



Pine Tree - Fall Needle Drop

Every September and October we receive many calls from gardeners concerned about both the lower and inner needles, of their spruce and pine trees turning yellow and brown. Fall needle drop is a natural condition and is not necessarily a sign of a problem. If entire branches, or needles at the tips of branches are dying, then you may need to investigate further. **Do not be alarmed if your pine trees, yews, junipers, and arborvitae plants shed their innermost needles.**

Fall needle drop is natural and happens every fall: the oldest (inside) needles will turn yellow and then drop off the branch. More needles will turn yellow and drop off a plant after a stressful summer than after a normal summer. Don't be too surprised if a lot of needles turn yellow and drop off your plants in the fall because of hot, dry, summer weather. **Don't be too concerned, Fall Needle Drop is just a natural part of gardening.**



Photo Credit: MissouriBotanicalGarden-org-Normal765.jpg



When the needles on a pine tree turn yellow, the first reaction is that the tree has a disease or an insect problem.

Contrary to the name 'evergreen', pine trees do not keep their needles indefinitely. Pine trees only keep an individual needle for two or three years. After that time period, the tree stops feeding the old needles. The needles die in the fall, turn yellow or brown, and drop off the tree. That is why the older pine trees are always bare in their center, and why homeowners are always upset with the needles making a mess on the ground around their trees.



Every spring, a pine tree grows a new set of needles. Every fall, the pine tree sheds its oldest set of needles. Some years a pine tree may shed two sets of old needles, making the fall needle drop even more apparent.

Needle drop in newly planted trees, and in trees under stress, is more noticeable than in the older and larger trees. However, all pine trees (Austrian Pine, Scotch Pine, Mugho Pine, Blue Spruce, Alberta Spruce, Junipers, Cedars, Cypress, and Yews), lose their oldest needles each fall: even the healthy trees.



Photo Credit: Forestry-OhioN-gov-pine_wt_of_fg.jpg

Natural needle drop occurs only on the inner needles; if entire branches, or needles at the tips of branches are dying, then something else is wrong.

Broadleaf Evergreens

Broadleaf evergreen plants also drop their oldest set of leaves. However, most broadleaf evergreens shed their old leaves in the spring, as soon as the plant produces new leaves.

Leaf drop in the spring doesn't seem to be as noticeable as **needle drop** in the fall. Broadleaf evergreen plants, just like pine trees, do not keep their leaves indefinitely. They



only keep individual leaves for one or two years before they shed them. Boxwood, euonymus, holly, rhododendron, and laurels are just a few of the broadleaf evergreens.



Photo Credit: Forestry-US-Health02-fall,needle,drop,Ogden11-3-06.jpg

Pine Tree Care

Pine trees do not need as much fertilizer, or water, as deciduous trees. In fact, if you fertilize a pine tree too much, or water it too often, you can make it grow too fast. The tree will not be the size and shape that it should be.

Many gardeners wonder why their dwarf mugho pine, the one that is only supposed to grow 2' to 4' tall, is six feet tall. It is not because it is the wrong shrub. It is usually because the plant got stimulated to grow faster than it was supposed to grow.

Fertilize new pine trees once a year, until the tree is two or three years old. The best type of fertilizer for pine trees, even better than fertilizer stakes, is a slow releasing fertilizer such as **Dr. Earth All-Purpose Fertilizer**. Slow releasing fertilizers do not stimulate excessive growth as readily as fast acting fertilizers can. Dr. Earth fertilizers also contain many beneficial bacteria that help tree roots to overcome stressful soil conditions and help the tree to grow properly.



After the pine tree has been planted for two or three years, look at the new growth. If the tree is growing the rate it should be, do not fertilize it. Also, if your pine tree is in the lawn, take into consideration the amount of fertilizer you are giving it each time you fertilize your lawn.

After the first two or three years, the only fertilizer that a pine tree may



need is iron. You can give iron to trees any time of year, spring, summer, or fall. Extra iron will not over stimulate trees, it just helps the tree to overcome stress and helps the tree to maintain its proper color.



Do not fertilize deciduous trees and shrubs in the fall. However, if you have a pine tree, or a spruce tree, that appears to be under stress, go ahead and fertilize it with a tree or shrub fertilizer that contains iron, such as **Dr. Earth All Purpose Fertilizer**. Fall fertilizer does not stimulate new fall growth, or harm pine trees, the same way it can stimulate new fall growth and damage deciduous plants.

