

## Spray programme for Tomatoes and Peppers

CROP GROWTH STAGE	TARGET PESTS/DISEASES	PRODUCT FOR CONTROL	ACTIVE INGREDIENT	RATE/20L WATER	Spray interval	No. of sprays	Total product	PHI DAYS	REMARKS	
Nursery establishment (seeding)	Damping off, fusarium wilt, Bacterial wilt	Pearl 50SC	Carbendazim	20mls		0	0	14	<ul style="list-style-type: none"> <li>- The soil borne diseases can lead to total crop loss as seedlings dry before transplanting. Drenching the seed with <b>control 70DF</b> before sowing helps prevent the diseases.</li> <li>- Enrich BM induces immunity on crops against bacterial diseases</li> </ul>	
		Control 70DF	Thiophenate Methyl	16gms	Once	1	16g	14		
		Enrich BM		10gms	14days	2	20g	0		
		Oshozyme seed booster.	Plant growth promoting hormones, sea Weed extracts .	10ml	once	1	10ml		Mix oshozyme with the seeds before sowing to help increase the seeds germinative power. Oshozyme is rich in vitamins ,proteins and plant hormones.	
Nursery (seedlings)	Damping off Root rot	Mistress	Mancozeb + Cymoxanil	30gms	7 days	2	60g	7	Systemic products, both curative and preventative and offers good control. Enrich will give crops resistance to bacterial diseases.	
		Enrich BM		10gm	7 days	1	10g	7		
	Aphids, Whiteflies, sawflies	Oshothion 50EC	Malathion	40mls	7days	2	80ml	14	Seedling pests which cause direct damage/ transmit diseases.	
	Caterpillars	Atom 2.5EC + Nimbecidine	Deltamethrin Azidarachtin	10mls 50ml	7days	2 2	20ml 100ml	14	Caterpillars can lead to total loss if not controlled. The two products to be mixed together.	
	Nutrition	Potphos	NPK-0-50-30		30mls	Once	1	30ml		Well balanced foliar feed with high phosphorous and potassium contents hence enables seedlings develop strong rooting system.
Easy grow stater Oshozyme liquid		NPK -18-20-21+TE Plant growth promoting hormones, sea Weed extracts .		40gm 20ml	7 days once	2 1	80g 20ml		essential for root development and increases the plant length.	
Transplanting 21 days after germination NB: Use oshozyme Granule + blackearth +DAP +Manure in each planting hole	Cutworms	Umeme 2.5EC	Lambdacyhalothrin+	20mls	Once	1	20ml	3	Cutworms are active at night and hide below the soil surface. Spray in the evening after transplanting at each seedling base. Mix the two products.	
		Nimbecidine	Azidarachtin	50ml	Once	1	50ml	0		
	Nematodes	Bio- nematone	P lilacinus		100g	3	1	300g	0	To control and manage root knot nematodes
	Nutrition	Oshozyme D Oshozyme G	<i>Ascophyllum nodosum</i>		20ml 2.5kg/50kg DAP	once	1 1	20ml 2.5kg	0	helps the seedlings develop strong rooting system and fast pick up after transplanting
Blackearth		Water soluble soil amendment and blend composition		1kg/50 kg DAP					reduces nutrient lock up, helping stabilizing Nitrogen, improves soil aeration, stimulates growth of beneficial fungi especially in soils low in organic matter.	
	fusarium wilt	Pearl 50 SC Control 70 DF	Carbendazim Thiophenate methyl	20mls 16gms		0 2	0 32g	14 14	Soil borne fungal disease. And can affect any stage. Drench the planting holes with the Pearl 50SC or Control 70DF solution before transplanting to control the disease. Crop rotation is also useful	

