Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

United States Department of Agriculture
Bureau of Biological Survey

Wildlife Research and Management Leaflet BS-44

Washington, D. C.

*

April 1936

FRUITS ATTRACTIVE TO BIRDS - NORTHEASTERN STATES
REGION No. 4

[Minnesota, Wisconsin, Michigan, New York, Vermont, New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Iowa, Illinois, Indiana, Ohio, Pennsylvania, New Jersey, West Virginia, Maryland, Delaware, Missouri, Kentucky, and Virginia.]

By W. L. McATEE, Principal Biologist and Technical Adviser
Office of the Chief

Contents

	Page
Regions for which leaflets on fruits attractive to birds are available . .	2
Introduction	3
Table 1.--Groups of fleshy fruits most attractive to birds throughout the United States	4
Table 2.--Generally distributed native fruits of the Northeastern States for which satisfactory data on fruiting seasons are available. .	8
Table 3.--Supplemental list of native fruits of the northern border of the Northeastern States (may range southward in the mountains).	9
Table 4.--Supplemental list of native fruits of the coastal region of the Northeastern States	10
Table 5.--Supplemental list of native fruits of the southern border of the Northeastern States	10
Table 6.--Extralimital fruits that have been recommended for Connecticut .	11
Table 7.--Extralimital fruits that have been recommended for Iowa.	11
Table 8.--Extralimital fruits that have been recommended for Maine	12
Table 9.--Extralimital fruits that have been recommended for Massachusetts	12
Table 10.--Fruits observed to persist until mid-March in the Arnold Arboretum, Jamaica Plain, Massachusetts	14
Table 11.--Extralimital fruits that have been recommended for Michigan . .	18
Table 12.--Extralimital fruits that have been recommended for Minnesota. .	19
Table 13.--Extralimital fruits that have been recommended for New Jersey .	20
Table 14.--Extralimital fruits that have been recommended for New York . .	20
Table 15.--Fruits observed to persist until mid-March in the Botanical Garden, New York, N. Y.	22
Table 16.--Extralimital fruits that have been recommended for Ohio	23
Table 17.--Extralimital fruits that have been recommended for Pennsylvania	23
Table 18.--Extralimital fruits that have been recommended for Wisconsin. .	24
Literature	25

REGIONS FOR WHICH LEAFLETS ON FRUITS ATTRACTIVE TO BIRDS ARE AVAILABLE

FIGURE 1.--Map of the United States, showing the 10 regions used in presenting information on fruits attractive to birds.

As an aid in requesting leaflets, it should be noted that No. BS-41 is for region 1; BS-42, for region 2, etc., with BS-50 for region 10.

INTRODUCTION

The term Northeastern States is one that is used with a variety of meanings. In the present connection it indicates approximately the northeastern quarter of the United States. Justification of a floristic district including even the entire eastern half of the country is ample, for scores of plants have a range extending from New England west to Minnesota and south to the Gulf Coast.

As is true for all areas, however selected, the marginal tracts are debatable. In the present instance the importance of a southern element in the flora is considered great enough to warrant the setting off of Floridian and southern districts including gulf and adjacent States, while distinctive coastal and northern plant associations are provided for by tables supplemental to the main fruiting schedule for the region.

Topographic relief is not so pronounced as in most of the western districts, but the Appalachian Mountain system does affect plant distribution by providing conditions enabling southward extension of the ranges of various northern species (see Table 3). The Atlantic Coastal Plain, on the other hand, favors the northward distribution of plants of southern affinities (see Table 4).

Table 1 shows groups of fleshy fruits most attractive to birds throughout the United States and lists desirable kinds of birds most fond of the fruit. No barberries, currants, or buckthorns are listed, because they harbor rusts destructive to plants of economic importance. Junipers are in almost the same category, as they serve as alternate hosts for apple rust, but there is no reason why they cannot be used in districts where apples are not commercially grown, as they are among the most valuable plants for wildlife. Omitted also are plants poisonous to man on contact, as poison ivy and poison sumac, as well as various kinds dangerously poisonous to domestic animals, as yews, wild cherries, and nightshades, in spite of the fact that wild cherries are greatly relished by birds. Browsing animals are known to have been killed by feeding on the leaves of wild cherries but do not seem to be so seriously affected by those of plums. Certain plants included among fleshy fruit bearers in previous publications have been transferred to the list of seed producers, hence do not appear in the present series of leaflets. These include magnolia (Magnolia), bittersweet (Celastrus), and burningbush (Euonymus).

It should be noted that the fruit-bearing seasons recorded, being collected from varied sources, tend to be maxima. As a rule they are not likely to be realized or even approached in a single locality unless numerous specimens of a given species are present and so distributed in sun and shade as to favor both early and late fruiting.

The word "extralimital" as here used in certain table headings covers plants from other States or regions of the United States as well as wholly introduced, exotic, or foreign plants.

TABLE 1. - Groups of fleshy fruits^{1/} most attractive to birds throughout the
United States

Name of fruit		Species of birds known to eat the fruit	
Common	Generic	Number	Desirable kinds most fond of the fruit
Juniper; redcedar ^{3/}	Juniperus	50	Flicker, mockingbird, robin, eastern bluebird, cedar waxwing, myrtle warbler, evening and pine grosbeaks, purple finch.
Greenbrier	Smilax	43	Mockingbird, catbird, brown thrasher, robin, hermit thrush, cardinal.
Bayberry	Myrica	85	Bobwhite, flicker, downy woodpecker, eastern phoebe, tree swallow, black-capped chickadee, Carolina wren, catbird, brown thrasher, hermit thrush, eastern bluebird, white-eyed vireo, myrtle warbler, meadowlark, towhee.
Hackberry	Celtis	47	Flicker, yellow-bellied sapsucker, mockingbird, brown thrasher, robin, eastern bluebird, cedar waxwing, cardinal.
Mulberry	Morus	59	Yellow-billed cuckoo, red-bellied, red-headed, and downy woodpeckers, eastern kingbird, mockingbird, catbird, robin, wood thrush, cedar waxwing, red-eyed vireo, yellow warbler, orchard and Baltimore orioles, scarlet tanager, cardinal, purple finch.
Pokeberry	Phytolacca ...	52	Mourning dove, flicker, eastern kingbird, mockingbird, catbird, robin, hermit, olive-backed, and gray-cheeked thrushes, eastern bluebird, cardinal.
Spicebush	Benzoin	17	Eastern kingbird, wood thrush, veery, red-eyed vireo.
Sassafras	Sassafras	18	Bobwhite, eastern kingbird, catbird, robin, veery, red-eyed vireo.
Strawberry	Fragaria	52	Catbird, brown thrasher, robin, wood thrush, towhee.

TABLE 1. - Groups of fleshy fruits most attractive to birds throughout the United States--Continued

Name of fruit		Species of birds known to eat the fruit	
Common	Generic	Number	Desirable kinds most fond of the fruit
Raspberry, black-berry	Rubus	146	Ruffed grouse, bobwhite, flicker, red-headed woodpecker, eastern kingbird, tufted titmouse, wren tit, mockingbird, catbird, brown thrasher, robin, wood and olive-backed thrushes, eastern bluebird, cedar waxwing, red-eyed vireo, orchard and Baltimore orioles, cardinal, rose-breasted, black-headed, and pine grosbeaks, red-eyed, spurred, and California towhees, white-throated, fox, and song sparrows.
Rose	Rosa	38	Ruffed and sharp-tailed grouse, prairie chicken, bobwhite.
Mountain-ash	Sorbus	13	Red-headed woodpecker, catbird, brown thrasher, robin, Bohemian and cedar waxwings, Baltimore oriole, evening and pine grosbeaks.
Chokeberry	Aronia	21	Brown thrasher, meadowlark.
Hawthorn	Crataegus ...	39	Ruffed grouse, robin, purple finch, pine grosbeak.
Apple	Malus	43	Ruffed grouse, ring-necked pheasant, mockingbird, robin, cedar waxwing, purple finch, pine grosbeak, red crossbill.
Juneberry	Amelanchier .	42	Flicker, catbird, robin, hermit thrush, veery, cedar waxwing, Baltimore oriole.
Sumac ^{4/}	Rhus	97	Ruffed grouse, bobwhite, valley quail, northern and red-shafted flickers, red-bellied and downy woodpeckers, phoebe, black-capped and Carolina chickadees, wren tit, Carolina wren, mockingbird, catbird, brown and California thrashers, robin, hermit thrush, eastern bluebird, white-eyed vireo, towhee, Audubon's warbler, goldfinch, golden-crowned sparrow.
Pepperberry	Schinus	12	Robin, varied and hermit thrushes, cedar waxwing, phainopepla.

