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### Purple Leaves and Twisted Leaves

By: Kelly Feehan, Extension Educator

Release: Week of May 24, 2021

Do your tomato or other plant leaves appear purplish? Maybe just the veins are purple or a large portion of the leaves have a purple tint.

Purpling of leaves is often due to a phosphorous deficiency caused by cold soils. Our soils are abundant in phosphorous; however tomatoes and other plants have difficulty taking up phosphorous in cold soil.

Ideal soil temperatures for tomato planting are 60 degrees Fahrenheit. Soil temperatures in our area only reached this level recently. If tomatoes have been planted longer than a week, and are showing leaf purpling, this is likely the cause.

Plants deficient in phosphorous can lose vigor and yield poorly in the long run. Time will tell how well affected tomatoes perform this year.

The best way to avoid this is not to plant warm season vegetables like tomatoes, peppers, vine crops and sweet corn until soil temperatures have warmed to about 60 degrees and the danger of frost has passed.

The average frost free date in our area is May 9. Note this is the average date. We can still have frost after this time, but on average we do not.

Another issue we are seeing is curled or twisted plant leaves. This is often herbicide injury. During spring, when new growth is tender and herbicides are being applied for broadleaf weeds, like dandelions, we receive a number of herbicide injury questions.

The leaves can appear leathery and have very distorted growth. In some cases, depending on the type of herbicide, leaves can also turn white.

To help confirm the cause of distorted growth, check other types of plants in the vicinity. If some of them also have leaf or leaf vein distortion, herbicide drift is most likely the cause. With herbicide drift injury, new growth will appear normal as it emerges.

If no other plant types in the area shows signs of leaf distortion, and new growth continues to be affected; then a virus disease might be the cause. There is no control for viral diseases in plants and infected plants are best destroyed.

At this time of year, herbicide drift is often the cause and it can occur from a fairly long distance when conditions are right.

Drift occurs as particle or vapor. Particle drift happens when small spray droplets travel off-site during periods of high wind and droplets are blown away from the targeted site. To avoid this, use larger spray droplets with low pressure, and apply herbicides only when wind speed is low.

Vapor drift occurs when products volatilize or evaporate and move off site. The volatility of some products increases as temperatures rise into the upper 80s and 90s. Herbicide labels provide information on when it is not safe to apply a product based on temperature or other conditions.

The highest potential for drift is when it is hot and dry; and of course windy. To avoid pesticide drift, always read and follow all label directions. And if edible plants are affected by herbicide, we cannot say they are safe to eat.

21 May 24 PSAs ([kfeehan2@unl.edu](mailto:kfeehan2@unl.edu); 402-564-4901)

Do your tomato leaves look purplish? Maybe just the veins are purple or a large portion of the leaves have a purple tint. Purpling of plant leaves is often due to a phosphorous deficiency caused by cold soils. Our soils are abundant in phosphorous; however, tomatoes and other plants have difficulty taking up phosphorous from cold soil. Ideal soil temperatures for tomato planting are 60 degrees F. Soil temperatures in our area only reached this in the last week. If tomatoes have been planted longer than a week, and are showing leaf purpling, this is the cause. Plants deficient in phosphorous can lose vigor and yield poorly in the long run. The best way to avoid this is not to plant vegetables,

especially warm season crops, until soil temperatures have warmed to about 60 degrees, and the danger of frost is past; which is usually around May 9 in our area. Time will tell how well these tomatoes perform this year.

Why does my potato or tomato or whatever type of plant have curling and twisting leaves? In most cases this is herbicide injury. During spring, when new growth is tender and herbicides are being applied for broadleaf weeds, we receive a number of herbicide injury questions. The leaves can appear leathery and have very distorted growth. To help confirm the cause, check other plants in the vicinity. If any other plants also have leaf or leaf vein distortion, herbicide drift is the cause. With herbicide drift injury, new growth on the plant will appear normal. If no other plants in the area show signs of injury, and the new growth continues to be distorted; then a virus disease might be the cause. At this time of year, herbicide drift is often the cause and drift can occur from a fairly long distance when conditions are right. If edible plants are affected by herbicide, we cannot say that they are safe to eat.

Boxwood shrubs have turned brown across the state. The browning is winter dessication. The problem is planting the wrong plant in the location. Boxwood needs a fairly shady site protected from wind, and need adequate moisture all season, without overwatering. Boxwood are evergreens and their leaves remain green all winter; continuing to lose water all season. In cold soils, lost water cannot be replaced and leaf and stem tissue dries out with leaves turning brown in spring. Wait until June to see if boxwood produces new growth. If so, it might slowly recover, but is likely to have the same issue most years. If a plant or branch has no new growth by June, it will need to be removed. The best way to reduce winter dessication in boxwood is to only plant them in protected locations and provide adequate water throughout summer and fall. Avoid overwatering and avoid any pruning or fertilization after mid-July.

Iris have been blooming and with all of the rain, weedy grasses have been invading Iris beds. If hand-pulling weedy grasses is not an option, there are herbicides that can be applied to weedy grasses that will not harm Iris; as long as label directions for mixing and applying the herbicide are followed. The two herbicides are Sethoxydim, sold as "Over the Top" grass killer or Vantage; and Fusilade found in products like Grass Be Gone. These will control annual weed grasses and some perennial weed grasses. Even though they are labeled for use in beds of actively growing Iris, it is still wise to direct most of the spray onto the weedy grasses and avoid Iris leaves when possible. Follow all label directions for mixing and for what the weather conditions should be during application. Applying herbicides during hot temperatures can result in injury to desirable plants as well as the weeds.

Many new plants, from annuals to perennials, trees and shrubs, are spring planted. When we plant something new, we know moisture is needed for plants to establish roots, and to prevent wilting in plants with unestablished roots. The other thing new plants need in soil, besides nutrients, is oxygen. Without soil oxygen, roots will not grow or function, and can rot. This is why all plants need a well-drained, moist soil; and it is important not to overwater, or to water too frequently so soil ends up remaining continuously saturated. More young plants are killed or stressed by overwatering than you might think, especially in home landscapes. Do not water a plant without first checking the soil around the plant to see if it is dry or beginning to dry out. When watering, water just enough to moisten the soil about six to 8 inches deep; then don't water again until the soil begins to dry to allow for oxygen recharge of soil.