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AGRILAND

a thought for biofarming

# Organic Farming of Onion

The Onion (*Allium cepa*) also known as the bulb onion or common onion, is a vegetable that is the most widely cultivated species of the genus Allium. Indian onions are famous for their pungency and are available round the year. Onion is more prone to pest attack and at a conservative estimate cause about 40-45 % losses only due to insect-pests. Whereas diseases cause 30-35 % of yield losses. Pest like Onion thrips, Onion maggot, Bulb mite, Eriophyid mite, Red spider mite cause a serious loss in yield, where is disease like Damping off, Purple blotch, Leaf blight, Downey mildew, Basal rot cause economic loss to the onion crop.

### Adopt the following strategies for the management of various Onion pests & diseases and plant nutrition to get higher yield and residue free farm produces

• Prepare raised nursery beds about 10 cm above ground level for good drainage to avoid damping off etc.

flourish

- Treat the soil with neem cake at 50g with 10-15 g of Monitor/ sq mt.
- Add well rotten farmyard manure (FYM) @8-10 t/acre or vermicompost @5 t/acre. Incorporate at the time of field preparation at 1 week (vermicompost) or 2 to 3 weeks (FYM) before transplanting.
- Deep ploughing of fields during summer to control juveniles and adults of nematodes and control the overwintering stages.
- Seed/seedling treatment with Azotobacter and PSB cultures @ 250 ml each/acre seed/ seedling.
- The crop should be maintained weed free initially for 30-45 days by following timely intercultural and hand weeding if required.
- Destruction of debris, crop residues, weeds, and other hosts.
- Installation of sticky traps for sucking pests.
- Use of reflective plastic silver colour and aluminium painted black mulches repel the thrips (seed crop).

- Plant two rows of maize or inner row of wheat and outer row of maize surrounding the onion plots as barrier crop.
- Avoid planting onion after cole crops, as decaying cole crops, especially cauliflower, may harbour very high bulb mite populations in the field.
- Flood irrigation reduces mite levels in the soil.
- Adopt ecological engineering of onion/garlic with growing intercrops such as cowpea, maize, coriander, urdbean etc. and with growing sorghum or maize in 4 rows all around onion/garlic crop as guard crop.
- Adoption of proper crop rotation at every season per year.
- Judicious and proper application of manures and fertilizers at proper time can directly manage the insect pests. Excessive use of nitrogenous fertilizer attracts pests.
- Micronutrient deficiency should be corrected by foliar spray of particular micronutrient.
- Install 40 yellow sticky traps per acre on a mass basis for the trapping of the moth.
- Use of sprinkler irrigation reduces thrips population considerably compared to drip and surface irrigation.
- Conserve predators such as ground beetle, rove beetles, spiders etc. by providing grassy refuge strips.

#### **Major Pests**



Onion thrips

#### Major Diseases



Onion maggot



Bulb mite



Eriophyid mite



Red spider mite



Damping off



Purple blotch



Leaf blight



Downey mildew



Basal rot

#### **Natural Enemies of Onion Pests**



Chrysoperla



Ladybird beetle



Syrphid flies



**Praying mantis** 

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## **Recommended Products Per Acre of Land**



Monitor 500 gm





Sudozone 500 gm



Yorker

250 gm



**Biosoft** 500 gm



**Biofield Combo** 3 kgs



Antity

500 ml



Lifeline

500 ml

MYCOZONE 1

Mycozone 100 gm



Saffron

1 kg

**Biofield** 1 litre



500 ml



Runoff 100 250 ml



Vanguard 1500 ppm-1 litre

Yellow / Blue Sticky Traps 40 nos



Solar Light Sticky

Trap 1 no

**NoMate Pheromone** Traps 20 nos

## **Application Method of Agriland Organic Products**

Sr. No	Time of applications	Product	Dose	Type of applications	Benefits	
1.	At nursery seed bed preparation	Monitor Sudozone Yorker	20 gm/sq.m 40 gm/sq.m 20 gm/sq.m	Application in	For control of plant diseases and plant parasitic nematodes	
		Biofield combo Mycozone	50 gm/sq.m 05 gm/sq.m	Secubeu	For better sprouting of the seeds and the development of powerful root mass	
2.	At the time of transplanting	Monitor Sudozone Yorker	250 gm/acre 01 kg/acre 250 gm/acre	Apply in soil	Use to control plant disease and plant parasitic nematodes	
		Biofield combo Mycozone	03 kg/acre 100 gm/acre		NPK bacteria enhance the plant growth, where as Mycozone produces profuse root and nutrient solubilisations and mobilizations	
3.	35 days after transplanting	Biosoft	15 gm/15 liters		For control of moth and sucking type of pests	
		<b>Biofield liquid</b>	30 ml/15 liters	Use as spray	For overall development and growth plants	
		Runoff	05 ml/15 liters		For better spread and enhance product efficiency at the time of spray	
		NoMate Sex Pheromones traps	20 trap/acre	Install 1 foot above the crop	Used to monitor and control of moths	
		NoMate sticky traps	40 traps/acre	canopy	Used for control of sucking pests and for yellow maggots	

4.	55 days after transplanting	Vanguard 1500 ppm	60 ml/15 liters		Use to control caterpillars and sucking types of pests			
		Smart Zn	15 ml/15 liters		Reduce the Zn deficiency in plant and increase the nitrogen solubilisation			
		Saffron	50 gm/15 liters	Ose as spray	It provide sulphur micronutrient and useful in control of powdery mildew			
		Runoff	05 ml/15 liters		For better spread and enhance product efficiency at the time of spray			
5.	75 days after sowing	Monitor	250 gm/acre		Use to control plant disease and plant parasitic nematodes			
		Yorker	250 gm/acre	Use as soil drenching				
		Biofield liquid	500 ml/acre	urenening	For overall development and plant growth			
6.	85 days after sowing	Antity	45 ml/15 liters	Use as spray	Use to control the diseases like Purple blotch and Leaf blight			
		Lifeline	45 ml/15 liters		Use for providing micronutrient and growth of plant			
		Runoff	05 ml/15 liters		For better spread and enhance product efficiency at the time of spray			
7.	95 days after sowing	Vanguard 1500 ppm	60 ml/15 liters	Use as spray	Use to control shoot & fruit borer and sucking type of pests			
		Saffron	50 gm/15 liters		It provide sulphur micronutrient and useful in control of powdery mildew			
		Runoff	05 ml/15 liters		For better spread and enhance product efficiency at the time of spray			
Surface		ISO	IMO	GeM	DSIR Approved R&D	ZED	CRISIL MSE 2 Rated	
Technology		9001:2015	Approved	Approved	Center	Certification	Company	
	SURFACE TEKNOLOGY	ACM UKAS UKAS UKAS UKAS 245	control	Gevernme eMarketpla	nt ace	THE DEFICIT - STADE LIFECT	Financial Strength Good CRISIL MSE 2' Operating Performance Highest	



We are the leading agri-biotechnology company in the nation, pioneering in the area of research and development of environmentally friendly plant protection products.



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