TABLE 1. - Groups of fleshy fruits most attractive to birds throughout the
United States--Continued

Name of fruit		Species of birds known to eat the fruit	
Common	Generic	Number	Desirable kinds most fond of the fruit
Holly	Ilex	48	Ruffed grouse, bobwhite, valley quail, flicker, yellow-bellied sapsucker, mockingbird, catbird, brown thrasher, robin, hermit thrush, eastern bluebird, cedar waxwing.
Supplejack.....	Berchemia ...	15	Mockingbird, robin.
Grape	Vitis	87	Ruffed grouse, bobwhite, northern and red-shafted flickers, pileated and red-bellied woodpeckers, eastern kingbird, mockingbird, catbird, brown thrasher, robin, wood thrush, veery, eastern and western bluebirds, cedar waxwing, cardinal.
Virginia creeper .	Ampelopsis ..	38	Flicker, red-bellied and red-headed woodpeckers, yellow-bellied sapsucker, tufted titmouse, mockingbird, brown thrasher, robin, hermit, olive-backed, and gray-cheeked thrushes, eastern bluebird, red-eyed vireo, scarlet tanager, evening grosbeak, purple finch.
Buffaloberry	Shepherdia ..	18	Sharp-tailed grouse, pine grosbeak.
Silverberry, Russian olive, etc.	Elaeagnus ...	5/	Prairie chicken, sharp-tailed grouse, catbird, robin, cedar waxwing.
Wild-sarsaparilla	Aralia	16	Bobwhite, robin.
Dogwood	Cornus	93	Ruffed grouse, bobwhite, northern and red-shafted flickers, downy woodpecker, eastern kingbird, catbird, brown thrasher, robin, wood, hermit, olive-backed, and gray-cheeked thrushes, eastern bluebird, cedar waxwing, red-eyed and warbling vireos, cardinal, evening and pine grosbeaks, purple finch, white-throated and song sparrows.
Sourgum, tupelo ..	Nyssa	39	Flicker, robin, olive-backed and gray-cheeked thrushes, cedar waxwing, purple finch.
Crowberry	Empetrum	40	Pine grosbeak, snow bunting.
Bearberry, manzanita	Arctostaphylos	34	Dusky and ruffed grouse, valley and mountain quail, wren tit, fox sparrow.

TABLE 1. - Groups of fleshy fruits most attractive to birds throughout the United States--Continued

Name of fruit		Species of birds known to eat the fruit	
Common	Generic	Number	Desirable kinds most fond of the fruit
Wintergreen	Gaultheria ..	10	Ruffed grouse, wren tit.
Huckleberry	Gaylussacia .	46	Robin, pine grosbeak, towhee.
Blueberry	Vaccinium ...	93	Ruffed grouse, valley quail, eastern kingbird, black-capped chickadee, tufted titmouse, catbird, brown thrasher, robin, hermit thrush, eastern bluebird, cedar waxwing, orchard oriole, pine grosbeak, towhee.
Beautyberry	Callicarpa .	11	Mockingbird, brown thrasher.
Partridgeberry ...	Mitchella ...	10	Ruffed grouse.
Elderberry	Sambucus	118	Valley quail, flicker, red-headed woodpecker, eastern and Arkansas kingbirds, black phoebe, wren tit, mockingbird, catbird, brown and California thrashers, robin, olive-backed thrush, eastern and western bluebirds, phainopepla, red-eyed vireo, rose-breasted and black-headed grosbeaks, California towhee, white-crowned sparrow.
Snowberry, coralberry	Symphoricarpos	33	Sharp-tailed grouse, varied thrush, evening and pine grosbeaks.
Blackhaw, cranberrybush	Viburnum	35	Ruffed grouse, yellow-billed cuckoo, flicker, catbird, brown thrasher, robin, eastern bluebird, cedar waxwing, rose-breasted grosbeak, purple finch.
Honeysuckle	Lonicera	18	Bobwhite, catbird, brown thrasher, robin, hermit thrush, pine grosbeak, white-throated sparrow.

^{1/} Barberries (Berberis), buckthorns (Rhamnus), and currants (Ribes) are omitted because they serve as alternate hosts of rusts, attacking wheat, oats, and white pine, respectively. Yews (Taxus), wild cherries (Prunus), and nightshades (Solanum) also are omitted as being dangerous stock poisoning plants.

^{2/} When 10 or more.

^{3/} Carries apple rust; should not be planted near valuable orchards.

^{4/} Only nonpoisonous species of sumac are considered.

^{5/} Data given are based entirely on field observations; total number of birds eating the various species of Elaeagnus unknown.

TABLE 2.--Generally distributed native fruits of the Northeastern States for which satisfactory data on fruiting seasons are available

Common name	Scientific name	Fruiting season
Redcedar	<i>Juniperus virginiana</i>	All year.
Carriionflower	<i>Smilax herbacea</i>	Early July to mid-October.
Greenbrier.....	<i>Smilax rotundifolia</i>	All year.
Hackberry	<i>Celtis occidentalis</i>	Do.
Red mulberry	<i>Morus rubra</i>	Early May to late August.
Pokeberry	<i>Phytolacca decandra</i>	Early July to late March.
Moonseed	<i>Menispermum canadense</i> ...	Early June to late March.
Sassafras	<i>Sassafras sassafras</i>	Early July to early October.
Spicebush	<i>Benzoin aestivale</i>	Early July to late May.
Red chokeberry	<i>Aronia arbutifolia</i>	All year.
Black chokeberry	<i>Aronia nigra</i>	Do.
Serviceberry	<i>Amelanchier canadensis</i> ^{1/}	Late April to late August.
Do.	<i>Amelanchier oblongifolia</i> ^{1/}	Late May to early September.
Cockspurthorn	<i>Crataegus crusgalli</i>	Early June to late March.
Pear hawthorn	<i>Crataegus tomentosa</i>	Early August to late March.
Roundleaf hawthorn ..	<i>Crataegus rotundifolia</i> ...	Do.
Frosted hawthorn	<i>Crataegus pruinosa</i>	Late August to late March.
Strawberry	<i>Fragaria americana</i>	Mid-May to late September.
Do.	<i>Fragaria virginiana</i>	Late April to early October.
Black raspberry	<i>Rubus occidentalis</i>	Early June to late September.
Blackberry	<i>Rubus triflorus</i>	Mid-June to mid-September.
Do.	<i>Rubus allegheniensis</i>	Late May to late September.
Do.	<i>Rubus villosus</i>	Do.
Swamp rose	<i>Rosa carolina</i>	All year.
Pasture rose	<i>Rosa humilis</i>	Do.
Wild plum	<i>Prunus americana</i>	Mid-June to mid-October.
Fragrant sumac	<i>Rhus canadensis</i>	All year.
Dwarf sumac	<i>Rhus copallina</i>	Do.
Smooth sumac.....	<i>Rhus glabra</i>	Do.
Staghorn sumac	<i>Rhus hirta</i>	Do.
Holly	<i>Ilex opaca</i>	Do.
Black alder	<i>Ilex verticillata</i>	Mid-June to late April.
Virginia creeper	<i>Ampelopsis quinquefolia</i> ..	Late July to late March.
Summer grape	<i>Vitis aestivalis</i>	Mid-July to mid-June.
Riverbank grape	<i>Vitis vulpina</i>	Early July to late April.
Leatherwood	<i>Dirca palustris</i>	Late April to early July.
Bristly aralia	<i>Aralia hispida</i>	Early July to mid-September.
Wild sarsaparilla ...	<i>Aralia nudicaulis</i>	Early June to late September.
American spikenard ..	<i>Aralia racemosa</i>	Mid-June to early October.
Dogwood	<i>Cornus florida</i>	Early July to mid-February.
Do.	<i>Cornus alternifolia</i>	Mid-June to early October.
Do.	<i>Cornus amomum</i>	Mid-June to late October.
Do.	<i>Cornus circinata</i>	Mid-July to mid-October.
Do.	<i>Cornus paniculata</i>	Mid-June to late October.
Red-osier	<i>Cornus stolonifera</i>	Mid-June to late March.
Sourgum	<i>Nyssa sylvatica</i>	Late June to late May.
Wintergreen	<i>Gaultheria procumbens</i> ...	All year.
Black huckleberry ...	<i>Gaylussacia baccata</i>	Mid-June to early October.

