



ELMS ELIMINATED?

Pests have taken their toll on American elms but there are more replacement options now than in past for this mainstay Wyoming tree

By Scott Schell

Elms have been important to many Wyoming communities for decades.

In fact, the American elm (*Ulmus americana*) is native to the low-elevation areas of northeastern Wyoming; however, few of these trees now exist due to long-established forest threats like Dutch elm disease spread by the European elm bark beetle (*Scolytus multistriatus*) and the native elm bark beetle (*Hylurgopinus rufipes*).

A small population of American elm trees still persist

across the U.S. and parts of Canada, and efforts to develop Dutch elm disease-resistant cultivars are underway.

Topsoil Protector

Many Wyomingites are familiar with the Siberian elm (*Ulmus pumila*). It is actually a fairly recent introduction to the state. In the past, trees from areas of the world with harsh climates similar to ours were introduced into the American West for conservation purposes. Often, these non-native trees came without the insects and diseases that attacked



Whitney Cranshaw, Colorado State University, Bugwood.org

Banded elm bark beetle

their native ranges, and they flourished here.

Windbreaks of Siberian elms and Russian olives (*Elaeagnus angustifolia*) helped save the topsoil in our grain belt from wind erosion and provided welcome shade on many prairie homesteads. Their abilities to survive, spread, and crowd out other plants helped make the Siberian elm and Russian olive tree species successful. However, the same properties that made the Siberian elm and Russian olive trees good competitors have caused many to consider them weeds.

Nature, however, is never in stasis, and Siberian elm has recently lost some of its competitive advantage as more insect pests native to its place of origin have found their way to the U.S.

The Culprits

Seeing the competition between the different insects has been interesting from an entomologist's point of view. The long-established exotic pests of elm trees are the elm leaf beetle (*Xanthogaleruca luteola*) and the European elm bark beetle.

The elm leaf beetle is less and less of a problem, and the European elm flea beetle (*Orchestes alni*), first found in the U.S. in 1982, is now much more common.

A new pest, the banded elm bark beetle (*Scolytus schevyrewi*), was first reported in the U.S. in Colorado in 2003. Elm wood pallets and crates from Asia may be the source of the pest. This insect has spread rapidly and was found in 21 other states by 2007. This bark beetle has caused

much Siberian elm mortality in the western U.S. and is now the most frequently reported cause in Wyoming.

Newcastle lost more than 300 Siberian elm city trees to this insect in 2004. It is a very effective vector of Dutch elm disease, and it will also infest willow, Russian olive, stone fruit trees, and caragana trees.

A New Pest

The newest elm tree pest to arrive in the U.S. is the elm seed bug (*Arocatus melanocephalus*). It was found in Idaho in July 2012. Not considered a major threat to tree health, it is a nuisance pest with the habit of entering homes to over-winter similar to boxelder bugs – only stinkier due to powerful scent exuded from a gland when alarmed.

The Siberian elm has served its purpose in Wyoming. If we look at a positive side of the eventual elimination of this tree species from our urban and rural landscapes, it is that we can use the shade and shelter of Siberian elms still living to protect and nurture young trees of more desirable species.

If your Siberian elm is dead or dying and needs to be removed, the choice of suitable replacement tree species is much greater than before.



Bur oak



American linden



Hackberry



These can include:

- American elm varieties – Princeton, Prairie Expedition, Valley Forge
- Hybrid elm varieties – Accolade, Triumph, New Horizon, Discovery
- American linden – Sentry, Legend, Redmond, Boulevard
- Honeylocust – Skyline, Shademaster, Imperial, Northern Acclaim
- Bur oak
- Horsechestnut
- Ohio buckeye
- Kentucky coffeetree
- Hackberry

For more information

- <http://www.botanic.org/discover/high-plains-arboretum/>
- <http://lands.state.wy.us/index.php/forestry/community-forestry/trees-for-wyoming>
- <http://www.wyomingextension.org/agpubs/pubs/B1090.pdf>
- <http://treehealth.agsci.colostate.edu/research/nationalelmtrial/NationalElmTrial.htm>

HOW TO PROTECT YOUR TREES FROM PESTS

Pest insects will attack stressed plants first. To keep any tree unstressed in most arid parts of Wyoming requires adequate water year-around.

Try to prevent root damage caused by compaction and construction activities. Accidental herbicide exposure when lawns are treated for weeds can also seriously harm a tree. Reading and following the label of those products, if used near your trees, is important.

Protection from bark beetles requires applying labeled insecticides, commonly containing carbaryl- or permethrin-active ingredients, to the bark before the insects become active early in the growing season. The treated bark surface prevents bark beetles from chewing into the living plant tissue, which, in turn, prevents the fungal disease they carry from getting into the tree.

Systemic insecticides with active ingredients such as imidacloprid and dinotefuran can protect the elms from aphids, scale insects, and foliage feeders such as elm leaf beetle, elm flea weevil, and elm leafminer, that can severely weaken the trees. However, the systemic insecticides have not been shown to prevent bark beetles from introducing Dutch elm disease into the trees.

- <http://bit.ly/elmbeetles>
- Elm leaf beetle bulletin <http://bit.ly/elmleafbeetle>

*European elm
flea beetle*



*Siberia, Europe, Wyoming – makes no difference to **Scott Schell**, University of Wyoming Extension assistant entomologist. Their insect pests are on his to-do list. He can be reached at (307) 766-2508 or at sschell@uwyo.edu.*