

FOREWORD

Garlic belongs to the Family Amaryllidaceae, Genus *Allium*, and related to onions, leeks and chives. It is a dry season crop being harvested during the dry months, March to April, while bulb formation is at peak during cooler months, November to January.

Integrated Pest Management (IPM) is a holistic approach to sustainable agriculture that focuses on managing pest occurrences - insects, diseases and weeds - through combination of cultural, physical, biological and chemical methods that are cost effective, environmentally sound and socially acceptable.

Components of IPM:

PREVENT	MONITOR	INTERVENE	CONTROL
- Understand conditions	- Inspect fields	- Choose method	- Cultural
- select varieties	- Identify issues	- Plan approach	- Physical
- manage crops	- Determine Action	- Intervene responsibly	- Biological
			- Chemical

AGRICULTURAL INPUTS

- Basal fertilizer**
 - Urea (50 kgs/hectare)
 - Complete Fertilizer (400 kgs/ha)
 - Vermicompost (50 sacks/ha)
 - Microbial-based fertilizer (Bio-N, MykoVAM)
- Seed treatment**
 - Rice straw/cogon
 - Complete, Urea, Muriate of Potash
- GA₃ application**
 - 1/4 tablet per 16L Knapsack sprayer
- Foliar Fertilizer**
 - amount of foliar fertilizer depends on growth stage
- Botanical pesticide**
 - Hagonoy extract (50 L/ha)
- Insecticide**
 - Lambda-cyhalothrin, Cypermethrin, Dimethoate (1tbsp/16L sprayer)
- Fungicide**
 - Difenconazole, Benomyl, Mancozeb (0.5L/ha)

PREPARATION OF BOTANICAL PESTICIDE

- Hagonoy extract:**
- Collect 250 grams of Hagonoy (*Chromolaena odorata* L.) leaves near your area
 - Grind leaves with 1 L clean water using blender
 - Manual grinding can also be done using mortar and pestle
 - Filter the ground leaves using a fine cloth
 - The leaf extract can be mixed with water at a rate of 2 cups per knapsack sprayer
 - Spray on standing garlic plants for the prevention of Arthropod pests

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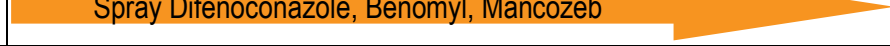


INTEGRATED PEST MANAGEMENT OF GARLIC (*Allium sativum* L.)




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INTEGRATED PEST MANAGEMENT OF GARLIC (*Allium sativum* L.)

	SEEDLING STAGE			VEGETATIVE STAGE			BULBING STAGE				HARVESTING STAGE	
DAYS AFTER PLANTING (DAP)	10	20	30	40	50	60	70	80	90	100	110	120
OCCURENCE OF ARTHROPOD PESTS												
Mites												
Thrips												
Leaf miner												
Control Measure				<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>								
Botanical pesticide				 Spray Hagonoy extract								
Synthetic pesticide				 Spray L-cyhalotrin, Cypermethrin, Dimethoate								
INCIDENCE OF DISEASES												
Fusarium wilt												
Anthracnose “Twister”												
Cercospora leaf spot												
Control Measure				 Spray Difenoconazole, Benomyl, Mancozeb								

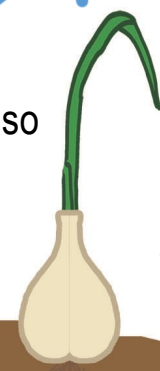
Garlic prefers soil with good drainage like sandy-loam.




Watering should be done 2-3 times a week or depending on the moisture of the soil.




Watering should stop 1-2 weeks before harvesting.




Observe for the presence of arthropod pests and diseases in the field.



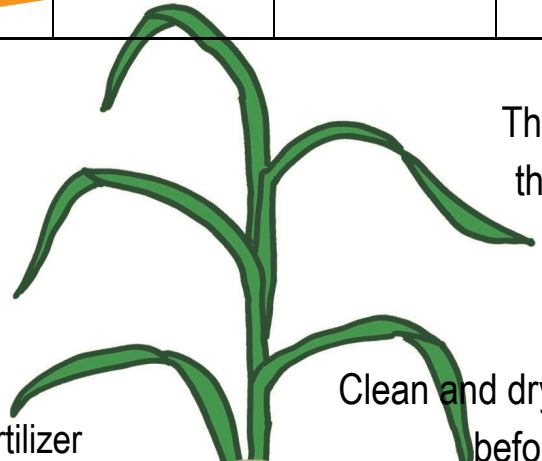
Spraying of pesticides and foliar fertilizer must be done early morning or late afternoon when there is less direct sunlight that lead to scorching.




Clean and dry the bulbs properly before storage.



The proper time to harvest the garlic must be during 'TOP FALL'.



Aside from rice straw, cogon can also be used as mulching material.



PLANTING (October-November)	10 DAP	20 DAP	30 DAP	40 DAP	50 DAP	60 DAP	70 DAP	80 DAP	90 DAP	100 DAP	110 DAP	120 DAP
1. Land preparation 2. Basal fertilizer application 3. Seed treatment 4. Mulching			1. Side dressing 2. GA3 application 3. Foliar fertilizer application			1. Side dressing 2. GA3 application 3. Foliar fertilizer application	1. GA3 application 2. Foliar fertilizer application				1. Harvesting	1. Harvesting