

The Use of Slow-release Potassium Fertilizer for Hardening off of Holly Liners

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Since the early 1970s, Roemer Nursery has been a licensed grower of the "blue hollies", the *Ilex xmeserveae* series. They have become through the years, our main crop.

We decided from the beginning, to grow the holly liners that were earmarked for 3- and 5-gal containers in field beds, rather than shifting them up through our standard container-production program. We plant the potted cuttings rather late during early July. By mid-August these young plants will be growing vigorously and actually accelerate their growth considerably during September into early October. We are located a mile from the south shore of Lake Erie. The lake is the most shallow of the Great Lakes with an average maximum temperature of 78F in August. Current temperature is 74F. This by the way, is one of the reasons many nurseries got established in what is sometimes referred to as the "banana belt of Ohio".

However, from the middle of October, we can expect killing frosts that raise havoc with tender holly liners. The main damage we frequently experienced was large numbers of stem splits at the ground-level.

In the past, we had no choice but to go in March with spray cans of pruning sealant and cover the wounds. This method worked reasonably well and did cut our losses.

In the late 1970s we started to broadcast sulfate of potash fertilizer (farming grade) after Labor Day. We continued this practice for the next 10 years since it reduced the splitting damage considerably. Around 1990 slow-release potash fertilizers became available and we tested two types: (1) a 0N-0P-39K Trikote, coated with sulfur and polymer; and (2) polymer coated 0N-0P-47K. We broadcast this material after mid-August at the rate of 1¼ lb 100 ft². This practice has reliably eliminated early winter damage on these holly beds.

I have been told that the constant release of potash binds the water within the cells —visually the stems that were very soft at mid-September are, in mid-October, hard and stiff as pencils. Anyhow, it works for us reliably on hollies.

Will it work for other plants is the next question. I tried it only on boxwood cuttings and it failed. But I still wonder whether application of slow-release potash in late summer might benefit potted cuttings or liners of, for instance, dogwood, magnolia, and viburnum.

Container growers sometimes tend to underestimate the need for potash during the hot summer months. Soil tests in July and August frequently show deficiencies of potash. Roemer Nursery and several other container nurseries in northeastern Ohio utilize these slow-release potash fertilizers in their container operations with good results.