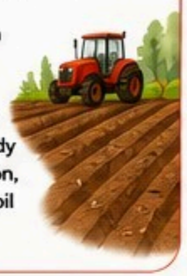
A GUIDE TO TOMATO PRODUCTION

LAND PREPARATION

Limestone should be incorporated into the top 4 in. or spread over the whole cultivation at a rate of 2,500 lbs per acre on clay or Pegasse soils, or 500 lbs per acre on sandy soils. This is necessary because virtually all soils in Guyana are deficient in calcium, and the clay and Pegasse soils are very acidic. This prevents the plant from absorbing nutrients and encourages fungal and bacterial diseases. For small areas, apply 1 oz per sq. ft. on clay or Pegasse soils. Apply ½ oz per sq. ft. on sandy soils. Organic matter should also be incorporated; within reason, the more the better. Tomato requires good drainage, so the soil should be prepared accordingly and drains provided.



PLANTING AND SPACING

Plants require approximately 6–8 sq. ft. It is better to plant close within the row, with 4–6 ft between the rows. This would allow for easy access for harvesting and husbandry operations. Double rows may also be used. Tomato responds well to moulding up soil around the plant by putting out adventitious roots, so it is wise to leave enough room for that operation.



4–6 ft
between rows
↑
6–8 sq. ft.
per plant

IRRIGATION

For any commercial-size plot, sprinkler irrigation from Caribbean Chemicals will dramatically reduce costs.

FERTILIZING

Since virtually all soils in Guyana are deficient in calcium, and limestone takes a month or more to act depending on the weather, it is important to apply Agrical at a rate of 1 oz (30 ml) per gallon. Apply 100 ml of the mixture to each plant. For large areas, apply at a rate of 5 gallons per acre. First dose at 1 week: Elixir 7-21-21, 10 (50 lb) bags per acre. Fersan 15-15-15 or 12-12-17-2 at a rate of 5 (110 lb) bags per acre may also be used. However, the nutrients in these fertilizers, especially the phosphorous, take much longer to dissolve in soil water and become available to the crop. For small areas, 20 g per plant may be applied. This can be repeated every 2–3 months. Sulphate of Ammonia should be applied between these doses if the farmer observes the need for the plants to be made greener. The dose of SOA applied will be up to the judgement of the farmer as to how the plants look.



STAKING



Tomato fruits touching the ground can be damaged by disease, so the crop is usually supported by staking or a trellis. This also makes husbandry and harvesting much easier. Stakes should be in place early, before the first tying is needed. As the plant grows, the stem is tied to the stake. Some farmers prune the plants to reduce side shoots. It is also beneficial to remove the leaves up to a foot from the ground. This improves air circulation, thereby preventing disease. The leaves also do not touch the ground, so they do not contract bacterial diseases from the soil.

WEED CONTROL



Carzone is an excellent herbicide for tomato, as it kills almost all other plants. Be careful not to overdose, but at the recommended dose it is safe. Fusil or Select can control grass weeds but not broadleaf weeds or sedges. Carista or Lifeline is non-selective and would kill the crop if it is sprayed over it. It works by eliminating the chlorophyll in the plant, so if enough of the plant is covered by the spray, it would not be able to produce food and therefore dies. However, it will only affect the crop plant if the spray touches it, and it will only affect the chlorophyll on the spot it has touched. It will not cause injury like Paraquat or affect the roots like Glyphosate. If applied with caution, it is an excellent option to reduce cost. Tomato is a fairly long-term crop, and root growth almost ceases after flowering, so any damage to the root by Glyphosate can seriously affect yield. Likewise, leaf and stem damage by Paraquat will reduce photosynthesis and encourage the infection of disease organisms.

GENERAL CONSIDERATIONS



In these longer-term crops, it is important to remember that root growth slows dramatically after flowering. It is therefore necessary to use a strategy to ensure the preservation of the root system. This is why Quad 14 and Phortify are applied so often, as these products stimulate the natural disease resistance of the plant, bring any applied fungicide down to the root, act as fungicides in their own right, and provide nutritional support for healing and possible regrowth. For stress such as flowering, flood, or drought, apply Greenstim but without calcium in the mixture. If the plants are badly affected by fungal disease, replace the fungicide with Bellis and Acrobat. If the root is damaged, mould up the plants. If the leaves are affected by a bacterial disease, use Coback until it clears up. If nematodes attack the root, spray on Vyd-8 along with Quad 14 or Phortifhy. If the plants need to initiate new flowering, apply Cytokin.

SPRAY APPLICATION



The program recommended is designed to maximize your profit and reduce costs. You will notice that many products are applied early in the life of the crop. This is because the crop is most vulnerable at this time, and any damage then would affect the productivity of the entire crop. In addition, the plants are small, so the quantity of product needed is also small. It is far better to invest a small amount early in the crop, as it is expensive to address the problem later, and yield will be greatly reduced even then. With the technology today, you can apply an insecticide, a fungicide, a foliar fertilizer to feed the plant better, and a biostimulant to improve root development, flowering, growth pattern, or resistance to stress of various kinds. Take advantage of it. For bacterial diseases apply Coback or Cuprofix at 15 gm per gallon. Apply Cuprofix or Coback with caution as it may cause phytotoxicity under certain conditions.



