



## Kelly Feehan

*Extension Educator – Community Environment*

2715 13<sup>th</sup> Street, Columbus, NE 68601

[402-563-4901](tel:402-563-4901)

[environment.unl.edu](mailto:environment.unl.edu)

[water.unl.edu/stormwater](http://water.unl.edu/stormwater)

[platte.unl.edu](mailto:platte.unl.edu)

Twitter: @KellyFeehan2

### Timing is Every Thing

By: Kelly Feehan, Extension Educator

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Just as with many things in life, timing is everything when it comes to control of plant diseases and insects.

When pesticides are used, it is important to keep in mind they work best when applied at a specific time in a disease or insects life cycle. If applied at the wrong time, control will not be achieved and the unnecessary use of a pesticide can lead to pest resistance.

During spring, at bud break and shortly after, is when fungicides are best applied for many of our common foliar tree diseases. Waiting until we see symptoms on leaves or needles is often too late for fungicides to control a disease.

If a tree had a disease last summer that caused unacceptable damage, this spring is the time to apply fungicides to protect this year's growth. Fungicides work better at preventing infections than curing them. To avoid pest resistance, pesticides should not be applied unless a plant has a history of infection.

Also, many foliar diseases of shade trees are minor issues for otherwise healthy plants and pesticide control may not be needed. Unless a disease caused a tree to lose 50 percent or more of its leaves by late August last year, it is more of an aesthetic issue than harmful to tree health.

Pesticide control is often justified for evergreen diseases due to their inability to recover. If the needles on a branch are killed back to where there are no green needles on that branch, it will die and not recover.

Sphareopsis tip blight is a fungal disease of older pines causing new growth to be stunted and turn brown, black specks to develop on the bottoms of pine cones, and entire branches to die with needles turning light brown and hanging straight down so they appear wilted.

If an Austrian or Ponderosa pine had these symptoms last year, the time to apply fungicides such as thiophanate-methyl, propiconazole or Bordeaux mixture is approaching. Spray branch tips thoroughly when new growth starts around the third week of April, just before needles emerge from sheaths in about mid-May and again 7 to 14 days later according to the label.

Dothistroma needle blight is a pine disease that causes needles to turn reddish brown. On close inspection, reddish-purple bands that encircle needles will be found with needles often dying from the tip back to the lesions. For control, spray trees with copper salts of fatty and rosin acids or Bordeaux mixture as needles are emerging around mid-May and again after new growth has fully expanded in June.

Rhizosphaera needle cast infects spruce trees causing older needles and those in shade to turn reddish brown, usually on the trees lower half. Individual needles develop rows of tiny black dots that are seen under magnification to help identify the disease. Apply chlorothalonil or Bordeaux mixture when new shoots are one-half to 2 inches long in May and repeat every 3 to 4 weeks if frequent rains occur.

Sirococcus shoot blight kills young shoots of spruce so the tips of branches turn brown and needles drop off. In some cases, young shoots droop and appear wilted. If control is desired, apply chlorothalonil when new shoots are one-half to 2 inches long in May and every 3 to 4 weeks if frequent rains occur.

As with all plant problems, it is important to positively identify what is causing the issue before applying pesticides. Once the cause is known, and pesticide use is justified, determine when these products need to be applied to be effective and to reduce the risk of pest resistance.

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The best time to prune roses is in April just before new growth begins but after the risk of a hard killing freeze. In Nebraska, this is typically in mid to late April. When pruning shrub roses, first remove all dead canes or dead portions of canes. This makes room for new growth and removes diseased canes on which fungi may be overwintering. Dead canes will be dark brown or black in color. Use sharp pruning shears and make cuts at a 45-degree angle about one quarter of an inch above healthy buds. Select outward facing buds when pruning. This helps keep the rose more open, allowing more sunlight into the shrub for increased flowering; and it improves air circulation through the plant to reduce disease infections. After a harsh winter, removal of dead wood may be all that is needed when pruning shrub roses. After a mild winter, pruning more than dead wood can be done to shape the plant and control size.

Potato planting time is about to arrive, typically mid to late April and into early May. Be sure to buy seed potatoes rather than using potatoes sold for cooking. Seed potatoes are certified disease free and have plenty of starch to sprout as soon as soil temperatures reach 45 degrees Fahrenheit or higher. Most seed potatoes are cut into four pieces, each about two inches by two inches to insure enough energy for sprouting. Cut seed potatoes two to three days before planting; then store cut pieces in a warm location to allow fresh cut surfaces to form a protective coating. Plant seed pieces two to three inches deep in rows or hills. As potatoes grow, pull soil up around the base of plants. This is called hilling and is done because potato tubers are produced above seed pieces, and hilling prevents sunlight from hitting new potatoes causing them to turn green and develop solanine which is associated with poisoning.

If a new rhubarb plant was planted last year; or an older plant was divided and transplanted, something that should be done about every five to 10 years with rhubarb; these plants should not be harvested this spring to allow the plant to recover from planting, or dividing and transplanting. If this will be the second spring since planting or transplanting, it is best to only harvest a few stalks; again to allow the plant to continue to develop roots and build up energy reserves. The harvest season for plants that are three years or older usually lasts about 8 weeks. Harvest the largest and best stalks by pulling them slightly to the side so they break away from the plant. Do not harvest more than one-third of rhubarb leaf stalks at one time. The plant needs the foliage to continue to photosynthesize and produce food for growth. Don't forget the leaves are poisonous so discard these in the compost pile.

Strawberries should be covered during winter with a protective mulch layer, like straw. A common question asked is when the best time is to remove winter mulch in spring. The answer has been to leave winter mulch in place as long as possible to delay strawberry from growing too early and being at risk of frost injury. It is recommended to remove mulch as soon as new growth begins. New research in Illinois has shown straw mulch should be removed from strawberry plants once soil temperatures are about 40 degrees Fahrenheit. The research showed fruit production drops if mulch remains on plants as soil temperature increases. Since there are likely to be freezing temperatures that will injure or kill blossoms

at this point, it is still important to keep mulch between rows or beds so strawberry plants can be recovered whenever freezing temperatures are predicted. Source: Ward Upham, Kansas State University

As spring-flowering bulbs, like daffodils, begin to bloom, here are some care tips to keep in mind. If followed, these practices help keep spring flowering bulbs blooming for a number of years. If you have time, remove spent flowers as each blossom fades. This allows the plant to conserve energy for next year's blooming rather than using energy to produce seed. Once blooming is finished, remove spent flowers but do not cut back green leaves. Allow foliage to die naturally before removing it. The foliage, while not ornamental, is needed to manufacture food to be stored in the bulb for next year's flowers.

Finally, don't fertilize during or after flowering. The roots of spring flowering bulbs begin to shut down after blooming. Fertilizer applied at this time is wasted. Instead, fertilize during fall at the time bulbs are normally planted, then again in spring just as new growth appears.