

An Experiment on Kitchen Garden through Organic Farming Approach

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Abstract—The paper titled as An Experiment on Kitchen Garden through Organic Farming Approach explains about the daily family consumption need can be meet by the organic approach of kitchen garden. Kitchen garden is a garden or area where vegetables, fruits or herbs are grown for domestic use. For the sake of good life and health the organic approach of kitchen garden should be adopt in each and every household may be urban or rural. . A plot of (5×4)m² can easily supply the vegetable for a family of 4 persons. Even not in the villages people can grow kitchen garden in urban areas also. In urban areas people mostly lives in the flats now a days. In their balcony the can grow vegetables in the pots.

Index Terms—organic farming

I. INTRODUCTION

Kitchen garden is a garden or area where vegetables, fruits or herbs are grown for domestic use. It is also known as potager (in French). Since early times a small plot near to the house has been used for growing a variety of vegetable according to the season. Local verities are generally grown in the kitchen garden. For a healthy life people should take a balance and healthy diet. In a healthy diet the vegetable are most important thing.

From the ancient age people grows some little vegetables near the house for the daily home consumptions. For home consumption it should be poison free and organic. For the sake of good life and health the organic approach of kitchen garden should be adopt in each and every household may be urban or rural.

A. Benefits of the Kitchen Garden

- To grow healthy, fresh vegetables yourself.
- To save the cost of buying vegetables and herbs.
- Waste resources such as sweepings, kitchen scraps and dirty water can be recycled onto the garden.
- Wasteland around the house can be made productive.

Waste management through the kitchen garden

1. Domestic waste water collection
2. Ash, water, hair, etc. composting resources from the house to the land
3. Seeds from the garden to house and from house to garden
4. Sweepings from the house and courtyard
5. Waste water used for irrigation in the kitchen garden

6. Use of compost
7. Liquid manure also used for plant growth
8. Fodder from the land and live fence, and compost returned to the land
9. Mulch material from the live fence and edges
10. Vegetables etc. from the kitchen garden to the house

II. REVIEW OF LITERATURE

Gibbs *et al.* (2013), to assess the accomplishment of the Stephanie Alexander Kitchen Garden Program in expanding kid energy about diverse, sound sustenances lead a Comparative 2-year study. Six programs and 6 comparison Primary schools in provincial and metropolitan Victoria, Australia, coordinated for financial status and size. A sum of 764 students in class 3 to 6 (8–12 years old) and 562 guardians selected. Consistency standards at follow-up included 85% kids and 75% guardians. Every seven day stretch of the school year, kids spend through 45 to an hour in a garden class and an hour and a half in a kitchen class. Program affect on youngsters' ability to attempt new nourishments, ability to depict sustenances and smart dieting. Subjective information broke down utilizing inductive topical examination. Quantitative information investigated utilizing irregular impacts direct relapses balanced for school bunching. Kid and parent subjective and quantitative measures (if never attempted, chances proportion 2.0; certainty interim, 1.06–3.58) demonstrated increments in youngsters' accounted for eagerness to attempt new nourishments. No distinctions in the verbalization of sustenance portrayals (program versus correlation gatherings). Subjective proof demonstrated that the program stretched out its impact to good dieting, however, this was not reflected in the quantitative evidence Findings show program accomplishment in accomplishing its essential target, justifying further program look into.

Block *et al.* (2011), This article presents results from a mixed-method evaluation of a structured cooking and gardening program in Australian elementary schools, concentrating on program impacts on the social and learning condition of the school. Specifically, we address the Stephanie Alexander Kitchen Garden Program goal of giving a pleasurable ordeal that positively affects understudy commitment, social associations, and certainty inside and past the school doors. Essential confirmation for the examination question originated from subjective information gathered from

understudies, guardians, educators, volunteers, school principals, and pro staff through meetings, center gatherings, and member perceptions. This was upheld by examinations of quantitative information on kid personal satisfaction, agreeable practices, instructor view of the school condition, and school-level instructive result and non-attendance information. Results demonstrated that a portion of the program qualities esteemed most profoundly by examine members included expanded understudy commitment and certainty, open doors for experiential and coordinated learning, cooperation, building social abilities, and associations and connections among schools and their networks. In this examination, quantitative discoveries neglected to help discoveries from the essential investigation. Constraints and additionally advantages of a blended strategies way to deal with assessment of complex network mediations are examined.

III. METHODOLOGY

A. Site selection

The organic plot at the back of our university is selected for our kitchen garden.

B. Design of Garden

A plot of (5×4) m² is selected for our kitchen garden. There are five beds of (0.8×4) m². The gap between two beds are 0.2 m.

Selected Crops are:

1. Ridge gourd
2. Basella
3. Cowpea
4. Okra
5. Kangkong

C. Seed Sowing

All the seeds are local variety. At 1st seeds are treated with 10% cow urine solution.

The sowing method of the crops are given below,

TABLE I
SOWING METHOD OF THE CROPS

Crop Name	Date Of Sowing	Spacing	Germination Date
Ridge Gourd	9.3.2016	80cm (in one place there is 6 seeds)	13.3.2016
Basella	9.3.2016	15cm	15.3.2016
Amaranth	11.3.2016	Broadcasting	22.3.2016
Okra	11.3.2016	20cm	16.3.2016
Cowpea	11.3.2016	10cm	17.3.2016
Kangkong	11.3.2016	2cm	17.3.2016

D. Water Management

1. From sowing to the germination everyday apply the water twice to maintain the minimum moisture for germination as because the soil of our plot have very poor capacity to hold the water and also the high temperature of summer.
2. Then after germination to a certain growth we apply water once in a day.
3. Then up to flowering we apply water every alternative day.
4. After flower emergence to fruit set we apply water once

every day.

