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CROP PROTECTION
INSECT PEST CALENDAR OF ONION AND GARLIC

Colour indicator

Low intensity
Moderate intensity
Severe

Crop: Onion												
Insect Pest	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Onion thrips, Thrips tabaci												
Lindeman (Thysanoptera: Thripidae)	•	exactly lil Pupa is pa	are white ke the adu ale yellow	to pale ilt, but la to brow	yellow in ck wings n in colou	ır	J				iphs res	semble
	Damag	 Adults are slender, yellowish brown, and approximately 1 mm in length Males are wingless, while females have long, narrow fringed wings Damaging stage: Nymphs and adults 										
	 Symptom of damage: Both nymphs and adults feed on the young leaves in the neck region, and females lay their eggs in the leaves individually Leaves curl and twist, and show white or silvery spots which later turn into white blotches along the leaves 											
	 Entire plant becomes blemished and white, exhibiting blast like appearance. Infested terminals lose their colour, roll, and dry up gradually from tip down and dropping leaves prematurely. 											
Common cutworm, Spodoptera	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
litura Fabricius (Lepidoptera: Noctuidae)												
Noctuluaej												







Beet army worm, Spodoptera exigua Hubner (Lepidoptera: Noctuidae)







Pest description and identification:

- Young caterpillars are light green with black head or black dots, and they are seen in cluster.
- Pupa is pale yellow to brown and pupate in the soil
- Adults are slender, yellowish brown, and approximately 1 mm in length, brown in colour. The forewings are brown with wavy white patterns, possess reniform spot is brown outlined with a white margin and has a marking of letter "A" at the apex area, orbicular spot is elongate, narrow, oblique, light brown and outlined with a white margin. While hind wings are white with a brown patch along the edge
- Creamy white eggs are laid in masses, and covered with silky hairs

Damaging stage:

Larva

Symptom of damage:

- Larvae can be found in nursery beds and newly transplanted onion fields
- Larvae feed gregariously on foliage and leave a papery appearance on the leaves

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC

Pest description and identification:

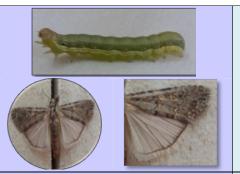
- The early instar larvae are pale green in colour, turning into grayish in colour with black head. Older larvae have broad stripe on both side and usually dark green or grayish black in colour
- Pupae are light brown and pupate in the soil
- Adults are medium- sized, with mottled grey and brown forewings; orbicular spot is round and light or yellowish brown with a white margin surrounded by a thin black margin.
 Whereas, uniform grey or white in grey or white hind wings
- White eggs are laid in clusters towards the apex of the leaves and covered with scales

Damaging stage:

Larva

Symptom of damage:

- Larva feed gregariously for the first few days, especially in the growing tips of onion by scraping mesophyll layer
- As the larvae mature, they become solitary and continue to feed on tubular leaves by boring



irregular holes

FEB

- At advanced stage, larvae tunnel through small bore holes and feed on outer layers of the bulb and the damage is visible superficially. Also attacks the umbel and flower stalk of the seed crop
- Causes extensive defoliation, heavily infested field is visible as white papery patches from a distance

JUL

AUG

SEP

OCT

NOV

DEC

Green looper, *Chrysodeixis* acuta Walker (Lepidoptera: Noctuidae)



Pest description and identification:

MAR

- Larvae is glossy green with three pairs of abdominal legs (prolegs); forms a characteristic loop or hump while crawling (semi-loop)
- Pupae is green at the beginning and later turns brown; also forms a white silken cocoon

IUN

MAY

- Adult moths are brown; forewings bear a dark brown pattern with two distinctive silver spots and have tiny silver spots along the median region. Hindwings are also brown
- Yellowish- white eggs are laid singly on the leaf surface

APR

Damaging stage:

Larva

IAN

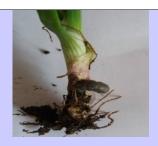
Symptom of damage:

Larvae feeds on the leaves of onion; early instars scrape off the leaves, making them translucent and revealing caterpillars inside the onion circular leaves; later instars produces feeding cuts



Black cutworm, Agrotis ipsilon
(Lepidoptera: Noctuidae)

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC





Pest description and identification:

- Larvae are light grey to black in colour and have greasy look
- Pupae are brown, spindle shaped; formed inside a soil puparium
- Adult moths have dark gray colouration with dagger-shaped pattern on the forewing
- When disturbed the larva coils up into 'C' shape

Damaging stage:

Larva

Symptom of damage:

- Larvae usually hide in cracks and crevices in the soil during day time
- Larvae feeds on tender foliage of young seedlings
- Later instars of larvae entirely cut through the stalks at ground level

Leaf minor, *Liriomyza* sp (Diptera: Agromyzidae)



JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Pest description and identification:

- Larvae are white to yellow and the pupa is yellow brown in colour
- Adults are small black and yellow flies

Damaging stage:

Larva

Symptom of damage:

- Irregular pale lines appear on the leaves as the larvae feed. These burrows are usually contain black fecal material which is visible as slim trace inside the tunnels
- Matured larvae exit from the leaf for pupation on soil or debris
- Damaged tissue dries off, leaving a white scar

Redspider mite *Tetranychus* cinnabarinus Boisduval (Acari: Tetranychidae)



JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Pest description and identification:

