

Dutch Elm Disease in Saskatoon and Measures to Mitigate Spread

DED Cases in Saskatoon

Dutch elm disease (DED) is a serious disease caused by the fungal pathogen *Ophiostoma novo-ulmi* and vectored by elm bark beetles. The disease was introduced into North America in the 1930s and has wiped out millions of elm trees across Canada and the United States.

The first case of DED was confirmed in July of 2015. On September 15, 2020, Saskatoon confirmed a second case of DED in the Montgomery neighbourhood; the third case was confirmed in July 2021 at Leif Erickson Park.

DED Mitigation Measures

In Saskatchewan, DED is spread by several species of elm bark beetles, primarily by the Native Elm Bark Beetle. These tiny beetles can fly up to 2 km as the beetles search for elm trees. The DED fungus has tiny spores that stick to the body of the beetle. Bark beetles can carry these spores and infect other elm trees. The beetles are attracted to decaying and freshly cut elm wood via adult beetle pheromones and host tree volatiles. Prohibiting the pruning, storage, transport and use of elm wood are the main mitigation methods to reduce the spread of DED and minimizing breeding habitat for the beetle.

DED Disposal Regulations

Due to a history of DED in Saskatchewan, there is a provincial ban on pruning elm trees between April 1 and August 31; however, full removal of trees can take place at any time of the year. Provincial regulations prohibit the storing, transport and use of elm wood. The only permitted movement of elm wood for residents is to the City of Saskatoon (City) Landfill which is the designated disposal site in Saskatoon. All elm material must be disposed of at the nearest elm tree disposal site in the municipality where the elm tree is located.

Saskatoon's Current Approach to Mitigating DED

Communications and Education

The City communicates about DED and proper disposal of elm wood through a variety of programs, including the following programs. Key messages and links to City webpage content is provided for additional information.

Program	Key Messages	Webpage Link
Tree Diseases & Pests	All tree diseases and pests are combined in one place. Key messages for DED include what it is, how it spreads and how to prevent spread.	https://www.saskatoon.ca/services-residents/housing-property/city-owned-trees-boulevards/tree-diseases-pests
Tree Maintenance and Inspections	Shows the tree maintenance schedule for City-owned trees on boulevards and in parks as well as contact information to report issues with City trees.	https://www.saskatoon.ca/services-residents/housing-property/city-owned-trees-boulevards/tree-maintenance-inspections
Compost Depots	Information on what is acceptable and unacceptable materials for the depots, including that elm is not accepted.	https://www.saskatoon.ca/services-residents/waste-recycling/organics-yard-food-waste/compost-depots

Green Cart Program	Information on what is acceptable and unacceptable materials for the green carts, including that elm is not accepted.	https://www.saskatoon.ca/services-residents/waste-recycling/organics-yard-food-waste/green-cart-program
Fire Pits	Burning elm is not permitted in fire pits and transporting firewood for other places can spread tree pests and diseases.	https://www.saskatoon.ca/services-residents/fire-emergency/public-education/fire-pits

Screenings at Compost Depots

The City's compost depots use an inspection approach to screen for inappropriate items, including elm. Staff are trained to identify elm and provide instruction to customers to either separate the load or deliver it to landfill. Currently no other waste disposal or diversion program staff are trained to identify elm wood.

Response to Identified Cases of DED

The following describes the specific Dutch elm disease response steps carried out by the City when a case is detected.

Immediate response:

- Remove all positive trees including stump.
- Remove trees that are grafted to the positive tree. The number of adjacent trees removed will vary depending on the circumstance and resources.
- Disposal of infected trees at the City landfill and have landfill bury immediately.
- Sample trees surrounding the positive tree.
- Surveillance of private and public trees in the surrounding area with an intensive search for elm material and other sources of infection (initially a 1 km bubble and expand if resources allow).
- Removal of elm infractions within a 1 km radius of the positive tree.
- Place elm bark beetle traps in the area to monitor bark beetle populations and detect new and/or changes to populations of elm bark beetles.
- Issue notice to neighbourhood:
 - o Reminding residents of elm regulations and infractions,
 - o Notify residents of intensive survey,
 - o Identify numbers to call to report or inquire.
- Public Service Announcement identifying DED found in Saskatoon.
- Reiteration of provincial DED regulations.
- Identify numbers to call to report elm violations and symptomatic trees.

Year 2:

- Follow up surveillance of area surrounded infected tree. Continue increased monitoring of area in year 2 including a second sweep of public and private properties for signs of infected trees and stored wood.