



Extension FactSheet

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Growing Rhododendrons and Azaleas in Ohio

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The elegance and beauty of azaleas and rhododendrons in bloom at the nursery have caused many an unsuspecting gardener to purchase these plants on impulse without knowledge of their cultural requirements. These plants are often planted in heavy Ohio clay soil, and the gardener is puzzled as the plants languish, dying branch by branch until they are only a shadow of their former beauty.

Rhododendrons and azaleas are referred to as “ericaceous” plants in the genus *Rhododendron*, of the family Ericaceae. It is possible to grow azaleas and rhododendrons successfully in Ohio, providing that their strict cultural requirements are met — well-drained, light, acid soil; ample moisture during the growing season; and protection from winter winds and early morning winter sun. In general, rhododendrons and azaleas have the same cultural requirements, but azaleas are somewhat less stringent and thus “easier to grow.” Deciduous azaleas are easier to grow than the evergreen types.

Site Selection

Rhododendrons and azaleas grow best in a sheltered site that is not windswept, and one that receives dappled sun in the summer with little or no early morning sun in the winter. Early morning winter sun tends to heat the leaves and buds, allowing water to transpire while the roots are in frozen soil and cannot supply water to the leaves. The result is desiccation, leading to browning of the leaves and death of flower buds.

The best sites for these plants are on the north side of a building, the east side, or last, the west side. The south side of a building should be avoided unless it is protected from winter sun. If not planted near a structure, the preferred sites are those protected by windbreaks, fences, or evergreens. Rhododendrons should not be planted under a building’s eaves where little or no rainfall wets the soil. It is also advisable to plant rhododendrons and azaleas in small groups rather than as individual specimens.



Various hybrids of large-leaved rhododendron in bloom.
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Soil Preparation

It is highly recommended that a soil test be performed before preparing the soil. The soil test will give a reading for the pH of the soil as well as nutrient levels. Recommendations are given to adjust pH and nutrients so the soil will be suitable for rhododendron culture. It is wise to retest the soil fairly frequently if pH adjustments are made.

Perhaps the most important requirement for the successful culture of rhododendrons and azaleas is soil preparation. The more time and effort spent preparing the soil prior to planting, the less time will be required caring for the plants in the years to come. It is best to prepare **beds** for rhododendrons and azaleas, rather than plant them in isolated holes with amended soil. However, this subject will be addressed later, as most rhododendrons and azaleas will be planted in this manner regardless of the recommendations!

The soil for these plants must be moist, well-drained, well-aerated, and have a pH of 4.5 to 5.5. Fifty percent of the planting medium should be organic material. Varying combinations of sphagnum peat moss, pine bark mulch, compost, and aged, chopped leaves should be worked into the soil to a depth of about 12". Pine bark is particularly good because substances in the pine bark are thought to inhibit fungi that cause root rot. The large amount of amendment added will raise the bed considerably, which will allow for good drainage and aeration of the soil. Inorganic materials that may also be added to soil include perlite, vermiculite, and Profile™.

If a soil test shows that the soil pH needs to be adjusted, follow the soil test recommendations. A general recommendation is to apply and incorporate agricultural sulfur into the bed at the rate of 2 pounds per 100 square feet of surface area to acidify the soil. *Do not* use aluminum sulfate to acidify the soil as the aluminum residue may be harmful to the plants. Beds should be prepared in the fall to allow ample time for the soil to settle and the sulfur to react before spring planting.

Individually prepared planting holes are not recommended, as they tend to form a "bathtub" effect and accumulate water that does not drain through the surrounding soil. If the gardener insists on planting azaleas and rhododendrons in this manner, and if the surrounding soil drains poorly, dig the hole 36" wide and 15" deep. Remove half of the native soil and incorporate an equal amount of organic matter and a handful of sulfur with the remaining soil. In the bottom of the hole, add a 3" layer of pea gravel or stones (not limestone) to facilitate drainage. Fill the hole with the soil mixture and water thoroughly to settle the soil.

As an alternative, raised beds built on top of the native soil to a depth of 12"–18" and held in place with timbers or stones are good for rhododendron culture. Raised beds require special attention to watering during the summer as they dry out faster than beds prepared at the original grade.

Although not a requirement, a cup of alfalfa meal added to the planting hole at the time of planting may be beneficial. Alfalfa contains a potent growth hormone that stimulates luxuriant growth in rhododendrons and azaleas. Alfalfa meal can be purchased at most feed stores.

Planting

Rhododendrons and azaleas at the nursery will be available in a container or balled-and-burlapped; the majority are grown in containers. The first step in planting is to be sure that the root ball is moist. A dry root ball will not absorb water after planting but will shed water to the surrounding soil. Soak the plants in a tub of water, container and all, until the plant sinks to the bottom and bubbles stop rising to the surface of the water. This will take from 5 to 15 minutes. After soaking, remove the container by placing your hand over the top of the root ball with the stem between your fingers. Invert the entire container and gently tap its rim against an object. If a thick mass of roots is present, score the root ball



Various hybrids of deciduous azaleas in bloom.
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vertically, about an inch deep in three or four locations around the root ball. Then gently loosen the roots with your fingers.

