

CUCURBITACEOUS VEGETABLES

1. BITTER GOURD (*Momordica charantia*).

Bitter gourd is an important cucurbit vegetable of Kerala.

Season

/January-March and September-December

are the ideal seasons. For the rainfed crop, sowing can be started after the receipt of first few showers during May-June.

Varieties

Priya, Preethi, Priyanka and Arka Harit are high yielding varieties. . Priyanka is recommended for acid alluvial soils of Kerala.

Seed rate: 5.0-6.0 kg/ha Spacing: 2.0 m x 2.0 m Sowing

Pits of 60 cm diameter and 30-45 cm depth are taken. Well rotten FYM and fertilizers are mixed with topsoil in the pit and seeds are sown @ 4-5 per pit. Unhealthy plants are removed after two weeks and only 3 plants are retained per pit.

Manuring

Apply FYM @ 20-25 t/ha as basal dose along with half dose of N (35 kg) and full doses of P₂O₅ (25 kg) and K₂O (25 kg). The remaining dose of N (35 kg) can be applied in several split doses at fortnightly intervals:

Aftercultivation

During the initial stages of growth, irrigate at 3-4 days interval, and alternate days during flowering/fruiting. Irrigation at 15 mm . CPE (approximately at 3 days interval for sandy loam soils) is more economical than irrigating once in two days especially during summer months for water economy. Erect pandals when the plants start vining. Conduct weeding and raking of the soil at the time of fertilizer application. Earthing up is done during rainy season.

Pests

Fruit fly (Dacus cucurbitae)

Apply carbaryl 10% DP in pit before sowing of seeds to destroy the pupae. In home-stead gardens the fruits may be covered with

polythene, cloth or paper bags to ensure mechanical protection. In large gardens apply carbaryl 0.2% or malathion 0.2% suspension containing sugar or jaggery at 10 g/l at fortnightly intervals at flowering and fruit initiation. Spray as coarse droplets on the ventral surface of leaves. Remove and destroy affected and decayed fruits.

It can also be effectively controlled by the use of banana fruit traps coupled with the removal and destruction of infested fruits. It

is more efficient than two sprayings with insecticides. The trap is prepared by applying carbofuran granules at the cut ends of ripe banana fruits (variety Palayankodan). Traps are to be set at a distance of 2 m after a border row and they may be replenished after 7 to 9 days. Start bait trapping just before flowering.

Epilachna beetle

Remove and destroy egg masses, grubs and adults occurring on leaves. Spray carbaryl 0.2%.

Red pumpkin beetle

Adult beetle eats the leaves, makes hole on foliage and causes damage on roots and leaves. Incorporate carbaryl 10% DP in pits. before sowing the seeds to destroy grubs and pupae.

Plant lice

Apply 1.5% fish oil soap. First dissolve soap in hot water and then make up the volume.

Alternatively apply dimethoate 0.05%, phosphamidon 0.05% or monocrotophos 0.05%.

Diseases

Downy mildew

It is severe during rainy season. This can be checked by spraying mancozeb 0.2% (waiting period of mancozeb is three days).

Powdery mildew

Can be controlled by spraying nitrophenol 0.05%.

Mosaic

Control the vectors by spraying dimethoate 0.05% or phosphamidon 0.05%. Uprooting and destruction of affected plants and collateral hosts should be done.

Harvesting can be done only after 10 days (at least) of insecticide / fungicide application. The fruits should be washed thoroughly in water before cooking.

2. SNAKE GOURD (*Trichosanthes cucumerina*)

Snake gourd is a common cucurbitaceous vegetable of Kerala.

Season

January-March and September-December are the main growing seasons.

Varieties: Kaumudi, Baby and TA-19

Seed rate: 3.0-4.0 kg/ha Spacing: 2.0 m x 2.0 m Sowing

Pits of 60 cm diameter and 30-45 cm depth are taken. Well rotten FYM and fertilizers are mixed with topsoil in the pit and seeds are sown @ 4-5 per pit. After two weeks remove the unhealthy plants retaining three plants per pit.

Manuring

Apply FYM @ 20-25 t/ha as basal dose

along with half dose of N (35 kg) and full dose of P₂O₅ (25 kg) and K₂O (25 kg/ha). The remaining dose of N (35 kg) is applied in several split doses at fortnightly intervals.

Aftercultivation

During the initial stages of growth irrigate at an interval of 3-4 days. Irrigate on alternate days during flowering and fruiting periods.

