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Growing Turf under Shaded Conditions

While extremely challenging, it may be possible to maintain a good quality lawn under shaded conditions if the cultural requirements of the grass plants are understood and carefully accommodated. Trees have extensive root systems that enable them to take up huge amounts of water and nutrients. Dense leaves decrease light intensity and air circulation under trees. Disease is encouraged by the high relative humidity and extended dew periods present in shade. Competition for water, nutrients and light are some of the basic causes of turf failure under shaded conditions. Even the most shade tolerant grasses require a **minimum of four hours** of **direct** sunlight daily. **Do not attempt** to plant grass in any area that receives less than four hours of direct light. Use a shade tolerant ground cover or mulch to cover the soil instead. Contact Cooperative Extension at 845-429-7085 option 3 or www.rocklandcce.org for a list of appropriate plants.

Shade Tolerant Grasses

Fall planting is recommended over spring planting, since there is less competition from weeds in the fall. Use grasses that are somewhat shade-tolerant, such as a blend of fine fescue varieties. A tall fescue blend (coarse, wide-bladed grasses) may be used in dry, shady areas. Tall fescue is less shade tolerant than fine fescue, but more shade tolerant than bluegrass, which must be grown in full sun. Perennial ryegrasses, including improved varieties, will work as a temporary lawn in the shade. Grass in shade is usually fragile and will not stand much wear – keep foot traffic to a minimum. Be prepared to manage weeds to reduce the competition for water, light and nutrients.

Fertilizer

Lawns growing in shaded conditions require about half the nutrients as the same grasses in sunny areas. Soil fertility, especially nitrogen levels, influences the lawn's ability to resist pests. Old, established lawns may not require fertilization. Soil testing is the first step in determining fertilizer requirements of a lawn. Soil testing information may be obtained from Cornell Cooperative Extension.

Optimally, the soil pH (acidity level) should be maintained at a range of 6.0-7.0. Plant nutrients are available and beneficial microorganisms are most effective within this range. Modify the pH according to soil test recommendations.

Nitrogen (N) is needed in moderate amounts for a pest resistant lawn. Leaving grass clippings on the lawn may reduce these requirements by 30 percent. Phosphorous (P) and potassium (K) are present in adequate levels in most soils in Rockland County and New York State. Additional phosphorus is likely to be carried by water runoff into bodies of water. In late fall, the risk of runoff and water pollution increases. New York State Law prohibits the application of lawn fertilizer containing phosphorous unless indicated by a soil test, or the application of any lawn fertilizer between December 1 and April 1. Fertilizer must be removed if it is spilled or lands on an impervious surface, and cannot be applied within 20 feet of surface water, with few exceptions.

Lawns should be fertilized in the fall, if indicated by a soil test, as most root growth and food storage occurs at this time. An application may be made once the weather has cooled enough to minimize fertilizer burn – around Labor Day, though you may apply fertilizer effectively through October. Slow release fertilizer sources such as natural organics will provide more uniform release of nitrogen. The lawn will be green for an extended period of time, and top growth won't be excessive. Some natural organic compost-based products will also suppress diseases.

Mowing

Proper mowing will discourage weeds and increase resistance to some pests. Mowing height will affect the depth of the root system – the shorter the mowing height, the shallower the root system will be. A lawn with a shallow root system will be more susceptible to drought injury and less tolerant of root feeding insects and root diseases than a well-rooted lawn.

Mow fine fescue lawns at three inches. Tall fescue lawns should be mowed at four inches. If your mower cannot be adjusted to four inches, set it at the highest possible setting. Mow at regular intervals. The rule of thumb is as follows: remove up to one third of the leaf tissue with each mowing. Scalping the lawn may shock it, making it more susceptible to stress.

Keep your mower blades sharp. Dull mowers leave wounds on grass blades that lose moisture and serve as a point of entry for diseases. Leaf spot is especially encouraged by dull mower injury. Check the blade after every eight to ten hours of use.

Watering

Most mature cool season lawn grasses have the capability to survive drought conditions by going into summer dormancy. While this is an effective means to survive, unless the lawn is healthy before this stressful period, summer dormancy may result in extensive injury from insects and diseases and encourage weed invasion. Remember, it is a vigorous, healthy lawn that can best resist pests.

Too much water applied at the wrong time could do more harm than good. A healthy, established lawn will survive the summer as long as it gets one-quarter inch of rain over a three week period, though it will be brown and dormant during this time. If the lawn receives an inch of rainfall weekly, it will continue to grow. As long as rain supplies this water, you do not need to add more. If there is not enough rain, you may water to add the remainder, for example, one-half inch of supplemental irrigation if there is only one-half inch of rainfall. Fescue lawns should not need to be watered after they are fully established.

The best time to water a lawn is in the early morning. Evaporation losses are low and the leaves dry off quickly. Do not water late in the day or at night – evening watering will increase leaf wetness and favor disease development.

Managing Trees

Plant new trees wisely, taking into consideration the number and density of the trees and the amount of shade they will cast as they mature. Use tree species that provide open shade rather than dense shade.

Prune tree branches without destroying the function and the beauty of the tree (no more than one-fourth to one-third of the branches in any given year). This alone may allow sufficient light to permit fair growth of grass. For tree health, it is best not to disturb roots. Wounding roots provides an entry for disease and rot organisms. Elimination of too many roots will cause branches to die back and may initiate the decline of the tree. If a few minor roots must be removed, these should not comprise more than 25 percent of the total root system. Do not remove large roots.

Remove leaves and other debris promptly by raking, sweeping or mechanically blowing them off the grass. Leaves allowed to accumulate will smother grass and provide favorable conditions for disease infestation. To avoid uprooting seedlings, remove leaves from newly seeded areas very carefully.

As a last resort, consider removing trees that are not an integral part of your landscape plan. Often, you must decide whether you want trees or grass.

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