

RESEARCH ARTICLE

A Study on Production Practices Being Followed by Organic Tomato Growers in Bailhongal Taluk of Belagavi District of Karnataka

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Abstract

A study on production practices being followed by organic tomato growers in Bailhongal taluk of Belagavi district of Karnataka. The primary data were collected from 60 organic tomato growers / farmers through structured questionnaire method for the study. Adoption of seedling preparation practices in cultivation of organic tomato crop. It was noticed that 93.33 per cent of the respondent farmers adopted the raised bed method followed by 91.66 percent of the farmers followed raise the beds with 1 m width and 3 m length with a height of 20 cm. It was noticed that 80.00 per cent of the respondent farmers practiced to apply of 20-25 kg well decomposed FYM, *Trichoderma harzianum* @ 4g per kg of FYM and 1-2 kg of neem cake per bed. 83.33 per cent of the respondent farmers used the correct rate of seedlings @ 7-8 thousand per acre. It was found that 86.66 per cent of the farmers were used to dip the roots of tomato seedling in suspension of 1-2 kg of *Azotobacter* or *Azospirillum* and PSB per 5-10 liter of water for 20-30 minutes before transplanting to the main field. It was noticed that 93.33 per cent of the farmers were following practices of growing green manure like sunhemp and sesbania rostrata etc. It was found that cent per cent of the organic vegetable growers applied recommended quantity of farm yard manure (5-10 t/acre) once in a year for tomato crop. It was found that 63.33 per cent farmers applied Phosphate solubalizers @ 1kg/acre for improving the soil fertility. The cent per cent of the farmers practicing the deep summer ploughing and crop rotation with non solanaceous crops like pulses / legumes for breaking the life cycle of the insects and pests. It was found that 91.66 per cent of the respondent farmer's collection and destruction of affected plants and shoots. Majority of vegetable growers (98.33%) in tomato crop were found to use Neem Seed Kernel Extract (NSKE) at the rate of 2-5 ml / lit of water to control worms and whiteflies. 98.33 per cent of the farmers expressed that timely or regular weeding required for removing harmful weed from the field. 78.33 per cent of farmers got yield of organic tomato around 10-20 t / acre.

Keywords: *Organic tomato, Organic production practices, Green manuring.*

Introduction

Organic vegetable production is becoming important in the horticulture sector in India and it includes all horticultural systems that promote environmentally, socially and economically sound production of vegetables. These systems take local soil fertility as a key to successful production. By respecting the natural capacity of plants, animals and landscape, it aims to optimize quality in all aspects of horticulture and the environment. Organic vegetable production reduces external inputs by refraining from the use of

chemo-synthetic fertilizers and pesticides. Instead it allows the powerful laws of nature to increase both vegetable yields and disease resistance. We have exploited our natural resources beyond all limits to realize high productivity and production. During the recent past, the use of chemicals for the management of pest and disease and improve the soil fertility has been increased. Some of these chemicals do not degrade easily and enter into human body leading to health hazards.

Organic tomato production practices are assuming importance all over the world now a days in order to make the harvested produce free of pesticide residues and other harmful chemicals, to minimize soil, water and environmental pollution and sustain the soil productivity. It relies up on crop rotations, crop residues, animal and green manures, legumes, mechanical cultivation, bio-fertilizers and biological pest control methods to maintain soil productivity, to supply nutrients and to control insects, disease and weeds. Organic food has evolved from being a fashion cult to a necessity for healthy living and the global food markets present a bright situation for the organic food suppliers as the demand for outstrips the supply.

Therefore in several countries around the world including India, demand for organically produced tomato is increasing among the consumers. In this direction it is endeavour of all people concerned with organic or safe vegetable production. The principle objectives of organic vegetable production are to develop a sustainable farming system for guaranteed adequate vegetable production in the foreseeable future to develop self – sufficient horticulture system which would rely as much as possible upon own resources and to develop an alternative strategy over chemical farming which would be a guideline for working of biological processes in natural eco-systems.

Review of Literature

Ashwathaiah and Krishna (1973) in their study on adoption of improved practise by potato growers in Belgaum district noticed that all the respondents used improved seeds, while 86 percent were found to applied recommend dose of FYM. Adoption of recommended spacing and application dose of nutrients noticed with 74.30 percent and 65.70 percent of farmers respectively but plant protection measures were not adopted by 78.60 percent of potato growers [1].

