



Disease and Insect Resistant Ornamental Plants

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BETULA

Birch

The genus *Betula* consists of about 60 species of deciduous hardwood trees and shrubs native to Europe, Asia and North America. Commonly known as birches, they are most often associated with the popular white-barked types. However, other species offer distinctive bark colors and textures for the landscape.

Stem canker and leaf spot diseases are a problem on some birches. Potentially damaging insect pests include aphids, Japanese beetle and leaf miner, but the most serious pest for most birches is the bronze birch borer.



INSECTS

Bronze Birch Borer, *Agrilus anxius*, is the major pest of birch trees in ornamental landscapes. The larvae of this native beetle feed in tissue below the bark disrupting transport of water and nutrients leading to death of branches and ultimately entire trees.

Most birches are potential hosts, however their relative susceptibility varies. In general, North American species such as *B. nigra* (river birch) are more resistant than European and Asian species such as *B. pendula* (European white birch), and white-barked species are more susceptible. Older trees and those weakened by stress, particularly drought, are vulnerable and likely to sustain severe damage. Incidence of bronze birch borer in landscapes can be reduced through selection of resistant species and cultivars together with good cultural practices to maintain tree health. Trees planted in sunny, dry lawns are more susceptible than those located in shady, wooded sites.

Bronze Birch Borer			
Species	Cultivar	Reference	
		Resistant	Susceptible
<i>Betula alleghaniensis</i> *		3	11
<i>Betula costata</i>	Cinnamon Curls® 'CinnDak'	19	
<i>Betula lenta</i> *		3	11
<i>Betula maximowicziana</i>		10, 18	2, 6, 14, 15
<i>Betula nigra</i> *		1, 2, 3, 6, 9, 10, 11, 12, 14, 15	

*These species appear to be less susceptible in California - see Reference 3.

Bronze Birch Borer			
Species	Cultivar	Reference	
		Resistant	Susceptible
<i>Betula nigra</i>	Heritage®	1, 2, 9, 12, 18	
'Dickinson'	Northern Tribute®	8	
<i>Betula papyrifera</i>		1, 2, 6, 9, 13, 14, 15, 18	10, 11, 12
'Cenci'	Renaissance Compact™	1, 2	
'Oenci'	Renaissance Oasis®	1, 2	
'Renci'	Renaissance Reflection®	1, 2	
'Uenci'	Renaissance Upright™	1, 2	
'Varen'	Prairie Dream®	1, 2	
<i>Betula pendula</i>			1, 2, 3, 9, 10, 11, 13, 14, 15, 18
<i>Betula platyphylla</i> var. <i>japonica</i>		10	1, 2, 14, 18
<i>Betula platyphylla</i> var. <i>szechuanica</i>			1, 2, 6, 9, 14, 15
<i>Betula platyphylla</i> var. <i>szechuanica</i>	Purpurea		9
<i>Betula populifolia</i>		1, 2, 6, 12, 14, 15	10, 11
<i>Betula populifolia</i>	Whitespire	6, 9, 15	
<i>Betula pubescens</i>			14, 15
<i>Betula utilis</i> var. <i>jacquemontii</i>			1, 2, 3, 11, 14, 18

Birch Leafminer, *Fenusa pusilla*, is a small sawfly native to Europe. It is a common pest of birch trees throughout the northeastern United States. Mined and browned leaves are signs of larval feeding. In severe infestations, nearly all leaves can be damaged leading to defoliation. Trees in stressed conditions or suffering repeat infestations may become weak and prone to other pests like the bronze birch borer. Researchers at the University of Wisconsin-Madison tested thirteen *Betula* species for resistance to the birch leafminer.

Birch Leafminer				
Species	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Betula alleghaniensis</i>		7		
<i>Betula costata</i>			7	
'CinnDak'	Cinnamon Curls®	19		
<i>Betula davurica</i>			7	
<i>Betula ermani</i>				7
<i>Betula glandulifera</i>				7
<i>Betula grossa</i>		7		
<i>Betula lenta</i>		7		
<i>Betula maximowicziana</i>				7
<i>Betula papyrifera</i>				7
<i>Betula pendula</i>				7

Birch Leafminer				
Species	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Betula platyphylla</i> var. <i>japonica</i>				7
<i>Betula populifolia</i>				7
<i>Betula turkestanica</i>				7

Japanese Beetle, *Popillia japonica*, is a common foliage feeder of many landscape plants. Some resistant birches have been reported, however selection on the basis of resistance to bronze birch borer should be the priority.

Japanese Beetle				
Species	Cultivar	Reference		
		Resistant	Susceptible	
<i>Betula alleghaniensis</i>			17	
<i>Betula davurica</i>			17	
<i>Betula ermanii</i>		5		
<i>Betula lenta</i>		17		
<i>Betula maximowicziana</i>		17		
<i>Betula nigra</i>		5	17	
<i>Betula nigra</i>	Heritage®	5	17	
<i>Betula papyrifera</i>		5	4, 9, 17	
'Uenci'	Renaissance Upright™		4	
<i>Betula pendula</i>		9, 17	5	
<i>Betula pendula</i>	Laciniata	4		
<i>Betula platyphylla</i> 'Jefpark' PP 25468	Parkland Pillar™ - First Editions®	8		
<i>Betula platyphylla</i> var. <i>japonica</i>		17		
<i>Betula platyphylla</i> var. <i>japonica</i>	Whitespire	5		
<i>Betula platyphylla</i> var. <i>szechuanica</i>		5		
<i>Betula populifolia</i>			17	
<i>Betula uber</i>			17	
<i>Betula utilis</i> var. <i>jacquemontii</i>			2, 4, 5, 9, 16, 17	

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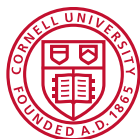
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