SOLANACEOUS VEGETABLES

Brinjal, chilli and tomato are the important solanaceous fruit vegetables grown in the state. The cultural operations of the above three crops are similar with only slight variations.

1.BRINJAL*(Solanum melongena)*

Varieties

Surya, Swetha and Haritha (bacterial wilt resistant open pollinated v_rieties), Neelima (bacterial wilt resistant F 1 hybrid), Pus a Purple Cluster.

Seed rate: 370-500 g/ha

Raising seedlings

Brinjal is a transplanted vegetable. Seeds are sown in the nursery and one-month-old seedlings are transplanted to the main field. For sowing the seeds, raised seed beds of 90 to 100 em width and convenient length are prepared in open space with fertile topsoil to which well decomposed organic matter has been incorporated. . After sowing the seeds, mulch with green leaves and irrigate with a rose-can daily in the morning. Remove the mulch immediately after germination of the seeds. Restrict irrigation one week before

transplanting and irrigate heavily on the pre
vious day of transplanting.

Time of planting

For rainfed crop, transplant the seedlings during May-June before the onset of'southwest monsoon. Planting can also be done during September-October for irrigated crop.

Land preparation and transplanting

Land is prepared to a fine tilth by thorough ploughing or digging. Well rotten organic manure is incorporated in the soil and seedlings are transplanted in shallow trenches / pits during Mayor on ridges / levelled lands during rainy season. Transplanted seedlings may be given temporary shade for 3-4 days during summer.

Spacing

Transplant less spreading varieties like Swetha and Surya at 60 x 60 em. For spreadingvarie
ties Haritha and Neelima, provide wider spacing of75-90 x 60 cm.

Manuring

Apply well rotten FYM / compost @ 20-25 t/ha at the time of land preparation and mix well with the soil.

A fertilizer dose of 75:40:25 kg N:P2Os: K2O / ha may be given. Half the dose ofnitrogen, full phosphorus and half of potash may be applied as basal dose before transplanting. One fourth of nitrogen and half of potash may be applied 20-30 days after planting. The remaining quantities may be applied two months after planting.

Application of75:25:25 kg N:P2Os:K2O / ha is optimum for getting maximum yield of fruits for the variety Swetha in the reclaimed alluvial soils of Kuttanad. However, the economic optimum dose was found to be 60:20:25 kg ofN:P2Os:K2O / ha.

Aftercultivation

Irrigate at three- or four days interval during summer. Stake the plants if necessary. Weeding followed by fertilizer application and earthing up may be done one and two months after transplanting.

Plant protection

For avoiding damping off of the seedlings in
the nursery, sow the seeds as thin as possi_ ble in the raised beds prepared in the open area during summer months.

Follow mechanical removal and destruction of pest / disease affected portions for control of fruit and shoot borer and *Phomopsis* fruit rot. Spray carbaryl 0.15% at an interval of 15-20 days to control fruit and shoot borer under large-scale cultivation.

Uproot plants affected by little leaf and spray insecticides for further control.

Cultivate resistant varieties like Surya, Swetha and Haritha and the hybrid Neelima in bacterial wilt prone areas.

The root knot nematode can be managed by the application of *Bacillus macerans or B. circulans* 1.2 x 106 cells per m2 in nursery bed two days before sowing (ad hoc recommendation).

F or the control of pests, application of granules of carbofuran at the rate orO.5 kg ai/ha or phorate at the rate of 1 kg ai/ha at seeding followed by need based application of foliar insecticides has been recommended. The application of granules is recommended only at the time of seeding.

In general, insecticides of plant origin may be used, as far as possible.

2. CHILLI *(Capsicum annuum)*

Varieties

High yielding varieties: Jwalasakhi, Jwala
mukhi, Jwala, Pant C-l, K-2
Bacterial wilt resistant varieties: Manjari, Ujwala, Anugraha
Seed rat,e: 1.0 kg/ha ;

Raising seedlings

Chilli is a transplanted crop. Seeds are sown in the nursery and one-month-old seedlings are transplanted to the main field. For sowing the seeds, raised seed-beds of 90 to 100 cm width and of convenient length

are prepared to which well decomposed organic matter has been incorporated. After sowing the seeds, mulch with green leaves and irrigate with a rose-can daily in the morning. Remove the mulch immediately after germination of the seeds. Restrict irrigation one week before transplanting and irrigate heavily on the previous day of transplanting.

