



This Journal of Environmental Horticulture article is reproduced with the consent of the Horticultural Research Institute (HRI – [www.hriresearch.org](http://www.hriresearch.org)), which was established in 1962 as the research and development affiliate of the American Nursery & Landscape Association (ANLA – <http://www.anla.org>).

HRI's Mission:

To direct, fund, promote and communicate horticultural research, which increases the quality and value of ornamental plants, improves the productivity and profitability of the nursery and landscape industry, and protects and enhances the environment.

The use of any trade name in this article does not imply an endorsement of the equipment, product or process named, nor any criticism of any similar products that are not mentioned.

# 1994 Volume 12, Numbers 1-4

## Author Index

Arnold, M.A. ....	12:190	Leidy, R.B. ....	12:55
Arnold, N. ....	12:203	Lindstron Jr., O.M. ....	12:33
Baden, S.A. ....	12:150	Mahnken, G.E. ....	12:55
Baldrige, L.P. ....	12:71	Martin, C.A. ....	12:27, 170
Bates, R.M. ....	12:1, 219	McKeand, S.E. ....	12:23
Bir, R.E. ....	12:174	McNamara, S. ....	12:147, 227
Blazich, F.A. ....	12:112, 155, 212	Meyer, M.H. ....	12:159
Bolyard, M.G. ....	12:93	Miller, F. ....	12:231
Borgardt, S. ....	12:170	Moorhead, D.J. ....	12:164
Burger, D.W. ....	12:87	Munson, R.H. ....	12:223
Camper, N.D. ....	12:8	Newman, S.E. ....	12:71
Campos, R. ....	12:104	Nicholson, R.G. ....	12:223
Catanzaro, C.J. ....	12:80	Niemiera, A.X. ....	12:1, 181, 198, 208, 219
Cleveland, B. ....	12:80, 96, 108	Olive, J.N. ....	12:12
Conner, J.L. ....	12:174	Parish, R.L. ....	12:187
Conover, C.A. ....	12:119	Pellett, H. ....	12:59, 147, 159, 179, 227
Davidson, C.G. ....	12:241	Pill, W.G. ....	12:193
Davis, W.E. ....	12:190	Pittenger, D.R. ....	12:4
Day, E. ....	12:142	Poole, R.T. ....	12:119
De Hertogh, A.A. ....	12:80	Ranney, T.G. ....	12:138, 155, 174
Decoteau, D.R. ....	12:43	Reed, D.W. ....	12:104
Devenney, D. ....	12:193	Reeder, J.A. ....	12:236
Dirr, M.A. ....	12:33	Richer-Leclerc, C. ....	12:203
Eakes, D.J. ....	12:167	Riley, M.B. ....	12:8
Ellersiek, M.R. ....	12:90	Rioux, J-A. ....	12:203
Florkowski, W.J. ....	12:39	Roberts, L.E. ....	12:61
Foutch, M. ....	12:100	Rose, N. ....	12:59, 179
Frett, J.J. ....	12:193	Rowe, D.B. ....	12:155
Gallitino, L.B. ....	12:80	Ruter, J.M. ....	12:27, 51, 164
Garber, M.P. ....	12:164	Satterthwaite, L.N. ....	12:119
Geneve, R.L. ....	12:216	Seiler, J.C. ....	12:219
Gilliam, C.H. ....	12:16, 167, 236	Sheets, T.J. ....	12:55
Graves, W.R. ....	12:147	Sherald, J.L. ....	12:61
Heimann, M.F. ....	12:124	Shiflett, M.C. ....	12:181
Henry, M.S. ....	12:65	Skroch, W.A. ....	12:55, 80
Hinsley, L.E. ....	12:112	Smith, W.G. ....	12:193
Hinson, R.A. ....	12:76	South, D.B. ....	12:236
Hodel, D.R. ....	12:4	Spear, R.N. ....	12:124
Hubbard, E.E. ....	12:39	Spihlman, C. ....	12:108
Hurt, R.T. ....	12:131, 135	Starbuck, C.J. ....	12:90
Jacyma, T. ....	12:90	Stevens, A. ....	12:47
Johnson, B.J. ....	12:19, 83	Stidham, T.M. ....	12:61
Jones, R.O. ....	12:216	Struve, D.K. ....	12:23
Jull, L.G. ....	12:212	Turner, S.C. ....	12:76
Karam, N.S. ....	12:198, 208	Vencill, W.K. ....	12:131, 135
Keese, R.J. ....	12:8	Wade, G.L. ....	12:39
Keever, G.J. ....	12:12, 16, 36, 167, 236	Wallace, J. ....	12:244
Kester, S.T. ....	12:216	Ware, G. ....	12:231
Khatamian, H. ....	12:47	Warren, S.L. ....	12:155, 212
Kjelgren, R. ....	12:96, 100, 108	Wehtje, G.R. ....	12:236
Kuehny, J.S. ....	12:43	White, D.B. ....	12:159
Latimer, J.G. ....	12:150	Whitman III, E.P. ....	12:174
Leda, C.E. ....	12:181, 208	Whitwell, T. ....	12:8
Lee, C.I. ....	12:87	Worf, G.L. ....	12:124

