

Fall Facts about Trees

What Causes Leaves to change colour in the fall?

We all enjoy the beautiful colour that trees bring this time of year. Bright yellows and reds blended with the already present greens makes a walk along a forest trail a very pleasant experience, but what causes trees to display these colours?

During the summer months leaves are green due to a group of pigments known as chlorophyll. Chlorophyll is essential component because it is used in the trees' food-making process. The leaves use sunlight captured from the sun to turn water, absorbed by the roots, and carbon dioxide from the air into glucose. Glucose is a kind of sugar that is used as food for energy and growing. Excess glucose manufactured by the tree is turned into starch and stored until needed. During this process chlorophylls are continually breaking down and being used up. Trees constantly replenish the chlorophyll that is used and as long as they keep this up, leaves stay green.

As days grow shorter and the weather grows colder trees begin replacing chlorophylls at a much slower rate. Eventually the flow of water and minerals is cut off, leaving glucose and waste products trapped in the leaf. As the supply of chlorophyll disappears, other pigments that were present in the leaf during the growing season suddenly become visible. Such pigments include carotene which causes the orange colours, xanthophyll, which cause the yellows and anthocyanins, are responsible for the reds and purples.

As summer ends and winter approaches we can relax our eyes to the beautiful scenery that trees have provided us, as they prepare for the winter months.

Have you winterized your trees yet?

Winter can be a harsh and cruel environment for many plants to survive in. Trees must stand alone in every condition winter can generate. What can be done to prepare your trees for the winter? A few small investments now can bring big results in the spring. Here is a list of things that you can do to winterize your trees.

Properly prune branches that are dead, dying or rubbing, causing wounding on the tree.

Properly prune limbs that may touch the ground when loaded with rain, ice or snow. Excessive loading on branches can break or damage limbs severely. Proper thinning can help to reduce this risk.

Spread a thin layer of mulch to blanket the soil. Cover an area as large as the branch spread. Mulch can help protect roots during the winter and put back valuable nutrients back into the soil during the growing season.

Test the soil around your trees for available nutrients. If the soil is lacking in certain nutrients, fertilize the soil with

the proper amounts. Over fertilizing can cause more harm than good so make sure you know how much is needed.

Trees can be one of the most valuable assets to your property.

They are an investment that requires a small amount of care so take the time to winterize your trees. The time you spend now will show in the spring.

What Causes Leaves to Fall?

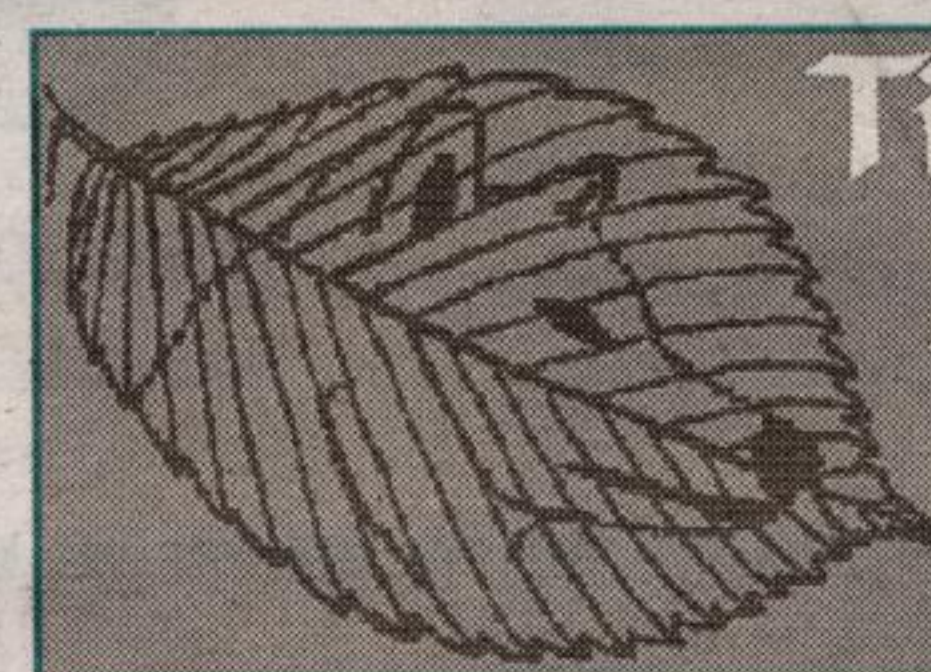
As leaves turn colour and winter approaches we can usually expect to spend some time raking up the leaves in our yard, but what causes this?

Trees begin preparing for fall as soon as they leaf-out in the spring. At the base of each leaf is a layer of cells called the "abscission" or separation layer, which is formed as soon as the leaves are fully formed in the spring. During the summer small tubes, which pass through this layer, carry water into the leaf and food back into the tree. As fall approaches the bottom cells in the separation layer begin to swell and form a cork-like material. This creates a seal between the leaf and the tree and causes the flow of water and food to be cut off. Without water, chlorophyll begins to disappear, leaving glucose and waste products trapped in the leaves.

As the days grow colder frost eventually appears on the landscape and on the leaves. When temperatures get cold enough and the air gets dryer, early morning dew turns to frost. When this happens, the top of the separation layer freezes, killing any remaining cells and forming a tear-line. After this, the leaf has nothing to hold itself to the tree and eventually falls to the ground. This is why tree can suddenly lose all of its leaves in a matter of hours with no wind or rain to help it along.

What do Bananas and Tree Leaves have in Common?

Unripe Bananas contain a pigment called chlorophyll, the very same pigment that gives leaves their colour. As Bananas ripen the chlorophyll breaks down and disappears revealing the yellow colour. The yellow pigment was there all along, you just couldn't see it because the green colour produced by the chlorophyll was masking it. The same thing happens to tree leaves as they change colour.



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