	Bacterial wilt	Enrich BM		10g	14days	4	6		To induce immunity to manage Bacterial wilt early Enough on the crop.
Vegetative Stage1-4weeks after transplanting  Transplanting NB. Top dress at 3weeks with sulphate of ammonia	Aphids,whiteflies, thrips	Manik 20sp	Acetamiprid	5gm	14days	2	10g	14	Serious pest like aphids and whiteflies cause direct damage and transmit viral diseases. Damaging pest to young seedlings disrupting head formation.the presence of its larvae in florets can lead to rejection of the produce. Tuta Absoluta is a new pest and requires intensive spray plan.
	Tuta Absoluta	Vapcomic + Nimbecidine	Abamectin Azidarachtin	10gml 50ml	14 14	5 5	50ml 150ml	7 0	
	Bacterial soft rot,bacterial leaf spot, Ring spot,bacterial leaf spot	Sulcop 50DF	Copper oxychloride	50gms	14	2	100g	7	These are bacterial diseases and mainly seed borne.Begin applications after transplanting with SULCOP 50DF repeat after every 10 days Use certified seed and practice crop rotation
		Enrich BM	Immunomodulator	10g	14	2	20g		
	Early and Late Blights	Oshothane80wp	Mancozeb	50gms	7 days	5	250 gm	7	Disease prevalent in cool,wet weather and affects all stages.Start applications early and alternate oshothane 80wp and Mistress 72Repeat every seven days for Oshothane .Ensure through coverage of crop/
		Master 72 Mistress 72	Mancozen + Metalaxyl Mancozen + Cymoxanil	50gms 30 gms	14 days 14 days	2 3	100g 90g	7	
	Bacterial spec	Sulcop DF	Copper oxychloride	50gms	14 days	2	100 gm	1	Bacterial disease favoured by high rainfall,humidity and temperatures.Infection occurs at all stages and can cause total crop loss.Affected plant leaf turn black and soft then rot to give an offensive smell.Start sprays early,repeat every 10 days. Apply Sulcop twice to provide cu ++ to crop
leafspot	Control 70DF	Thiophenate Methyl	20gm	14 days	2	40 gm	7	The product will control most of the fungal diseases	
Nutrition	Easy grow Vegetative	NPK-27:10:16+TE	40gms	14 days	3	120g	0	Fertilizer with high N is recommended during the vegetative phase-Repeat at 2 week intervals.	
	Oshozyme	<i>Ascophyllum nodosum</i>	20mls	14 Day	3	60ml	0	oshozyme is a plant biostimulant that has hormones, proteins/vitamins and helps the plant to withstand stressing conditions	
Week 5 onwards -Harvesting stage	Aphids,whiteflies,Thrips	Atom 2.5EC	Deltamethrin+	15mls+	14 day	4	60ml	1	Atom 2.5EC has quick knockdown effect on these pests and stops their damage immediately after the spray
			Nimbecidine	50ml	14 days	4	200 ml		
	Flowering hormone	Plantone	Alpha Naphelene acetic acid	3ml	14 days	2	10ml		Plantone will boost flowering and ensure proper fruit set thereby increasing yields.
	Early and late blights	Oshothane	Mancozeb	50g	7 days	4	200g	7	Oshothane should bu used every week to prevent blights and alternate with Mistress when rainfall is high or when symptoms of blights are observed.
Mistress		Macozeb+cymoxanil	30g	7 days	4	120g			
	Nutrition	Easy grow flower & Fruit	N:P:K 14:11:33 + Trace Elements	40 gm	14 days	3	120 gm	0	Provides the right minerals to the crop at this stage.
		Oshozyme liquid	Growth hormones and Natural bistimulant	20 mls	14 days	3	60 mls	0	Oshozyme required at every stage of growth.

Summary of products required assuming each spray will use only one pump to cover the demo site;

1. Control=100g
2. Oshozyme liquid=200ml, Oshozyme seed booster=10ml
3. Mistress=280g
4. Atom=100ml
5. Enrich BM=40g
6. Nimbecidine=400ml
7. Vaocomic=50ml
8. Oshothion=100ml
9. Sulcop=200g
10. Control=100g
11. Manik=10g
12. Oshothane=500g
13. Easygro starter=40g
14. Easygro veg=120g
15. Easygro flower and fruit=120g
16. Aquawet= 300ml
17. Bionematon=300g

## Notes

- ✓ During the fungicide/insecticide sprays on Tomatoes and Peppers, it is advisable to incorporate **Aquawet 10 SL** (*Nolyphenol Ethoxylate SL*) which is wetting/spreading agent in the mixture.
- ✓ During dryness use **Green miracle** (*fatty Acid nutrients*) to reduce water loss by the leaves during warm hot weather.
- ✓ For insecticidal sprays ensure you mix the insecticides with NIMBECIDINE for best results.
- ✓ During harvesting use short P.H.I products.e.g Atom