If the plant is balled-and-burlapped, it may be wise to water the root ball well the day before planting to avoid breaking it when removing the burlap. Once the plant is situated in the planting hole, remove the burlap entirely since the roots of these plants are fine and delicate, and do not grow through the burlap as easily as other types of plants.

Dig a hole in the prepared bed and place the plant in the hole so that 1" to 1-1/2" of the root ball is *above* the soil line. This is important since more rhododendrons are killed by planting too deeply than for any other reason. Gently firm the soil around the roots in the hole. *Do not* use your foot to tamp the soil. Place a 2" layer of pine bark mini-nuggets or hardwood mulch around the portion of the root ball that is above the soil line, being careful not to pile the mulch around the stem of the plant. Water the plant well.

Note: Do **not** use peat moss as a mulch for any plants. When it dries, it sheds water like a duck's feathers and is difficult to rehydrate. To avoid compacting the soil, do not walk in the beds after planting and mulching rhododendrons and azaleas.

Watering

Rhododendrons and azaleas are damaged by waterlogged soil; however, they are shallow-rooted and dry out faster during the summer than most plants. At least one inch of water per week is needed in the form of rain or irrigation. A rain gauge is necessary to determine the amount of rain that has fallen. During droughts, more frequent watering will be necessary. The first sign of water deficiency is a slight curling or twisting of the leaves. It is at this stage that the plants must be watered. The next stage is actual wilting, which stresses the plant, making it more susceptible to stem dieback fungi. If in doubt whether to water or not, simply use your finger to feel the soil. If the top inch of soil



Small-leaf rhododendron, 'Pioneer Silvery Pink.'
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Large-leaved rhododendron, R yakushmanum Hybrid.
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feels dry, it is a sure sign that the plant needs water. Or use biological indicator plants installed nearby, such as impatiens or coleus; as they wilt, water is needed. Drip irrigation systems are ideal for this group of plants, as well as most other plants.

It is imperative that rhododendrons, azaleas, and other evergreens have sufficient water before the soil freezes in the winter. Because they are evergreen, during the winter they lose water through the leaves that cannot be replaced when the soil is frozen. If sufficient rain has not occurred in late November, by Thanksgiving, water the plants well.

Fertilizing

Rhododendrons and azaleas benefit from an annual fertilization. Apply the fertilizer either in late autumn after a hard freeze has occurred, or in the early spring. Regardless of the type of fertilizer used, no fertilizer should be applied after the first week in June. Fertilizer applied after this date may spur late season growth that does not have sufficient time to harden before freezing temperatures occur in the fall, and late growth will likely be burned or killed.

The fertilizer of choice is one that is specifically formulated for acid-loving plants. These fertilizers contain nitrogen in the ammonium or urea form that help to acidify the soil. Most ericaceous plants do not thrive with fertilizers containing nitrogen in the nitrate form. Soluble fertilizers formulated for acid-loving plants may also be used on rhododendrons and azaleas. Cottonseed meal is an organic fertilizer that has an acidic reaction and may also be used on ericaceous plants. Always apply fertilizer according to the label directions.

Phosphorous is important for bud formation in young rhododendrons. If a soil test indicates the need for phosphorous, it is best incorporated into the soil at planting time as superphosphate or triple superphosphate. Phosphorous does not easily move down or through the soil from surface applications.

Iron chlorosis (yellowing of the leaves) occurs in ericaceous plants when the soil is not maintained at an acid pH. Chelated iron may be applied as a "quick fix." Products such as Sequestrene™ or Greenol™ supply iron in the chelated form. This is *only* a quick fix, and annual applications of agricultural sulfur to acidify the soil to a pH level below 6.0 is less expensive and longer lasting.

Maintenance

If the previous instructions are followed, maintenance of the bed should be minimal. No cultivation of the soil should be performed around rhododendrons and azaleas. Weeds should be pulled or cut off at the base. Maintaining a 2" layer of mulch is necessary and should also suppress weeds. Ideally, the mulch should decay readily, such as pine bark or hardwood, as rhododendrons will send roots into the decayed mulch, which is rich in humus. Note that cypress mulch does not decay readily. If needed, apply sulfur annually in the spring to maintain soil acidity below a pH of 6.0. Fertilize annually and water during the summer.

Deadheading is necessary for the large leaf rhododendrons and deciduous azaleas, to remove the withered flower trusses after they have finished blooming. This improves the appearance of the shrub and will direct energy to the production of more flower buds for the next blooming season.

Plant Selection

Select plants that are hardy to USDA Zone 5 for roughly the northern half of Ohio, and those hardy to Zone 6 for the southern half of Ohio. These plants may have American Rhododendron Society hardiness ratings on the label of H1 or H2. H1 plants are hardy to -25°F, and H2 plants are hardy to -15°F. Make sure you select a plant hardy to your zone.

