

# ARNOLDIA



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SOME WINTER-KILLING OF CERTAIN SHRUBS,  
AS A RESULT OF THE WINTER OF 1951-52

**L**AST winter (1951-52) was not what might be termed a "hard" winter, especially at the Case Estates of the Arnold Arboretum in Weston, Mass. In one of the fields on this 150 acre plot there are a number of miscellaneous ornamental shrubs which were planted three years ago in rows ten feet by ten feet and cultivated mechanically, the idea being that these plants are a reserve plantation for the Arnold Arboretum, where a few good varieties, and many mediocre ones are merely grown to augment the collections in the Arboretum at Jamaica Plain. It is impossible, for lack of space, to grow all the species and varieties that we would like to in Jamaica Plain, but this additional planting is not too space-consuming, is easily cared for and is accessible to anyone who is interested in these plants.

Over 500 species and varieties have been growing in one of these fields since 1946. After this past winter, it was noted that some plants were killed to the ground, others partially, and still other species and varieties were apparently winter hardy. Since all the plants are growing together, since the climate and soil are uniform, since no plants received any more attention in the way of water or fertilizer than any other, it is reasonable to deduce that, if a variation in winter killing is shown here it is undoubtedly caused by variation in individual plant hardiness.

Many factors must be included in determining the hardiness of plants such as winter cold, rainfall, snow cover, early and late freezes, etc. Plants vary considerably with their specific requirements, and no one of these factors should be taken as the only one involved in winter hardiness. However, in determining winter loss, temperatures are certainly the easiest records to look to, when rainfall has been normal, and in this study only the temperature factor is given.

The coldest days for November 1951 to March 1952 were:

November	7° F	January	-1°, -4° F
December	-2°, -4°, -5° F	February	7° F
March	10° F		

There were only five days throughout the winter when the minimum temperatures went below 0° F. We have learned to expect little winter injury in the Arnold Arboretum unless winter temperatures go considerably below this point.

It will be of interest to study the following lists. Only those varieties (and species) are reported that are being grown here together in this one field. In general, especially in the Arboretum itself, there was not too much winter injury last year, where the winter temperatures are usually several degrees higher than those at the Case Estates, twelve miles away.

**The Percentage of winter killing of vegetative shoots of certain woody plants grown at the Case Estates of the Arnold Arboretum as a result of the winter 1951-52**

*Note:* All plants have been growing here together in a cultivated field for five years and were between 3 feet and 8 feet in height.

Acanthopanax ternatus 10%	*Deutzia mollis
* " trifoliatus	" ningpoensis 50%
*Berberis actinacantha	" purpurascens 50%
* " aggregata barbarosa	* " reflexa
* " " recurvata	" rosea 50%
" consimilis 50%	" " campanulata 75%
* " "	* " " eximea
" deliana 50%	* " " grandiflora
" laxiflora langeana 50%	* " " multiflora
" parvifolia 50%	* " scabra "Eminens"
* " poireti weichangensis	* " " macrothrysa
* " polyantha	* " " mirabilis
" silva-taroucana 50%	* " " suspensa
" suberecta 50%	* " " watereri 10%
*Buddleia nivea	" schneideriana 10%
* " yunnanensis	* " " laxiflora
* " stenostachya	* " sieboldiana
Deutzia carnea 75%	" staminea 10%
* " " lactea	* " villmorinae
* " " stellata	* " "Avalanche"
* " chuni	* " "Boule Rose"
" discolor 10%	" "Contraste" 75%
* " " major	" "John Richardson" 10%
" hypoglauca 50%	Ligustrum obtusifolium 20%
" hypoleuca 50%	" quihoui 50%
" lemoinei "Boule de Neige"	" sinense 50%
10%	" vulgare "Lodense" 75%
* " longifolia elegans	*Philadelphus burkwoodi
* " " faureri	" delavayi 30%
* " magnifica longipetala	" falconeri 10%

