

AETHIOPICA SUMMARY GUIDELINES for POT & CUT USE

START with GSBG Grower "Clusters"

- Bulbs are pretreated with a blend of fungicides/bactericides intended to get you off to a good start.
- Follow up with preventative drenches as detailed later in the "Disease Prevention & Control".

MEDIA

Aethiopica is "moisture loving":

- Use a well draining media with a pH of 5.5-6.5 that is high in organic matter.
 - Suitable medias generally have 50-65% peat plus other coarse components for drainage.
 - Potted plant medias frequently benefit from 10-20% graded sand for ballast and additional drainage.
 - Consider incorporation of Gypsum/lime/dolomite for pH balance and calcium supply.

Disease suppression can be partially addressed with the soil incorporation of the following materials:

- Terraclor (PCNB 75% ai) @ 3-5.5oz/yd³ (111-204gm/m³) can be helpful in disease prevention strategies.
- RootShield (Trichoderma) @ 1lb/yd³ (593gm/m³) aids to reduce disease pressure using beneficial organisms.

PLANTING

- Noting Aethiopica prefers deep, well-draining soil- bulbs can be planted in either raised beds or containers.
- Plant bulbs 2" (5 cm) deep in containers OR 3-4" (7.5-10 cm) deep in beds.

GROWING CONDITIONS

The crop **withstands a wide range of light conditions** from 500 to 5,000 foot-candles (5,400-54,000 lux).

- Higher light can be tolerated during cool & humid periods.
- Plants can handle full sun to 70% shade without becoming too badly stressed, 50% shade is often optimum.
- Under deeply shaded conditions, stem length increases but is also weakened.

☞ *Aethiopica is not day-length sensitive nor does it require temperature/hormonal treatments to induce bloom.*

Aethiopica is a robust grower that **tolerates various temperatures but truly prefers relatively cool conditions.**

Optimum temperature details for plant growth & flowering are as follows:

- Days @ 55-65°F (13-18°C) while preferably cooler than 70°F (21°C) maximum / Nights @ 45-55°F (7-13°C)
- Germinating @ 65-70°F (18-21°C) until sprouting helps hasten rooting and establishment but is not necessary
- Cool nights with clear days will promote stronger and shorter stems.

Other temperature considerations are as follows:

- Avoiding high temperature spikes will help minimize stress and associated disease pressure.
- Prolonged warmer greenhouse temperatures, especially at night, inhibits flowering and softens/stretches stems.
- Aethiopica is somewhat frost sensitive; foliage will not withstand prolonged freezing temperatures. Bulbs will take some frost but cannot withstand a soil freeze to bulb depth.

Aethiopica benefits from relatively high humidities. Low humidity paired with warm winds can result in irrecoverable stress as evapotranspiration can exceed root uptake capacities (leading to root damage and advancing disease pressure).

WATER MANAGEMENT

- Water freshly planted bulbs, then immediately follow with "cocktail drench".
- Maintain soil slightly moist until substantial sprouts emerge.
- Keep constantly moist [but not soggy] until peak bloom and then decrease moderately.

FERTILITY

Proper fertility is critical for full plant growth with well-colored leaves and continued flower production in Aethiopica.

- Use a soil incorporated 30-day release preplant charge of nitrogen and potassium (containing little or no phosphorous). This will produce good early establishment of roots and improved early vigor.
- At approximately 3-4 weeks, begin a semi-balanced liquid feed @ 200 ppm weekly or 100 ppm constant using 20-10-20 or initially as needed.
- Modifications can then be made based on individual growth objectives and conditions.
 - At leaf unfurling, reducing to 50 ppm alternated 1:1 with clear water will keep plants from getting too leafy.

☞ *Alternately, consider the use of a low phosphorous fertilizer (i.e. 17-5-17) can result in better plant balance.*

HEIGHT CONTROL

It is important to appropriately time crop spacing and optimize cultural inputs to minimize PGR requirements. Numerous variables can separately or together affect growth habit, these include but are not limited to:

- light
- temperature
- fertility
- water management
- morning "cold pulsing"
- far red-light (twilight) exclusion

Generally it is best to make a single PGR drench application when plants are at 1/2 to 3/4 desired plant height.

Note that the require rate will depend primarily on the light, temperature, fertility and your bulb size & form.