Rhododendrons are divided into two groups — large leaf and small leaf, while azaleas are divided into evergreen and deciduous.

ous. The best large leaf rhododendron for ease of culture and excellent growing habit in Ohio is ‘Roseum Elegans’ or related cultivars, which include ‘Roseum Pink,’ ‘English Roseum,’ or ‘Roseum Superbum.’ Others that do well in Ohio are:

Small Leaf Types

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| ‘PJM’ | Bluish purple flowers; blooms early and can be damaged by late frosts. |
| ‘Olga’ | Pink flowers; blooms slightly later than ‘PJM’ and usually escapes late frost damage. |

Large Leaf Types

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| ‘Catawbiense Album’ | White flowers; very hardy and vigorous. |
| ‘Catawbiense Boursault’ | Lilac flowers; good sturdy habit. |
| ‘Cunningham’s White’ | White flowers; compact plant; good foliage. |
| ‘Firestorm’ | Red flowers; very hardy but probably not available locally, mail order only. |
| ‘Scintillation’ | Pink flowers; blooms with a bronze throat; sometimes available locally. |
| <i>R. yakushimanum</i> ‘Ken Janek’ | Pink to white flowers; <i>excellent</i> ; sometimes available locally. |
| ‘Yaku Princess’ | Apple blossom pink spotted green. |

Note: ‘Nova Zembla’ is a red hybrid sold extensively in much of Ohio, but it is **not** a good selection for the beginner. It is very susceptible to stem dieback, and impressive specimens of this rhododendron are rarely seen. ‘Caroline’ is a light lavender hybrid that is not sold locally but is worth the effort to find. It is the most resistant rhododendron to *Phytophthora* root rot and dieback diseases.

Evergreen Azaleas

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| ‘Red Red’ | Brilliant red flowers; very hardy; medium height. |
| ‘White Cascade’ | White flowers; low growing and very hardy. |
| ‘Delaware Valley White’ | White flowers and very hardy. |
| ‘Boudoir’ | Watermelon pink flowers; tall growing; very hardy. |
| Most Girard hybrids | i.e., ‘Girard Rose,’ ‘Girard Fuchsia,’ etc. |



Large-leaved rhododendron, ‘Calsap.’
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Evergreen azalea, ‘Red Red.’
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Deciduous Azaleas

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| ‘Girard Crimson Tide’ | Large double red flowers; mildew resistant. |
| <i>Rhododendron viscosum</i> | White flowers; clove-like scent. |
| ‘Homebush’ | Double deep rose flowers; vigorous. |
| ‘Northern Hi-Lights’ | Bicolored, creamy white flowers with yellow upper petals; very hardy. |

Insects and Diseases

Among the insects and diseases that affect rhododendrons and azaleas, only a few are serious enough to mention. Rhododendron wilt (root rot) caused by the fungus *Phytophthora cinnamomi* is probably the most important. Planting high and providing adequate drainage are the keys to avoiding this disease.

Stem dieback affects the twigs and branches. Two fungi, *Phytophthora* and *Botryosphaeria*, are common causes of this problem. A canker develops and girdles the stem. Leaves and stems above the canker wilt and die while the rest of the plant looks normal. Diseased stems should be pruned well below the canker, and the pruning shears must be disinfected with rubbing alcohol (70%) before each cut is made. As mentioned earlier, water-stressed plants are more susceptible to this disease. Labeled fungicides may be helpful.

Powdery mildew is a problem on some deciduous azaleas. It can be controlled with fungicides, but it is better to select mildew-resistant cultivars such as 'Crimson tide,' 'Yellow Pom-Pom,' 'Northern Hi-Lights,' and the species *R. viscosum*. If ordering deciduous azaleas from a catalog, look for those specifically mentioning mildew resistance.

Root weevils, particularly the black vine weevil, are the major insect pests in Ohio. Adult weevils feed at night and cause small, irregular or semicircular notches on the leaf edges that give the leaf a jagged appearance. Damage to the leaves is not a serious

threat to the plants, but the larvae feeding on the roots and stems can cause reduced plant vigor and/or death. Orthene™ is a pesticide registered for weevil control.

Additional Recommended Sources of Information

The Fundamentals of Rhododendron and Azalea Culture. Published by the American Rhododendron Society.

The American Rhododendron Society Quarterly Journals, The American Rhododendron Society — may be available at some libraries.

Clark, J. Harold, *Getting Started with Rhododendrons and Azaleas*. Reprint ISBS, Timber Press, Portland, Ore., 1983.

Galle, Fred C. *Azaleas, Revised and Enlarged Edition*. Timber Press, Portland, Ore., 1987

Leach, David G., *Rhododendrons of the World*. Charles Scribner's Sons, New York, N. Y., 1961. Out of print but available at many libraries.

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