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Ask a Builder

By Cold Climate Housing Research Center Staff

The "Ask a Builder" series is dedicated to answering some of the many questions Fairbanks residents have about building, energy and the many other parts of home life

Wood burning practices have come under scrutiny in recent years as the Fairbanks area has been cited for poor air quality by federal regulators. Greater wood-burning, a low-cost heating alternative to fuel, has led to elevated levels of PM 2.5, a particulate linked to respiratory problems.

In an effort to lower emissions, the borough set fines for burning wet wood—anything with a moisture content over 30 percent. Allowing wood to fully cure—to a moisture content of 20 percent or less—has multiple advantages: it not only produces fewer emissions but also more heat.

How long does that take in this climate? It depends on the species of wood, when you harvest it, how you cut it and how you store it. A study at CCHRC shows that wood can dry rapidly over the summer—no matter when it's harvested—but not over the shoulder seasons or winter. That means firewood harvested in the fall won't be fully cured by that winter.

Split wood harvested in the spring took anywhere from six weeks to three months to dry over the summer, depending on the storage method. The fastest way to dry split wood was by storing it in a wood shed or leaving it uncovered, although uncovered wood is at the mercy of the weather and could be wet again by fall. When stored under a tarp, the wood took three months to cure.

Unsplit wood, on the other hand, didn't cure over the summer in any storage scenario. Though it neared 20 percent moisture content by the end of the summer, it required another summer to reach a full cure.

Firewood harvested in the fall didn't cure by springtime no matter how it was cut or stored. While it dried out somewhat in a wood shed (to between 30 and 40 percent moisture content) some samples actually got wetter under a tarp over the winter.

Several other factors should be considered when seasoning your wood. Spruce and birch tend to dry more quickly than aspen. And your drying times will also vary based on exposure to sun and air circulation (the more, the better).

The good news is that it's possible to harvest firewood in the spring and cure it over a single summer—so you can stay cozy and burn cleanly over the winter.

Ask a Builder articles promote awareness of home-related issues. If you have a question, e-mail the Cold Climate Housing Research Center at akhomewise@cchrc.org. You can also call the CCHRC at (907) 457-3454.