# 1994 Volume 12, Numbers 1-4

## Subject Index

- Abies* ... see **Frasier Fir**
- Acer* ... see **Maple**
- Amur Maackia**  
propagation by softwood cuttings ..... 12:124
- Anthraxnose**  
resistance in dogwood ..... 12:61
- Artificial Substrates**  
leaching of herbicides ..... 12:55
- Asexual Propagation**  
development of a complete database ..... 12:87
- Ash**  
scorch and chlorosis in ..... 12:124
- Azalea**  
response to Sumagic ..... 12:12
- Bermuda Grass**  
response to preemergent herbicides ..... 12:19
- Butterfly Bush**  
response to Cutless ..... 12:16
- Cercis* ... see **Redbud**
- Cherry**  
reduction of post transplant desiccation ..... 12:1  
tolerance to root zone flooding ..... 12:138
- Cold Hardiness**  
determination in landscape pears ..... 12:227  
of maple under varied temperature regimes ... 12:203
- Cold Storage**  
desiccation during ..... 12:219
- Cold Tolerance**  
in selected woody taxa ..... 12:33
- Consumer Preference**  
for nursery stock ..... 12:47
- Container Design**  
on growth of foliage plants ..... 12:170
- Container Production**  
herbicide levels in container water ..... 12:8  
root control in pots ..... 12:51
- Controlled-Release Fertilizer**  
effect on growth of holly ..... 12:181  
on growth and NO<sub>3</sub>N leachate ..... 12:119
- Cornus* ... see **Dogwood**
- Crabapple**  
growth in in-ground fabric containers ..... 12:108
- Crape Myrtle**  
cold tolerance in established plants ..... 12:33  
controlling root growth in pots ..... 12:51  
effects of irrigation and cover crops on  
growth of ..... 12:71  
weed control in ..... 12:236
- Crataegus* ... see **Hawthorn**
- Cryptomeria* ... see **Japanese Cedar**
- x Cupressocyparis* ... see **Leyland Cedar**
- Cynodon* ... see **Bermuda Grass**
- Desiccation**  
during storage of bare root trees ..... 12:219  
reduction with mist irrigation ..... 12:1
- Dictamnus* ... see **Gas Plant**
- Dieffenbachia* ... see **Dumbcane**
- Dogwood**  
evaluation for Anthracnose ..... 12:61  
lifting date on seedling survival ..... 12:164  
transplant survival of seedlings ..... 12:164
- Dumbcane**  
effect of controlled-release fertilizer  
on growth ..... 12:119
- Economics**  
choosing appropriate marketing channels ..... 12:76
- Elm**  
elm leaf beetle breeding preferences ..... 12:231  
regeneration from leaf explants ..... 12:93
- Elm Leaf Beetle**  
breeding preferences ..... 12:231
- Feijoa**  
response to Paclobutrazol ..... 12:27
- Fertilization**  
of Japanese cedar in containers ..... 12:212
- Fertilizer Rates**  
in *Spathiphyllum* ..... 12:104
- Fescue**  
response to preemergence herbicides ..... 12:19
- Festuca* ... see **Fescue, Tall Fescue**
- Flooding**  
tolerance of *Prunus taxa* to ..... 12:138
- Foliage Plants**  
salinity effects on growth ..... 12:170
- Frasier Fir**  
propagation of ..... 12:112
- Fraxinus* ... see **Ash**
- Freeze Tolerance**  
of landscape pears ..... 12:227
- Garden Center**  
landscape plant selection ..... 12:142
- Gas Plant**  
micropropagation of ..... 12:216
- Geranium**  
persistent effects of growth regulators on  
performance ..... 12:150
- Germination**  
of small seed lots ..... 12:223
- Granular Herbicides**  
evaluation of application spreaders ..... 12:187
- Ground Covers**  
renovation by mowing ..... 12:4
- Growth and Development**  
in *Rhododendron* with Paclobutrazol ..... 12:174  
increased branching in pear with growth  
regulators ..... 12:90
- Growth Control**  
in holly with Cutless ..... 12:167  
of ground covers ..... 12:4
- Growth Regulation**  
in holly ..... 12:167  
controlling root development in pots ..... 12:51