- It's often best to use apply Bonzi at 7.5-10 ppm @ 0.25-0.33oz/gal (2-2.6ml/L)
- 3.75-7.5 ppm @ 0.125-0.25oz/gal (1-2ml/L) should be used if: 1) lighter desired effects are desired; 2) earlier or multiple applications will be use; 3) smaller and/or clustered bulbs are being used.

TOO HIGH A RATE OR TOO EARLY AN APPLICATION CAN CAUSE LEAF CRINKLING, PLANT ROSETTING, LACK OF BLOOM OR GENERAL STUNTING. If plants become over growth regulated, a GA rescue spray can be effective @ 100-200ppm GA3 or GA4+7 [and coupled with a mild surfactant].

↳ Bonzi rates higher than 10 ppm may arrest plant height completely.

DISEASE PREVENTION & CONTROL

Aethiopica is generally susceptible to **three (3) primary soil borne pathogens**: Pythium & Phytophthora ("water molds") plus Rhizoctonia and bacteria: Erwinia (Pectobacteria spp.). "Water molds" are often the first and most critical component in the disease complex, followed by Rhizoctonia. Once root injury occurs, Erwinia will often enter as a secondary infection.

Our best tank mixed, four-part chemical drench targets the "3-pathogen complex" with the following preferred materials:

- 1) WATER MOLD *part 1- Subdue Maxx* (mefenoxam 25.1% ai) @ 0.5-1oz/100 gal (4-8ml/100 L)
 - 2) WATER MOLD *part 2- Aliette* (fosetyl-aluminum 80% ai) @ 13oz/100 gal (98gm/100 L)
 - 3) RHIZOCTONIA- *Heritage* (azoxystrobin 50% ai) @ 4oz/100 gal (30gm/100 L)
 - 4) ERWINIA- *Agrimycin-17* (streptomycin sulfate 21.2% ai) @ 8-16oz/100 gal (60-120gm/100 L)
- ◊ Please refer to "AETHIOPICA CULTURAL GUIDELINES" for additional details ◊



Pesticide drench timing is critical.

- Drench within the first 2 to 3 days of initial watering
- Timing of the second drench should be made at 14 to 21 days
- A third drench may be necessary 3-6 weeks after the second one (5-9 weeks from planting).

↳ Always drench in the mornings or early enough for all foliage/runoff to dry thoroughly.

Watch for leaf spot as leaves unfurl. Once leaf spot is observed, spray foliage to runoff with a selection of the following:

- 1) BACTERIAL LEAF SPOT *part 1- Champ II* (copper hydroxide 37.5%) @ 32-64oz/100 gal (240-479ml/100 L)
- 2) BACTERIAL LEAF SPOT *part 2- Dithane* (mancozeb 75%) @ 32oz/100 gal (24 ml/100 L)
- 3) FUNGAL LEAF SPOT *option 1- Daconil Weather Stik* (chlorothalonil @ 54%) @ 22oz/100 gal (165ml/100 L)
option 2- Chipco 26019 26GT (iprodione @ 23.3%) @ 32oz/100 gal (240 ml/100 L)

↳ DO NOT COMBINE FOLIAR COPPERS WITH ALIETTE OR OTHER ACIDIFYING PRODUCTS.

◊ Please refer to "AETHIOPICA CULTURAL GUIDELINES" for lower residue options and additional details ◊

Inspect Crop Weekly. Routinely scout for cleared or browning roots, leaf spots, etc.

- ALWAYS WATCH FOR ERWINIA INFECTED PLANTS TO CAREFULLY ROGUE & DISCARD.
- Re-drench per recommendations if root problems are discovered, up to a total of three times over the life cycle.
- Sanitation is critical, especially in multiple cropping programs where rot can progress without an obvious cause.
 - Sanitize benches, floors, conveyors, pots, soil mixers, etc. between crops.

INSECTS

- Control Fungus Gnats and Shoreflies due to their ability to spread bacteria and other diseases.
- Control white flies, aphids and thrips on an as-needed basis. If aphid or thrips are present, use aggressive control measures since they are capable of rapidly spreading various viruses.
- Watch for early leaf chewing evidence from larvae after sprouting.

Most materials can safely be applied at label rates; beware of chemical incompatibilities described on label(s). Always inquire with local agricultural advisors if you are in doubt.

↳ "AETHIOPICA CULTURAL GUIDELINES" offers more extensive details regarding crop characteristics and optimal culture. Please visit www.goldenstatebulb.com

◊ These instructions are not prescription guarantees, nor are they recommendations and/or endorsements of any of the chemicals mentioned herein ◊