



# Hydrangea macrophylla and serrata

## ZONE HARDINESS 5 – 9

### NUTRITION

**pH:** 5.0 – 5.5

**EC:** (2:1 extraction method) 0.6 – 0.9

Care must be taken not to overfertilize the plants during the first few weeks of forcing. Plants coming out of dormancy need time to reactivate root growth. Fertilizing before this happens can burn the roots. Use clear water without fertilizer for the first week or two of forcing, or until two pairs of leaves have sprouted. Then, fertilize at every irrigation with 150ppm – 200ppm N of a balanced fertilizer with micronutrients, or 400ppm – 500 ppm every 7 – 10 days. Avoid fertilizer on a completely dry root-ball, as this can also damage roots. Iron deficiency and chlorosis can occur in *Hydrangeas*, especially when soil pH is above 5.5. Most often, a chlorotic *Hydrangea* is the result of iron deficiency. Iron chlorosis can be easily corrected by drenching with an iron chelate solution. FeEDDHA iron chelate (Sprint® 138) is preferred. Drench with 40ppm Fe at first sign of any chlorosis. In addition to proper pH, aluminum sulfate should be applied once in the fall and once again in the spring to ensure good blue color.

### TEMPERATURE for forcing from a Quick Turn™ liner

**Rooting out:** 65 F Night – 75 F Day

**Growing on:** 60 F Night – 70 F Day

**Holding:** 55 F Night – 60 F Day

For best forcing results, plants should be grown with a nighttime heating set-point of 60 F – 65 F, and a daytime cooling set-point of 70 F – 75 F. A Quick Turn liner with a night temperature of 60 F will be in flower in about 13 weeks. With a night temperature of 65 F, plants will be in flower in about 12 weeks. To enhance flower color, reduce night temperature to 54 F and daytime cool set-point to 65 F for the last 2-½ weeks of forcing (or when flowers begin to show color). Avoid excessively high temperatures during forcing. High temperatures will cause flower size and plant quality to be reduced.

### WATERING

Grow plants on the dry side during the start of forcing to encourage root development and discourage root rot, but do not allow plants to wilt. Irrigate plants early in the day to avoid wet foliage and high humidity in the evenings and at night. If watering from overhead in poor growing conditions, make sure to supply good air movement to avoid fungal/bacterial diseases.

### TIMING

**Quick Turn liner to True Gallon:** 12 – 14 weeks with one Quick Turn liner per container. A typical planting date would be Week 6 for finishing in Week 18.

**Traditional Shrub timing in True Gallon:** One growing season from a Supernova® 28 count liner at one plant per container. A typical planting time would be June or July for forcing the following spring.

### VERNALIZATION

These two species of *Hydrangea* need to have a vernalization period to flower properly the following spring. Quick Turn liners purchased after Week 2 will have the proper vernalization needed for forcing.

### PLANTING

A common problem with *Hydrangea* planting and forcing in the spring is poor establishment after transplant, which can lead to water stress and poor development later on during forcing. To avoid this, slit bottom of liner root ball in an X pattern at time of transplanting. Slit about a 1/3 of the way up and split apart root ball sections, making good contact with new media when planting. We recommend using a traditional nursery bark mix for growing on *Hydrangeas*.

When growing shrubs, we recommend using an aged or composted pine bark based media as opposed to annual growing mixes that traditionally tend to be heavier in peat. Bark adds weight and stability to the growing mix and tends not to compress and shrink over time, thus adding the longevity that can be needed on long-term crops such as shrubs.



## LIGHT/LIGHTING

During forcing, plants should be given as much light as possible (up to 7,500 footcandles) unless subject to high temperatures (>75 F). Once flowers show color, shading the plants to 3,000 footcandles is recommended to prevent sun bleaching or burn of the flower petals. Plants should be spaced such that they do not shade each other.

## TRIMMING/PINCHING

If the grower chooses to start the crop using Supernova 28 liners, it's recommended that trimming stops after the first week in August, and at least 8 – 10 weeks of 35 F – 45 F temperatures are maintained during dormancy.

## GROWTH REGULATORS

Traditional *Hydrangea* forcing often requires the use of PGRs for height control. B-Nine® (daminozide) is typically used at a rate of 2,500ppm – 5,000ppm. Varieties such as Cityline® Paris, Cityline Vienna and Tiny Tuff Stuff™ are naturally compact plants and may not need any PGRs during forcing. Larger cultivars such as Let's Dance® Rhapsody Blue and Starlight will likely require at least one or two sprays of B-Nine. A spray application of 3,000ppm should be made to Let's Dance cultivars three weeks after the start of forcing or after 3 – 5 leaf pairs are visible. Multiple applications may be needed (10 – 14 days apart), depending on appearance of the plants and rate of growth. Application rate can be increased to 5,000 ppm if little or no response is evident after the first application. All growth regulator sprays should be stopped before flower buds reach 3/4 inches in diameter (size of a nickel) or flower size will be reduced.

## PEST and DISEASE MANAGEMENT

Aphids and Spider Mites are the most common insect pests on *Hydrangea*. Avoid using oil-based or emulsifiable concentrate (EC) pesticides on *Hydrangea*, as they may burn the plant.

The most common diseases on *Hydrangea* during forcing are Botrytis and Powdery Mildew. For Botrytis control, fungicides of choice are Chipco®, Daconil® or Medallion®. For control of Powdery Mildew, Compass® or Heritage® are recommended. Avoid using M-Pede® on *Hydrangea*.

## Hydrangea Production Schedule

Date	Action	Time to Flower	Temperature
Week 6	Receive plants	13 weeks	60 – 65 F Night 70 – 75 F Day
Weeks 7 – 8	Transplant		60 F Night
Week 8	Start fertilizing	11 weeks	60 F Night
Week 9	B-Nine® spray (if needed)		60 F Night
Week 11	B-Nine spray (if needed)		60 F Night
Week 11	Pea-sized inflorescence	8 weeks	60 F Night
Week 12	B-Nine spray (if needed)		60 F Night
Week 13	Nickel-sized inflorescence	6 weeks	60 F Night
Week 15	Silver dollar-size inflorescence	4 weeks	60 F Night
Week 16	First color, Lower temperature	2 ½ weeks	54 F Night 65 F Day
Week 19	Flower		
Week 20	Mothers' Day		



*The rates and chemicals listed are based on our southeast Michigan growing conditions, and are not recommended for nationwide application. Please adjust the rates and spray applications to your location and facility.*