

Acid Lime

April

- Ensure the soil suitability by digging of a profile pit of 3 X 3 X 3 ft. Observe the soil for presence of any calcareous nodules or sheet rock. If the lime nodules or sheet rock is present avoid such soils for taking up plantations.
- Avoid water logging or ill drained soils and black cotton (BC) soils.



Hard soil

- Collect soil sample for every one feet depth of soil from the suitable lands profile pit dug out.
- Based on soil test report, if the soil PH is 6.5 to 7.5 it is considered as suitable for Acid Lime plantation. PH below 6.0 and above 8.5 shall be avoided.
- Soils and Irrigation water with Electrical Conductivity (EC) above 1.0 dsm and exchangeable sodium above 15 % shall be avoided.

May

- Take up summer ploughing with MB plough twice and level the land.
- Alignment and peg marking for pit digging at 6.0 mtr. Spacing between the rows and plants should be given. Pit size to be followed is 60 X 60X 60 cm.



Lay out for pit digging

- Pit digging – Precaution -Keep the dug out top soil (1 ½ ft.) to the right side of the pit and bottom (1 ½ ft.) to the left side of the pit. Allow the pit to expose to sun atleast for two weeks before filling the pits to control soil born pest and diseases.
- Make arrangements for procurement of plant material from reliable nurseries preferably from Govt. nurseries or from nurseries recommended by department of horticulture.

June

- Pit filling – fill the pits with top soil mixed with 20 kgs of Farm Yard Manure (FYM) + 1 kg Single Super Phosphate + 1 kg Neem Cake and 100 gm. Of 10% Follidol dust per pit.
- Fill the pits with the soil atleast 6'' above the ground level so that when the soil settles it will be at the ground level at planting.
- Ensure thorn fencing or with any thick growing live fence to control cattle trespassing.
- Give mark out for trench cutting and complete the trench cutting for drip installation.
- With the onset of monsoon farmers can sow inter crops.

July

- Procure the plant material from the selected nurseries by the farmers in coordination with CIG group members.

- At the time of procurement, select only disease free neucellar seedlings or budlings on Rangapur lime root stock. The budding should have been done 15 cm above the soil.
- Select the seedling /budded plant of 6 to 9 months old. Bud union should be perfect without any incompatibility.

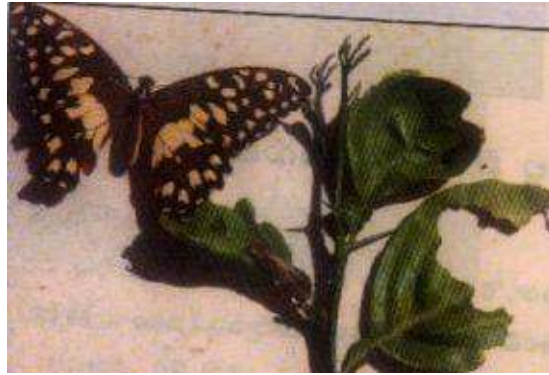


Ideal Acid lime buddling /plant

- Cut (tip off) the terminal tender shoots at the time of uprooting the plants from the nursery beds and pack them in the gunny bags.
- Arrange for transportation of plant material from nursery to the planting site.
- Keep the saplings near water source and water them regularly till planting is done.
- If there is any delay in receipt of good rains the pits should be soaked by giving irrigation or by running the drip system. Ensure that the soil in the pit is at ground level other wise level the soil in pits.
- Take up planting the saplings in the pits without disturbing the ball of earth around the root system and ensure that the bud union is 6'' above the ground level after planting.
- Water the plant immediately after planting.
- Irrigate the plants at every 4 to 5 days interval during the first month and later at 8 to 10 days interval if there are no rains during the initial two years.

August

- New growth on planted saplings start in 2 to 3 weeks time. Protect the new growth from the attack of Citrus caterpillar by spraying Profenophos, Quinolphos or Endosulphon @ 2 ml./lt. of water at every 15 to 20 days interval.



Leaf eating caterpillar

- Weeding should be done at least once in a month during monsoon season to control weeds. Simultaneously the basins around the plant should be made to retain water.
- To avoid Evapo-transpiration losses, mulch the basins with paddy husk or paddy straw or ground nut shells. Mulching also help in the control of weeds in the basins.
- Remove the side shoots which appear on the root stock. Thick dark green succulent shoots appear above the bud joint which are called **water shoots**. These shots should be removed from the base as they will be unproductive.
- If heavy rains persist leading to ill-drained conditions, provide drainage channels to avoid water stagnation. Ill-drained condition leads to yellowing of leaves and wilting of plants due to leaching of nitrogen and attack of fungus. Pour 10 lts of copper oxy chloride solution by dissolving @ 3gms/lt of water in the affected plant basin.