Erect pandals for trailing snake gourd. Conduct weeding and raking of the soil at the time of fertilizer application.

Pests

The important pests attacking snake gourd are fruit flies, epilachna beetle and red pumpkin beetle. Control measures recommended for bitter melon can be followed in this case also.

Diseases

The important diseases are downy mildew and mosaic, The control measures as stated under bitter melon can be adopted.

Harvesting can be done only after 10 days (at least) of insecticide / fungicide application. The fruits should be washed thoroughly in water before cooking.

3. CUCUMBER (*Cucumis sativus*) & ORIENTAL PICKLING MELON (*Cucumis melo* var. *conomon*)

Cucumber and oriental pickling melon are important cucurbits grown in Kerala. Cucumber is mainly used as a salad crop whereas oriental pickling melon is largely used after cooking.

Season

The ideal seasons are January-March and September-December.

Varieties

Mudicode, Arunima and Saubhagya are high yielding varieties of oriental pickling melon. Cucumber varieties such as Pusa Seethal, Poinsette, Poona Khira are exclusively used for salad purpose.

Seed rate: 0.5-0.75 kg/ha Spacing: 2.0 m x 1.5 m Preparation of land

Pits of 60 cm diameter and 30-45 cm depth are taken. Well rotten FYM and fertilizers are mixed with topsoil in the pit and four or five seeds are sown in a pit. Remove un-

healthy plants after two weeks and retain three plants per pit.

Manuring

Apply FYM @ 20-25 t/ha as basal dose along with half dose of N (35 kg) and full dose of P₂O₅ (25 kg) and K₂O (25 kg/ha). The remaining dose of N (35 kg) can be ap

plied in two equal split doses at the time of vining and at the time of full blooming.

A fertilizer dose of 70:25:25 kg N:P₂O₅: K₂O / ha in several splits is recommended in Onattukara region. The fertilizer dose per pit would be 28:10:10 g N:P₂O₅:K₂O.

Aftercultivation

During the initial stages of growth, irrigate' at an interval of 3-4 days. Irrigate in alternate days, during flowering and fruiting.

For trailing cucumber and melon, spread dried twigs on the ground. Conduct weeding and raking of the soil at the time of fertilizer application. Earthing up maybe done during rainy season.

Pests

The important pests are epilachna beetle and red pumpkin beetle. They can be controlled by adopting the measures recommended for bitter gourd.

Diseases

The important diseases. are downy mildew, powdery mildew and mm;aic. The control measures as recommended for bitter gourd can be adopted.

Harvesting can be done only after 10 days (at least) of insecticide / fungicide application. The fruits should \ be washed thoroughly in water before cooking.

4. WATER MELON (*Citrullus lanatus*)

_Season: The ideal season is Dec-April. Varieties: Sugar Baby, Arka Jyothi Seed

rate: 1 to 1.5 kg/ha

Spacing: 3.0 m x 2.0 m

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Preparation of land

Pits of 60 cm diameter and 30-45 cm depth are taken. Well rotten FYM and fertilizers are mixed with topsoil in the pit and four or

five seeds are sown in a pit. Remove unhealthy plants after two weeks and retain two or three plants per pit.

Manuring

Apply FYM @ 20-25 t/ha as basal dose along with half dose of N (35 kg) and full doses of P₂O₅ (25 kg) and K₂O (25 kg/ha). The remaining dose of N (35 kg) can be applied in two equal splits at the time of vining and full blooming.

Aftercultivation

During the initial stages of growth, irrigate at an interval of three or four days. Irrigate on alternate days during flowering and fruiting. When fruits are mature, the frequency of irrigation may be reduced.

For trailing the water melon, spread dried twigs on the ground. Conduct weeding and raking of the soil at the time of fertilizer application. .

Pests

The important pests are red pumpkin beetle and epilachna beetle. They can be controlled by adopting measures suggested for bitter gourd.

Diseases

Downy mildew and powdery mildew are important diseases affecting water melon. Control them by adopting measures recommended for bitter gourd.

Harvesting can be done only after 10 days (at least) of insecticide / fungicide application. Only well ripe fruits should be harvested.

5. BOTTLE GOURD (*Lagenaria siceraria*)

Season

Bottle gourd can be successfully grown during January-March and Sept-December. For the rain fed crop, sowing can also be started after the receipt of the first few showers during May-June.