Philadelphus lemoinei "Enchantment" 30%	Spiraea cantoniensis 50%
Philadelphus sericanthus rehderianus 10%	" macrothrysa 50%
Philadelphus "Amalthee" 50%	" margaritae 10%
" "Banniere" 75%	" pachystachya 25%
" "Boule d'Argent" 50%	" pyramidata 50%
" "Dame Blanche" 50%	" revirescens 75%
" "Enchantment" 25%	" rosthorni 50%
" "Favorite" 25%	" schimabecke 50%
" "Manteau de Hermine" 10%	" trilobata 50%
Philadelphus "Monster" 30%	Weigela hortensis 50%
" "Patricia" 10%	" japonica 50%
" "Voie Lactee" 90%	" japonica var. (variegated) 10%
Ptelea polyadenia 10%	" "Stelzneri" 50%
Ribes diacanthum 50%	" "Vanhouttei" 20%
" ussuriense 50%	" "Andre Thouin" 25%
" "Quebec" 75%	" "Chamaelon" 75%
Rhamnus dumetorum 50%	" "Congo" 50%
Sorbaria assurgens 10%	* " "Dame Blanche"
" sorbifolia 75%	* " "Descartes"
Spiraea alba 10%	" "Groenwegeni" 60%
" albiflora 10%	" "Hendersoni" 75%
" billiardi 10%	" "Ideal" 20%
" blanda 50%	" "Le Printemps" 10%
" brachybotrys 50%	" "Madame Lemoine" 20%
	" "Majesteaux" 50%
	" "Richesse" 25%

\* Plants killed to the ground

#### Weston permanent nursery plants not injured — Aug. 6, 1952

Acanthopanax divaricatus	Berberis amurensis
" henryi	" aristata
" " nana	" bretschnideri
" leucorrhizus	" canadensis
" senticosus	" circumserrata
" sessiliflorus	" dictyophylla
" simoni	" gilgiana
Berberis—some 59 species and varieties, mostly very rare, but including:	" vernae
Berberis aggregata	" vulgaris
	Deutzia glabrata
	" monbeigi

Deutzia parviflora  
" scabra macrocephala

Ligustrum acuminatum  
" acutissimum  
" amurensis  
" insulare  
" sinensis stauntoni  
" vulgare

Philadelphus "Albatre"  
" cordifolius  
" coronarius duplex  
" " salicifolius  
" " speciosissimus  
" "Coupe d'Argent"  
" "Gladwyne"  
" hirsutus  
" grandiflorus  
" "Innocence"  
" inodorus  
" insignis  
" lemoinei "Candelabre"  
" lewisi  
" magdalanae × grandiflorus  
" magnificus  
" "Mer de Glace"  
" "Mrs. Thompson"  
" microphyllus  
" nepalensis  
" nivalis  
" "Nuee Blanche"  
" pekinensis brachybotrys  
" " kansuensis  
" polyanthus "Gerbe de

Neige"

Philadelphus satsumanus  
" schrenki  
" " jacki  
" " mandshuricus  
" sericanthus  
" subcanus  
" "Sylviane"  
" tenuifolius  
" tomentosus  
" "Van Houttei"  
" "Velleda"  
" verrucosus  
" zeyheri

Ptelea trifoliata aurea

Sorbaria arborea  
" " glabrata

Spiraea arcuata

Spiraea arguta

" blumei  
" cana × thunbergi  
" canescens myrtifolia  
" cantoniensis lanceata  
" chamaedryfolia  
" " ulmifolia  
" cinerea  
" corymbosa  
" fontenaysi alba  
" fritschiana  
" gemmata  
" henryi  
" hypericifolia  
" " acuta  
" inflexa  
" latifolia  
" " "Pink Flowers"  
" longegemmis  
" lucida  
" media  
" menziesi  
" microthyrsa  
" miyabaei glabrata  
" mollifolia  
" multiflora  
" notha  
" nudiflora  
" oxyodon  
" pikoviensis  
" pubescens  
" rubra  
" sansouciaria  
" semperflorens  
" trichocarpa  
" uratensis  
" virgata  
" virginiana  
" " serrulata

Weigela decora

" "Feerie"  
" "Marc Teller"  
" "Styriaca"  
" "Verschaffelti"  
" "Abel Carriere"  
" "Daubenton"  
" "Dr. Baillon"  
" "Floreal"  
" "President Duchartre"  
" "Profusion"  
" "Vaniceki"

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