increased branching in Pear with Promalin and Dikegulac . . . . .	12:90	selection in garden centers . . . . .	12:142
on flower development in Rhododendron . . . . .	12:174	<b>Landscape Services</b>	
to increase offset production in Hosta . . . . .	12:36	factors influencing . . . . .	12:39
response of azalea to Sumagic . . . . .	12:12	<b>Landscaping</b>	
response of Feiloa and Ligustrum to Paclobutrazol . . . . .	12:27	value of . . . . .	12:65
<b>Growth Regulator</b>		<b>Leaching</b>	
persistent effects in seed geranium performance . . . . .	12:150	herbicide movement through horticultural substrates . . . . .	12:55
<i>Gymnocladus</i> . . . see <b>Kentucky Coffee Tree</b>		<b>Leyland Cypress</b>	
<b>Hawthorn</b>		cold tolerance in established plants . . . . .	12:33
shoot exposure during cold storage . . . . .	12:181	<i>Ligustrum</i> . . . see <b>Privit</b>	
<b>Herbicide</b>		<i>Liquidambar</i> . . . see <b>Sweetgum</b>	
control of nutsedge in landscape plants . . . . .	12:131, 135	<i>Maackia</i> . . . see <b>Amur Macckia</b>	
leaching through horticultural substrates . . . . .	12:55	<i>Malus</i> . . . see <b>Crabapple</b>	
phytotoxicity in landscape plants . . . . .	12:135	<b>Maple</b>	
response to bermuda grass and tall fescue to preemergence applications . . . . .	12:19	growth under varied temperature regimes . . . . .	12:203
<b>Herbicide Application</b>		growth response after transplanting . . . . .	12:96
evaluation of operator variables on distribution . . . . .	12:187	reduction of post transplant desiccation . . . . .	12:1
<b>Herbicide Movement</b>		<b>Marigold</b>	
levels in containment water . . . . .	12:8	effect of pulse irrigation on growth . . . . .	12:193
<b>Herbicide Tolerance</b>		<b>Marketing</b>	
in perennials . . . . .	12:80	of landscape plants . . . . .	12:76
in spring flowering bulbs . . . . .	12:80	of nursery stock . . . . .	12:47
<b>Holly</b>		garden center selection of landscape plants . . . . .	12:142
growth control with Cutless . . . . .	12:167	<b>Micropropagation</b>	
response to controlled-release fertilizer . . . . .	12:181	of elm from leaf explants . . . . .	12:93
weed control in . . . . .	12:236	of Frasier fir . . . . .	12:112
<b>Hosta</b>		of gas plant . . . . .	12:216
enhanced offset production . . . . .	12:36	<b>Mist Irrigation</b>	
<i>Ilex</i> . . . see <b>Holly</b>		to reduce post-transplant desiccation . . . . .	12:1
<b>In-Ground Fabric Containers</b>		<b>Municipal Waste</b>	
growth response of crabapple seedlings to . . . . .	12:108	establishment of wildflowers in . . . . .	12:193
<b>Irrigation</b>		<b>Nitrogen</b>	
effect of container substrate and water distribution . . . . .	12:208	interaction with light on episodic growth of privit . . . . .	12:43
effect of fertilizer level on growth . . . . .	12:104	<b>Nitrate Nitrogen</b>	
effect of N leaching from containers . . . . .	12:198	leaching from controlled-release fertilizer . . . . .	12:119
effect on tree growth . . . . .	12:71	<b>Nursery Crops</b>	
on crabapple seedlings in in-ground fabric containers . . . . .	12:108	weed control in . . . . .	12:236
<b>Japanese Cedar</b>		<b>Nutrition</b>	
nitrogen nutrition of . . . . .	12:212	interaction of fertility level and irrigation salinity level on growth . . . . .	12:104
<b>Kentucky Coffee Tree</b>		nitrogen levels on growth of Japanese cedar . . . . .	12:212
growth response after transplanting . . . . .	12:96	<b>Nutsedge</b>	
<b>Lacebark Elm</b>		control in landscape plants . . . . .	12:131, 135
cold tolerance in established plants . . . . .	12:33	<b>Oak</b>	
<i>Lagerstroemia</i> . . . see <b>Crape Myrtle</b>		establishment on reclaimed minesoil . . . . .	12:100
<b>Landscape Establishment</b>		tree improvement strategies . . . . .	12:23
effect of cold tolerance . . . . .	12:33	<b>Ornamental Grasses</b>	
<b>Landscape Maintenance</b>		performance and winter hardiness in Minnesota . . . . .	12:159
of ground covers . . . . .	12:4	<b>Packaging</b>	
<b>Landscape Performance</b>		of nursery stock . . . . .	12:47
of ornamental grasses in Minnesota . . . . .	12:159	<b>Peace Lily</b>	
of seed geraniums treated with growth regulators . . . . .	12:150	effect of fertilizer level in saline irrigation on growth . . . . .	12:104
<b>Landscape Plants</b>		<b>Pear</b>	
choosing appropriate marketing channels . . . . .	12:76	cold hardiness . . . . .	12:227
control of nutsedge in . . . . .	12:131, 135	increased branching with Promalin and Dikegulac . . . . .	12:90
		<i>Pelargonium</i> . . . see <b>Geranium</b>	

