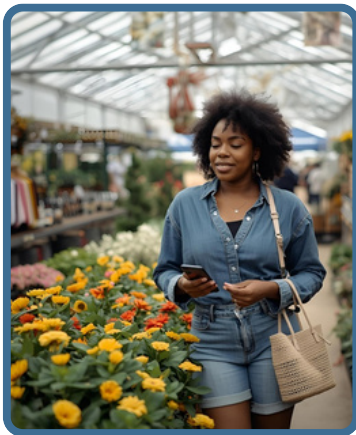




Taking on a home DIY (Do-It-Yourself) landscape conversion project is a challenging endeavor but one that will create benefits that can be enjoyed for years to come. By creating a waterwise, pollinator-friendly landscape, you'll enjoy the perks of lower water bills, less maintenance, and a beautiful backdrop full of color and seasonal interest. A native and waterwise plant garden attracts local wildlife, enhances biodiversity by supporting local fauna and flora, and contributes to the greater mountain environment.



Sifting through the mountains of information about how to best undertake a project can be a daunting task. There are myriad considerations—like choosing the right drought-resistant plants that will thrive in your specific climate and soil, designing or optimizing for an efficient irrigation system, or accounting for the maintenance needs once the project is complete. The transformation process itself can be time-consuming and labor-intensive, demanding dedication and patience. Despite these challenges, the rewards of a lush, sustainable garden that conserves resources are well worth the effort.

Through this guide, you can create a solid understanding of the fundamental principles of waterwise landscaping, empowering you to confidently embark on your own project. Our step-by-step guidance will help demystify the process, ensuring that you can create a sustainable and beautiful outdoor space. With practical tips and creative ideas, we hope to equip you with everything you need to transform your landscape into a thriving, eco-friendly haven.



Important Terms



Sheet Mulching: This eco-friendly technique involves covering the ground with layers of organic materials, such as cardboard or newspaper, followed by mulch, to suppress weeds, enhance soil fertility, and retain moisture.

Solarization: A non-chemical method of controlling soil-borne pests and weeds by trapping solar heat under clear plastic sheeting, thereby increasing soil temperatures to levels that kill or weaken these unwanted elements.

Chemical Removal: The use of herbicides to eliminate undesirable plants or weeds. It's crucial to follow safety guidelines and environmental considerations when using chemicals in landscaping.

Sod Stripping: The process of removing existing grass or sod to prepare the area for new landscaping. This can be done manually or with the help of a sod cutter for larger areas.

Soil Texture: Refers to the proportion of sand, silt, and clay in soil, affecting its drainage, nutrient availability, and structure. Understanding soil texture helps in selecting appropriate plants and amendments.

Soil Structure: Describes how soil particles are grouped together, influencing water movement, root penetration, and air circulation. Good soil structure is pivotal for healthy plant growth.

Soil Amendment: Materials added to soil to improve its physical properties, such as drainage, aeration, and nutrient content. Common amendments include compost, peat moss, and sand.

Organic Fertilizer: Derived from natural sources like compost, manure, or bone meal, organic fertilizers enrich the soil with nutrients while improving soil health and structure.

Inorganic Fertilizer: Manufactured chemicals that provide nutrients to plants. They offer precise nutrient ratios but can impact the environment if overused.

Planting Window: The optimal period for planting specific plants, considering factors like climate, soil conditions, and seasonal growth patterns, to ensure successful establishment and growth.

Meadowscape: A landscaping approach that incorporates native grasses and wildflowers to create a natural, low-maintenance meadow-like environment, promoting biodiversity and sustainability.

Establishment: the critical initial phase where newly installed plants, seeds, or transplants develop sufficient root systems to secure themselves in the soil, absorb water/nutrients, and survive independently without intensive, consistent care

Plan DIY Upgrades



Sections



Planning and executing DIY upgrades can be an exciting journey that transforms your outdoor space while allowing you to express your creativity. It begins with envisioning your desired outcome, researching ideas, and setting a realistic budget to guide your projects. By methodically breaking down tasks into manageable steps and acquiring the necessary materials and skills, you can tackle each upgrade efficiently.