S.S. Nagarajan (2010) in his article on “growing brinjal in the organic way” had highlighted that attempted to describe the cultivation of brinjal in the organic way. He

discussed the produce is harvested when they are still tender and when they have attained a good size and when the surface is bright and glory. He found that organic agriculture is an economically viable proposition and farmers can earn more income through the premium price for organic produce and they need fewer inputs to manage return [2].

K. Guruswamy and K. Balanaga Guruna (2010) have done a study on “SWOT Analysis of organic farming management in India”, to analyze the internal environment and identifying external opportunities. SWOT analysis of organic farming ,reveals that organic farming practices provide number of valuable benefits like poison less food, harmless water, soil restoration to the natural condition, creating friendlier environment and total employment for farmers [3].

S. Jeyakumar (2011) did a study on “organic agriculture – a good quality of life for all” to develop a sustainable agriculture system for guaranteed adequate food production and self-sufficient agriculture system, alternative strategy over chemical agriculture primary data was used for this study. The study found organic agriculture is a production system that sustains the health of soils ecosystems and people. It relies on ecological processes, biodiversity and cycles [4].

Justification or Importance of the study

Inorganic farming affects the environment in multiple ways. Pesticides sprayed on vegetables not only destroy pasts and contaminate the crops but also kill beneficial insects. The residue of these pesticides affects the health of human being. Organic farming on natural resources favours interactions with in the agro ecosystem that are vital for both vegetable production and nature conservation.

Ecological services derived include oil farming and conditioning, soil stabilization and waste recycling. Organically grown food is dramatically superior in mineral content.

So, “A Study on Production Practices in Organic Tomato cultivation in Bailhongal taluk of Belagavi District of Karnataka” is most appropriate and the present study is undertaken for studying production practices being followed in organic tomato production or cultivation .

Objectives of the Study

To study the organic tomato production practices being followed by organic tomato growers.

Scope of the Study

This study would help the common people to understand the importance of organic tomato production. Study may also help the tomato cultivators to take up appropriate steps to increase their income by the application of various production practices given by the organic tomato growers. This study would help the both horticulture and agricultural department and policy makers to understand the easy production practices of tomato by the farmers who use organic farming; there by programmes can be designed by the Government to minimize the problem of the tomato growers / farmers.

Methodology

The study was conducted in Bailhongal taluk of Belagavi district of Karnataka state. The research design and statistical tools used as follows.

Research Design

Primary data were collected from 60 organic tomato cultivars / farmers through structured questionnaire method at Belagavi district of Karnataka.

Statistical Tools Used

The collected data were scored, tabulated and analysed by using suitable statistical tools such as frequency and percentage. The inferences were drawn at each level of intervention to arrive at final results.

Results and Discussion

Organic Tomato Production Practices being followed by Organic Tomato Growers

The details of organic production practices being followed by the organic tomato growers have been grouped under the components like seedling preparation, agronomic practices, practices of soil fertility management, practices of management of pest and disease, practices of weed management and finally practices of post harvest losses in tomato.

Table 1: Adoption of seedlings preparation practices by organic vegetable growers in tomato (N = 60)

S. No.	Practices	Tomato	
		No.	%
1	Methods of Nursery Raising Beds		
a	Raised bed	56	93.33
b	Flat Bed (this type of bed is prone to water logging and thus seedling decay and not recommended during rainy season).	04	6.66
2	Preparation Raised Bed		
a	The raised beds should be 1m width and 3m length with a height of 20 cm.	55	91.66
b	Break the clods and bring the beds to a fine tilth	46	76.66
c	Beds should be exposed to high temperature (Solarization) to prevent pest and disease	46	76.66
d	Practices of applying 20-25 Kg well decomposed FYM, <i>Trichoderma harzianum</i> @ 4 g/ Kg of FYM and 1-2 Kg of neem cake per bed.	48	80.00
3	Sowing of Seeds in Nursery Beds		
a	Seed rate required around 120-150 g / acre for raising seedlings	58	96.66
b	Seed treatment with fungal culture of <i>Trichoderma viride</i> @ 1 g /150g of seeds and 4-5% of Panchagavya.	48	80.00
c	Sowing the seeds thinly in line spaced at 5-10cm distance with 2cm spacing between successive seeds at a depth of 1-2cm, then covered with fine layer of soil followed by light watering	56	93.33
d	The beds should be covered / mulches with dry straw / grass/ sugarcane straw/ thin nylon nets etc to maintain required temperature and moisture	47	78.33
e	Use of 20-25 days old seedlings for transplantation	44	73.33

