NUTRITION
pH: 5.8 – 6.2
EC: (2:1 extraction method) .6 – .9
Constant feeding at 150ppm – 200ppm nitrogen with a fertilizer selected for grower’s water quality and soil mix is recommended.

TEMPERATURE
Rooting out: 65 – 72 F
Growing on: 60 – 70 F
Holding: 40 – 50 F

WATERING
Maintain moderate soil moisture. Allow the soil to cycle from moist to dry. Avoid both severe dry downs/wilting and long periods of wet soil, especially in cooler temperature, low light and high humidity conditions. Osteospermums perform best if grown drier than many crops.

TIMING
4” – 5”: 5 – 7 weeks with one 84 or 104 Liner plant per container.
6”/1GL Royale™: 6 – 8 weeks with one 84 or 104 Liner plant per container.
8”: 7 – 9 weeks with two to three 84 or 104 Liner plants per container.
10” – 12” Hanging Basket: 10 – 12 weeks with three to five 84 or 104 Liner plants per container.

PLANTING
The 84 and 104 Liner plants should be planted into a well-drained soil mix selected to match individual water quality and fertilizer blends. Water in thoroughly without saturating the mix and maintain a constant moderate soil moisture level for the first seven to 10 days to establish new rooting. Pinching should not be needed, except in the case of taller material at time of planting or a pinch on plants for larger containers. This pinch can be given for larger containers, usually three to four weeks after planting.

LIGHT/LIGHTING
These plants should be grown in a high light area of the greenhouse for optimal flowering and plant development. Soprano® and Bright Lights™ Osteospermum develop and flower often one week later than Symphony Osteospermum, but lighting should not be needed for regular season crops. Daylength extension lighting of 14 to 16 hours total daylength can be helpful for early finish crops.

GROWTH REGULATORS
Moisture management and cooler growing alone are effective methods of controlling growth. Not only does growing Sopranos and Bright Lights “on the dry side” produce the healthiest plants, it also produces fuller and more compact plants. A light spray application of 5ppm – 10ppm Sumagic® (uniconazole) or a 1ppm Bonzi® (paclobutrazol) drench can be applied, if needed. Watch for the “softening” look and lighter green appearance of new growth as an indication for PGR treatment needs.
Soprano and Bright Lights Osteospermum are more upright than Symphony types and can get tall if crop times are too long or growing environment needs are not met. In more northern areas, the lower rates should be used as a starting base, while in more southern areas, the higher rates will probably be needed. Other materials such as Topflor® (flurprimidol) and Piccolo® (paclobutrazol) can be used at rates that correspond with the degree of treatment recommended for Sumagic or Bonzi.
Watering practices, weather and greenhouse environment can greatly affect plant growth and performance.
PEST and DISEASE MANAGEMENT
Proper temperature, light levels, air movement, humidity control, and water management will eliminate most disease issues. Avoid darker, warmer and more humid areas with poor air movement. A broad-spectrum fungicide such as Banrot® (etridiazole plus thiophanate-methyl) can be helpful when applied at transplant, if desired. Scout for Botrytis and consider a follow-up preventative fungicide application if pinching or trimming plants. Also scout for any plant “melting.” This soft rot is usually a sign of overwatering and poor growing conditions. Medallion® (fludioxonil), Pageant® (pyraclostrobin + boscalid) or Cease® (Bacillus stubtilis) are effective to minimize the spread of soft rot. Leaf burn and spotting from the use of copper-based fungicides are a concern. Thrips can also be a concern and crops should be scouted on a regular basis.

OUTDOOR GROWING SCHEDULE
Soprano and Bright Lights Osteospermum can be grown outdoors in the third earliest spring conditions (light frost or late April/mid-May in Michigan). While very cold-tolerant, it is difficult to size up due to its more compact nature in cooler outdoor environments. This recommendation is based on average spring weather and should be adjusted for unseasonably severe or unseasonably mild conditions.

OTHER TIPS
• Soprano and Bright Lights Osteospermum should be transplanted soon after delivery of the rooted cuttings. Stress in the B4 tray can lead to plant loss.
• A well-drained soil mix will lead to better water management and root growth.
• Maintain cooler growing temperatures, drier soil, proper soil pH, bright growing conditions, controlled humidity levels, and good air movement for best plant performance.
• Soprano and Bright Lights Osteospermum can be grown cooler than listed, but additional crop time will be required for both flowering and plant sizing.
• Scout for Thrips and treat as needed.
• Purple is the most vigorous and should be watched more closely for possible PGR needs.