RESEARCH LABORATORY TECHNICAL REPORT

BARTLETT TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Spongy Moth Host Preferences

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Larvae of spongy moth (formerly known as gypsy moth) feed on the foliage of a wide variety of woody plants. During heavy infestations, most tree and shrub species will be fed upon to some extent. However, spongy moth larvae have distinct food preferences. From the results of controlled studies and field observations, the susceptibility of tree and shrub species to spongy moth feeding can be classified as follows: Class I, favored food plants; Class II, species that are intermediate in susceptibility; and Class III, unfavored food plants.

Class I Favored Hosts

Species classified as favored food are readily fed upon and defoliated. In order for spongy moth populations to reach outbreak levels, Class I species must be a major constituent of an area.

Class I Favored Food Plants

Alder (*Alnus* spp.)
Apple (*Malus* spp.)
Aspen, Bigtooth (*Populus grandidenta*)
Aspen, Trembling (*P. tremuloides*)
Beech, American (*Fagus americana*)
Birch, Gray (*Betula populifera*)
Birch, Paper (*B. populifolia*)
Birch, River (*B. nigra*)
Boxelder (*Acer negundo*)
Crabapple (*Malus* spp.)
Hawthorne (*Crategus* spp.)
Hazelnut (*Corylus* spp.)
Larch (*Larix* sp.)
Linden (*Tilia* spp.)
Mountain Ash (*Sorbus* spp.)
Oak, Black (*Quercus velutina*)
Oak, Blackjack (*Q. marilandica*)
Oak, Bur (*Q. macrocarpa*)
Oak, Chestnut (*Q. montana*)
Oak, Chinkapin (*Q. muehlenbergii*)
Oak, Pin (*Q. palustris*)
Oak, Post (*Q. stellata*)
Oak, Red (*Q. rubra*)

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Class I Favored Food Plants

Oak, Scarlet (*Q. coccinea*)
Oak, Shingle (*Q. imbricaria*)
Oak, Swamp White (*Q. bicolor*)
Oak, White (*Q. alba*)
Oak, Willow (*Q. phellos*)
Poplar, Balm of Gilead (*Populus balsamifera*)
Poplar, Lombardy (*P. nigra* var. *italica*)
Serviceberry (*Amelanchier canadensis*)
Sweetgum (*Liquidambar styraciflua*)
Willow (*Salix* sp.)
Witch Hazel (*Hamamelis virginiana*)

Class II Intermediate Susceptibility Hosts

Species in the intermediate class will be fed upon if they are planted near favored food species. Significant injury seldom results unless the infestation is heavy and the favored food source is depleted. Some Class II species, including pine, spruce, and hemlock, will not be fed upon by young larvae but may be defoliated by late instars. Spongy moth populations will not reach outbreak levels in areas where Class II species predominate.

Class II Intermediate Susceptibility Hosts

Birch, Black (*Betula lenta*)
Birch, Yellow (*B. alleghaniensis*)
Blackgum (*Nyssa sylvatica*)
Buckeye (*Aesculus* spp.)
Butternut (*Juglans cinera*)
Chinkapin (*Castanea pumila*)
Cottonwood (*Populus deltoides*)
Cherry, Black (*Prunus serotina*)
Cherry, Choke (*P. virginiana*)
Cherry, Pin (*P. pensylvanica*)
Cherry, Sweet (*P. avium*)
Cucumbertree (*Magnolia acuminata*)
Dogwood, Flowering (*Cornus florida*)
Elm, American (*U. americana*)
Elm, English (*U. procera*)
Elm, Slippery (*U. rubra*)
Hackberry (*Celtis occidentalis*)
Hemlock (*Tsuga canadensis*)
Hickory, Bitternut (*Carya cordiformis*)
Hickory, Mockernut (*C. tomentosa*)
Hickory, Pignut (*C. glabra*)
Hickory, Shagbark (*C. ovata*)
Hornbeam (*Carpinus caroliniana*)
Hophornbeam (*Ostrya virginiana*)
Maples (*Acer* spp.)
Paw Paw (*Asimina triloba*)
Pear (*Pyrus* spp.)
Persimmon (*Diospyros virginiana*)
Pines (*Pinus* spp.)
Poplar, White (*Populus alba*)
Plum (*Prunus* sp.)
Redbud (*Cercis canadensis*)
Sassafras (*Sassafras albidum*)
Sourwood (*Oxydendrum arboreum*)
Spruce (*Picea* spp.)

Class III Unfavored Hosts

Unfavored food species seldom if ever are eaten. If Class III species are growing near favored food species, some light feeding may occur, however, significant defoliation seldom results. Spongy moth populations cannot build up or sustain themselves where unfavored food species predominate.

Class III Unfavored Hosts

Arborvitae (*Thuja occidentalis*)
Ash (*Fraxinus* spp.)
Azalea (*Rhododendron* spp.)
Baldcypress (*Taxodium distichum*)
Black Locust (*Robinia pseudoacacia*)
Catalpa (*Catalpa* spp.)
Fir (*Abies* spp.)
Holly (*Ilex* spp.)
Honeylocust (*Gleditsia triacanthos*)
Juniper (*Juniperus virginiana*)
Kentucky Coffeetree (*Gymnocladus dioicus*)
Mountain Laurel (*Kalmia latifolia*)
Mulberry, Red (*Morus rubra*)
Mulberry, White (*Morus alba*)
Osage-Orange (*Maclura pomifera*)
Privet (*Ligustrum* spp.)
Spicebush (*Lindera benzoin*)
Sycamore (*Plantanus occidentalis*)
Tuliptree (*Liriodendron tulipifera*)
Viburnum (*Viburnum* spp.)
Walnut, Black (*Juglans nigra*)
White Cedar, Atlantic (*Chamaecyparis thyoides*)

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References

[1] F. Mosher, "Food plants of the gypsy moth in America," USDA Bulletin, no. 250, pp. 39, 1915.

[2] D. Houston, "Classifying forest susceptibility to gypsy moth defoliation," USDA Agricultural Handbook, no. 542, pp. 23, 1979.