

RESULTS: LANDSCAPE PLANT WINTER INJURY SURVEY 1994

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Plant injury is a concern every winter, but some winters may be extremely severe. During the 1993/1994 winter, temperatures in Michigan fell below the lower limit of the temperature range for our hardiness zones 4, 5, and 6. As temperatures warmed, poor plant performance and quality were observed frequently in nurseries and in the landscape. There was a high occurrence of injury in plants that were marginally hardy to an area. Plant genera that may never have suffered injury in previous years showed injury this year.

In the May 13, 1994 issue of CAT Alerts, we requested, in a survey, information about the types of winter plant injury which you observed during 1993/94. Eighteen genera were included in the survey, but we also received several responses regarding the winter injury of additional genera, species, and cultivars.

The information in the following four tables was compiled from responses sent from USDA hardiness zones 4, 5, and 6. There were 31 responses which represented nurseries, golf courses, extension, landscape companies, and residences. Many of the observations were of well-established plants in the landscape. Several responses indicated that well-established trees and shrubs, which had never presented a problem prior to the 93/94 winter, were severely injured or completely dead. One grower indicated that he received 12 phone calls about 15 year old Japanese Maples dying. Also, *Ligustrum* suffered its worst injury in years in several locations. Many plants, such as *Viburnum* 'Mariesii', *Euonymus* 'Compacta', *Ligustrum vicaryi*, and *Spiraea* were killed back to the ground level. Tables 1 through 4 include the occurrence of brown foliage, stem dieback, stem cracks, and poor growth in plants.

Table 1. Summarizes 31 responses to our 1993/94 winter injury survey for the occurrence of **brown foliage**. Location of plants is represented by: L=landscape; C=container-grown; and F=field grown.

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
* <i>Berberis</i>		L	
* <i>Buxus</i> 'Green Velvet'		(L)	(L)L
'Welleri'			F
* <i>Cotoneaster apiculatus</i>			(L)L
* <i>Euonymus alata</i> 'Compacta'		L	L
'Vegetus'		L	
* <i>Forsythia</i> 'Meadowlark'		(L)	(L)FC

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
'New Hampshire Gold'			F
* <i>Hibiscus syriacus</i>		C	
* <i>Ilex</i> 'Blue Prince'		(L)	(CL)C
'Blue Princess'			C
'China Boy'			CL
'China Girl'			C
<i>crenata</i>		L	CL
<i>glabra</i>			C
'Red Cascade'			F
<i>rotundifolia</i>			C
* <i>Ligustrum vicaryi</i>		L	L
* <i>Lonicera</i>		C	
* <i>Prunus cistena</i>		(L)C	
'Pendula'			L
* <i>Spiraea</i> 'Anthony Waterer'			C
'Snowmound'			L
* <i>Taxus</i> 'Brownii'	(L)	L	(FL)
'Densiformis'		FL	L
'Hicksii'			F
'Hunnewelliana'			F
'Wardii'			F
<i>Thuja</i> 'Golden Globe'			C
<i>occidentalis</i>		L	F
* <i>Viburnum carlesii</i>		(L)	(L)L
'Mariesii'			C
'Mohican'			C
* <i>Weigela</i> 'Variegata'		L	CL

* - represents the original 18 genera included in the survey.

Letters in parentheses only represent genus, not species or cultivar.

Table 2. Summarizes 31 responses to our 1993/94 winter injury survey for the occurrence of **stem dieback**. Location of plants is represented by: L=landscape; C=container-grown; and F=field grown.

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
<i>Acer</i> 'Dissectum'		L	C
* <i>Berberis</i> 'Crimson Pygmy'	(L)	(L)	(L)C
* <i>Buxus</i> 'Green Velvet'		(L)	(L)L
'Suffruticosa'		L	
'Welleri'			F
<i>Cercis</i>		LF	CL
<i>Clethra alnifolia</i>			C
<i>Cornus alternifolia</i>		LF	C
<i>kousa</i>		F	
* <i>Cotoneaster apiculatus</i>		(L)L	(L)L
<i>dammeri</i>			L
'Royal Beauty'			F
<i>Deutzia gracilis</i>			C
<i>Elaeagnus umbellata</i>			L
* <i>Euonymus</i> 'Compacta'	(L)	(L)	(L)FCL
'Greenlane'			C
'Vegetus'			C
* <i>Forsythia</i> 'Lynwood Gold'	(L)	L	FC
<i>Fraxinus</i>			L
* <i>Hibiscus syriacus</i>		C	FCL
* <i>Ilex crenata</i>		(L)	(L)CL
<i>glabra</i>			C
'Red Cascade'			F
<i>rotundifolia</i>			C
<i>Juglans</i>			L
* <i>Ligustrum o. regelianum</i>		L	
<i>vicaryi</i>		L	L
* <i>Lonicera maackii</i>		L	
<i>Pinus strobus</i>		L	
* <i>Potentilla</i>		L	

