



2017
2018

Estelle
Solidago
Technical Guide

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we love to grow

SOLIDAGO ESTELLE

Solidago Estelle is an excellent alternative for growers to differentiate their assortment with a product that can offer innovation and better prices in the market.

Estelle is a *Solidago Hybrida* from the family of the *Asteraceae*, yellow Solidago. Even so cultural practices and technical aspects can be different for Estelle. The following technical guide provides information to help costumers establish the crop, reach production and manage the product in the postharvest and cool store.

* Fig.1.

ROOTING

Media sources of coco peat, rice shell, peat, mineral charcoal used to produce (Scoria) and soil are good alternatives. If you are familiar with one of them use it. The coco peat and the mineral charcoal used (Scoria) need to be washed to avoid salinity problems.

Soil and rice shell are recommended to be sterilized before used to avoid *Agrobacterium* and *Fusarium* among other diseases.

The use of Indol Butyric Acid (plant hormone in the auxin family) is recommended to obtain better results. The cuttings need to be deep in the IBA (1.000 to 1.500 ppm) if results are not visible the dose of IBA can be increased slowly until results are satisfactory. After sticking it, it is important to create conditions of high humidity for 10 days until callosity in the cuttings start to appear and water begins to reduce slowly.

Rooting processes in countries without seasons (steady weather) take 15 to 20 days. In countries with seasons the time of rooting can increase or decrease depending on the period of the year. Ideal root is 2 - 3 cm long.

If stored, the cuttings, can be done in a cool room with a temperature of 2 to 4 °C during one week ideal or a maximum of 2 weeks with the possiblity of suffering some damage.

MOTHER PLANTS

After sticking, pinch for the mother plants it is necessary to leave 6 pairs of leaves. Nine to ten weeks later a first flash of cuttings needs to be harvested. Usually six to four cuttings are produced and after the first flush a weekly production of 0.5 - 0.6 cuttings/ plant/week can be expected. *Fig.2. & Fig.3



Fig.1. The first WHITE Solidago in the Market



Fig.2. The cuttings need to be from the base of the plant as in and ideal size cutting.



Fig.3. Cuttings need to be harvested from the base of the plant



THE BREEDING breakthrough!

ESTELLE™ SOLIDAGO

Fresh, innovative,
ingenious & original
UNIQUE (FLOWER/COLOR)



Elegant, Exclusive



& Versatile!



Flexible use // IDEAL FILLER FOR YOUR TINTED PROGRAM



Perfect for any occasion
White goes with everything!
Can be used
all year round



Heavy Stems
with large white flowers
More volume
per stem

CUTTINGS FOR PRODUCTION

Soil

Estelle, grows well in well-drained soil. It is important that the soil be wet at the moment of planting. Estelle is not going to tolerate soils that are not well-drained, presenting plant mortality in the field, but if water is managed correctly, it can grow on any type of Soil (Sand, Clay or Loamy).

Planting

Two different ways of planting Solidago, are well known; single stem or pinching. Basically each style needs to be adopted according to what it is desirable to reach in terms of quality of the product and cost benefit.

Single stems: Density of 90 stems per m² net. Estelle produces extraordinary quality under this planting system. It is recommended to reach markets with very high quality standards.

Pinching: Density 30 plants per m² net. Pinch needs to be done after 4 weeks of planting or as soon as the stem has 3 to 4 pairs of leaves. If more shoots crop up a selection of the best 3 out of 4 needs to be pinched.

Irrigation

Irrigation is required frequently until week 4. Depending on weather conditions, irrigation of 1200 liters / bed / week is recommended (dripping system 2-3 pulses daily and twice a week with hose.) If soil gets dry quickly, it is important to recover humidity fast.

Fertilization

- Nitrogen 3% to 5%
- Phosphorus 0.25% to 0.35%
- Calcium 1% to 2% Better if it is up of 2% (two to three applications per week) " is not recommended mix Calcium with other foliar products"
- Magnesium 0.2 % to 0.3%
- Potassium 3% to 5% (Better to keep it slightly low)
- Iron 100 to 250 ppm
- Manganese 100 to 300 ppm foliar application every 15 days.
- Copper 3 to 5 ppm
- Zinc 20 to 60 ppm
- Boron 30 to 60 ppm
- Soil
- CE in Soil 2.5 to 3.5 better to keep low
- Calcium 18 to 20 ppm.
- Manganese 3 to 4 ppm.
- Potassium 0.77 to 0.99 ppm
-
- Relations
- Ca/Mg 5.45
- Ca/K 23.3
- Mg/K 4.2

Light

It is necessary to give light the same day of planting. Estelle can require between 35 to 49 nights of light depending on the luminosity of the day. Between 9:00 pm and 3:00 am. it is recommended to give light at intervals, 15 minutes of light, 15 minutes of darkness.