The data depicted in Table 1 revealed that adoption of seedling preparation practices in cultivation of the organic tomato crop. It was noticed that 93.33 per cent of the respondent farmers adopted the raised bed method followed by flatbed 6.66 per cent, the flatbed is prone to water logging and thus seedling decay and not recommended during rainy season. 91.66 percent of the farmers expressed that raise the beds with 1m width and 3m length with a height of 20 cm. It was found that 76.66 per cent of the farmers to practices breaking of clods and bring the beds to a fine tilth and also they used to expose the beds for high temperature (solarisation) to prevent pest and diseases. It was noticed that 80.00 per cent of the respondent farmers were practicing applying of 20-25 kg well decomposed FYM, *Trichoderma harzianum* @ 4g per kg of FYM and 1-2 kg

of neem cake per bed. 96.66 per cent of the farmers found to be practicing seed rate around 120-150g per acre for raising the seedlings. 80 per cent of the farmers were found to be treating the seedlings with fungal culture of *Trichoderma viridea* @ 1g / 150 g of seeds and 4-5 % of the Panchagavya. It was found that 93.33 per cent of the farmers were used to sow the seeds thinly in line spaced at 5-10cm distance with 2cm spacing between successive seeds at depth of 1-2 cm, then covered with fine layer of soil followed by light watering. It was found that 78.33 percent of the farmers covered the bed with the dry straw or grass or sugarcane straw or with thin nylon net to maintain the required temperature and moisture. It was found that 73.33 percent of the respondent farmers were used to transplant 20- 25 days old seedlings to the main field

Table 2: Adoption of agronomic practices by organic vegetable growers in tomato (N = 60)

S. No.	Practices	Tomato	
		No.	%
1	The Land should be ploughed and harrowed around 3-4 times to obtain a fine tilth.	57	95.00
2	Sowing type (Transplanting preferably be done in the evening time).	52	86.66
3	Requirement of seedling @ 7 – 8 thousand / acre	50	88.33
4	Sowing season		
a	Kharif – (June – July)	32	53.33
b	Rabi (Oct – Nov)	18	30.00
c	Summer (Feb – March)	10	16.66
5	Dip the roots of the seedling in suspension of 1 – 2 Kg of <i>Azotobacter</i> / <i>Azospirillum</i> and PSB / 5-10 litre of water for 20-30 minutes before transplanting to the main field.	52	86.66
6	Practice of transplant in the main field with spacing of 60-70 cm between rows and 50 - 60 cm between successive plants	47	78.33
7	Cropping pattern		
a	Sole cropping	54	90.00
b	Intercropping with Soybean and Cotton etc	6	10.00
8	Gap filling is done at 7-10 days after transplanting	60	100.00
9	Irrigation Methods		
a	Drip / Sprinkler	42	70.00
b	Flat Bed / furrow irrigation	18	30.00
10	Practice of irrigation at an interval of 3-4 days for first month after transplanting and then at every 5-7 days interval until crop completion.	40	66.66

It was noticed in Table 2 revealed that 95.00 per cent of the respondent farmers were adopted the land ploughing and harrowed around 3-4 times to obtain a fine tilth. 86.66 per cent of the farmers were transplanting the seedlings preferably in the evening time. 83.33 per cent of the respondent farmers used the correct rate of seedlings i.e. seedling @ 7-8 thousand per acre. The most of the farmers were sow the tomato crop in the *Kharif* season (53.33%) followed by *Rabi* (30.00%) and *Summer*

(16.66%). 86.66 per cent of the farmers were used to dip the roots of tomato seedling in suspension of 1-2 kg of *Azotobacter* or *Azospirillum* and PSB per 5-10 liter of water for 20-30 minutes before transplanting to the main field. 78.33 per cent of the farmers were practices the transplanting the seedling to the main field with spacing of 60-70 cm between rows and 50-60 cm between successive plants. In case of cropping pattern, the respondent farmers used to practice both sole cropping and

intercropping. There were 90.00 per cent farmers were following practices of sole cropping whereas 10 per cent farmers were following practices of intercropping with soybean and cotton. Cent per cent of the respondent farmers followed that practices of gap filling at 7-10 days after transplanting. 70 per cent of the farmers were using drip / sprinkler irrigation and 30

percent of the farmers were following practices of flatbed or furrow irrigation method. There were 66.66 per cent of the farmers were following practices of irrigate the crop land at an interval of 3-4 days for first month after transplanting and then at every 5-7 days interval until crop completion.