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
* <i>Prunus cistena</i>		(CLF)L	(L)
'Pendula'			L
<i>Pseudotsuga menziesii</i>			F
* <i>Rhamnus frangula</i>			F
<i>Rosa</i>		L	L
* <i>Spiraea</i> 'Anthony Waterer'			CF
'Goldmound'			CF
'Little Princess'		L	CF
* <i>Syringa</i>	(L)	L	
* <i>Taxus</i> 'Brownii'		(L)L	(L)F
'Densiflora'		L	FL
'Hunnewelliana'			F
<i>Thuja</i> 'Golden Globe'			C
<i>occidentalis</i>		L	C
* <i>Viburnum carlesii</i>		(L)	(L)L
'Mariesii'			C
'Mohawk'			F
'Mohican'			C
* <i>Weigela</i> 'Variegata'		L	(FL)C

* - represents the original 18 genera included in the survey.

Letters in parentheses only represent genus, not species or cultivar.

Table 3. Summarizes 31 responses to our 1993/94 winter injury survey for the occurrence of **stem cracks**. Location of plants is represented by: L=landscape; C=container-grown; and F=field grown.

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
* <i>Berberis</i>			(L)
* <i>Buxus</i>			(L)
* <i>Cotoneaster</i>			(L)
* <i>Euonymus</i>		(L)	(L)
* <i>Hibiscus syriacus</i>		C	L
* <i>Ligustrum</i>			(L)
* <i>Prunus</i> 'Pendula'		L	L

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
* <i>Taxus</i> 'Brownii'			F
'Densifloris'			F
'Dark Green Spreader'			F
<i>Thuja occidentalis</i>			F
* <i>Viburnum carlesii</i>			L

* - represents the original 18 genera included in the survey.

Letters in parentheses only represent genus, not species or cultivar.

Table 4. Summarizes 31 responses to our 1993/94 winter injury survey for the occurrence of **poor growth**. Location of plants is represented by: L=landscape; C=container-grown; and F=field grown.

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
<i>Acer</i> 'Dissectum'		L	L
* <i>Buxus</i> 'Green Velvet'			L
<i>Cercis</i>		LF	
<i>Clethra alnifolia</i>			C
<i>Cornus</i>		LF	C
* <i>Cotoneaster</i>			L
<i>Deutzia gracilis</i>		L	
* <i>Euonymus</i> 'Compacta'		(L)	(L)FC
'Greenlane'			C
'Vegetus'			C
* <i>Forsythia</i> 'Lynwood Gold'		(L)L	LC
<i>Hedera helix</i>		L	
* <i>Hibiscus syriacus</i>		LC	LC
* <i>Ilex</i> 'China Boy'		(L)	L
<i>glabra</i>			C
* <i>Ligustrum o. regelianum</i>		(L)L	L
<i>vicaryi</i>			L
* <i>Lonicera maackii</i>		(L)L	
* <i>Physocarpus</i> 'Dart's Gold'			C
<i>Pinus strobus</i>		L	
<i>Platanus acerifolia</i>		LC	

PLANT NAME	USDA HARDINESS ZONES		
	4	5	6
<i>*Potentilla</i>		L	
<i>*Prunus cistena</i>		(L)L	(L)
'Pendula'			L
<i>persica</i>		L	
<i>Rosa</i>		L	
<i>*Syringa</i>		L	
<i>*Taxus</i> 'Brownii'		(L)L	
'Densifloris'		L	L
'Hunnewelliana'			F
<i>*Viburnum carlesii</i>		(L)FC	
'Mariesii'		L	C
'Mohican'			C
<i>*Weigela</i> 'Variegata'		L	LC

* - represents the original 18 genera included in the survey.

Letters in parentheses only represent genus, not species or cultivar.