5. Then After a certain growth of the fruits apply water once in every 3days.

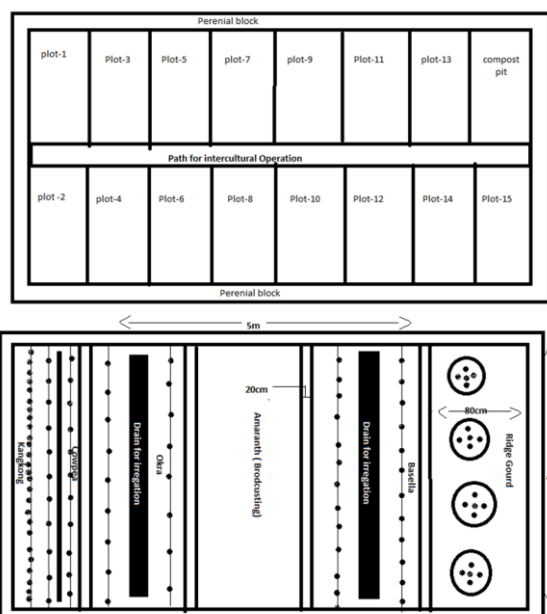


Fig. 1. Diagram of an ideal kitchen garden & our kitchen garden

E. Management for the Growth of the Plants

- FYM: At the time of land preparation & sowing FYM is applied.
- 10% cow urine solution: Cow urine contains urea. So it is a rich source of nitrogen. Foliage spray in interval of every 15days. It helps the physical growth of the plants.
- Sashyagavya: Sashyagavya is a liquid manure. The components are: Cow dung, cow urine, kitchen waste, and water.

The ratio is given below:

- Cow dung: cow urine: kitchen waste: water= 1:1:1:2
- We prepare the solution on 5th April.
- 10% vermin wash apply: Foliage spray of vermiwash applied on 16th April to enhance the growth of the plants.
- Sashyagavya is prepared within 9-12 days. We apply sashyagavya on 26th April.

F. Protection

- Fencing: Our first enemy which we face is the dogs. They dug the seed beds and hampered the germination. So we make a temporary fencing on 23rd of February.
- 10% cow urine solution with 50g of turmeric powder: After sowing of seed the termites attacked the plot and try to destroy the seeds. To prevent the termite we apply the 10% cow urine solution with 50g of turmeric powder.
- 10% Pancha patra apply: After coming out of true lives plants are attacked by the aphids. Then we apply the 10% pancha patra solution.

G. Preparation of Pancha Patra

At first *Neem*, *Basak*, *Ghatu*, *Guava*, *Nisinda* lives are collected. The ratio is- *Neem*: *Basak*: *Ghatu*: *Guava*: *Nisinda*= 2:1:1:1:1

Then boil it for atleast 30min in water and left it for one night. Next day make its 10% solution and spray on the foliage.

- **2% *Neem* oil apply:**

After one week of pancha patra application we apply 2% neem oil solution added with some detergent powder for prevent the aphid.

- **10% garlic extract spray:**

Cowpea is attacked by leaf and fruit borer to prevent those we apply the 10% Garlic extract added with cold water.

H. Special Horticultural Practices

- Weeding is done at least one time every alternative week
- We dig the soil for the proper aeration.
- We make a bower for the ridge gourd.
- We make a drain in all beds (except the amaranth) for irrigation.
- Thinning is done for the proper growth of the plants (especially in amaranth).
- Provide some branches for the growth of cowpea.

I. Data collection and Parameter Measurement

Date wise the harvested crop data is collected and weighted on an electronic weight machine.

IV. RESULTS

TABLE II
RESULTS

Date	Amaranth	Basella	Okra	Cowpea	Kangkong	Ridge gourd
24.4.2016			65g		1kg	
26.4.2016	250g		80g			
30.4.2016	250g		45g			150g
9.5.2016	325g	2kg	200g		500g	
12.5.2016	150g	1.5kg	75g			
13.5.2016				77g		280g
16.5.2016		1kg	250g	68g	1.5kg	200g
22.5.2016	500g	500g	80g	125g	500g	450g
30.5.2016	750g		250g	25g		
Total	2.225kg	5kg	1.045kg	0.295kg	3.5kg	1.08kg



V. CONCLUSION

From the results of yield we can understand that organically we can grow vegetables with in a small plot in front of the house or in the back of the house. A plot of (5×4) m² can easily supply the vegetable for a family of 4 persons. Even not in the villages people can grow kitchen garden in urban areas also. In urban areas people mostly lives in the flats now a days. In their balcony the can grow vegetables in the pots. It is very lowcost and don't need more time for cultivation. People who have less time for gardening they can also cultivate the kitchen garden. As it is in a very limited area it is very easy to conduct intercultural operating like weeding tilling etc. As a result

proper maintenance is done very carefully. By organically we can maintain the growth and the pest and disease. So it is very nutritious and not harmful to the body. We can get fresh vegetables at home, where as the vegetables from the market is not fresh.

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