Table 3: Adoption of soil fertility management practices by organic vegetable growers in tomato (N = 60)

S. No.	Practices	Tomato	
		No.	%
1	Application of green manuring		
a	Practice of applying green manure like Sunhemp and Sesbania rostrata etc	56	93.33
b	Practice of applying green leaf manure like Gliricidia and Pongamia glabra etc	48	80.00
2	Application of Organic manure		
a	Application of farm yard manure (5-10 t/ac) once in a year	60	100.00
b	Application of vermi-compost 2 – 3 t/acre, during ploughing	49	81.66
3	Application of Bio - fertilizers		
a	Application of Azospirillum @1Kg /acre for soil application	39	65.00
b	Application of Phosphate Sulubalizers, @ 1 kg/acre for improving the soil fertility	38	63.33
4	Use of neem cake @ 250 Kg / ac while forming ridges.	34	56.66
5	Application of Jeevamruta (Mix cow dung 10Kg, Cow urine 10 lit, Jaggary 2 Kg, any pulse grain flour 2 Kg and live forest soil 1 Kg in 200 lit of water) along with irrigation water	33	55.00
6	Spraying around 3-5% of Panchgavya (Mix fresh cow dung 5 Kg, cow urine 3 lit, cow milk 2 lit, curd 2 lit, ghee 1 Kg and ferment for 7 days) over soil for improving the soil fertility	29	48.33
7	Maintaining optimum soil moisture to avoid leaching and mobility of nutrients	49	81.66
8	Incorporation of crop residues (wheat straw/Soybean etc)	56	93.33

The adoption of various components of soil fertility management practices followed by the organic vegetable growers is presented Table 3.

Application

Application of Green Manuring in Tomato

It was noticed that 93.33 per cent of the farmers were following practices of applying green manure like sunhemp and sesbania rostrata etc. 80.00 per cent of the farmers were found to be applying green leaf manure like Gliricidia and pongamia glabra for their crop land to improve the soil fertility.

Application of Organic Manure in Tomato

It was found that cent per cent of the organic vegetable growers applied recommended quantity of farm yard manure (5-10 t/acre) once in a year for tomato crop. Similarly high per cent of farmers (81.66%) were practicing application of vermicompost @ 2-3 t/acre at the time of ploughing.

Application of Bio-fertilizers in Tomato

Application of various types of Bio fertilizers i.e., *Azospirillum* @ 1 kg/acre for soil application was found with 65.00 per cent of the respondent farmers. Application of Phosphate solubalizers @ 1kg/acre for improving the soil fertility as per recommended was noticed among 63.33 per cent of the respondent farmers.

There were 56.66 percent of the farmers found to use of neem cake @ 250 kg /acre while forming ridges. 55 per cent of the organic vegetable growers used to apply the Jeevamruta (Mix cow dung 10Kg, Cow urine 10 lit, Jaggary 2 Kg, any pulse grain flour 2 Kg and live forest soil 1 Kg in 200 lit of water) along with irrigation water to improve the soil fertility. There were 48.33 per cent of the respondent farmers found to spray 3-5% of Panchagavya (Mix fresh cow dung 5 Kg, cow urine 3 lit, cow milk 2 lit, curd 2 lit, ghee 1 Kg and ferment for 7 days)

over soil for improving the soil fertility. There were 81.66 per cent of the organic vegetable growers found to maintain optimum soil moisture to avoid leaching and mobility of nutrients and there were

high per cent of the farmers (93.33%) used to incorporate the crop residues like wheat straw/ soybean *etc.* into the soil to improve the soil fertility.