TABLE 2.--Generally distributed native fruits of the Northeastern States for which satisfactory data on fruiting seasons are available--Continued

Common name	Scientific name	Fruiting season
Highbush blueberry...	<i>Vaccinium corymbosum</i>	Late April to late September.
Lowbush blueberry....	<i>Vaccinium pennsylvanicum</i> ..	Mid-June to mid-October.
Dryland blueberry....	<i>Vaccinium vacillans</i>	Early June to early October.
Partridgeberry.....	<i>Mitchella repens</i>	All year.
Limber honeysuckle ..	<i>Lonicera dioica</i>	Late May to late March.
Mapleleaf viburnum...	<i>Viburnum acerifolium</i>	All year.
Withe-rod	<i>Viburnum cassinoides</i>	Do.
Arrowwood	<i>Viburnum dentatum</i>	Early June to late April.
Nannyberry'	<i>Viburnum lentago</i>	All year.
Blackhaw	<i>Viburnum prunifolium</i>	Late June to mid-May.
Elderberry	<i>Sambucus canadensis</i>	Early July to late October.

¹/ Sometimes persists dry until next year's fruiting season.

TABLE 3.--Supplemental list of native fruits of the northern border of the Northeastern States (may range southward in the mountains)

Common name	Scientific name	Fruiting season
Common juniper.....	<i>Juniperus communis</i>	All year.
Creeping juniper ...	<i>Juniperus horizontalis</i> ...	Do.
Mountain-ash	<i>Sorbus americana</i>	Early July to late March.
Do.	<i>Sorbus sitchensis</i>	Mid-July to mid-October.
Serviceberry	<i>Amelanchier spicata</i>	Early May to late September.
Do.	<i>Amelanchier oligocarpa</i> ...	Mid-May to late September.
Hawthorn	<i>Crataegus punctata</i>	Early July to late October.
Do.	<i>Crataegus coccinea</i>	Early September to mid-June.
Do.	<i>Crataegus macracantha</i>	Early July to late October.
Red raspberry	<i>Rubus strigosus</i>	Early July to mid-September.
Thornless blackberry	<i>Rubus canadensis</i>	Mid-June to late September.
Swamp dewberry	<i>Rubus hispidus</i>	Late July to late September.
Prickly rose	<i>Rosa acicularis</i>	All year.
Meadow rose	<i>Rosa blanda</i>	Do.
Canada plum	<i>Prunus nigra</i>	Early July to mid-October.
Crowberry	<i>Empetrum nigrum</i>	All year.
Mountain-holly	<i>Nemopanthus macronatus</i> ...	Do.
Fox grape	<i>Vitis labrusca</i>	Early July to mid-October.
Buffaloberry	<i>Shepherdia canadensis</i>	Mid-June to early April.
Bunchberry	<i>Cornus canadensis</i>	Mid-July to late September.
Bearberry	<i>Arctostaphylos uva-ursi</i> ..	All year.
Creeping snowberry ..	<i>Chiogenes hispidula</i>	Do.
Canada blueberry....	<i>Vaccinium canadense</i>	Late June to late September.
Dwarf bilberry	<i>Vaccinium caespitosum</i>	Early July to late September.

TABLE 3.--Supplemental list of native fruits of the northern border of the Northeastern States (may range southward in the mountains)--Continued

Common name	Scientific name	Fruiting season
Cranberry	<i>Oxycoccus oxycoccus</i>	All year.
Do.	<i>Oxycoccus macrocarpon</i>	Do.
Honeysuckle	<i>Lonicera coerula</i>	Late May to late August.
Do.	<i>Lonicera canadensis</i>	Early June to mid-September.
Do.	<i>Lonicera hirsuta</i>	Late July to late September.
Do.	<i>Lonicera oblongifolia</i>	Late May to late August.
Snowberry	<i>Symphoricarpos racemosus</i> .	All year.
Cranberrybush	<i>Viburnum americanum</i>	Mid-June to mid-May.
Do.	<i>Viburnum pauciflorum</i>	Mid-July to mid-September.
Hobblebush	<i>Viburnum alnifolium</i>	Early July to late September.
Red elderberry	<i>Sambucus racemosa</i>	Early June to mid-August.

TABLE 4.--Supplemental list of native fruits of the coastal region of the Northeastern States

Common name	Scientific name	Fruiting season
Bayberry	<i>Myrica carolinensis</i>	All year.
Beach plum	<i>Prunus maritima</i>	Mid-July to mid-November.
Inkberry	<i>Ilex glabra</i>	All year.
Huckleberry	<i>Gaylussacia dumosa</i>	Mid-July to early October.
Do.	<i>Gaylussacia frondosa</i>	Early July to late September.
Highbush blueberry ..	<i>Vaccinium atrococcum</i>	Early June to mid-September.

TABLE 5.--Supplemental list of native fruits of the southern border of the Northeastern States

Common name	Scientific name	Fruiting season
Greenbrier	<i>Smilax bona-nox</i>	All year.
Hackberry	<i>Celtis mississippiensis</i> ..	Do.
Snailseed	<i>Cocculus carolinus</i>	Mid-July to late November.
Possumhaw	<i>Ilex decidua</i>	All year.
Supplejack	<i>Berchemia scandens</i>	Mid-July
Frost grape.....	<i>Vitis cordifolia</i>	Mid-August to mid-October.
Sand grape	<i>Vitis rupestris</i>	Early August to late September.
Yellow passionflower.	<i>Passiflora lutea</i>	Late July to mid-October.
Hercules-club	<i>Aralia spinosa</i>	Mid-August to mid-October.
Dogwood	<i>Cornus asperifolia</i>	Mid-July to late January.
Do.	<i>Cornus stricta</i>	Mid-August to late October.

TABLE 5.--Supplemental list of native fruits of the southern border of the Northeastern States--Continued

Common name	Scientific name	Fruiting season
Farkleberry	Batodendron arboreum	All year.
Bumelia	Bumelia lanuginosa	Late July to late October.
Persimmon	Diospyros virginiana	Mid-July to mid-June.
Fringetree	Chionanthus virginica ...	Early August to mid October.
Beautyberry	Callicarpa americana	Mid-August to early November.
Smooth withe-röd	Viburnum nudum	Late June to late April.
Southern blackhaw ...	Viburnum rufidulum	Early June to mid-November.

