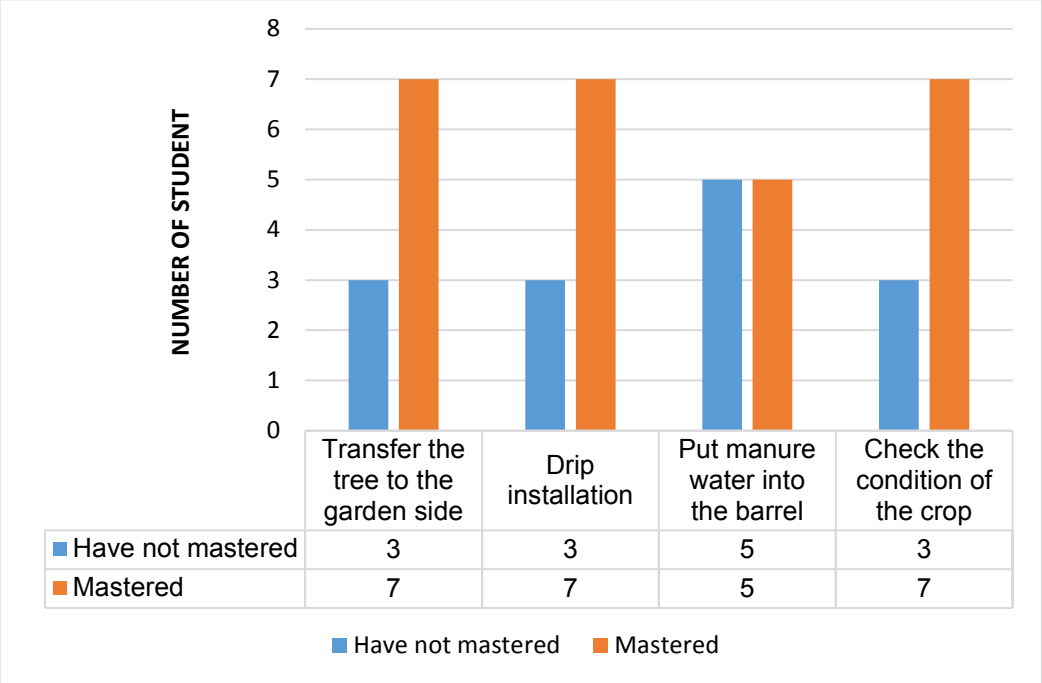
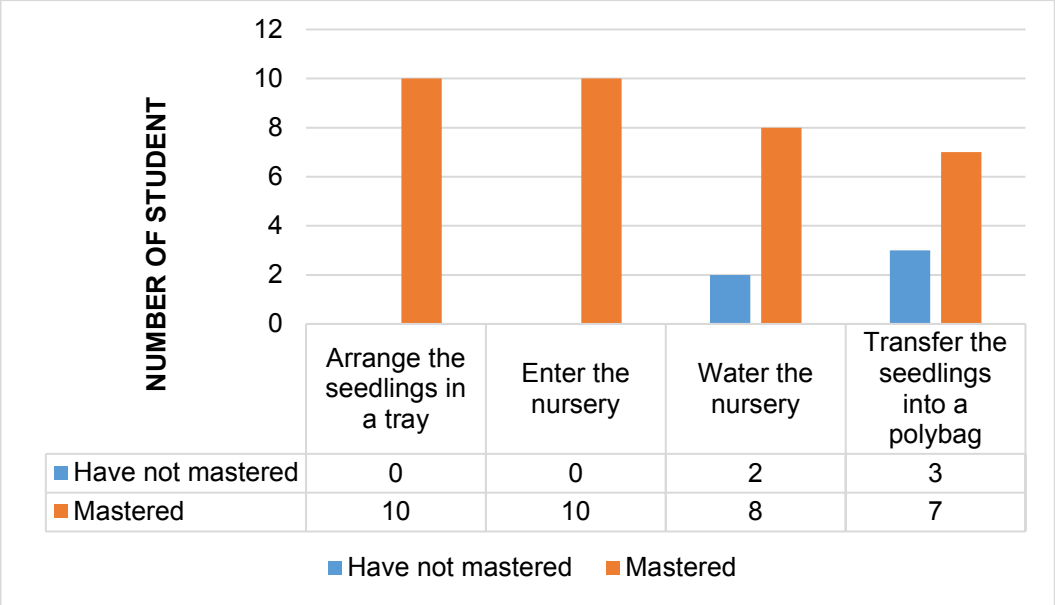


