TAKE ONE

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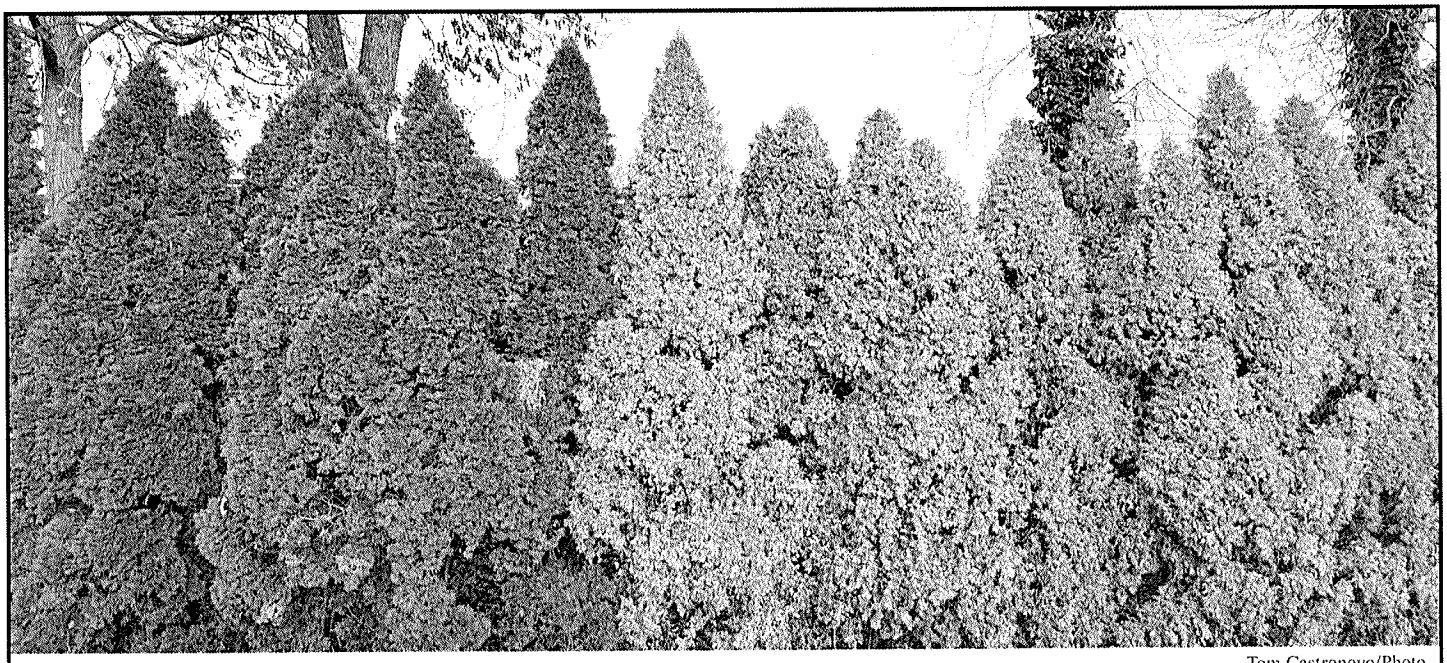
What Happened to the Arborvitae?



Tom Castronovo/Photo

Alive and Dead Arborvitae Screening a Parking Lot and a Residential Neighborhood in Garfield, Bergen County, New Jersey.

By Tom Castronovo
Executive Editor/Publisher
Gardener News

The heat and drought of summer 2022 were brutal to many plants in our landscapes.

Arborvitae, (genus *Thuja*), (Latin: "tree of life"), is one of the more popular screening evergreen plants that recently suffered from exposure to harsh summer weather conditions. Late last fall, I knew that a lot of them were in trouble.

Drought conditions often cause arborvitae to turn brown. Last summer, dry soil and intense heat from the sun contributed heavily to the browning and eventual death of many arborvitae. As the 2022-2023 winter months started to settle in, brown and dead arborvitae began showing up all over the Garden State.

Last summer, the rate of transpiration for arborvitae increased so that more moisture was exchanged with the atmosphere. If your arborvitae was not provided with sufficient water, they probably were unable to replenish the moisture drawn from their leaves into the hot air, resulting in their turning brown and eventually declining.

