

Our Plant Curiosities program continues to flourish because of the extraordinary selections and our revolutionary labels. Please call up <www.loghouseplants.com> and click onto Plant Curiosities on our website to see who has joined the Plant Curiosities club as a liner recipient or a retail outlet. As we bring out new plants we will send order forms first to past customers. Consider trying our hose-in-hose prim-roses this fall to get on the preferential list! Become a Plant Curiosities grower.

Thank you! Please continue propagating the joys of gardening our earth.

Propagating New Hostas at Shady Oaks Nursery®

Hans Hansen

Shady Oaks Nursery, 1601 5th Street S.E., P.O. Box 708, Waseca, Minnesota, 56093-0708, U.S.A.

Shady Oaks has been producing hostas since 1982 with the establishment of a retail nursery specializing in perennial plants that perform well in the shade. In 1984 a 5-acre parcel was purchased to grow and propagate field-grown hostas. These plants were dug and shipped to customers who ordered through the mailorder catalog, or potted and were available to walk-in trade.

In 1993 the tissue culture lab in the basement of the owner's home with two lab technicians produced enough plant material to publish a wholesale price list. In 1994 the lab expanded to the present location. Currently the tissue culture lab has a transfer room that houses six laminar-flow hoods. The hoods are made in-house and consist of Plexiglass sides and a stainless steel base that can be sterilized. Positive air movement ensures a work area free from pathogens and technicians contaminating the cultures. A fan forces air through two filters including a HEPA™ filter to remove bacteria and mold spores. Each lab technician wears a lab coat and hair nets. Trained technicians are capable of producing at least 1000 plants per day.

We use meristem culture to produce our plant materials. Hosta cultures are initiated using the eyes (growing points on the crown). On most hosta cultivars they are produced immediately after flowering. The eyes are carefully removed with a scalpel ensuring a portion of the crown is intact. They are cleaned of soil, leaves, and debris. The plant material (eye) is agitated in a solution of bleach, water, and a surfactant (Tween 20) for a period of time to kill pathogens, mold, and bacteria that would kill the culture.

The solution of bleach and amount of time varies depending on the size of the plant materials. After sterilization the eyes are placed in media. The hosta medium contains all the nutrients/micronutrients the plant would require growing in the ground with the addition of vitamins, and sugar as a carbon source. The sugar (end product of photosynthesis) provides the energy for the plant. A gelling agent (agar) is used to solidify the medium, which is stirred and heated to the boiling point to melt the gelling agent.

Hostas are divided/transferred every 6 weeks. In one calendar year the lab can produce the equivalent of 8 years of field production. Currently over 100 hostas are cataloged for sale as well as additional cultivars for future production and contract accounts. Some advantages of tissue culture include cleaning-up plants from root and foliar nematodes as well as providing a uniform juvenile plant.

Hormone levels are manipulated to control plant growth. Initially auxins and cytokinins (NAA and BA) are used to promote cell division multiplication. After a mother stock is established a portion of the crop is transferred to rooting medium that contains auxin (IBA) to promote rooting. Rooting occurs in 3 to 6 weeks.

After the plants are rooted they are transferred to soilless medium in the greenhouses and placed in shaded benches with bottom heat of about 78 °F (10 °F higher than air temperature). They are grown until the roots are well established (8 to 10 weeks depending on cultivar and time of year) and are ready for sale. Hostas are planted in packs of 12, a standard flat holds 96 plants.

Some of our more popular newer offerings include: 'Blue Mouse Ears', 'Dawn's Early Light', 'Earth Angel', 'Stained Glass', and 'Old Glory'. The last three are selections developed by Shady Oaks Nursery.

Difficult-to-Propagate Perennials[®]

Joerg Leiss

Living Carpet, R.R. # 6, Warton, Ontario, N0H 2T0, Canada

Gentiana acaulis. Spring or trumpet gentian produces an evergreen mat up to 1 m spread. Propagation is usually by seeding; the seed requires a cold period. The germinating seedlings are too small in the 1st year to transplant and even in the 2nd year they are not larger than 3 mm. Plants will not flower until at least the 4th year after transplanting. The plants can be divided but increase is poor because most stolons are not rooted. However there are latent root primordia, which under mist produce a good root systems. Unrooted stolons planted in May to June will have roots by the beginning of August and can be potted up; the rooting mix is 1 Grow mix : 1 fine Turface (v/v). The mist system is in a shaded polyhouse and on every 15 min for between 1 and 3 sec depending on temperature. The rosette size determines how soon a plant flowers, the larger the better.

Gentiana septemfida. This is a fall gentian, it is deciduous except for resting buds at ground level. It is a somewhat easier plant to grow from seed and can flower in the 2nd season in August to September. The remains of the flower corolla cover the ripening seedpods and unless it is removed the seedpod and seed rot because of autumn moisture. A crop failure caused us to try cuttings. Shoots of 10 cm were taken 10 June, treated with 1250 ppm IBA (3-sec dip), and inserted in a mixture of 1 Grow mix : 1 fine Turface (v/v) under mist. Rooted cuttings were potted at the beginning of August; rooting percentage was 92%. Unrooted cuttings had flower buds while the rooted cuttings did not.

***Lithodora diffusa* 'Heavenly Blue'**. This is an evergreen ground cover flowering sky-blue in May to June; it requires acid soil. We have tried cuttings previously at various times during the summer with no results. We decided to experiment with different percentages of hormone treatments, timing, and various cutting sizes. Cuttings were taken 10 June and 14 July. Results are shown in Table 1. As you can see the early cuttings rooted consistently around 75% with the exception of cuttings with flowers on them.