A GUIDE TO PEPPER 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, and ½ oz. per sq. ft. on sandy soils. Organic matter should also be incorporated, within reason the more, the better. Pepper requires good drainage, so the soil should be prepared accordingly and drains provided.



PLANTING AND SPACING

Plants require approximately 4–6 sq. ft. It is better to plant close within the row, with 4–5 ft. between the rows. This allows for a 3 ft. wide bed with a 1.5 ft. drain, providing easy access for harvesting and husbandry operations. Peppers are often planted in double rows, which can be especially useful for heavy bell peppers that may weigh down and break branches, as interlocking branches can support each other. For some bell peppers, staking or a trellis may be necessary, and for high-yielding varieties, staking is highly recommended.



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. The first dose at 1 week should be Elixir 7-21-21, 10 (50 lb) bags per acre. Fersan 15-15-15 or 12-12-17-2 at a rate of 5 (100 lb) bags per acre may also be used. However, the nutrients in these fertilizers, especially the phosphorus, 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 process can be repeated every 2–3 months. Sulphate of Ammonia should be applied between these doses if the farmer observes that the plants need to be greener. The dose of SOA applied will depend on the farmer's judgment based on the appearance of the plants.



WEED CONTROL

Lazio or Moccasin may be applied before planting or within a day or two of planting. This prevents weed seeds from germinating. The rate is 1 ml of product per 20 to 30 square feet. For example, if the bed is 3 feet wide and 10 feet long (30 square feet), add 1 ml of product to a watering can or spray can and apply evenly across the bed. Fusil or **Select** can control grass weeds but not broadleaf weeds or sedges. Carista or Lifeline is non-selective and will kill the crop if sprayed over it. It works by eliminating chlorophyll in the plant, so if enough of the plant is covered, it cannot produce food and dies. However, it only affects the crop plant if the spray touches it, and only affects the chlorophyll in the area it contacts. It does not cause injury like Paraquat or affect roots like Glyphosate. If applied with caution, it is an excellent option to reduce cost.

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 preserve 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 a fungicide in their own right, and provide nutritional support for healing and possible regrowth. If the plant undergoes stress such as flooding or drought, replace the foliar fertilizer with **Greenstim**. If the plants are badly affected by fungal disease of the root or shoot, 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 **Cuprofix** until it clears up. If nematodes attack the root, spray **Vyd-8** along with **Quad 14** or **Phortify**. If the plants need to initiate new flowering, apply Cytokin.

SPRAY APPLICATION

The program recommended below is designed to maximize your profit and reduce cost. You will notice that many products are applied early in the life of the crop 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 addressing problems later is expensive and yield will be greatly reduced even then. With today's technology, you can apply an insecticide, a fungicide, a foliar fertilizer to feed the plant better, and a biostimulant to improve root development. Apply Cuprofix or Coback with caution as it may cause phytotoxicity under certain conditions.



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A SUCCESSFUL PEPPER GUIDE



PLANT



Drench **Bio 20** 10 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) + **Breakthrough** 1 ml/gal for the drench to penetrate the soil effectively) Spray **Fastak/Tengard/Karatax** 5 ml/gal (blanket spray for cutting insects).

WEEK 1



Drench **Agrical** 30ml/gal (liberate calcium and reduce soil acidity) + **Bountiful Harvest** 30 ml/gal (stimulate growth and disease resistance) + **Ryzo** 15 g/gal (protect from root fungus) + **Breakthru** 1 ml/gal (for the drench to penetrate the soil effectively). Spray **Frip** 5 ml/gal (protect from cutworms and sucking insects) + **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, can sub **Nutrient Express** 5 g/gal) + **Breakthru** 1 ml/gal (helps the spray to 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) + **Breakthru** 1 ml/gal (for the drench to 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) + **Coback or Cuprofix** 15 g/gal (protect from fungus and bacteria affecting shoot) + **Phortify** 10 ml/gal (promote root growth, can sub **Nutrient Express** 5 g/gal) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 3



Drench **Bountiful Harvest** 30 ml/gal (stimulate photosynthesis and root health) + **Agrical** 30 ml/gal (liberate calcium and reduce soil acidity) + **Breakthru** 1 ml/gal (for the drench to 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, can sub **Nutrient Express** 5 g/gal) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 4



Drench **Evergreen** 15 ml/gal (biostimulant) + **Saeta** 15 g/gal (calcium and protect against phytophthora) + **Breakthru** 1 ml/gal (for the drench to 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) + **Coback or Cuprofix** 15 g/gal (protect from fungus and bacteria affecting shoot) + **Bio 20** 10 ml/gal (provide nutrients, proliferate root growth) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 5



Spray **Caprid** 5 ml/gal (kill sucking, biting insects, eggs) + **Acrobat or Pilot** 10 g/gal (disease protection especially phytophthora) + **Bellis** 15 g/gal (disease protection and stimulate production) + **Bio 20** 10 ml/gal (provide nutrients, proliferate root growth) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 6



Spray **Cytokin** 5 ml/gal (flower initiation) + **Frip** 5 ml/gal (systemic insecticide against most insect pests) + **Coback or Cuprofix** 20 g/gal (protect from fungus and bacterial disease) + **Quad 14** 10 ml/gal (provide NPK and Ca, stimulate immunity to disease) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 7



Spray **Bountiful Harvest** 30 ml/gal (stimulate root, shoot, flowering, stress resistance) + **Caprid** 5 ml/gal (kill sucking, biting insects, eggs) + **Carbendazim** 5 ml/gal (protect from fungus disease) + **Quad 14** 10 ml/gal (provide NPK and Ca, stimulate immunity to disease) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 8



Spray **Advance** 10 ml/gal (kill insect eggs and immature stages) + **Frip** 5 ml/gal (systemic insecticide against most insect pests) + **Coback or Cuprofix** 20 g/gal (protect from fungus and bacterial disease) + **Cytokin** 5 ml/gal (flower initiation) + **Sugar Express** 15 g/gal (fruit and flower development) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 9



Spray **Agasi** 30 ml/gal (stimulate root, shoot, flowering, stress resistance) + **Caprid** 5 ml/gal (kill sucking, biting insects, eggs) + **Carbendazim** 5 ml/gal (protect from fungus disease) + **Quad 14** 10 ml/gal (provide NPK and Ca, stimulate immunity to disease) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

WEEK 10



Spray **Cytokin** 5 ml/gal (flower initiation) + **Pirate or Secure** 5 ml/gal (control Diamondback Moth and other pests) + **Coback or Cuprofix** 20 g/gal (protect from fungus and bacterial disease) + **Sugar Express** 15 g/gal (fruit and flower development) + **Breakthru** 1 ml/gal (helps the spray to spread over and enter the leaf).

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