Are Your Trees Choking?

Many trees in North Dakota are being strangled by their own roots. It’s an underground epidemic!

Are your trees choking? Now is the most obvious time to find out. Choking trees show early fall color, small leaves, and drop their leaves early (Fig. 1). I hate to see a tree show its fall color this early in the season. In many cases, the tree is crying out for help—it’s choking to death!

Look to see how the trunk enters the ground. A healthy tree develops a flare at its base (Fig. 4). A choking tree may enter the ground as straight as a telephone pole (Figs. 2, 3). These trees have roots that are strangling the trunk, preventing the trunk from growing, and stopping the flow of water and nutrients within the tree.

Why would a tree strangle itself with its own roots? It is often related to planting trees too deep. Many trees in ND are planted too deep. Perhaps we don’t want the trees to blow away!

Trees planted too deep will develop stem roots that grow in a direction that later strangles the trunk.

In many cases, choking trees are not detected until they are over 20 years old and too late to save.

The best way to stop this epidemic is to prevent it. Plant a tree so its top set of branch roots are at or just slightly below the surface—no deeper. On nursery-grown trees, these branch roots will have a diameter the size of a pencil or larger. Don’t confuse these roots with thin adventitious roots that may have developed in the root ball or mulch.

Inspect trees before planting. For balled-and-burlapped and container-grown trees, remove the soil between the top of the soil ball to the first branch roots. A pruning saw works well for this. Dig the hole to the appropriate depth so the branch roots will be near the soil surface.

Avoid trees that are severely pot-bound (large, coiling roots in the pot) and buried deep in containers.

Don’t pile mulch against stems. It’s the same as planting a tree too deep.

Inspect young trees to look for girdling and take action, if needed.

The next time you plant a tree, keep the following phrase in mind: “If you plant a tree high, it won’t die—but if you plant a tree low, it won’t grow!”

Figs. 1-4 (top left and clockwise). A tree with girdling roots showing early fall color and a thin canopy. Figs. 2, 3. Stem girdling roots. Fig. 4. Healthy root flare.

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A Touch of the Prairie

Ornamental grasses are perfect perennials for North Dakota. They look great all year round—including during our long winters! They require almost no care, resist drought, and deer leave them alone. ‘Karl Foerster’ feather reed grass is one of the most popular perennials in North Dakota landscapes—for good reason—but new and improved cultivars of other grasses are gaining popularity. Use them as eye-catching specimen plants, vertical accents, or plants that soften edges. The following plants are hardy in Zone 4 and sheltered areas of Zone 3 unless noted otherwise. Photos are courtesy of Walters Gardens, a great website to browse.

**Feather Reed Grass**

**Blue Oat Grass**

**Maiden Hair Grass**

**Switch Grass**
*Panicum virgatum.* Metallic blue to dark green foliage turns gold to red in fall. Shown: ‘Cheyenne Sky’. ‘Northwind’ is the 2014 Perennial Plant of the Year. ‘Heavy Metal’ is a popular blue-stem cultivar. Ht: 36–72 inches.

**Little Bluestem**

**Blue Grama Grass**

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*Photos are courtesy of Walters Gardens,* a great website to browse.
Plant Health Care

Vegetables

Headless Cauliflower
Plants produce tiny “buttons” or no heads due to stresses such as extreme temps, drought or lack of nitrogen. Use young, healthy transplants and set in ground 2 weeks before last spring frost.

Blossom Drop on Pepper
Fruit setting is diminished under temp extremes (day temps over 90°F or night temps above 70°F or below 55°F). Winds, moisture extremes, pests and heavy fruit loads reduce setting.

Rabbits
Fencing is recommended. Make it 3 feet tall (4 feet for jackrabbits) and bury 6 inches deep. Mesh should be 1.5 inches or less. Bloodmeal repellent, guard dog, and live trapping may help.

Tomato Cracking
Caused by rapid growth of fruits, often due to rains after period of drought. Cracks may become infected. Mulch plants to maintain uniform moisture conditions. Use resistant varieties.

Septoria on Tomato
Small (1/8-inch), numerous spots begin on lower leaves. Remove infected foliage. Avoid getting foliage wet. Fungicide sprays (chlorothalonil, mancozeb, copper) prevent spread.

Thrips on Onion
Thrips feed on stalks, creating silvery blotches. These tiny pests hide within leaf folds. Jet sprays of water into folds can dislodge them. If damage is severe, spray with a pyrethroid.

Blossom End Rot
Caused by calcium deficiency and associated with uneven soil moisture. Often prevalent on first fruits. Keep soil moist and do not damage roots when cultivating. Mulch vines.

Hollow Cucumbers
Drought and poor pollination (related to heat) is causing fruits to be hollow. May be associated with too much nitrogen or a lack of calcium or boron. Maintain uniform moisture in the soil.
Trees and Shrubs

**Fall Webworm**
Caterpillars eat leaves but cause minimal damage to overall tree health. Nests may be collected with a forked stick. Young larvae may be killed with *Bacillus thuringiensis*, carbaryl or a pyrethroid.

**Viburnum Gall**
Eriophyid mites feed on leaves in early spring. This causes a hormonal reaction, leading to leaves curling and developing pink streaks. Damage is cosmetic. No pesticides are needed.

**Septoria on Dogwood**
Purple spots with gray centers appear in late summer. Rake fallen leaves to remove fungus and prevent infection next year. Rarely causes significant harm; fungicide sprays rarely needed.

**Twig Blight on Cottonwood**
Leaf petioles blacken; twigs dry out and may bend into a shepherd's crook at tips. For trees up to 15 feet, trim out infected branches. Rarely a significant problem for established trees.

**Cytospora Canker**
Fungus chokes off flow of water and branch tips die back. Entire branches die. Often found on lower branches of mature trees. Prune off dead branches at trunk. Sterilize pruners between cuts.

Fruits

**Barren, Young Apple Trees**
Trees on standard rootstocks might not produce a crop for 8 years! Two apple varieties or a crabapple within 100 ft are needed. Nearly all varieties are compatible except very early with late ones.

**Mottling on ‘Honeyscrisp’**
Starches fail to move out of leaves. Affects trees with light fruit loads. Does not affect long-term productivity. Thin crops if needed in late spring for consistent yields year to year.

**Powdery Mildew on Grape**
Gray powder develops on fruits and foliage. ‘Valiant’, a leading variety, is susceptible. Remove infested clusters. Sulfur sprays prevent spread. Prune vines in winter to increase air movement.
## Weather Almanac for August 5–11, 2018

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### DAYLENGTH (Aug. 13, McClusky, center of ND)

- **Sunrise:** 6:35 AM
- **Daylength:** 14h 24m
- **Sunset:** 8:59 PM

### LONG-TERM OUTLOOKS

**Aug. 18–22:** Temp.: Normal; Precip.: Normal
**Aug. 20–26:** Temp.: Above Normal; Precip.: Below Normal

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**Written by Tom Kalls, who expresses gratitude to the NDSU educators who contributed to this report: Beth Burdolski, Kurt Froehlich, Alicia Harstad, Alex Knudson, Carrie Kurtz, Gordon, LuAnn Madora, Esther McGinnis, Jesse Ostrander, Yolanda Schmidt, Rachel Wald, Todd Weinmann, Ron Wiederholt and Joe Zeleznik.**

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