According to the Rutgers, NJ, Weather Network, the July 2022 heat was joined by quite limited precipitation, something not often seen in recent years. The statewide average temperature of 78.1° was 2.7° above the 1991–2020 normal, ranking 6th warmest since records commenced in 1895. Eight of the ten warmest Julys have occurred since 2010, leaving only 1955 and 1999 as top ten outliers. The statewide average maximum was 88.6° (+2.9°, 6th warmest) and the minimum 67.5° (+2.4°, 4th warmest). Northern counties averaged 75.9° (+2.2°, 9th warmest), southern counties 79.5° (+3.0°, 3rd warmest), and coastal areas 78.8° (+2.6°, tied as 4th warmest).

Statewide July precipitation averaged 2.19", which is 2.52" below normal, (Cont. on Page 21)

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ranking as the 13th driest on record.

The August average temperature of 77.4° was 3.8° above the 1991–2020 normal, ranking as the hottest on record. Eight of the ten warmest Augusts since 1895 have occurred since 2001. The average maximum of 88.5° was 4.7° above normal, the hottest on record, while the average minimum of 66.2° was 2.9° above normal, tied for 5th warmest. North Jersey averaged 75.7° (+3.8°, warmest on record), the south 78.4° (+3.8°, warmest on record), and the coast 77.9° (+3.2°, 3rd warmest).

I'm sure this contributed to the recent arborvitae decline. I remember several days over 100 degrees. It felt like I lived in a desert last summer.

Heat and drought are not the only offenders in arborvitae decline. Severe cold winds can also cause browning. If your arborvitae turned brown during the winter, freezing winds and freezing temperatures are often to blame. As temperatures drop and the ground freezes, the roots of the arborvitae freeze as well. It becomes difficult to take in water and more difficult for water to reach the higher parts of the tree, causing desiccation (dehydration). The top of the tree is still producing energy irrespective of not having access to enough water. This coupled with sunlight can cause parts of the tree to die. It's important to water arborvitae before the ground freezes so the roots are well-hydrated before freezing.

There are several other factors that can also result in your arborvitae turning brown. These include transplant shock and fungal disease.

If your arborvitae trees are freshly planted and yellowing, and browning or wilting at the tips, the most likely cause is transplant shock. Because these evergreens often lose many of their roots when dug up at the nursery, they will need time to grow out more and probably will continue to look somewhat unhappy until they do.

If your arborvitae is growing poorly, turning to reddish brown foliage, and seems to be dying, it could be root rot caused by soggy or saturated soil conditions. Let the soil line get a little dry between waterings. Arborvitae prefers well drained soil. If you have clay soil, you can also have your soil tested for water content. Susceptibility to phytophthora root rot is a common side effect of wet soils. The presence of soggy soil due to poor soil conditions or overwatering prevents roots from breathing. Fungal disease can spread to infect other plants.

Water in the mornings so the soil has time to dry out during the day. Also check to make sure you don't have a leaky water pipe or irrigation water nearby.

Arborvitae prefers soil that is slightly acidic to slightly alkaline within a pH range of 5 – 8. Arborvitae will not tolerate salt.

Tree crowding and exposure to pesticides, pollution, and weather weaken arborvitae. So, nobody really knows the true lifespan of arborvitae.

One of the best ways to determine if an arborvitae is dead is the scratch test. Just beneath the dry, outer layer of bark in a tree's trunk lies the cambium layer of bark. If its alive, this is soft and green; if its dead, this is brittle, brown and dry.

Arborvitae also like to be mulched with organic material, but without mulch volcanoes. Mulching mimics the natural environment found in forests where leaves and branches blanket the soil surface, replenishing nutrients as they decompose and creating an ideal environment for root growth.

According to the International Society of Arboriculture, mulching, when done correctly, is one of the most beneficial practices a homeowner or a property manager can do for the health of arborvitae.

If you have dead arborvitae on your property, I would consider visiting your local garden center or nursery, or contacting your landscape professional as soon as possible this season. I'm being told that arborvitae shortages are persisting in 2023 due to the demand, the expensive supply chain, and labor.

Editor's Note: Tom Castronovo is executive editor and publisher of **Gardener News.** *Tom's lifelong interest in gardening and passion for agriculture, environmental stewardship, gardening and landscaping, led to the founding of the* **Gardener News,** *which germinated in April 2003 and continues to bloom today. He is also dedicated to providing inspiration, and education to the agricultural, gardening, landscaping and nursery communities through this newspaper and GardenerNews.com.*