Figure 6 : Plant care



Figures 2 to 6 show observation form entries through a checklist. The notes show that students are beginning interested in learning about agricultural in PdPc. Teachers have used this checklist to record the aspects they want to observe during this pdp.

Since Urban Farming was conducted, they are eager to attend school because they want to take care of the crops and vegetables that are cultivated together with their respective classes. The determination of these students to go to school because there are various types of crops that are produced thrive and bear fruit in abundance. This step has a good effect when the attendance of students to school increases because each of them shows interest and changes in behavior while gardening. The crop takes between 40 to 90 days before it can be harvested and on the day of harvest, each student looks happy because each of them looks very satisfied to watch the vegetables they planted bear fruit. Similarly, during the sale of products,, they were very happy and excited while receiving orders and selling to teachers at the school.

5. Discussion

Based on the findings, courses or programs that involve knowledge and skills should be implemented more frequently to teachers who are new or who are teaching students learning problems in the subject of Agriculture at PPKI. This program should also focus more on the modules that have been issued by the Ministry of Education in order to strengthen the readiness of teachers as teaching crops according to the Secondary School Standard Curriculum is still new.

Although the subject of crops based on KSSM is still new among special education teachers, but they must find solutions in equipping themselves with knowledge and high skills to create a meaningful teaching environment as has been done that is fertigation method for students with learning difficulties. In addition, teachers should also attract students to always be enthusiastic in learning and be able to implement teaching without any problems and at the same time giving them positive effect in order to produce students who master the skills in crops.

This initiative not only benefits the school but the main one is the students themselves because academically, they may drop out, but through this effort they acquire agricultural

knowledge and it is not impossible that some of them will be able to become successful farmers one day. Recognizing the real needs of these special students, PPKI Best DuA has taken steps to introduce a mini project of vegetable cultivation using fertigation methods starting in 2017. In the early stages, this project guided by myself was implemented on an agricultural site adjacent to the Special Education class. Until now, this project is still being pursued by using the services of 2 teachers.

The full attendance of students can be observed when on Mondays, Wednesdays and Fridays are the gardening day schedule. During gardening activities, these students seem happier because they can play with friends during pdp conducted as well as reduce student stress in class and by gardening also as therapy to students and stimulate all their senses. q8,q9qmg.,.ñStated through writing an article by Edi Junaedi, S .Ag .. Itqan Learning and Consulting Center (ILCC) in 2015.

6. Conclusion

The implementation of Urban Farming in schools can help build students' interest in addressing the problem of student absenteeism and assess the extent of success of the implementation of agricultural subjects. This mini tree planting project using fertigation method is the first project carried out at PPKI Best DuA Hulu Selangor and it is felt to be able to give a significant impact in discussing the direction of PPKI itself. Througkh the collection of teacher experience at PPKI Best DuA, this project is expected to help students after school and provide a clear definition not only to the students and parents involved but also to the community as a whole. Support from various parties is very important in ensuring the success of this effort.

The readiness of teachers in terms of knowledge and skills is very important to ensure that the objectives of teaching agricultural subjects are successful and achieve the real goals outlined by the Ministry to provide equal employment opportunities to students with learning disabilities and mainstream students. This is evidenced based on findings from previous studies by Norshidah Mohd Salleh, Aliza Alias & Zalizan Mohd Jelas (2016), who stated that teachers need to have high skills and knowledge in helping the teaching and learning of students with special needs more affectively.