TABLE 6.--Extralimital fruits that have been recommended for Connecticut

Common name	Scientific name	Fruiting season
Japanese rose	Rosa multiflora	Early August to late April.
Spreading cotoneaster	Cotoneaster divaricata ..	Mid-August to late January.
Ibota privet	Ligustrum ibota	Late August to late April.
Matrimony-vine	Lycium halimifolium	Early September to mid-April.
Tatarian honeysuckle ..	Lonicera tatarica	Early June to late March.
Coralberry	Symphoricarpos orbiculatus	All year.

TABLE 7.--Extralimital fruits that have been recommended for Iowa

Common name	Scientific name	Fruiting season
Russian mulberry.....	Morus alba & var. tatarica	August to March.
Rugosa rose.....	Rosa rugosa	
Mountain-ash.....	Sorbus americana	
Flowering crab.....	Malus floribunda	
Coral dogwood	Cornus alba sibirica	
Bloodtwig dogwood....	Cornus sanguinea	
Japanese creeper.....	Amelopsis tricuspidata	
Russian olive	Elaeagnus angustifolia.....	
Cherry elaeagnus	Elaeagnus longipes	
Chinese elaeagnus ...	Elaeagnus parvifolia	
Autumn elaeagnus	Elaeagnus umbellata	
Ibota privet	Ligustrum ibota	
European privet	Ligustrum vulgare	
Bigberry privet	Ligustrum acuminatum	
Amur privet	Ligustrum amurense	
Cranberrybush	Viburnum opulus	
Hall Japanese honey-suckle	Lonicera japonica var.halliana...	

TABLE 7.--Extralimital fruits that have been recommended for Iowa--Continued

Common name	Scientific name	Fruiting season
Albert honeysuckle..	Lonicera spinosa var. alberti ...	
European fly honey-suckle.	Lonicera xylosteum	
Tatarian honeysuckle	Lonicera tatarica & var. splendens	

TABLE 8.--Extralimital fruits that have been recommended for Maine

Common name	Scientific name
Rugosa rose	Rosa rugosa.
English hawthorn	Crataegus oxyacantha.
Purpleleaf plum	Prunus pissardi.
Tatarian dogwood	Cornus alba.
Bloodtwig dogwood.....	Cornus sanguinea.
Cherry elaeagnus	Elaeagnus longipes.
Fringetree	Chionanthus virginica.
Amur privet	Ligustrum amurense.
Matrimony-vine	Lycium halimifolium.
Golden elder	Sambucus nigra aurea.
Tatarian honeysuckle	Lonicera tatarica.
Winter honeysuckle	Lonicera fragrantissima.
Viburnum	Viburnum nepalense.

TABLE 9.--Extralimital fruits that have been recommended for Massachusetts 1/

Common name	Scientific name	Fruiting season
Chinese juniper	Juniperus chinensis & vars.	
Swedish juniper.....	Juniperus communis suecica	
Savin	Juniperus sabina	
Hackberry	Celtis bungeana	
Do.	Celtis mississippiensis ..	
Do.	Celtis serrata	
White mulberry	Morus alba	May to August.
Russian mulberry	Morus alba tatarica	Do.
Akebia	Akebia quinata	
Boulder raspberry	Rubus deliciosus	
Japanese rose	Rosa multiflora	
Rugosa rose	Rosa rugosa	
Serviceberry	Amelanchier asiatica	September to March...

TABLE 9.--Extralimital fruits that have been recommended
for Massachusetts--Continued

Common name	Scientific name	Fruiting season
Serviceberry	Amelanchier ovalis	
Mountain-ash	Sorbus aucuparia	
Photinia	Photinia villosa	
Cotoneaster	Cotoneaster horizontalis ..	
Do.	Cotoneaster microphylla ...	
Do.	Cotoneaster rotundifolia...	
Do.	Cotoneaster tomentosa	
English hawthorn	Crataegus monogyna	September to March.
Do.	Crataegus oxyacantha & vars	August to March.
Washington hawthorn	Crataegus cordata.....	October to March.
Siberian crab	Malus baccata	
Japanese flowering crab.	Malus floribunda	September to May.
Arnold crab	Malus arnoldiana	
Scheidecker crab	Malus scheideckeri	
Parkman crab	Malus halliana parkmani ...	
Pearleaf crab	Malus prunifolia	September to March.
Sargent crab	Malus sargentii	
Toringo crab	Malus sieboldi	September to March.
Myrobalan plum	Prunus cerasifera	
Java sumac	Rhus javanica	
Japanese holly	Ilex crenata	
Pachysandra	Pachysandra terminalis	
Spiny aralia	Acanthopanax sessiliflorum.	August to April.
Do.	Acanthopanax pentaphyllum..	
Hercules-club	Aralia spinosa	
Coral dogwood	Cornus alba sibirica	
Kousa dogwood	Cornus kousa	
Cornelian cherry	Cornus mas	
Bloodtwig dogwood	Cornus sanguinea	
Porcelain ampelopsis ...	Ampelopsis heterophylla ...	
Japanese creeper	Ampelopsis tricuspidata ...	September to March.
Bower vine	Actinidia polygama	
Do.	Actinidia arguta	
Daphne	Daphne mezereum	September to March.
Russian olive	Elaeagnus angustifolia	
Cherry elaeagnus	Elaeagnus longipes	
Chinese elaeagnus	Elaeagnus parvifolia	
Autumn elaeagnus	Elaeagnus umbellata	
Sea buckthorn	Hippophaë rhamnoides	
Chinese fringetree	Chionanthus retus	
White fringetree	Chionanthus virginiana	
Amur privet	Ligustrum amurense	
Bigberry privet	Ligustrum acuminatum	
Ibota privet	Ligustrum ibota & vars. ...	
European privet	Ligustrum vulgare	
Bautyberry	Callicarpa purpurea	August to March.
Matrimony-vine	Lycium vulgare	

TABLE 9.--Extralimital fruits that have been recommended
for Massachusetts--Continued

Common name	Scientific name	Fruiting season
Belle honeysuckle	Lonicera bella	
Japanese honeysuckle ..	Lonicera japonica	
Amur honeysuckle	Lonicera maacki	
Morrow honeysuckle	Lonicera morrowi	
Manchurian honeysuckle.	Lonicera ruprechtiana	
Tatarian honeysuckle ..	Lonicera tatarica	July to March.
European fly honey- suckle .	Lonicera xylosteum	
European elder	Sambucus nigra var. laciniata	
Fragrant viburnum	Viburnum carlesii	
Linden viburnum	Viburnum dilatatum	
Wayfaring-tree	Viburnum lantana	
European cranberrybush.	Viburnum opulus	
Sargent viburnum	Viburnum sargentii	
Siebold viburnum	Viburnum sieboldi	

1/ The following table, a list of persistent fruits observed in the Arnold Arboretum, contains various additional species.

TABLE 10.--Fruits observed to persist until mid-March in the
Arnold Arboretum, Jamaica Plain, Massachusetts

Common name	Scientific name
Common juniper	Juniperus communis.
Redcedar	Juniperus virginiana.
Bristly greenbrier	Smilax hispida.
Hackberry	Celtis bungeana.
Do.	Celtis mississippiensis.
Do.	Celtis occidentalis.
Do.	Celtis serrata.
Common pokeberry	Phytolacca americana.
Common moonseed	Menispermum canadense.
Asiatic moonseed	Menispermum dauricum.
Cotoneaster	Cotoneaster horizontalis.
Do.	Cotoneaster lucida.
Do.	Cotoneaster tomentosa.
Do.	Cotoneaster vulgaris.
Hawthorn	Crataegus arduenne.
Do.	Crataegus armata.
Do.	Crataegus arta.
Do.	Crataegus blanda.
Do.	Crataegus brecta.
Canby hawthorn	Crataegus canbyi.
Carriere hawthorn	Crataegus carrierei.