<b>Perennials</b>	
evaluation of preemergence herbicides on . . . . .	12:80
propagation of gas plant . . . . .	12:216
<b><i>Philadelphus</i> 'Blizzard'</b>	
new introduction . . . . .	12:241
<b>Pine</b>	
effect of seed source on production and establishment . . . . .	12:190
<b><i>Pinus</i> . . . see Pine</b>	
<b>Plant Introductions</b>	
<i>Philadelphus</i> 'Blizzard' . . . . .	12:241
<i>Rhododendron</i> 'Northern Hi-Lights' . . . . .	12:179
<i>Viburnum</i> 'Emerald Triumph' . . . . .	12:59
<b><i>Platanus</i> . . . see Sycamore</b>	
<b>Privet</b>	
relationship of nitrogen and light on episodic growth . . . . .	12:43
<b>Propagation</b>	
computer database for asexual propagation . . . . .	12:87
effect of light and temperature on seed germination . . . . .	12:155
in Amur Maackia by softwood cuttings . . . . .	12:147
of gas plant by tissue culture . . . . .	12:216
protocols for small seed lots . . . . .	12:223
regeneration of elm from leaf explants . . . . .	12:93
seed germination of <i>Rhododendron</i> <i>catawbiense</i> . . . . .	12:155
small seed lots . . . . .	12:223
<b><i>Prunus</i> . . . see Cherry</b>	
<b><i>Pyrus</i> . . . see Pear</b>	
<b><i>Quercus</i> . . . see Oak</b>	
<b>Red Oak</b>	
tree improvement practices . . . . .	12:23
<b>Redbud</b>	
effects of irrigation and cover crops on growth of . . . . .	12:71
<b>Retailing</b>	
landscape plant selection in garden centers . . . . .	12:142
<b><i>Rhododendron</i> . . . see Azalea</b>	
<b>Rhododendron</b>	
flower development with Paclobutrazol . . . . .	12:174
seed germination of . . . . .	12:155
<b><i>Rhododendron</i> 'Northern Hi-Lights'</b>	
new introduction . . . . .	12:179
<b>Row Cover Management</b>	
effect on tree growth . . . . .	12:71
<b>Salinity</b>	
on growth of foliage plants . . . . .	12:170
<b>Seed Ecology</b>	
germination of small seed lots . . . . .	12:223
<b>Seed Germination</b>	
protocols for small seed lots . . . . .	12:223
<b>Seed Provenance</b>	
on tree improvement programs . . . . .	12:190
<b><i>Spathiphyllum</i> . . . see Peace Lily</b>	
<b>Spring Flowering Bulbs</b>	
evaluation of preemergent herbicides on . . . . .	12:80
<b>Survivability</b>	
using post transplant irrigation . . . . .	12:1
<b>Sweetgum</b>	
effect of seed source on production and establishment . . . . .	12:190
<b>Sycamore</b>	
effect of seed source on production and establishment . . . . .	12:190
<b><i>Tagetes</i> . . . see Marigold</b>	
<b>Tall Fescue</b>	
large crabgrass control in . . . . .	12:83
<b>Tissue Culture</b>	
of gas plant . . . . .	12:216
regulation of elm from leaf explants . . . . .	12:93
<b>Transplanting</b>	
effect of seed source on . . . . .	12:190
lifting date on dogwood seedling survival . . . . .	12:164
<b>Tree Establishment</b>	
on reclaimed minesoil . . . . .	12:100
<b>Tree Improvement</b>	
in red oak . . . . .	12:23
<b><i>Ulmus</i> . . . see Elm</b>	
<b>Verticillium wilt</b>	
in ash . . . . .	12:124
<b>Viburnum</b>	
weed control in . . . . .	12:236
<b><i>Viburnum</i> 'Emerald Triumph'</b>	
new introduction . . . . .	12:59
<b>Water Relations</b>	
in trees following transplanting . . . . .	12:96
<b>Water Use</b>	
growth regulator effect on . . . . .	12:27
<b>Weed Control</b>	
in field grown woody crops . . . . .	12:236
in landscape plants . . . . .	12:131, 135
in perennials . . . . .	12:80
in spring flowering bulbs . . . . .	12:80
in tall fescue turf . . . . .	12:83
response of bermuda grass and tall fescue to premerge applications . . . . .	12:19
<b>Wildflower Establishment</b>	
in seedbeds created from municipal waste . . . . .	12:193
<b>Winter Hardiness</b>	
of Norway maple . . . . .	12:203
of ornamental grasses . . . . .	12:159