WINTER HARDINESS OF TREES AND SHRUBS GROWING IN THE ARNOLD ARBORETUM

III

(Continued)

(A) TREATMENT OF WINTER-INJURED TREES AND SHRUBS.

Ever spring the Arnold Arboretum, with its large representation of native and foreign introduced trees and shrubs finds that some have suffered more or less from winter injury, though never so much as in the spring of 1934. Such plants require attention with the purposes in view of improving their appearances and assisting them to become re-invigorated. Each plant is a problem by itself and calls for treatment based on experience and judgment. Pruning is the first procedure. Whenever killing to the ground has taken place the entire crown should be removed as soon as possible. If, however, there are signs of life in the wood, as is often the case with deutzias, spiraeas, privets, viburnums and dogwoods, the stems with apparent life should be left until the last of April or until it is certain that their buds will not break. Cutting back forces new growth if the root system is alive and well established, and is likely to result in new, healthy crowns. If the killing has involved branches or parts of branches one should prune back to living wood. Considerable care should be given in pruning young trees; they should be examined from time to time and headed back to live wood above crotches, leaving clean cuts. This should be practiced as soon as dead parts are detected so as to throw strength into the new wood.

After new growth has started and the plants appear to be fresh and moist, a dry period is likely to cause disaster. In early May a mulch of well rotted stable manure will both stimulate growth and serve as

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a protection against drying out by retaining moisture in the soil. It should be noted here by way of precaution that fertilizers should not be added during the growing season subsequent to the middle of June, otherwise tender growths are forced and these may not sufficiently "ripen" before the onset of frost in the fall. Mulching with manure or treating with other fertilizers should be done only in late autumn or early spring.

(B) PREPARATION OF PLANTS FOR WINTER.

Rhododendrons, firs and spruces should go into the winter in a moist condition. These groups should be watered thoroughly in the early fall, especially after a dry summer. Oak leaves or well rotted cow manure are often used as protection and mulch on rhododendrons and mountain laurel.

Small trees and shrubs, planted in early spring, should be protected by mulch. Medium sized trees should be looked over in late summer for dead wood and all cavities and wounds cleaned and painted with good wound preservative such as a coal tar product.

The following lists indicate for various kind of trees and shrubs the methods used in winter protection at the Arboretum. For the plants protected by earth mounds it is important that soil be taken a safe distance from plants so as not to expose or lessen protection of the root system, otherwise the roots are likely to suffer winter injury. Additional protection for these would be afforded by a good mulch of leaves, straw or manure over the root systems, extending the cover some distance from the stems of the plants.

1. Plants protected by earth mounds, or earth and straw.

Actinidia melanandra
Berberis buxifolia nana
Berchemia racemosa
Buddleia albiflora
Buddleia Davidii
Buddleia Davidii magnifica
Buddleia Davidii superba
Buddleia Davidii Veitchiana
Buddleia nivea yunnanensis
Celastrus hypoleuca
Celastrus Loeseneri
Clematis Fargesii
Clematis Fargesii Souliei

Clematis florida
Clematis Jackmani
Clematis lanuginosa
Clematis orientalis
Clematis patens
Clematis Simsii
Clematis — others of large-flowered group than those listed above.
Clerodendron trichotomum
Cocculus trilobus
Cotoneaster salicifolia floccosa
Cyrilla racemiflora

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Cytisus scoparius Andreanus
Gordonia alatamaha
Helwingia japonica
Hydrangea macrophylla
Hydrangea quercifolia
Hydrangea serrata and vars.
Hydrangea macrophylla
Hydrangea quercifolia
Helwingia japonica
Ilex pedunculosa
Leptodermis oblonda
Ligustrum Quihouii
Meliosma Beaniana
Polygonum Auberti
Rosa Gentiliana
Rosa - tender climbers
Rubus Giraldianus
Rubus innominatus
Rubus Linkianus
Schisandra chinensis
Vitis Davidi
Vitis pulchra
Vitis vinifera

2. Plants protected by pine or other evergreen branches.

Aukuba japonica
Berberis atrocarpa
Berberis Beaniana
Berberis Gagnepainii
Berberis Juliana
Berberis Sargentia
Berberis triacanthophora
Berberis verruculosa
Buxus microphylla japonica
Buxus microphylla koreana
Buxus sempervirens and vars.
Mahonia Aquifolium
Mahonia Bealli (Berberis japonica in some gardens)
Mahonia repens
Rhododendron – evergreen hybrids and exotic species

3. Plants covered with coarse hay.

Calluna vulgaris and vars.
Chrysanthemum sibiricum
Daphne Cneorum
Helianthemum – various species and forms

Pachistima Canby
Pachistima myrsinites
Paeonia suffruticosa and various forms

(To be continued)