- Adult females are more or less elliptical in shape and reddish in colour
- Eggs are laid singly on the underside of the leaf surface or attached to silky webs made by the adults
- Larvae pinkish and have four pairs of legs and are slightly larger than the egg
- Nymphs are reddish or greenish appearance, and having four pairs of legs



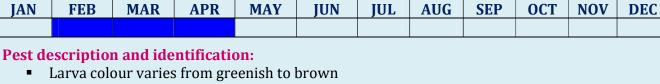
Damaging stage:

Nymphs and adults

Symptom of damage:

- Adults and nymphs feed primarily on the underside of leaves
- Feeding punctures appear as small spots stippled on the upper surface of the leaves
- Typically, mites feed in "pockets"
- Mite infestation creates silk webbing, which is usually visible
- Leaves become bleached and discolored with time and they may fall off eventually

Head borer, *Helicoverpa armigera* Hubner (Lepidoptera: Noctudiae)



- Green with dark brown grey lines laterally on the body with lateral white lines with dark and pale bands. Fully-grown larva is greenish with dark brown grey lines along the side of body and measures about 35-45 mm in length
- Pupa is brown in colour, occurs in soil, within stalk and crop debris
- Adult moth is light pale brownish yellow stout moth. Fore wing grey to pale brown with "V" shaped speck. Hind wings are pale smoky white with a broad blackish outer margin.
- Eggs are spherical in shape, creamy white in colour and laid singly



Larva

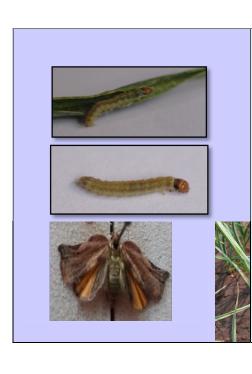
Symptom of damage:

- Head borer is a pest of onion seed crop and occurs sporadically on onion grown for seed
- Larva cuts the pedicel of the flower and feeds on the stalk. Single larva can damage many flower stalks
- Causes defoliation, break the umbel stalk, and umbels



Crop: Garlic													
Pest	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	
Onion thrips, Thrips tabaci Lindeman (Thysanoptera: Thripidae)	:	 Pest description and identification: Nymphs are white to pale yellow in colour, elongate, slender body and the appearance of an adult but without wings Pupa is pale yellow to brown Adults are slender, yellowish brown and measure about 1 mm in length Males are wingless and females have long narrow fringed wings Damaging stage:											
	Sympt	 Nymphs and adults Symptom of damage: Leaves curl and twist, and white or silvery patches appear at later stages Whole plant looks blemished and turns white 											
Red spider mite <i>Tetranychus</i>	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	
cinnabarinus Boisduval (Acari: Tetranychidae)	 Pest description and identification: Adult females are more or less elliptical in shape and reddish in colour Eggs are laid singly on the underside of the leaves or attached to silky webs made by the adults Larvae pinkish and have four pairs of legs and are slightly larger than the egg. Nymphs are reddish or greenish appearance, and having four pairs of legs. 										by the		
	 Damaging stage: Nymphs and adults Symptom of damage: Adults and nymphs feed primarily on the underside of leaves Feeding punctures appear as small spots stippled on the upper surface of the leaves Typically, mites feed in "pockets" Mite infestation creates silk webbing, which is usually visible Leaves become bleached and discolored with time and they may fall off eventually 												

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Eriophyid mite, Aceria tulipae												
Keifer (Acari: Eriophyoidea)	 Pest description and identification: Eriophyid mites are cylindrical/cigar-shaped, tapering from head to rear, translucent white in colour and microscopic Unlike most mites, eriophyid only have two pairs of legs located near the head Adult mite is about 200 to 250 μm length and width 36 to 52 μm Damaging stage: Nymphs and adults Symptom of damage: Both adults and immature stages feed on the young leaves and infested leaves do not open completely Stunting, twisting, curling and discoloration of foliage are some common symptoms Whole plants will show curling symptom and yellow mottling on the edge of the leaves Mites acts as vectors for various plant viral diseases in garlic 											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Aphid Aphis sp and Myzus sp												
(Hemiptera: Aphididae)	Damaş Sympt	Pest description and identification: Myzus sp nymphs are green to yellow in colour Winged aphids have a black head and thorax, green abdomen with a large dark patch dorsally Aphis sp nymphs vary from tan to gray or green, and often are marked with dark head and distal portion of abdomen dark green. Adults are light to dark green in colour Damaging stage: Nymphs and adults Symptom of damage: Both nymphs and adults suck leaf sap which causes the leaves to roll, twist and yellowing. Aphids also transmit the viral diseases in garlic.										
Leaf tier Archips machlopis	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
(Meyrick) (Tortricidae:							,					
Lepidoptera)												
	Pest d	<u>escription</u>	n and ide	<u>ntificati</u>	on:							



- Larvae are greenish grey to whitish grey with a reddish brown head with a prominent brown prothoracic shield
- Pupae are dark brown to black in colour; with a long tapering cremaster in a dense web of silk.
- Adult moths are cryptically coloured, with forewings grey, brown, rust, or tan coloured, have a prominent round-pointed apex with wings held in a characteristic a flattened roof shape at rest

Damaging stage:

Larva

Symptom of damage:

 Larvae tie the adjacent leaves of plants together and feed the leaf tissue from inside by scraping action

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