Time of pianting

For a rainfed crop, transplant the seedlings during May-June before the onset of southwest monsoon. Planting can also be done

during Sept-October for an irrigated crop. Land preparation and transplanting

Land is prepared to a fine tilth by thorough ploughing / digging. Well rotten organic manure is incorporated in the soil and seedlings are transplanted in shallow trenches / pits during Mayor on ridges / level lands during rainy season. Transplanted seedlings may also be given temporary shade for three to four days during summer.

Spacing

Transplant less spreading varieties at 45 x 45 cm. For spreading cultivars like White Kanthari provide a wider spacing of 75 x 45-60 cm.

Manuring

Apply well rotten FYM / compost @ 20-25 t/ha at the time of land preparation and mix well with the soil. .

A fertilizer dose o_ 75:40:25 kg N:P20s:

K2O.lha may be given. Half of nitrogen, full phosphorus and half of potash may be applied as basal dose before transplanting, One fourth of nitrogen and half of potash may be applied 20-30 days after planting.

The remaining quantity may be applied two months after planting.

Aftercultivation

Irrigate at three to four days interval during summer. Stake the plants if necessary. Weeding followed by fertilizer application and earthing up may be done at one and two months after transplanting.

Plant protection

For avoiding damping off of the seedlings in the nursery, sow the seeds as thin as possible in raised beds prepared in the open area during summer months. Spray nursery and main field with I % Bordeaux mixture at monthly intervals during rainy season. Uproot and destroy the plants affected by bacterial wilt and mosaic.

Cultivate resistant varieties like Manjari, Ujwala and Anugraha in bacterial wilt prone areas.

Spray quinalphos 0.025% for control of mealy bugs and lace wings. Dimethoate at . 0.05% is effective for controlling mites, aphids and other sucking insects.

3. TOMATO *(Lycopersicon esculentum)*

Varieties

Bacterial wilt resistant varieties: Sakthi, Muk
thi, Anagha
High yielding variety: Pusa Ruby

Seed rate: 400 glha Raising seedlings

Tomato is a transplanted vegetable. Seeds are sown in the nursery and one-month-old seedlings are transplanted to the main field. For sowing the seeds, raised seed beds of 90 to 100 cm width and of convenient length are prepared to which well decomposed organic matter has been incorporated. After sowing the seeds, mulch with green leaves and irrigate with a rose-can daily in the

morning. Remove the mulch immediately after germination of the seeds. Restrict irri. gation one week before transplanting and irrigate ht<avily on the previous day of transplanting.

Time of planting

Transplant the seedlings during October
November for an irrigated crop.

Land preparation and transplanting

Land is prepared to a fine tilth by thorough ploughing or digging. Well rotten organic manure is incorporated in the soil and seed. lings are transplanted in shallow trenches *I* pits / levelled lands. Transplanted seedlings may be given temporary shade for three to

four days during hot days.

Spacing

Transplant the seedlings at 60 x 60 em.

Manuring

Apply well rotten fann yard manure / compost @ 20-25 t/ha at the time of land preparation and mix well with the soil. A fertilizer dose of 75:40:25 kg N:P2Os:K2O / ha may be given. Half the dose of nitrogen, full phosphorus and half of potash may be applied as basal before transplanting. One fourth of nitrogen and half of potash may be applied *20-30* days after planting. The remaining quantity may be applied two months after planting.

Aftercultivation

Irrigate at two or three days interval. Stake the plants if necessary. Weeding followed by fertilizer application 8.nd earthing up may be done at one and two months after transplanting.

Plant protection

For avoiding damping off of the seedlings in the nursery, sow the seeds as thin as possible in raised beds prepared in the open area. Spray nursery and main field with

I % Bordeaux mixture at monthly intervals. Uproot and destroy the plants affected by bacterial wilt and mosaic.

Cultivate resistant varieties like Sakthi, Mukthi and Anagha in bacterial wilt prone areas.