TABLE 10.--Fruits observed to persist until mid-March in the
Arnold Arboretum, Jamaica Plain, Massachusetts--Continued

Common name	Scientific name
Chapman hawthorn	<i>Crataegus chapmani</i> .
Coral hawthorn	<i>Crataegus colorado</i> .
Washington hawthorn	<i>Crataegus cordata</i> .
Hawthorn	<i>Crataegus corporea</i> .
Cockspur thorn	<i>Crataegus crusgalli</i> .
Dawson hawthorn	<i>Crataegus dawsoniana</i> .
Hawthorn	<i>Crataegus densiflora</i> .
Do.	<i>Crataegus engelmannii</i> .
Do.	<i>Crataegus erecta</i> .
Do.	<i>Crataegus ferentaria</i> .
Do.	<i>Crataegus flabellata</i> .
Do.	<i>Crataegus fontanesiana</i> .
Do.	<i>Crataegus gemmosa</i> .
Do.	<i>Crataegus hirtella</i> .
Illinois hawthorn	<i>Crataegus illinoensis</i> .
Hawthorn	<i>Crataegus irrasa</i> .
Do.	<i>Crataegus larga</i> .
Do.	<i>Crataegus lavalleyi</i> .
Do.	<i>Crataegus lutensis</i> .
Spike hawthorn	<i>Crataegus macracantha</i> .
Hawthorn	<i>Crataegus mohrii</i> .
English hawthorn	<i>Crataegus monogyna</i> .
Hawthorn	<i>Crataegus neapolitana</i> .
Glossy hawthorn	<i>Crataegus nitida</i> .
Hawthorn	<i>Crataegus ovata</i> .
English hawthorn	<i>Crataegus oxyacantha</i> .
Hawthorn	<i>Crataegus oxyacanthoides</i> .
Do.	<i>Crataegus palmeri</i> .
Do.	<i>Crataegus persistens</i> .
Chinese hawthorn	<i>Crataegus pinnatifida</i> .
Hawthorn	<i>Crataegus poliophylla</i> .
Frosted hawthorn	<i>Crataegus pruinosa</i> .
Hawthorn	<i>Crataegus rotunda</i> .
Roundleaf hawthorn	<i>Crataegus rotundifolia</i> .
Hawthorn	<i>Crataegus rupicola</i> .
Pear hawthorn	<i>Crataegus tomentosa</i> .
Hawthorn	<i>Crataegus triumphalis</i> .
Do.	<i>Crataegus velutina</i> .
Do.	<i>Crataegus viridis</i> .
Do.	<i>Crataegus villosa</i> .
Do.	<i>Crataegus vulsa</i> .
Laurel hawthorn	<i>Photinia villosa</i> .
Southern crab	<i>Malus angustifolia</i> .
Arnold crab	<i>Malus arnoldiana</i> .
Crab	<i>Malus astrachanica</i> .
Siberian crab	<i>Malus baccata</i> & var. <i>oblonga</i> .
Crab	<i>Malus bracteata</i> .
Do.	<i>Malus brevicepes</i> .

TABLE 10.--Fruits observed to persist until mid-March in the
Arnold Arboretum, Jamaica Plain, Massachusetts--Continued

Common name	Scientific name
Crab	<i>Malus brevipes.</i>
Wild sweet crab	<i>Malus coronaria.</i>
Dawson crab	<i>Malus dawsoniana.</i>
Japanese flowering crab ...	<i>Malus floribunda.</i>
Oregon crab	<i>Malus fusca.</i>
Crab.....	<i>Malus glabrata.</i>
Dunbar crab	<i>Malus glaucescens.</i>
Hall crab	<i>Malus halliana.</i>
Crab	<i>Malus huphensis.</i>
Prairie crab	<i>Malus ioensis.</i>
Kaido crab	<i>Malus kaido.</i>
Crab	<i>Malus kansunensis.</i>
Do.	<i>Malus lancifolia.</i>
Midget crab	<i>Malus micromalus.</i>
Crab	<i>Malus platycarpa.</i>
Pearleaf crab	<i>Malus prunifolia</i> var. <i>rubra</i> <i>cerasiforme</i> ..
Common crab	<i>Malus pumila.</i>
Purple crab	<i>Malus purpurea.</i>
Cherry crab	<i>Malus robusta.</i>
Sargent crab	<i>Malus sargentii.</i>
Scheidecker crab	<i>Malus scheideckeri.</i>
Toringo crab	<i>Malus seiboldi.</i>
Crab	<i>Malus sikkimensis.</i>
Soulard crab	<i>Malus soulardi.</i>
Chinese flowering crab	<i>Malus spectabilis.</i>
Cutleaf crab	<i>Malus toringoides.</i>
Zumi crab	<i>Malus zumi.</i>
American mountain-ash	<i>Sorbus americana.</i>
Japanese mountain-ash	<i>Sorbus matsumurana.</i>
Birchleaf pear	<i>Pyrus betulaeifolia.</i>
Serviceberry	<i>Amelanchier canadensis.</i>
Do.	<i>Amelanchier oblongifolia.</i>
Do.	<i>Amelanchier spicata.</i>
Black chokeberry	<i>Aronia melanocarpa.</i>
Rose	<i>Rosa alberti.</i>
Do.	<i>Rosa arvensis.</i>
Meadow rose	<i>Rosa blanda.</i>
Dogbrier	<i>Rosa canina</i> var. <i>dumetorum.</i>
Leatherleaf rose	<i>Rosa coriifolia.</i>
Rose	<i>Rosa gaiana.</i>
Do.	<i>Rosa hibernica.</i>
Do.	<i>Rosa kamskatica.</i>
Japanese rose	<i>Rosa multiflora.</i>
Swamp rose	<i>Rosa palustris.</i>
Sweetbrier	<i>Rosa rubiginosa.</i>
Rugosa rose	<i>Rosa rugosa.</i>
Prairie rose	<i>Rosa setigera.</i>
Scotch rose	<i>Rosa spinosissima.</i>

TABLE 10.--Fruits observed to persist until mid-March in the
Arnold Arboretum, Jamaica Plain, Massachusetts--Continued