Varieties

Pusa Summer Prolific Long, Arka Bahar

Seed rate: 3-4 kg/ha

Preparation of land

Pits of 60 cm diameter and 30-45 cm depth are taken at 3 m x 3 m spacing for growing on pandals. For trailing on the ground, make pits at a spacing of 2 m in rows 3-4 m apart. Well rotten FYM and fertilizers are mixed with topsoil in the pit.

Sowing

Four or live seeds are sown per pit. Remove unhealthy plants after two weeks and retain three plants per pit.

Manuring

Apply farm yard manure at the rate of 20-25 t/ha as basal dose along with half dose of N (35 kg) and full dose of P₂O₅ (25 kg) and K₂O (25 kg/ha). The remaining dose of N (35 kg) can be applied in several split doses at fortnightly intervals.

Aftercultivation

During the initial stages of growth, irrigate at an interval of three or four days. Irrigate on alternate days during flowering and fruiting periods. Trailing can be done either on pandais or on the ground.

Conduct weeding and raking of the soil at the time of fertilizer application. Earthing up may be done during rainy season.

Pests

The important pests are epilachna beetle and red pumpkin beetle. They can be controlled by adopting measures recommended under bitter gourd.

Diseases

Downy mildew and powdery mildew are important diseases in bottle gourd. Refer control measures recommended for bitter gourd

Harvesting can be done only after 10 days (at least) of insecticide / fungicide application. The fruits should be washed thoroughly in water before cooking.

6. PUMPKIN (*Cucurbita moschata*)

Season

and at the time of full blooming.

Pumpkin can be successfully grown during January-March and September-December. For the rainfed crop, sowing can also be started after the receipt of the first few showers during May-June.

Varieties: Ambili, Suvama and Saras

Seed rate: 1.0 to 1.5 kg/ha

Preparation of land

Pits of 60 cm diameter and 30-45 cm depth are taken at a spacing of 4.5 x 2.0 m. Well rotten FYM and fertilizers are mixed with topsoil in the pit.

Sowing

Four or five seeds are sown per pit. Remove unhealthy plants after 2 weeks and retain three plants per pit.

Manuring

Apply FYM @ 20-25 t/ha as basal dose along with half dose of N (35 kg) and full dose of P₂O₅ (25 kg) and K₂O (25 kg). The remaining dose of N (35 kg) can be applied in two equal split doses at the time of vining

After cultivation

During the initial stages of growth, irrigate at an interval of three or four days.

Irrigate on alternate days during flowering and fruiting periods. For trailing, spread dried twigs on the ground. Conduct weeding and raking of the soil at the time of fertilizer application. Earthing up may be done during rainy season.

Plant protection

Pests

Fruit flies, epilachna beetle and red pumpkin beetle are important pests affecting pumpkin. They can be controlled as in case of bitter gourd.

Diseases

Downy mildew, powdery mildew and mosaic are important diseases affecting pumpkin.

Harvesting can be done only after 19 days (at least) of insecticide / fungicide application. The fruits should be washed thoroughly in water before cooking.

7. ASH GOURD (*Benincasa hispida*)

Season

Ash gourd can be successfully grown during January-March and September-December. For rainfed crop, sowing can also be started after the receipt of the first few showers during May-June.

Varieties: KAU Local, Indu

Seed rate: 0.75-1.0 kg/ha

Preparation of land

Pits of 60 cm diameter and 30-45 cm depth are taken at 4.5 x 2.0 m spacing. Well rotten FYM and fertilizers are mixed with topsoil in the pit.

Sowing

Seeds are sown at the rate of four or five per pit. Remove unhealthy plants after two weeks and retain two or three plants per pit.

Manuring

Apply FYM @ 20-25 t/ha as basal dose along with half dose of N (35 kg) and full dose of P₂O₅ (25 kg) and K₂O (25 kg/ha). The remaining dose of N (35 kg) can be applied in two equal split doses at the time of vining and at the time of full blooming.

After cultivation

During the initial stages of growth, irrigate at an interval of three or four days. Irrigate on alternate days during flowering and fruiting. For trailing, spread dried

twigs on the ground.

Conduct weeding, and raking of the soil at the time of fertilizer application. Earthing up may be done during rainy season.

Pests

Fruit fly, epilachna beetle and red pumpkin beetle are important pests affecting ash gourd. They can be controlled as given under bitter gourd. Aphids can be controlled by spraying malathion 0.05% or quinalphos 0.03%.

Diseases

Powdery mildew and mosaic are important diseases in ash gourd. They can be controlled as in bitter gourd.

Harvesting can be done only after 10 days (at least) of insecticide / fungicide application. The fruit should be washed thoroughly in water before cooking.