September

- **Micro nutrient deficiencies** if observed - spray comprehensive micro nutrient solution prepared by dissolving the following chemicals in 1lt. of water.

zinc sulphate - 5 gms

Ferrous sulphate 2gms

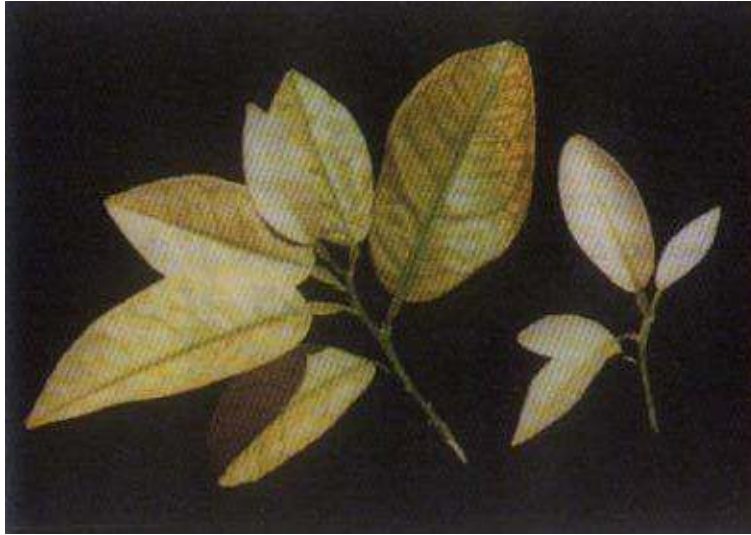
Magnesium sulphate 2gms

Manganese sulphate 2gms

Borax 1gm

Lime 6gms

Urea 10 gms



Iron deficiency



Zinc deficiency

Fertilizers - following fertilizers to be applied as 1st top dressing for each pit as shown below

Urea	-	100 gm./ plant
Single Super Phosphate	-	150 gm.
Murate of Potash	-	75 gm.

- Apply the fertilizers atleast 6'' away from the plant. Irrigate the pits immediately after application of fertilizers .
- **Leaf miner** is noticed on the new flush generally after the application of fertilizers and micro nutrients. Control them by spraying Di methoate @ 2ml or Imida Chlopid (Confidor) @0.3 ml /lt of water.



Leaf minor

- If leaf miner is not controlled in time it will lead to Canker disease causing dead wood and loss in vigor.
- **Aphids** also attack the new tender shoots leading to leaf curl and sooty moulds. Control them by spraying Di Methoate or Acephate@ 1gm /lt of water. If not controlled on time, they will act as vector to Tristeza virus.



Aphids

- **Green mites and red mites** also appear on the maturing leaves characterized by white spots on the lower surface of the leaves. Control them by spraying Dicofol @3ml/lit or wettable sulphur (80% W.P) @ 3gms/lit.



Red mites



Green Mites



Black Fly

October

- **Gap filling** – If any gaps are noticed due to death of plants should be replaced by taking up gap filling.
- Remove the criss cross branches and water shoots
- **High rain fall zones** - planting can be done in Oct.- Nov.,
- If inter crop during June-July is not cultivated, farmers can sow inter crops for rabi season during this month.
- Repeat spraying Dicofol @3ml/lit or wettable sulphur (80% W.P) @ 3gms/lit.

November

- Soil working in the basins and mulching to be done.
- Remove the criss cross and dried branches along with water shoots .
- Ensure up to a height of 2 feet from ground level no side branches develop on the main trunk
- Repeat spraying Dicofol @3ml/lit or wettable sulphur (80% W.P) @ 3gms/lit.

December

- **Fertilizers** - following fertilizers to be applied as 2nd top dressing for each pit as shown below

Urea	-	100 gm./ plant
Single Super Phosphate	-	150 gm.
Murate of Potash	-	75 gm.

- Apply the fertilizers at least 6'' away from the plant. Irrigate the pits immediately after application of fertilizers
- **Micro nutrient deficiencies** if observed - spray comprehensive micro nutrient solution prepared by dissolving the following chemicals in 1lt. of water.

zinc sulphate - 5 gms
 Ferrous sulphate 2gms
 Magnesium sulphate 2gms
 Manganese sulphate 2gms
 Borax 1gm
 Lime 6gms
 Urea 10 gms

January

- Weeding and soil working to improve aeration and weed control
- To avoid Evapo-transpiration losses mulch the basins with paddy husk or paddy straw or ground nut shells. Mulching also help in the control of weeds in the basins

February

- Irrigate the plants at 5-7 days interval regularly.

March

- **Fertilizers** - following fertilizers to be applied as 3rd top dressing for each plant as shown below

Urea	-	100 gm./ plant
Single Super Phosphate	-	150 gm.
Murate of Potash	-	75 gm.

- Apply the fertilizers at least 6'' away from the plant. Irrigate the pits immediately after application of fertilizers

- **Micro nutrient deficiencies** if observed - spray comprehensive micro nutrient solution prepared by dissolving the following chemicals in 1lt. of water.

zinc sulphate - 5 gms

Ferrous sulphate 2gms

Magnesium sulphate 2gms

Manganese sulphate 2gms

Borax 1gm

Lime 6gms

Urea 10 gms

- Apply one basket full of mulch material to control evapo transpiration loses and weed growth in basins.

April

- Ensure regular irrigation through drip or at least once in 5-7 days interval through basins irrigation.

May

- Ensure regular irrigation through drip or at least once in 5-7 days interval through basins irrigation.
- Soil working to create soil mulch.

June

- **Fertilizers** –4th top dressing of fertilizers to be applied with the onset of monsoon for each plant is shown below

Urea - 100 gm./ plant

Single Super Phosphate - 150 gm.

Murate of Potash - 75 gms.

Note: If monsoon is delayed application of fertilizers and preparatory tillage for sowing of inter crops/green manure crops can be taken up in July after soaking rains are received