Table 4: Production practices being followed in management of pest and diseases by organic vegetable growers in Tomato (N = 60)

S. No.	Practices	Tomato	
		No.	%
I	Major Pest and Disease Observed		
1	Major Pest observed Fruit borer, whiteflies and Aphid	53	88.33
2	Major disease observed Leaf curl, Fusarium wilt and Blight	51	85.00
II	Cultural Practices		
1	Deep summer ploughing	60	100.00
2	Crop rotations with non – solanaceous crops like pulses / legumes for breaking the life cycle of insects and pests	60	100.00
3	Use of trap crop like marigold to attract tomato fruit borer	49	81.66
4	Timely sowing of entire block	45	75.55
III	Mechanical Practices		
1	Collection and destruction of affected plants and shoots	55	91.66
2	Uprooting of alternate host plants	44	73.33
3	Collection and destruction of egg masses/larva	39	65.00
4	Use of pheromone traps around 2-3/acre	31	51.66
5	Erecting of bird perches for predators like crow, myna etc (Jowar plant / erecting tree branches)	27	45.00
6	Conservation and encouraging of predators in the field	20	33.33
IV	Use of Bio - pesticides		
1	Use of Neem Seed Kernel Extract (NSKE) to control worms and whiteflies @ 2-5ml/lit of water	59	98.33
2	Use of neem cake to control nematodes/root disease (3-5qtl/ac) at the time of transplanting	48	80.00
3	Spray of Bio – pesticides like HaNPV (Helicoverpa armigera Nucleopolyhedrosis Virus) @ 250LE/acre against fruit borer in Tomato	43	71.66
4	Use of Trichoderma @ 5ml/lit of water for soil application	37	61.66
5	Use of one trichocard / acre 25 DAS or eggs of insects are found on the leaves of the plant,	28	46.66
6	Practices of spraying 4-5% neem seed extract solution on plants, if the intensity of pest infestation is more	19	31.66

The data depicted in Table 4 revealed that adoption of management of pest and disease by cultural practices, mechanical practices and use of bio pesticides.

Major Pest and Diseases Observed in Tomato

It was observed that there were 88.33 per cent farmers' field affected by the major pests like fruit borer, white flies and aphids. In the other hand there were 85 per cent farmers whose field crop was affected by the major disease like Leaf curl, Fusarium wilt and Blight.

Cultural Practices in Tomato

The cent per cent of the farmers practicing the deep summer ploughing and crop rotation with non solanaceous crops like

pulses / legumes for breaking the life cycle of the insects and pests. Similarly high per cent of the farmers (81.66%) use the trap crop like marigold to attract the tomato fruit borer. There were 75.55 per cent of the farmers used to sow the entire block in time.

Mechanical Practices in Tomato

It was found that 91.66 per cent of the respondent farmer's collection and destruction of affected plants and shoots. Similarly 73.33 per cent of the farmers were found to adopt uprooting of alternate host plants. 65.00 percent of the farmers practiced that collection and destruction of egg masses and larva. 51.66 per cent of the respondent farmers were found to use pheromone trap in the organic tomato field

around 2-3 acre. 45.00 percent of the organic vegetable growers were found to practice erecting of bird perches for predators like crow, myna *etc.* only few of the farmers 33.33 per cent used to practice conservation and encouraging of predators like wasps, beetles in the field.

Use of Bio-pesticides in Tomato

Among the different types of bio pesticides, majority of vegetable growers (98.33%) in tomato crop were found to use Neem Seed Kernel Extract (NSKE) at the rate of 2-5 ml / lit of water to control worms and whiteflies. The application of the Neem Cake at the rate of 3-5 qtl/acre to control nematodes root disease was noticed with 80.00 per cent of the respondents. The

practice of spraying of bio pesticides like HaNPV (*Helicoverpa armigera* Nucleopolyhedrosis Virus) at the rate of 250LE/acre against fruit borer in tomato was noticed among 71.66 per cent of the farmers. There were 61.66 per cent of the respondents using Trichoderma at the rate of 5 ml/lit of water for soil application. It was found that 46.66 per cent of the farmers used one trichocard for one acre after 25 days of sowing or eggs of insects are found on the leaves of the plants. It was noticed that there were 31.66 per cent of the farmers practicing spray around 4-5% neem seed extract solution on plants, if the intensity of pest infestation is more.