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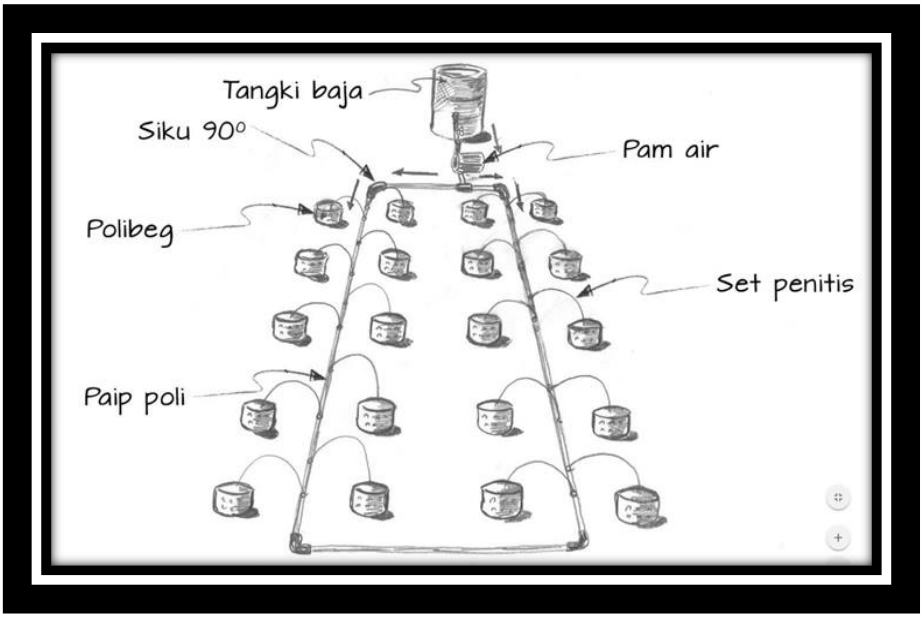
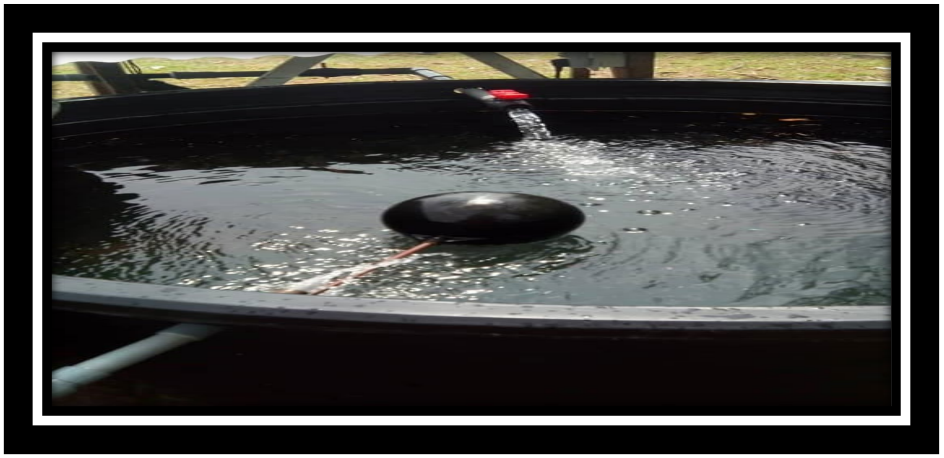
Attachment

TRADITIONAL CROPS 2016-2018





FERTIGATION SYSTEM STARTED 2018 UNTIL NOW

PUPILS LEARNT THE SOWING PROCESS AND THE FERTIGATION SYSTEM

PUPILS INTERESTED IN HANDLING THEIR CROPS

LADA SOLOK

PUPIL REAPS THE CROPS

ORGANIC CABBAGE