Common name	Scientific name
Sakhalin corktree	<i>Phellodendron sachalinense</i> .
Smooth sumac	<i>Rhus glabra</i> .
Staghorn sumac	<i>Rhus hirta</i> .
Inkberry	<i>Ilex glabra</i> .
Smooth winterberry	<i>Ilex laevigata</i> .
American holly	<i>Ilex opaca</i> .
Common winterberry	<i>Ilex verticillata</i> .
Mountain-holly	<i>Nemopanthus mucronatus</i> .
Japanese pachysandra	<i>Pachysandra terminalis</i> .
Japanese creeper	<i>Ampelopsis tricuspidata</i> .
Russian olive	<i>Elaeagnus angustifolia</i> .
Spiny aralia	<i>Acanthopanax divaricata</i> .
Do.	<i>Acanthopanax henryi</i> .
Do.	<i>Acanthopanax sessiliflorum</i> .
Colorado dogwood	<i>Cornus coloradensis</i> .
Red-osier dogwood	<i>Cornus stolonifera</i> .
Common persimmon	<i>Diospyros virginiana</i> .
Privet	<i>Ligustrum acuminatum</i> .
Amur privet	<i>Ligustrum amurense</i> .
Bigberry privet	<i>Ligustrum microcarpum</i> .
European privet	<i>Ligustrum vulgare</i> .
Matrimony-vine	<i>Lycium chinense</i> .
Do.	<i>Lycium rhombifolium</i> .
Mapleleaf viburnum	<i>Viburnum acerifolium</i> .
American cranberrybush	<i>Viburnum americanum</i> .
Viburnum	<i>Viburnum betulifolium</i> .
Manchurian viburnum	<i>Viburnum burejaeticum</i> .
Withe-rod	<i>Viburnum cassinoides</i> .
Linden viburnum	<i>Viburnum dilatatum</i> .
Beech viburnum	<i>Viburnum erosum</i> .
Hupeh viburnum	<i>Viburnum hupehense</i> .
Nannyberry	<i>Viburnum lentago</i> .
Viburnum	<i>Viburnum lobophyllum</i> .
European cranberrybush	<i>Viburnum opulus</i> .
Eggleaf viburnum	<i>Viburnum ovatifolium</i> .
Blackhaw	<i>Viburnum prunifolium</i> .
Southern blackhaw	<i>Viburnum rufidulum</i> .
Sargent cranberrybush	<i>Viburnum sargentii</i> .
Wright viburnum	<i>Viburnum wrightii</i> .
Snowberry	<i>Symphoricarpos occidentalis</i> .
Do.	<i>Symphoricarpos orbiculatus</i> .
Do.	<i>Symphoricarpos racemosus</i> .
Do.	<i>Symphoricarpos laevigata</i> .
Belle honeysuckle	<i>Lonicera bella</i> .
Sweetberry honeysuckle	<i>Lonicera caerulea</i> .
Limber honeysuckle	<i>Lonicera dioica</i> .
Amur honeysuckle	<i>Lonicera maecki</i> .
Grape honeysuckle	<i>Lonicera prolifera</i> .
Tatarian honeysuckle	<i>Lonicera tatarica</i> .

TABLE 11.--Extralimital fruits that have been recommended for Michigan

Common name	Scientific name
Irish juniper	<i>Juniperus communis hibernica.</i>
Bayberry	<i>Myrica carolinensis.</i>
Russian mulberry	<i>Morus alba tatarica.</i>
Sweetbrier	<i>Rosa rubiginosa....</i>
Redleaf rose	<i>Rosa rubrifolia.</i>
Hugonis rose	<i>Rosa hugonis.</i>
Japanese rose	<i>Rosa multiflora.</i>
Rugosa rose	<i>Rosa rugosa.</i>
Wichurian rose	<i>Rosa wichuriana.</i>
European mountain-ash	<i>Sorbus aucuparia.</i>
Cotoneaster	<i>Cotoneaster acutifolia.</i>
Do.	<i>Cotoneaster divaricata.</i>
Do.	<i>Cotoneaster horizontalis.</i>
English hawthorn	<i>Crataegus oxyacantha.</i>
Siberian crab	<i>Malus baccata.</i>
Purpleleaf plum	<i>Prunus pissardi.</i>
Beach plum	<i>Prunus maritima.</i>
Japanese creeper	<i>Ampelopsis tricuspidata.</i>
Russian olive	<i>Elaeagnus angustifolia.</i>
Tatarian dogwood	<i>Cornus alba & vars.</i>
Kousa dogwood	<i>Cornus kousa....</i>
Cornelian cherry	<i>Cornus mas.</i>
Bloodtwig dogwood	<i>Cornus sanguinea.</i>
Hercules-club	<i>Aralia spinosa....</i>
Matrimony-vine	<i>Lycium halimifolium.</i>
Fringetree	<i>Chionanthus virginica.</i>
European privet	<i>Ligustrum vulgare.</i>
Amur privet	<i>Ligustrum amurense.</i>
Ibota privet	<i>Ligustrum ibota.</i>
Regel privet	<i>Ligustrum ibota var. regelianum.</i>
California privet	<i>Ligustrum ovalifolium.</i>
European elder	<i>Sambucus nigra & vars.</i>
White honeysuckle	<i>Lonicera bella albida.</i>
Amur honeysuckle	<i>Lonicera maacki.</i>
Tatarian honeysuckle	<i>Lonicera tatarica & vars.</i>
Morrow honeysuckle	<i>Lonicera morrowi.</i>
Blueleaf honeysuckle	<i>Lonicera korolkowi.</i>
Hall Japanese honeysuckle....	<i>Lonicera japonica var. halliana.</i>
Fragrant viburnum	<i>Viburnum carlesii.</i>
Wayfaring-tree	<i>Viburnum lantana....</i>
European cranberrybush	<i>Viburnum opulus.</i>

TABLE 12.--Extralimital fruits that have been recommended
for Minnesota

Common name	Scientific name
Savin	<i>Juniperus sabina</i> & var. <i>tamariscifolia</i> .
Russian mulberry	<i>Morus alba</i> var. <i>tatarica</i> .
Five-leaf akebia.....	<i>Akebia quinata</i> .
Boulder raspberry	<i>Rubus deliciosus</i> .
Strawberry-raspberry ...	<i>Rubus scrbifolius</i> .
Rugosa rose	<i>Rosa rugosa</i> .
Japanese rose	<i>Rosa multiflora</i> .
Cinnamon rose	<i>Rosa cinnamomea</i> .
Brier rose	<i>Rosa foetida</i> .
Sweetbrier	<i>Rosa rubiginosa</i> .
Scotch rose	<i>Rosa spinosissima</i> .
French rose	<i>Rosa gallica</i> .
Oakleaf mountain-ash....	<i>Sorbus quercifolia</i> .
European mountain-ash....	<i>Sorbus aucuparia</i> & var. <i>pendula</i> .
Hawthorn	<i>Crataegus sanguinea</i> .
Do.	<i>Crataegus crusgalli</i> .
Flowering crab	<i>Malus floribunda</i> .
Siberian crab	<i>Malus baccata</i> .
Japanese creeper	<i>Ampelopsis tricuspidata</i> .
Bower vine	<i>Actinidia arguta</i> .
Chinese aralia.....	<i>Aralia chinensis</i> var. <i>mandshurica</i> .
Bloodtwig dogwood	<i>Cornus sanguinea</i> .
Coral dogwood	<i>Cornus alba</i> var. <i>sibirica</i> .
Alpine bearberry	<i>Arctostaphylos alpina</i> .
Silver buffaloberry	<i>Shepherdia argentea</i> .
Russian olive	<i>Elaeagnus angustifolia</i> .
Cherry elaeagnus	<i>Elaeagnus longipes</i> .
Sea buckthorn	<i>Hippophaë rhamnoides</i> .
Persimmon	<i>Diospyros virginiana</i> .
Fringetree	<i>Chionanthus virginica</i> .
European privet	<i>Ligustrum vulgare</i> .
Matrimony-vine	<i>Lycium chinense</i> .
Do.	<i>Lycium vulgare</i> .
European cranberrybush..	<i>Viburnum opulus</i> .
Wayfaring-tree.....	<i>Viburnum lantana</i> .
Tatarian honeysuckle.....	<i>Lonicera tatarica</i> & vars.
Morrow honeysuckle	<i>Lonicera morrowi</i> .
Winter honeysuckle	<i>Lonicera fragrantissima</i> .
Manchurian honeysuckle...	<i>Lonicera ruprechtiana</i> .
Trumpet honeysuckle.....	<i>Lonicera sempervirens</i> .
Cutleaf European elder....	<i>Sambucus nigra</i> var. <i>laciniata</i> .
Golden European elder....	<i>Sambucus nigra</i> var. <i>aurea</i> .

TABLE 13.--Extralimital fruits that have been recommended
for New Jersey

Common name	Scientific name
Fiveleaf akebia	Akebia quinata.
Japanese rose	Rosa multiflora.
Japanese creeper.....	Ampelopsis tricuspidata.
Bower vine	Actinidia arguta.
Do.	Actinidia polygama.
Matrimony-vine	Lycium barbarum.
Yellow honeysuckle	Lonicera flava.
Hall Japanese honeysuckle...	Lonicera japonica var. halliana.
Woodbine	Lonicera periclymeum.

