Veronica SKYLER™ Cultivation Protocol

Prepared for Express Seed Company, USA | July 2022

Botanical Background

DANZIGER

- Origin: Northern Hemisphere, mainly Asia & Europe
- Family: Globulariacaeae
- Genus: Veronica (comprised of about 500 species)
- Species: Veronica longifolia
- Favorable conditions: cool climates
- Propagation: from cuttings



Cultivation overview



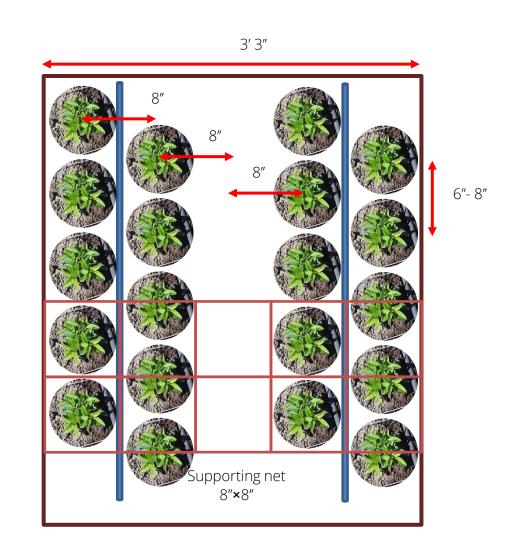
- Veronica SKYLER™ can be grown in tunnels or greenhouses
- Veronica **SKYLER™** is a perennial that flowers in flushes of 3 to 4 months
- Temperatures of below 8°C (~46°F) in daytime and 4°C (~39°F) at night will cause the inflorescence to be too small
- Temperatures of above 35°C (~95°F) during the day will induce early flowering and a too short stem



Planting



- Disinfect soil before planting (+nematocide)
- Planting density: 20 to 24 plants per net 11 sq. ft of bed (1 m²), 52,000 to 62,400 plants in a gross Acre
- This is done by planting in 4 rows along each bed with 6" to 8" spacing between plants
- Support nets:
 - One of 8"×8" squares at ~ 1' above ground level
 - Second of 12"×12" squares at ~ 1'10"



Pinching



- Pinching is carried about two to three weeks from the time of planting, after the plants have established in the soil
- Pinching should be done above
 3-4 pairs of leaves
- A higher pinch will result in lower quality stems



Irrigation



- Spread 2 lines per bed with 0.3 to 0.5 GPH drippers every 6" to 8"
- In addition an overhead system is recommended to be used during the establishment stage (720 ft³/day/acre) and on warm days
- Veronicas like field capacity to have good development
- In Israel (sandy soils) we irrigate at an average of 280 ft³/day/acre
- Quantities and intervals depend on soil type and climatic conditions

Fertilization



- Basic recommendation:
 - N:120
 - P:30
 - K: 150
 - **Ca: 80**
 - Mg: 40
 - Fe: 0,5.
 - EC**∆**: 1.8 to 2.0



 Veronica has high demand for Iron (Fe), especially in the growth stage. The main symptom is yellowing of the foliage. Apply weekly at 20 ppm by drench or by foliar spray.

Thinning out



- It is recommended to perform a thinning out of stems to allow better quality and uniformity
- When stems reach a length of ~
 6", select 4 to 5 shoots per plant and remove the rest



Plant development



Flowering (1 month later)



Dis-budding



- In many cases, several side buds will develop from the apical node baring the main flower
- These side-buds should be removed to allow the central flower spike to fully develop



Harvest



 Harvesting is done when the first whorl of petals begins to open



Post - Harvest





- Harvested stems should be sorted and bunched, and then placed in a solution containing:
 - 0.15% **TOG**₃ ■
 - 0.20% STS (TOG-75)
 - 3.00% Sugar
 - The stems should be kept in the solution for 4 hours at room temp.
 - Next, stems are to be placed in the cold room for a minimum of 12 hours and a maximum of 72 hours
- Stems should be kept in an upright position throughout the process