Bulbs used should be from 220 to 240 volts (Fig.4) and light intensity must be between 15 and 18 foot-candels, between the lines must be 12 foot-candels and at the beginning of the bed there should be a minimum of 8 foot-candels. One foot-candels equals 10.74 lux. The light in Solidago needs to be YELLOW (warm light)



Fig. 4. Bulb 27 W 220 to 240 volts

Pests and Diseases

Thrips, Leafminers, Aphids, Spidermites, Rihozoctonia, Mildew, Sclerotinia and Botrytis can affect the crop. It is recommended to do preventive treatment. Application of chemicals under high temperatures can burn the foliage and slow the growth of the plant.

Harvest

Harvest time can last between 15 and 20 days. The harvest point can be done in the field when 10% of the flowers are open, ideal stage is 30 %, however this point depends on the market, days of traveling and customer's requirements.



Fig. 5. Stems from 70 to 90 cm in Estelle are normal.

Pruning

After each cycle, pruning needs to be done. It is a critical stage for the Estelle crop management. Irrigation needs to be reduced during the last week of harvest and suspended during the pruning period to avoid diseases and stimulate regrow. Estelle pruning cannot be done very deep. Estelle regrowth is not as strong as the yellow Solidago and recommendations at this stage are advised to be followed.

As soon as the pruning is finished, lighting and watering need to start. Some weeks later as soon stems reach 15 cms, it is necessary to make a selection leaving the best shoots in the plant expecting to have 90 to 100 stems per m2.

Postharvest treatment

After classification according to customer requirements put the Solidago in TOG-30 (0.035%) + TOG-75 (0.1%) (Equivalent to Chrysal FVB, Florisant 100 or Florissima 125) or calcium hypochlorite

(5cm/3Lt H2O) for 4 to 6 hour at room temperature. Finally, refrigerate the Solidago between 12 to 72 hours in the same solution before shipment.

Dyeing Estelle

Estelle can be dyed in many different colors by absorption and spraying. Some colors work better than others. Dark colors have the tendency of being more toxic to the stems than others. Good results depend on the cut stage point, absorption time, brand dye, dehydration point of the product before putting it to the absorption process.

Stems Estelle solidago with flowers open (*higher 20% depending on the market*). It needs Plastic containers, Water, Mixer.

Procedure:

1. Check that stems not be hydrated and their flowers be open (*higher 20%*). The cut stage is essential to achieve good absorption process and solution color.
2. Weigh the dose of dye (less 20g dye / 1L water).
3. Dissolve dye in water and homogenize. It does not need sugar, glycerin or hypotensive product because “Novaflor brand by Colquimica S.A. is a line designed especially for dyeing cut flowers “(Colorquimica S.A.).
4. Cut stems, 1cm from the base of the stem and do a clean cut before putting stems in color solution. Do not hydrate the flower after cutting.
5. Expose the flower to the solution until it is considered to be 90% of the desired tone. 60 to 90 minutes are optimal time for absorption dyeing process (Colombia conditions).
6. Remove stems from solution and clean the dye excess.
7. Rehydrate stems with water.
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Please take care:

Estelle Solidago dyes better when its openness is uniform. Closed flowers should not be dyed. Leaves take the tone of the color solution gradually.

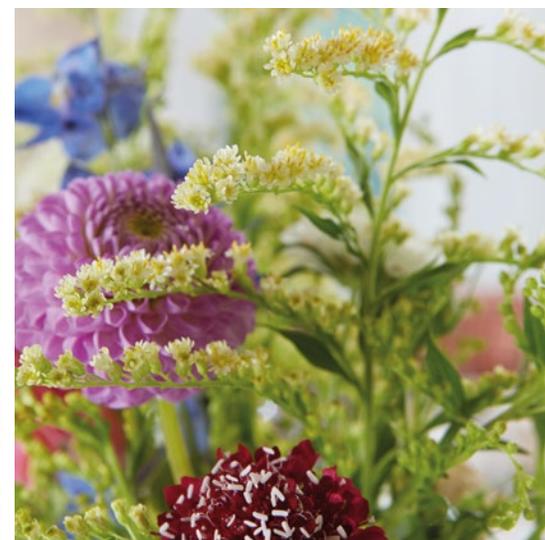
“The information contained in this document provides general guidelines crop without a prescription, so it is recommended to make necessary adjustments according to climatic conditions, characteristics and practices of each farm.”



Fig. 6. Dyeing Estelle



Fig. 7. Ribbon Estelle



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