TABLE 14.--Extralimital fruits that have been recommended
for New York 1/

Common name	Scientific name
Chinese juniper	Juniperus chinensis & vars.
Irish juniper	Juniperus communis var. hibernica.
Mountain juniper	Juniperus communis var. montana.
Savin	Juniperus sabina & vars.
White mulberry	Morus alba.
Fiveleaf akebia	Akebia quinata.
Hawthorn raspberry	Rubus crataegifolius.
Cinnamon rose	Rosa cinnamomea.
Austrian rose	Rosa foetida.
Harison yellow rose	Rosa harisoni.
Japanese rose	Rosa multiflora.
Sweetbrier	Rosa rubiginosa.
Rugosa rose	Rosa rugosa & vars.
Scotch rose	Rosa spinosissima & vars.
Wichurian rose	Rosa wichuriana.
Mountain-ash	Sorbus aucuparia.
Cotoneaster.....	Cotoneaster adpressa.
Do.	Cotoneaster francheti.
Do.	Cotoneaster horizontalis.
Do.	Cotoneaster microphylla.
Do.	Cotoneaster salicifolia var. floccosa.
Do.	Cotoneaster simonsi.
Laland firethorn	Pyracantha coccinea var. lalandi.
Washington hawthorn	Crateagus cordata.
English hawthorn	Crataegus oxyacantha.
Siberian crab	Malus baccata.
Japanese flowering crab	Malus floribunda & vars.
Chinese flowering crab	Malus spectabilis & vars.
Hall crab	Malus halliana & vars.
Arnold crab	Malus baccata x floribunda.

TABLE 14.--Extralimital fruits that have been recommended
for New York--Continued

Common name	Scientific name
Carmine crab	<i>Malus halliana</i> x <i>sieboldi</i> .
Tea crab	<i>Malus theifera</i> .
Cutleaf crab	<i>Malus toringoides</i> .
Japanese pachysandra.....	<i>Pachysandra terminalis</i> .
Japanese holly	<i>Ilex crenata</i> var. <i>microphylla</i> .
Porcelain ampelopsis	<i>Ampelopsis heterophylla</i> .
Japanese creeper	<i>Ampelopsis tricuspidata</i> .
Gloryvine	<i>Vitis coignetiae</i> .
Bower vine	<i>Actinidia arguta</i> .
Daphne	<i>Daphne mezereum</i> & var. <i>album</i> .
Do.	<i>Daphne cheorum</i> .
Cornelian cherry	<i>Cornus mas</i> .
Coral dogwood	<i>Cornus alba</i> var. <i>sibirica</i> .
Chinese dogwood	<i>Cornus kousa</i> var. <i>chinensis</i> .
Japanese cornelian cherry...	<i>Cornus officinalis</i> .
Bloodtwig dogwood	<i>Cornus sanguinea</i> & var. <i>viridissima</i> .
Spiny aralia	<i>Acanthopanax pentaphylla</i> .
Cherry elaeagnus	<i>Elaeagnus longipes</i> & var. <i>ovata</i> .
Russian olive	<i>Elaeagnus angustifolia</i> .
Sweetleaf	<i>Symplocos crataegoides</i> .
Ibota privet	<i>Ligustrum ibota</i> & var. <i>regelianum</i> .
Amur privet	<i>Ligustrum amurense</i> .
European privet	<i>Ligustrum vulgare</i> .
White fringetree	<i>Chionanthus virginica</i> .
Chinese fringetree	<i>Chionanthus retusa</i> .
Matrimony-vine	<i>Lycium chinense</i> .
Do.	<i>Lycium halimifolium</i> .
Leatherleaf viburnum	<i>Viburnum rhytidophyllum</i> .
Siebold viburnum	<i>Viburnum sieboldi</i> .
Fragrant viburnum	<i>Viburnum carlesii</i> .
Linden viburnum	<i>Viburnum dilatatum</i> .
Wright viburnum	<i>Viburnum wrightii</i> .
Wayfaring-tree	<i>Viburnum lantana</i> .
European cranberrybush	<i>Viburnum opulus</i> .
Tatarian honeysuckle	<i>Lonicera tatarica</i> & vars.
Belle honeysuckle	<i>Lonicera bella</i> & vars.
Japanese honeysuckle	<i>Lonicera japonica</i> .
Morrow honeysuckle	<i>Lonicera morrowi</i> .
Manchurian honeysuckle	<i>Lonicera ruprechtiana</i> .
Winter honeysuckle	<i>Lonicera fragrantissima</i> .
Standish honeysuckle	<i>Lonicera standishi</i> .
Thorn honeysuckle	<i>Lonicera spinosa</i> .
Everblooming honeysuckle ...	<i>Lonicera heckrottii</i> .
Amur honeysuckle	<i>Lonicera maackii</i> .
Henry honeysuckle	<i>Lonicera henryi</i> .

1/ The list of "Persistent fruits in the New York Botanical Garden" (Table 15) contains various additional species.

TABLE 15.--Fruits observed to persist until mid-March in the
Botanical Garden, New York, N. Y.

Common name	Scientific name
Firethorn	<i>Cotoneaster rotundifolia</i> .
Do.	<i>Cotoneaster simonsi</i> .
Do.	<i>Cotoneaster vacillans</i> .
Hall crab	<i>Malus halliana</i> .
Hawthorn	<i>Crataegus collina</i> .
Washington hawthorn	<i>Crataegus cordata</i> .
Hawthorn	<i>Crataegus pentadra</i> .
Chinese hawthorn	<i>Crataegus pinnatifida</i> .
Hawthorn	<i>Crataegus rhombifolia</i> .
Do.	<i>Crataegus scabrida</i> .
Cockspur thorn	<i>Crataegus crusgalli</i> .
Serviceberry	<i>Amelanchier asiatica</i> .
Red chokeberry	<i>Aronia arbutifolia</i> .
Purple chokeberry	<i>Aronia atropurpurea</i> .
Black chokeberry	<i>Aronia melanocarpa</i> .
Beach plum	<i>Prunus maritima</i> .
Prickly rose	<i>Rosa acicularis</i> .
Dogbrier	<i>Rosa canina</i> .
Rose	<i>Rosa copelandi</i> .
Do.	<i>Rosa hispida</i> .
Pasture rose	<i>Rosa humilis</i> .
Rose	<i>Rosa jundzillii</i> .
Virginia rose	<i>Rosa lucida</i> .
Rose	<i>Rosa lyoni</i> .
Do.	<i>Rosa micrantha</i> .
Japanese rose	<i>Rosa multiflora</i> .
Bristly rose	<i>Rosa nitida</i> .
Nutka rose	<i>Rosa nutkana</i> .
Rose	<i>Rosa petersiana</i> .
Sweetbrier	<i>Rosa rubiginosa</i> .
Rugosa rose	<i>Rosa rugosa</i> .
Rose	<i>Rosa solanderi</i> .
Scotch rose	<i>Rosa spinosissima</i> .
Rose	<i>Rosa stylosa</i> .
Do.	<i>Rosa villosa</i> .
Dwarf sumac	<i>Rhus copallina</i> .
Staghorn sumac	<i>Rhus hirta</i> .
Finetooth holly	<i>Ilex serrata</i> .
Common winterberry	<i>Ilex verticillata</i> .
Privet	<i>Ligustrum ciliatum</i> .
Ibota privet	<i>Ligustrum ibota</i> .
California privet	<i>Ligustrum ovalifolium</i> .
European privet	<i>Ligustrum vulgare</i> .
Japanese beautyberry	<i>Callicarpa japonica</i> .
Chinese beautyberry	<i>Callicarpa purpurea</i> .
Common matrimony-vine	<i>Lycium halimifolium</i> .
Mapleleaved viburnum	<i>Viburnum acerifolium</i> .
Viburnum	<i>Viburnum cotinifolium</i> .
Linden viburnum	<i>Viburnum dilatatum</i> .
Wayfaring-tree	<i>Viburnum lantana</i> .
Smooth withe-rod	<i>Viburnum nudum</i> .
European cranberrybush	<i>Viburnum opulus</i> .
Japanese honeysuckle	<i>Lonicera japonica</i> .