TOG₃



- TOG₃ is a cut flower pre-treatment chemical produced by Gadot Agro of Israel
- This product is designed to enhance the uptake of water, assist in bud opening and prevent fungal and bacterial growth
- Alternative products would be Chrysal RVB by Chrysal international of Holland (Link), or HydraFlor® 100 by Floralife of the USA (Link)









Inducing the 2nd flush



- In Veronica, an actual cut back is unnecessary,
- As stems are harvested low, close to the base of the plant, the harvest itself acts as a pruning
- New shoots will emerge from the stumps of the harvested stems
- Avoid harvest when temperatures are too high (above 86°F-95°F)



New shoots developing

GA₃ Application



- A GA₃ (Gibberellic Acid)
 application can assist in achieving
 commercial length stems (of >2'
 4") in the second flush
- Apply when shoots are no longer than 2"
- Recommended concentrations are in the range of 5 to 30 ppm



2nd flush in Israel





Plant Protection - Pests



- Nematodes: the crop is sensitive and pre-treatment of the soil is recommended
- White fly: especially in summer, apply preventative sprays with chemicals such as *Imidacloprid*, *Diafenthiuron*, *Buprofezin* and *Pyriproxyfen*
- Red spider mites
- Spodoptera littoralis
- Leaf miner

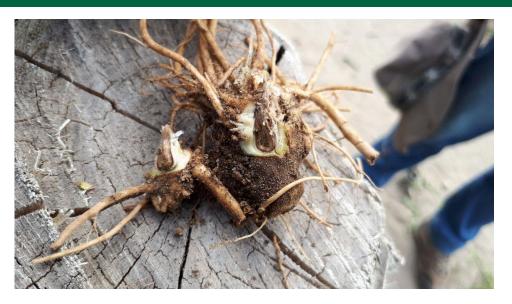


Plant Protection - Diseases



- Rhizoctonia
- Botrytis
- Powdery mildew
- Sclerotinia sclerotiorum



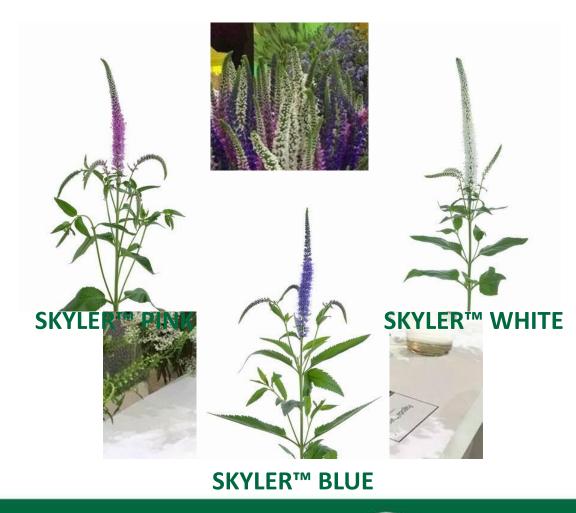




Veronica

SKYLER™, a look that catches the eye

- The SKYLER[™] series has introduced veronica with longer inflorescences (12 cm to 18 cm) to the market
- This has given the product more versatility when being used in premium bouquets and arrangements
- The series also has no demand for vernalization (cold treatment) to induce flowering
- The color range includes Blue, White and Pink





The SKYLER™ series

New addition

SKYLER™ WHITE IMPROVED

A NEW White variety:

- Faster growing, similar growth cycle to SKYLER™
 BLUE and SKYLER™ PINK
- Uniform flowering, more efficient in harvest
- Longer inflorescence spike of ~ 15 cm (6")
- Higher yields in comparison to SKYLER[™] White







NEW - Danziger spray veronica

- More than 4 flower spikes per stem
- Deep colors : white, pink and blue
- Highly synced flower opening
- Long vase life, more than 14 days





The SKYLER™ Series











