

## Selecting and caring for birch

# Winter wonder

At the risk of stating the obvious, our winters in North Dakota are long—almost six months of the year. So when it comes to landscaping our yard, it makes sense to consider how our landscapes look in winter.

Our shade trees have leaves for only half the year. The rest of the year we stare at bark. It makes sense to consider the *bark* of a tree as much as its flowers, fall foliage, or any other ornamental feature.

That is why birch trees can be so valuable here. Their bark can add a wonderful touch to our landscapes all winter long. As for the rest of the year, birches have lustrous green foliage in spring and summer as well as bright yellow foliage in fall. Nice!

Unfortunately, birch trees are not easy to grow. We need to provide them with the right environment and then select the right type of birch.

Keep in mind that all birches hate the heat. They demand cool, shaded soils to do well. As evidence, when driving in the countryside you will never see a birch standing by itself in the middle of a field. It can't stand the heat. A birch will die if grows in full sun alone. Birches are social trees. They like to be with one another. They benefit from being with one another. One birch will provide shade for the soil of its neighbor and its neighbor will return the favor. The healthiest birch stands are found in cool, moist soils and

in groups of hundreds of birch trees.

Everyone loves the white bark of birches. At one time one-third of homes in many Midwest neighborhoods had a birch standing in the front yard. But we were *torturing* many of these trees. They were standing by themselves and exposed to full sun and summer heat. If we could somehow sense the emotions of these trees, we would hear them weeping in pain.

Although we cannot sense a tree in pain, *borers* can. They pick up these chemical signals of distress and bore inside into the trees. They destroy its veins, preventing water from travelling from the roots to the rest of the tree. The invaded tree slowly dies, starting at its parched upper branches. The bronze birch borer has killed thousands of birches over the years.

*Please, don't torture a birch tree.* Keep birches out of the harsh afternoon sun. A north or east facing location is best. Keep its soil cool with a natural bark mulching. Understory plantings of ground covers or low-growing shrubs will keep the birch cool. Understory plants transpire water into the air, keeping the environment around the tree more humid, cool, and pleasant.



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And please—never use rock mulching around a birch. That is pure cruelty! Rock mulches trap heat and inflict deadly pain to trees and shrubs. Birches can't take it.

From an aesthetic standpoint, place your birch where you can appreciate its beauty, especially in winter. The light color of its bark will stand out even more with evergreen trees in the background.

Now that we have the right location for the birch, we need to select the best variety. Each type of birch has its advantages and shortcomings:

Pay attention to its species name. Common names like “white birch” and “paper birch” are used widely, interchangeably, and sometimes *wrongly*.

Let's start with **European white birch** (*Betula pendula*). This was the most popular birch in the past because it has a beautiful weeping habit and its bark

turns white at a very young age. Some varieties have deeply serrated, “cutleaf” foliage. Hardiness is not a concern since this birch is hardy to Zone 2.

Although this birch is very beautiful, it cannot withstand heat or drought. Proper location and management are absolutely critical; otherwise, borers will destroy the tree. Not right away, mind you. These weeping birches will suffer quietly for a decade until they finally give up and start to die back.

**Paper birch** (*B. papyrifera*) is the best of the white-bark birches for most home landscapes. It offers much greater resistance to the borer than European white birch. Its bark is chalky white and peels nicely—much more compared to European white birch. It adapts well to different soils and is superhardy (Zone 2).

If you want a white-bark birch, ‘Prairie Dream’ is highly recommended by both North Dakota

State University (NDSU) and the University of Minnesota. A selection of NDSU, it tolerates the many stresses of our climate and resists bronze birch borer. Its bark is white and peels like paper—beautiful in winter (see photo on next page). Its display of bright yellow foliage in fall is a nice bonus, too. It grows about 50 feet tall and opens up to 40 feet wide as it matures.

‘Renaissance Reflection’ is another fine variety and similar to ‘Prairie Dream’ in its resistance to the borer as well as its attractive bark and fall color. This variety is noted for its fast growth (3 to 5 feet per year), and is narrower, more pyramidal in habit (60 feet high and 25 feet wide). It is hardy to Zone 3.

**Asian White Birch** (*B. platyphylla*) has an interesting history. After so many European white birches died in front yards, American scientists searched the globe for a borer-resistant birch. This led them to the mountains of Japan where they collected birch seeds. Seeds from this expedition led to the discovery of a single borer-resistant tree. This selection, called ‘Whitespire’, was released over 20 years ago by the University of Wisconsin and quickly became immensely popular in the Midwest. Its bark is pure white but does not peel as much as paper birch. The true ‘Whitespire’ continues to show resistance to the borer, but its seedlings sometimes show susceptibility. Authentic ‘Whitespire’ trees are taken from cuttings and known in the trade as ‘Whitespire Senior’. These are very hard to find today. Many large nurseries in the Midwest use seedlings and so be cautious. ‘Whitespire is hardy to Zone 4 and winter die-



Bronze birch borer is a common killer of birch trees. The borer attacks trees under stress, creating raised tunnels (left) and destroying the veins of the tree, leading to dying back of branches (right).

back can be a problem in our state.

Two Asian white birch selections developed by NDSU are gaining popularity:

'Prairie Pinnacle' is noted for its very narrow, columnar habit. It grows 30 feet tall and only 8 feet wide. After several years, its bark matures to a yellowish white color. It shows tolerance to heat and drought, making it less attractive to borers. This birch tolerates alkaline soils, which are common in our state. 'Prairie Pinnacle' is hardy to Zone 3.

'Prairie Vision' is a graceful birch with an upright-oblong habit (35–45 feet tall by 30–35 feet wide). The bark is white with blackish markings. It is reportedly resistant to bronze birch borers.

Keep in mind that "resistance" is not the same as "immunity." Some researchers caution that almost all Asian white birch varieties can suffer from borers if grown under hot, stressful conditions.

The desire to grow birches, even in hot locations, has led many gardeners to plant **river birch** (*B. nigra*). River birch is more tolerant to drought than white birches and are not attacked by bronze birch borer. River birch has a rich cinnamon-brown bark that peels beautifully (see page 7). 'Heritage' is the most popular variety as it grows more vigorously and its bark is lighter in color, almost salmon-like, and very attractive.

River birches have a couple of potential shortcomings in our state. First, they are hardy only to Zone 4. Second, they are susceptible to iron deficiencies in alkaline soils, leading to leaf yellowing (chlorosis). Most of us have neutral to alkaline soils, and thus should stay away from river birch.

Among other noteworthy birches is the **hybrid birch** 'Royal Frost', which has burgundy-red foliage that contrasts sharply with its cinnamon-white bark. Its fall colors range from orange to yellow

low to red. This was created from a cross between 'Crimson Frost' and 'Whitespire'. As a hybrid, it grows faster than 'Crimson Frost'. Its resistance to bronze birch borer is not well known at this time. 'Royal Frost' is hardy to Zone 4 at best.

**Yellow birch** (*B. alleghaniensis*) is especially beloved for its golden fall foliage. Its bark is brown to bronze, and papery when mature. Yellow birch tolerates cold weather and tolerates storms better than most birches. This hardy (Zone 3/4) birch is native from Newfoundland to as west as Manitoba and needs cool summer conditions. It would be a nice choice in a natural landscape if given the right location. 

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Both 'Prairie Dream' paper birch (left) and river birch (right) tolerate heat and resist bronze birch borer.