Table 5: Adoption of Weed Management practices by organic vegetable growers in Tomato (N = 60)

S. No.	Practices	Tomato	
		No.	%
1	Timely or regular weeding required removing harmful weeds from the field.	59	98.33
2	Practices of weeding can be done on 3 rd and 7 th week after transplanting	53	88.33
3	Practice of earthing up is done during second weeding or 7 th week after transplanting	50	83.33
4	Practice of crop rotation and cover crop to control weeds	49	81.66
5	Practice of timely inter cultivation	44	73.33
6	Practice of keeping field bunds free from weeds	32	53.33
7	Practice of soil solarisation (by exposing soil to sunlight)	24	40.00

Table 5 depict that adoption of Weed Management practices by organic vegetable growers in Tomato. 98.33 per cent of the farmers expressed that timely or regular weeding required for removing harmful weed from the field. 88.33 per cent of the farmer's practices weeding on 3rd and 7th week after transplanting of tomato seedlings. 83.33 percent of the farmer's practices of earthing up were done during second weeding or 7th

week after transplanting the seedlings. 81.66 percent of the farmers expressed that practice of crop rotation and cover crop to control weeds. There were 73.33 per cent of the farmers found to be doing timely inter cultivation followed by 53.33 per cent of the farmers were observed with keeping field bunds free from weeds and 40.00 per cent of the farmers were obtained practicing the soil solarisation (by exposing soil to sunlight).

Table 6: Adoption of Post-harvest management practices by organic vegetable growers in Tomato (N 60)

S. No.	Practices	Tomato	
		No.	%
1	Practices of harvesting 2-3 months after planting, when pink colour appears on fruit	60	100.00
2	Practice of Picking of tomato generally at 2-3 days interval	54	90.00
3	Practices of picking during late afternoon or early in the morning	49	81.66
4	Cleaning or washing tomato by wet – cloth	45	75.00
5	Grading – Small, Medium and Big	60	100.00
6	Method of Packing		
a	Plastic crates	42	70.00
b	Bamboo Baskets	18	30.00
7	Mode of Transport		
a	Tempo / Trucks	37	61.66
b	Bullock cart	11	18.33
c	Tractor	12	20.00
8	The yield of organic tomato around 10 – 20 t / acre.	47	78.33

The data depicted in Table 6 revealed that, cent per cent of the respondents expressed that harvesting the tomato crop after 2-3 months of planting when pink colour appears on the fruit. 90.00 percent the respondents were practiced picking of tomato at 2-3 days interval. The picking was done during the late afternoon or early in the morning by 81.66 per cent of the farmers. 75 per cent of the farmers were found to practice cleaning surface of tomato fruits by using wet cloth. The method of grading of harvested produce into small and big size, with the objective of getting better price for the produce was noticed among all the respondents (100%). Further, it was noticed that 70.00 per cent of the farmers were used to pack the tomatoes in plastic crates and 30.00 per cent of the respondents were packing in 10 kg and 20 kg capacity bamboo baskets. In case of the transportation, there were 61.66 percent farmers whose produces mode of transportation was through tempo or trucks whereas 18.33 per cent through bullock cart

References

1. Ashwathaiah and Krishna (1973), Adoption of improved practices in Potato cultivation by farmers and their characteristics Farm and Factory J, Nov 1973, University of Agricultural Sciences, Bangalore
2. Nagarajan.S.S (2010), "Growing Brinjal in the organic way" Kisan world 37(10):17-18.
3. Guruswamy K, Balanage Gurunathan K (2010) SWOT analysis of Organic farming management in India" Southern Economist, 49(8)14-16.
4. Jeyakumar S (2011) Organic agriculture a good quality of life for all "Kisan World, 28(3):47-51.

and 20 percent of the farmers were transport their produce through tractor. There were 78.33 per cent of farmers who get the recommended yield of organic tomato around 10-20t/acre.

Conclusion

Tomato is one of the most important vegetable crop and has wider use. Organic tomato cultivation gives reasonable profit to the farmers and also provides employment opportunities to the rural people. Organic farming is becoming more popular because consumers are demanding healthy and environment friendly food. Organic farm products are generally more expensive than inorganic crops. Yields drop sharply during the phase of conversion as it take some time for the soil and plants to reach equilibrium. However, yields rise again, once management systems get established. Organic tomato cultivation is technically feasible, financially viable.