TABLE 16.--Extralimital fruits that have been recommended for Ohio

Common name	Scientific name
Pfitzer juniper	Juniperus chinensis var. pfitzeriana.
Waxmyrtle	Myrica cerifera.
Hugonis rose	Rosa hugonis.
Wichurian rose	Rosa wichuriana.
Rugosa rose	Rosa rugosa.
Spreading cotoneaster	Cotoneaster divaricata.
Japanese flowering crab	Malus floribunda.
Chinese flowering crab	Malus spectabilis.
Cornelian cherry	Cornus mas.
Redtwig dogwood	Cornus alba and vars.
Chinese aralia	Aralia chinensis var. mandshurica.
Southern creeper	Ampelopsis cordata.
Russian olive	Elaeagnus angustifolia.
Ibota privet	Ligustrum ibota & var. regelianum.
Ibolium privet	Ligustrum ibolium.
Amur privet	Ligustrum amurense.
European privet	Ligustrum vulgare.
European cranberrybush.....	Viburnum opulus.
Wayfaring-tree	Viburnum lantana.
Doublefile viburnum	Viburnum tomentosum.
Coralberry	Symphoricarpos orbiculatus.
Morrow honeysuckle	Lonicera morrowi.
Amur honeysuckle	Lonicera maacki.
Manchurian honeysuckle	Lonicera ruprechtiana.
Hall japanese honeysuckle ...	Lonicera japonica var. halliana.
Tatarian honeysuckle	Lonicera tatarica.
Winter honeysuckle	Lonicera fragrantissima.

TABLE 17.--Extralimital fruits that have been recommended for Pennsylvania

Common name	Scientific name	Fruiting season
Irish juniper.....	Juniperus communis var. hibernica	
Weeping juniper.....	Juniperus communis var. pendula.	
Chinese juniper.....	Juniperus chinensis.....	
Western juniper.....	Juniperus occidentalis.....	
White mulberry	Morus alba	May to July.
Wineberry	Rubus phoenicolasius	June to August.
Japanese rose	Rosa multiflora	
Daphne.....	Daphne mezereum	
Sea buckthorn	Hippophaë rhamnoides.....	
Russian olive	Elaeagnus angustifolia.....	
Autumn eleagnus	Elaeagnus umbellata	

TABLE 17.--Extralimital fruits that have been recommended for Pennsylvania--
Continued

Common name	Scientific name	Fruiting season
Cornelian cherry	Cornus mas	
European privet	Ligustrum vulgare	September to March.
Ibota privet	Ligustrum ibota	
Bigberry privet	Ligustrum acuminatum	
Tatarian honeysuckle ..	Lonicera tatarica	June to March.
Japanese honeysuckle...	Lonicera japonica	

TABLE 18.--Extralimital fruits that have been recommended for Wisconsin

Common name	Scientific name
Savin	Juniperus sabina.
Pfitzer juniper	Juniperus chinensis var. pfitzeriana.
Russian mulberry	Morus alba var. tatarica.
Rugosa rose	Rosa rugosa.
Mountain-ash	Sorbus aucuparia.
English hawthorn	Crataegus monogyna var. pauli.
Peking cotoneaster.....	Cotoneaster acutifolia.
Spiny aralia	Acanthopanax pentaphyllum.
Cornelian cherry	Cornus mas.
Russian olive	Elaeagnus angustifolia.
Sea buckthorn	Hippophaë rhamnoides.
Amar privet	Ligustrum amurense.
European privet	Ligustrum vulgare.
Regel privet	Ligustrum ibota var. regelianum.
Matrimony-vine	Lycium chinese.
Coralberry	Symphoricarpos orbiculatus.
Tatarian honeysuckle.....	Lonicera tatarica & vars.
Morrow honeysuckle	Lonicera morrowi.
Manchurian honeysuckle	Lonicera ruprechtiana.
Thorn honeysuckle	Lonicera spinosa & var. alberti.
European fly honeysuckle	Lonicera xylosteum.
White belle honeysuckle	Lonicera bella var. albida.
Golden European elder.....	Sambucus nigra var. aurea.
European cranberrybush.....	Viburnum opulus.
Wayfaring-tree	Viburnum lantana.

LITERATURE

Publications of interest in connection with fruits for the Northeastern States include:

Region

A handbook of the flowering plants and ferns of the central and northeastern United States and adjacent Canada, by Benjamin L. Robinson and Merritt L. Fernald. 926 pp., illus., 1908. Inquire as to price from the American Book Co., New York, N. Y.

An illustrated flora of the northern United States, Canada, and the British Possessions, from Newfoundland to the parallel of the southern boundary of Virginia, and from the Atlantic Ocean westward to the 102d meridian, by Nathaniel L. Britton and Addison Brown. Vol. I, 680 pp., Vol. II, 735 pp., Vol. III, 637 pp., illus., 1913. Inquire as to price from Charles Scribner's Sons, New York, N. Y.

Massachusetts

Hardy woody plants, by Frank A. Waugh and Charles H. Thompson. Mass. Agr. Expt. Sta. Bull. 267, pp. 148-182, illus., October 1930. Inquire as to conditions governing distribution from the Massachusetts Agricultural Experiment Station, Amherst, Mass.

Experiments with hedges, by Frank A. Waugh. Mass. Agr. Expt. Sta. Bull. 272, 23 pp., illus., March 1931. Inquire as to conditions governing distribution from the Massachusetts Agricultural Experiment Station, Amherst, Mass.

Michigan

Hardy shrubs for landscape planting in Michigan, by C. P. Halligan. Mich. Agr. Expt. Sta. Special Bull. 154, 84 pp., illus., October 1932. Inquire as to conditions governing distribution from the Michigan State College, East Lansing, Mich.

Beautifying the home grounds, by C. P. Halligan. Mich. Agr. Expt. Sta. Regular Bull. 281, 59 pp., illus., November 1933. Inquire as to conditions governing distribution from the Michigan State College, East Lansing, Mich.

Forest planting on Michigan farms, by R. H. Westveld and J. L. Van Camp, Mich. State Col. Ext. Bull. 147, 44 pp., illus., October 1935. Inquire as to conditions governing distribution from the Michigan State College, East Lansing, Mich.

New York

Woody plants that tolerate shade, by R. W. Curtis and Donald Wyman. Cornell Ext. Bull. 268, 32 pp., illus., September 1933. Inquire as to conditions governing distribution from the New York State College of Agriculture, Cornell University, Ithaca, N. Y.

Ornamental trees for New York State, their landscape value and care, by R. W. Curtis and Donald Wyman. Cornell Ext. Bull. 287, 32 pp., illus., April 1934. Inquire as to conditions governing distribution from the New York State College of Agriculture, Cornell University, Ithaca, N. Y.

Ohio

Beautifying home grounds, by Victor H. Ries. Ohio State Univ. Ext. Bull. 73, 24 pp., illus., March 1934. Inquire as to conditions governing distribution from the Ohio State University, Extension Service, Columbus, Ohio.

Wisconsin

Planning and planting the home grounds, by Franz W. Aust, Wm. Longenecker, and Norman A. Morris. Univ. Wis. Ext. Circ. 253, 32 pp., illus., January 1933. Inquire as to conditions governing distribution from the University of Wisconsin, Extension Service, Madison, Wis.