Be sure to water your pine trees occasionally during the fall, at least until the snow begins to fall. Evergreen plants and trees need a little more water, and a little more attention, than deciduous plants in the fall and winter.

Be Patient

Each species of evergreen tends to keep its needles for a defined length of time. Austrian and Scotch pine usually retain needles for three years. Mugho and Bosnian pine will often retain green needles for four years, before the needles turn yellow and drop off.



Spruce trees generally hold onto their needles longer than pine trees do, approximately 5 to 7 years.



Arborvitae needles usually turn brown, instead of yellow, as they age. Arborvitae hold their needles much longer than pine trees.

Yew needles turn yellow and drop in the late spring or early summer, instead of fall. They usually drop third-year needles, unless they are stressed.



There are a few types of conifers that shed all their needles - every year. These deciduous conifers include larch, bald cypress, and dawn redwood. These trees are unusual enough that some people remove these trees, mistakenly thinking that they are dead.

There is no way to control or reduce natural needle drop in any evergreen plant. You can prevent excessive needle drop by keeping evergreens healthy, and by following good cultural practices. It is a good practice to water evergreen plants thoroughly in the fall, just before going into the winter.

Ways to help Prevent Excessive Needle Drop

(1) Don't let the soil dry out. Water your plants deeply once or twice a month during the hot summer weather. Lawn water does not always penetrate deep enough in the soil for all the roots. **Be Careful: Too much water can be just as bad for pine trees as drought.**



Water your plants occasionally during the fall. Don't keep your plants too wet in the fall, just keep them moist until the ground freezes. A plant that freezes with moist roots

will be much healthier than a plant that freezes with dry roots. Evergreen plants need more water than deciduous plants at this time of the year. Try shoveling snow from other areas of the yard to water any dry plants.

(2) Put mulch around the base of your plants to help insulate the soil from hard frosts. Mulch also helps to keep moisture in the soil. Wait until the ground freezes before mulching your plants with **Black Forest, Soil Pep, Bumper**



Crop, leaves, or bark. If you wait until the ground freezes, your plants will be able to go dormant naturally, helping prepare them for winter. Do not use grass clippings because they may cause fungal or disease problems. Apply one or two inches of mulch around hardy plants. You may need to add six to eight inches of mulch around your tender plants.

Newly planted shrubs need more protection than your older shrubs.

(3) Spray your plants with Wilt Pruf.

Wilt Pruf is an anti-desiccant. Wilt Pruf seals moisture inside the plants and it stops evaporation from the leaves. Wilt pruf is not poisonous and will not harm animals. Spray Wilt Pruf when the temperature is above 40 degrees and will stay above freezing until the spray dries, usually one to two hours. Wilt Pruf is good to use on all plants, especially on 'Broad-leaved Evergreens' and all newly planted shrubs. Wilt Pruf is also great to spray on your Christmas trees to help prevent them from drying out so quickly. Wilt Pruf can also be used during the spring or summer to help plants from dehydrating in the hot weather.



Moving Trees and Shrubs In The Fall

Fall is the best time to move plants. Transplant deciduous plants when they are dormant; after they drop their leaves. Pine trees and shrubs can be transplanted a little earlier than deciduous plants; but it is still a good rule of thumb to wait until leaves drop off surrounding deciduous plants before moving pine trees. Make sure the newly transplanted trees are watered regularly until snowfall, and are watered occasionally during a dry winter.



More Resources:

- <http://utahpests.usu.edu/ipm/htm/ornamentals/landscape-insects-and-diseases/needle-drop/>
- <http://forestry.usu.edu/htm/city-and-town/tree-care/my-pine-tree-is-losing-its-needles>
- <http://www.mortonarb.org/trees-plants/tree-and-plant-advice/horticulture-care/seasonal-needle-drop>
- <https://www1.maine.gov/dacf/php/gotpests/diseases/factsheets/natural-needle-drop-ill.pdf>



"Fall needle drop is a natural condition and is not a sign of disease or insect infestation. However, any factor that increases stress on evergreen trees will intensify the autumn needle drop. Stress factors include drought, (Too Much Water can be as bad for a pine tree as not enough water) Herbicide injury, Root damage, and Insect or Disease damage."

University Of Nebraska-natural-needle-drop