

CREATING A SUSTAINABLE LANDSCAPE

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Sustainable landscapes aim to be multi-functional and require less maintenance than conventional landscapes. A well-functioning landscape requires fewer resources and less labor to maintain, and has a positive effect on the environment.

Creating a sustainable landscape is a work in progress and does not need to be completed all at once. Small changes in plant selection and management practices around the home can make a big impact.

SITE ASSESSMENT AND ANALYSIS

The creation of a sustainable landscape begins with a thorough evaluation of the home property. It is important to understand how the landscape site changes seasonally and over time. An honest appraisal will help to identify the most appropriate plant species as well as the necessary maintenance costs.

While a site analysis for sustainable landscapes is the same as in conventional landscapes, it differs in that the focus is to emphasize, understand, and work with the **existing** site conditions. A site evaluation begins with a **soil test** to understand the soil conditions and health, including pH (acidity or alkalinity), nutrient levels, and organic matter content of the soil. Applications for soil tests can be obtained through your local Cooperative Extension office.

Important observations include:

- How does the sun move throughout the day, season, and over the course of the year? Which areas receive full sun (6+ hours per day) and which areas receive part or full shade?
- Where are high and low points on the property that direct water to flow across the site? Are there spots that consistently stay very wet or very dry?
- What plant species are currently doing well (or poorly) on the site, and what does that tell you about the site conditions? Are there weeds or invasive plants that need to be removed? Are there native plants that can be protected? To learn more about invasive plants, visit www.invasive.org or <https://www.invasivespeciesinfo.gov>.
- What natural plant communities exist on or near the property? Plant communities include wooded areas, meadows, or other plant groupings. Could one or all be protected or enhanced by the design?
- Are beneficial or nuisance wildlife present that can be attracted or repelled by your plants? What entry points exist for undesired wildlife, such as deer or geese?
- What are the primary and secondary access points that affect traffic flow for people or vehicles?
- Where are the views with visual impact and focal points that direct the eye across the landscape? Are they where they should be?
- What buffers or visual screens exist to filter noise, block strong winds, or block undesirable views? Are more needed?

THE SOIL FOOD WEB

A healthy soil is the foundation of sustainable land care. Based on the results of the soil test taken during the assessment, steps to improve soil health should be made before any planting occurs. These steps will make all aspects of planting a sustainable, low maintenance area more successful. Improving the soil will help millions of beneficial soil microbes, such as fungi, bacteria, and nematodes, live in partnership with plants. Soil microbes help plants absorb nutrients and water from the soil and protect plants from diseases and insect pests. This complex interaction between plants and soil microbes is often referred to as the “soil food web”.

To improve the health of the soil:

- Test the soil every 2-3 years for fertility, pH, and organic matter content. Apply fertilizer and amendments as specified by test results.
- Reduce unnecessary or poorly timed applications of fertilizer and pesticides.
- Maintain records to document use of any amendments or other changes made.

- If the soil is heavily compacted, consider tillage to loosen the soil in either the landscape beds or surrounding lawn. Mechanical aeration of compacted lawns is best done when turf is actively growing.

OPTIONS FOR REMOVAL OF EXISTING PLANT MATERIAL

Removal of existing, unwanted plant material may require time, physical effort, patience and, at times, may be visually unappealing. Typically, areas with greater than 50% weed infestation may require total renovation, while areas with fewer weeds can be addressed differently. The decision to use or not use chemical products as a control option may affect the timing and length of the process. Use one of the following methods:

1. **Mechanical removal of undesired plants.** If the area to be renovated and planted is lawn, removal of weed infested or unwanted sod can be undercut and removed with a sod cutter, shovel or hand tool to a depth of 1 to 1.5 inches or deep enough to remove all turf roots.
2. **Smother existing vegetation with organic materials or black plastic.**
 - Organic materials can include newspaper (multiple layers thick), cardboard, plywood, or a 6 inch layer of aged wood chips. Cover newspaper or cardboard with 2-4 inches of weed free mulch or straw. Wait at least 3 months for the vegetation to die off, depending on the size and age of weeds. Remove the cover and rake the area with minimal disturbance to the soil. This method works well for a small to medium-sized area. It is inexpensive, controls erosion, adds organic matter to the soil, and minimizes site disturbance.
 - Black plastic can be used in small or medium-sized areas (less than a few thousand square feet) to kill plants. Best results occur if plastic is applied in late spring and kept in place for at least 2 months. Disposing of the plastic after this process may be problematic.
3. **Treat the existing vegetation or undesired lawn area with a non-selective herbicide (synthetic or organic),** such as Roundup, Scythe, or Burnout II, following label directions. A few days after treatment, as per label recommendations, the area can then be mowed very low to the ground and seeded directly, or the soil can be tilled and raked to create a uniform, smooth surface on which to plant or seed.



This area has been prepared with Roundup for a new seeding of low maintenance grasses and meadow plants.

TIPS TO ENSURE PLANTING SUCCESS

In a sustainable landscape, it is important to install the plant material at the correct time of year, in order to avoid excess watering and keep unwanted weeds away.

For lawns:

- Fall is the preferred time to establish a lawn. There is less annual weed competition, more available surface moisture and more favorable soil temperatures that support germination and growth.
- Newly seeded areas should be watered lightly multiple times a day until germination occurs. Once the majority of the seed in the new lawn area has germinated, watering can become less frequent and longer in duration.

For planting container perennials or trees:

- Dig a hole 2-3 times the width of the container and no deeper than the container's dimensions. The plant should be placed so that the top of the root zone is at the existing grade of the soil, not below.
- Scarify the sides of the dug hole to allow roots to more easily penetrate the soil.
- Use native soil from excavation to backfill holes, establishing a solid connection between the plant and the soil with few or no large air pockets.
- Remove any synthetic material, such as twine, metal or plastic attached to the plant.
- Water the plant every 1-2 days the first week, then continue to water 2-3 times for several weeks. Thereafter, water once a week or as needed for a full growing season to ensure successful establishment.