Caribbean chemicals
GUYANA LIMITED

"WE SERVE YOUR GROWING NEEDS"

45 Croal Street, Stabroek, G/Town, Guyana
+592-225-4178
exec.guy@caribbeanchem.com
caribbeanchemicals.co.gy

A SUCCESSFUL TOMATO GUIDE

PLANT



Drench **Bio 20** 15 ml/gal (stimulate root development) + **Shield** 15 ml/gal (protect from root fungus) + **Frip 5** ml/gal (protect from cutworms and sucking insects) + **Vyd-8** 10 ml/gal (protect from nematodes, mainly on sandy soils) + **Breakthru 1** ml/gal (helps the drench penetrate the soil effectively). Spray **Fastak or Karatax** 5 ml/gal (blanket spray for cutting insects).

WEEK 1



Drench **Agrical** 30 ml/gal (liberate calcium and reduce soil acidity) + **Ryzo 500** 15 g/gal (soil/root fungicide) + **Bountiful Harvest** 15 ml/gal (promote root depth and development) + **Breakthru 1** ml/gal (helps the drench penetrate the soil effectively). Spray **Bio 20** 15 ml/gal (stimulate growth and disease resistance) + **Advance** 10 ml/gal (kill insect eggs and immature stages) + **Carbendazim** 5 ml/gal (protect from fungus affecting shoot and root) + **Phortify** 10 ml/gal (promote root growth and protect from Phytophthora) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 2



Drench **Powergizer Ultra** 30 ml/gal (mobilise organic matter and stimulate growth) + **Shield** 15 ml/gal (protect from root fungus) + **Bio 20** 15 ml/gal (promote root depth and development) + **Calmax** 15 ml/gal (provide calcium) + **Breakthru 1** ml/gal (helps the drench penetrate the soil effectively). Spray **Advance** 10 ml/gal (kill insect eggs and immature stages) + **Frip** 5 ml/gal (systemic insecticide against most insect pests) + **Bountiful Harvest** 30 ml/gal (promote root growth and health) + **Carbendazim** 5 ml/gal (protect from fungus affecting shoot) + **Phortify** 10 ml/gal (promote root growth and protect from Phytophthora) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 3



Drench **Evergreen** 10 ml/gal (biostimulant) + **Saeta** 10 g/gal (calcium and protect against Phytophthora) + **Breakthru 1** ml/gal (helps the drench penetrate the soil effectively). Spray **Caprid** 5 ml/gal (kill sucking, biting insects, eggs) + **Bellis 15** g/gal (disease protection and stimulate production) + **Acrobat or Pilot** 10 g/gal (disease protection, especially Phytophthora) + **Phortify** 10 ml/gal (promote root growth and protect from Phytophthora) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 4



Drench **Agrical** 30 ml/gal (mobilize calcium and improve soil structure) + **Breakthru 1** ml/gal (helps the drench penetrate the soil effectively). Spray **Advance** 10 ml/gal (kill insect eggs and immature stages) + **Frip** 5 ml/gal (systemic insecticide against most insect pests) + **Phortify** 10 ml/gal (promote root growth and protect from Phytophthora) + **Bio 20** 10 ml/gal (provide nutrients, proliferate root growth) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 5



Spray **Caprid** 5 ml/gal (kill sucking, biting insects, eggs) + **Aztez** 10 ml/gal (kill insect eggs and immature stages) + **Bellis** 15 g/gal (disease protection and stimulate production) + **Quad 14** 10 ml/gal (provide NPK and Ca, stimulate immunity to disease) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 6



Spray **Frip** 5 ml/gal (systemic insecticide against most insect pests) + **Advance** 10 ml/gal (kill insect eggs and immature stages) + **Cytokin** 5 ml/gal (flower initiation) + **Greenstim** 15 ml/gal (reduce the stress of flowering) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 7



Spray **Aztez** 10 ml/gal (kill insect eggs and immature stages) + **Caprid** 5 ml/gal (kill sucking, biting insects, eggs) + **Cytokin 5** ml/gal (flower initiation) + **Quad 14** 10 ml/gal (provide NPK and Ca, stimulate immunity to disease) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 8



Spray **Advance** 10 ml/gal (prevent pest eggs from hatching) + **Secure** 5 ml/gal (systemic insecticide against most insect pests) + **Acrobat or Pilot** 10 g/gal (protect from fungus disease) + **Bellis** 15 g/gal (stimulate photosynthesis and protect from disease) + **Sugar Express** 15 g/gal (fruit and flower development) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 9



Spray **Bountiful Harvest** 15 ml/gal (stimulate root, shoot, flowering, stress resistance) + **Aztez** 10 ml/gal (kill insect eggs and immature stages) + **Caprid** 5 ml/gal (kill sucking, biting insects, eggs) + **Cuprofix or Coback** 15 g/gal (protect from fungus and bacterial disease) + **Quad 14** 15 ml/gal (provide NPK and Ca, stimulate immunity to disease) + **Breakthru 1** ml/gal (helps the spray spread over and enter the leaf).

WEEK 10



Spray **Secure** 5 ml/gal (control Diamondback Moth and other pests) + **Advance** 10 ml/gal (kill insect eggs and immature stages) + **Carbendazim** 5 ml/gal (protect from fungus disease) + **Cytokin** 5 ml/gal (flower initiation) + **Sugar Express** 15 g/gal (fruit and flower development) + **Breakthru** 1 ml/gal (helps the spray spread over and enter the leaf).

After week 10 continue to alternate weeks 9 and 10 until the end of the crop