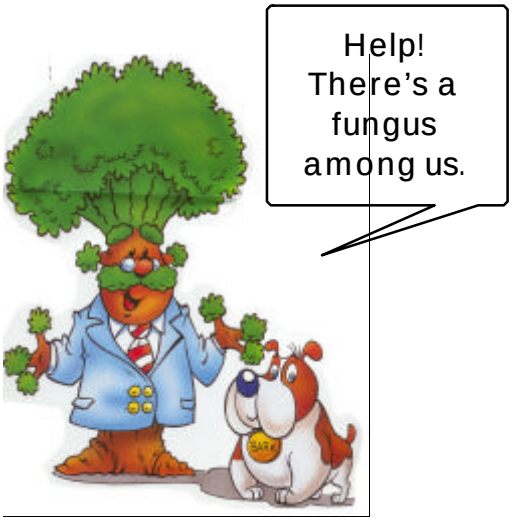


There's a Fungus Among Us!

Elms are more than just a pretty face

Are there elms in your neighborhood or community? American elms are native to Saskatchewan and have been planted in many of our cities, towns, and rural areas. In addition to being beautiful, elms help us in other ways, such as:

- giving shade
- acting as a windbreak
- providing homes for animals, birds and insects
- reducing the cost of cooling homes and other buildings
- protecting us from dangerous ultraviolet radiation
- converting carbon dioxide into oxygen
- helping to prevent wind and water erosion
- acting as a barrier to noise, dust, and air pollution
- increasing real estate values

American elms are well suited to Saskatchewan's soil and climate. Their leaves open earlier in the spring and stay on the branches longer in the fall than other common shade trees such as ash and maple. They also live longer than most other trees - up to several hundred years!

Elms can get sick too

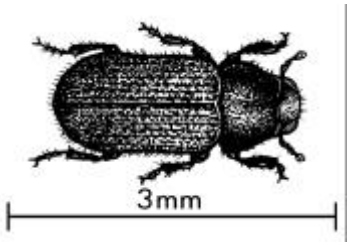
Elms need our help to prevent the spread of Dutch elm disease (DED), a fungal disease that has killed millions of elms all over North America. In fact there are only three provinces in Canada that are still DED free: Alberta, British Columbia, and Newfoundland. The disease is slowly spreading through Saskatchewan from Manitoba and the United States, but if everyone works together we can slow down the spread even more.

What is Dutch elm disease?

Dutch elm disease is a fungus that causes an infected elm to shut down its water-conducting system. Without water moving through the tree, the leaves soon wilt and the tree dies. An infected elm will usually die within a season or two, but sometimes a tree will be killed in as little as three weeks. If an infected community ignores the problem and does nothing, they will lose 90% of their elms in as few as 10 years. DED mainly kills American elms, however most other types of elm can become infected.

How Dutch elm disease came to North America
Dutch elm disease was first identified in the Netherlands and Northern France in 1919. The disease came to North America via infested wood imported into the United States. DED first appeared in Quebec in 1944 and has since spread across much of Canada, reaching Manitoba in 1975 and Saskatchewan in 1981.

How does Dutch elm disease spread?
The disease spreads from tree to tree when tiny elm bark beetles, that live and feed on elms, become infested with the sticky Dutch elm disease spores and move from infected to healthy elms. While there are two types of elm bark beetles in Saskatchewan, it is the native elm bark beetle that poses the most serious problem here. These beetles are only between 2 to 3 mm long when fully grown, about the size of the pin head, yet they are capable of killing a full grown elm tree that is 30 metres tall or taller!



In June or July the adult female native elm bark beetles bore through the bark of dead or dying elms (or firewood) to create tiny tunnels, called galleries, in which they lay their eggs. When the eggs hatch, the larvae create more tunnels off of the galleries as they feed on the inner bark. They then build cells in the bark and enter the pupa stage of their life cycle. New adults emerge in July or August through holes they cut in the bark and fly to healthy elms to feed. In late August or September the adults will move to the base of a healthy elm to bore a hole where they overwinter. The beetles emerge in April or May of the next year to feed and eventually lay eggs starting the cycle again. If the dead or dying wood used by the bark beetle happens to be infected by DED, the fungus is very likely to be spread to healthy trees.

DED can also spread from tree to tree through connections in their root systems. Elms are able to join their roots to the roots of other elms up to 13 metres away. This allows the fungus from an infected tree to be transferred to a healthy elm through its sap.

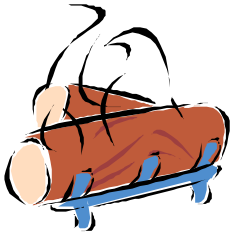
How can you tell if an elm has Dutch elm disease?
Early signs of Dutch elm disease appear from mid-June to mid-July. The leaves on branches of an infected tree will wilt, turn yellow, then curl and turn brown. Symptoms usually first appear in the crown of the tree, and can be seen until fall colours appear. Sometimes only one branch will show symptoms, or there may be a number of infected branches in different parts of the tree's crown.

If an elm becomes infected later in the summer, some of the leaves will wilt, turn yellow, and fall off earlier than usual. It is easy to confuse this with normal fall colours. Laboratory testing is required to confirm the presence of the disease.

What can we do to protect our elms?
Scientists are researching methods of controlling Dutch elm disease, but so far no inexpensive or reliable cure has been found. There are however, many things that we can do to slow the spread of the disease. A community that takes action will lose less than 2% of its elms every year. At that rate, we will have American elms to enjoy for years to come.

Here are things you can do:

Avoid transporting firewood. As most communities in Saskatchewan are like "islands in the prairies" with no stands of elms to lead beetles from town to town, transportation of firewood is the main way the disease will spread. One three foot log of elm firewood can contain 1,800 infested beetles, so it is important that no one store, use, or transport elm wood of any kind. In fact it is illegal to transport elm wood, unless you are taking the wood to the nearest designated disposal site.



Watch for signs of DED. Watch your elms for symptoms from mid-June until late summer. If you see anything that might be a sign of DED call the DED Hotline at 1-800-SASKELM (1-800-727-5356)

Make sure your elms are healthy. Elm bark beetles may be more attracted to trees that are in poor health or suffering environmental stress. Deep watering your elms from April to mid-August will help.

Prune your elms between August 1st and April 12th. As the native elm bark beetle breeds in dead or dying wood, it is important to remove any dead or dying branches from your elm trees. Do not prune during the annual pruning ban from April 13th to July 31st as the beetles are most active during this period and the smell of freshly cut wood could attract infected beetles to your trees. Also make sure to never "top" a tree, this being the practice of cutting a tree back to just its main limbs. Tree topping seriously damages tree health and could make it more susceptible to DED.

Dispose of elm wood properly. It is illegal to store elm wood. You must take it immediately to the nearest designated disposal site, which is usually at the local landfill. This will prevent beetles from breeding in this material.

The Saskatchewan Dutch Elm Disease Association (SDEDA)

The SDEDA is a non-profit organization, formally incorporated in 1998, to "preserve the American elm in Saskatchewan." Aside from being an advisory body to the provincial DED program organized through Saskatchewan Environment and Resource Management, the Association's most important role is to increase public awareness of the disease through presentations, newsletters, advertising, and information distribution. The SDEDA also hosts an annual workshop for communities and organizations from across the province.

Saskatchewan
Dutch Elm
Disease
Association