Managing Cankers in Landscape Plants

Some canker infections can be easy to spot, like this Thuyaectria canker on honeylocust.

Other canker infections are much harder to see, like this Cytospora canker on elder.

Cracks around dead bark and white streaks of dried sap indicate canker in evergreens.

Tyler Williams
Extension Educator

About the Tool
The Corn Growing Degree Day (GDD) online support tool was developed by the Useful to Usable (U2U) project, which is geared towards improving the resilience and profitability of U.S. farms in the Corn Belt. To access the Corn GDD tool and other tools from U2U, go to http://agclimate.org.

The Corn GDD tool provides current conditions into a 30-year historical perspective and offers trend projections (based on climate data) through the end of the calendar year. GDD projections, combined with analysis of historical analog data, can help you make decisions about seasonal climate risks, activity planning and marketing decisions. While this tool is not meant to be a crystal ball, data and information derived from the tool can be used to make helpful inferences about current conditions, especially when combined with your personal experience and localized knowledge.

Growing Degree Days (GDD) are a measure of heat accumulation within a specific temperature range. GDD are important for agriculture since they can be directly related to plant growth and development stages. GDD are sometimes also called growing degree units (GDU), heat units or thermal time. There are many ways to calculate GDD. The Corn GDD tool uses the 86/50 method (also called Modified GDD or Corn GDD) since it only allows GDD to be accumulated when temperature conditions are optimal for corn development (above 50°F but below 86°F).

Using the Tool
The Corn GDD tool can provide decision support on a variety of issues through the entire growing season by integrating current weather data, historical climate data and farm-specific crop information into an easy-to-use tool. The tool allows you to select your location, enter corn maturity length, planting date and adjust freeze thresholds.

Before your crop is even planted, you can start using Corn GDD information. Test the effects of different seed maturity ratings and planting dates on crop growth milestones, informing your early seed purchases. Use historical freeze data to assess the risk of frost damage at planting and harvest time, helping you determine when you might want to plant.

The Corn GDD tool can also help you assess risk and adjust practices during the season. In the case of delayed planting or re-planting, you can use Corn GDD data to decide if a shorter-season hybrid is needed to increase the chance of reaching crop maturity before the first fall frost. The Corn GDD tool can also be used to track corn current development and anticipate upcoming corn growth milestones for spraying or side-dressing nitrogen. When presented with your farming decisions, climate is just one of many important factors you need to consider. The Corn GDD tool takes the guesswork out of assessing your climate-related risks.

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Sarah Browning
Extension Educator

Dead branches in trees can have many causes, but canker infections are one of the most damaging and difficult to manage. The term “canker” is defined as a dead section of a tree or shrub’s bark. Both fungi and bacteria pathogens can cause canker infections on twigs, stems, tree limbs and trunks. The pathogen invades the plant, growing between the plant’s bark and its inner wood, killing the living portion of the outer bark. Death of the bark limits the plant’s ability to transport water, absorbed by the root system, into branch tissues.

Canker Symptoms

In deciduous trees and shrubs, early symptoms of a canker infection can sometimes be seen as leaves wilt from a lack of water. Closely inspect the stem or branch, especially in thin-barked plants, looking for a dark or discolored area of bark. Discolored bark may be darker than normal; black or dark brown, reddish-brown, orange-brown; or lighter than normal, light tan to white. The canker, or dead section of bark, is usually slightly sunken below the level of healthy bark.

On older trees with thick bark, cankers can be harder to find, but often cracks develop around the dead section. Look for cracked and discolored sections of bark at the base of any dead branches.

In evergreens, a common symptom of a canker infection is resin or sap leaking from the canker. As the resin dries, it turns white. Look for streaks of white resin on the tree’s trunk, and try to pinpoint where they are coming from to find the canker. Eventually, in both deciduous and evergreen plants, canker infection results in dead and dying branches.

Common Canker Diseases Found in Nebraska
Canker-causing fungi and bacteria are host specific, meaning each type of pathogen attacks a certain host plant, or group of plants. But unfortunately, almost every plant is subject to some type of canker-causing pathogen. Below are some of the canker diseases commonly affecting trees in Nebraska.

Deciduous Trees

• Botryosphaeria canker — commonly found on dogwood. Affects over 100 species of woody trees and shrubs. Infections occur through wounds, lenticels and cracks in the bark.

• Cytospora canker — apple, ash, aspen, birch, cottonwood, elm, maple, peach and willow. Infections often occur through wounds or side openings in the bark.

• Nectria canker — crabapple, pear, quaking aspen, black walnut, American elm, red maple, sugar maple, Linden and red oak. Pruning wounds are common points of entry.

Using Corn Growing Degree Day Tool

Nebraska LEAD Program
Nebraska Agricultural Leadership Council

The Nebraska LEAD Program began 33 years ago to develop agricultural leaders for Nebraska’s future generations. Application deadline for LEAD Group 35 is June 15. Applicants generally are ages 25–55 and should be actively involved in farming, ranching or business closely related to agriculture.

More information at http://lead.unl.edu

Tractor Safety Courses for Youth 14–15
All youth 14 or 15 years of age who work on a farm or ranch other than his/her parents is required to be certified through a tractor safety course.

Nebraska Extension Tractor Safety Courses will be offered at seven locations in Nebraska during May and June. A training will be held in Lincoln at the Lancaster Event Center on June 4–5.

Pre-registration is strongly encouraged at least one week in advance. Cost is $30. Registration form is online at http://kearny.unl.edu. Mail to Tyler Williams, Nebraska Extension in Lancaster County, 444 Cherry creek Road, Suite A, Lincoln NE 68528.

For more information, call 402.441.7180.