This webinar will help you identify and prioritize turf replacement opportunities in your landscape and give you tools to plan out and execute a conversion project.

DIY Resources

- [Turf Removal](#)
- [Soil](#)
- [Planting Windows](#)
- [Retail Plant Selection](#)
- [Plant Like a Pro](#)
- [Nursery and Potting Soils](#)
- [Right Plant, Right Place](#)
- [How to Meadowscape](#)
- [Planting Timeline](#)
- [Plant Establishment](#)
- [Plant Selection](#)
- [Plant List](#)
- [Edible Gardening](#)
- [Mulching](#)
- [Using Rock Mulches](#)
- [How to Mulch](#)
- [Landscape Fabric](#)
- [Synthetics in the Landscape](#)
- [DIY Best Practices](#)

! **Irrigation is complex, and using a professional is recommended for many irrigation retrofits, depending on the scope and scale of the project.** Click here for a list of contractors to help you upgrade your system.

Turf Removal

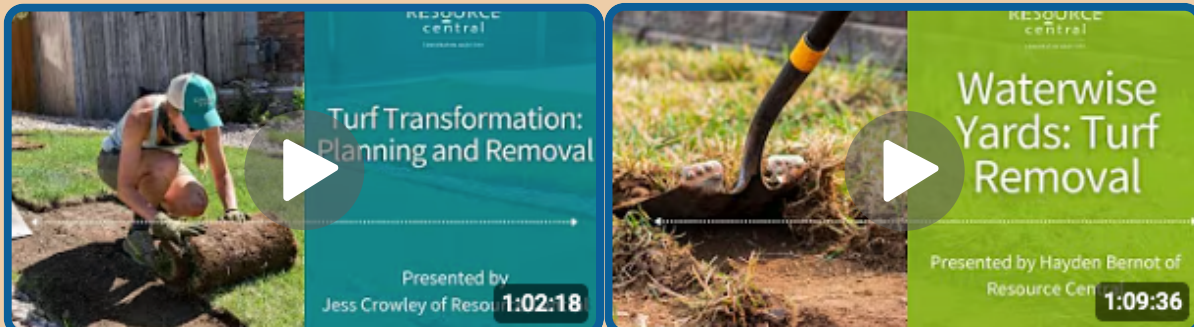


When its time to remove your turf, there are a handful of options. You can choose to do it yourself or hire a professional service, depending on your budget and the scale of the project. Below are a few methods to consider, and each method can be explored in more detail on the following pages.

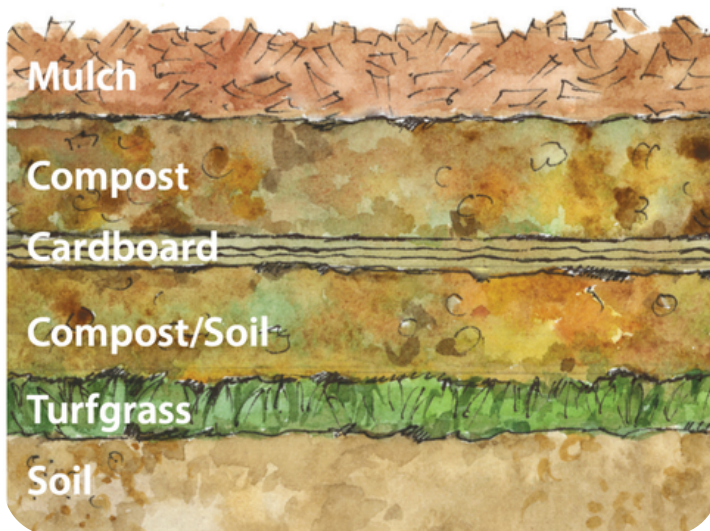
1. **Sheet Mulching:** Cover the area in layers of biodegradable materials to smother out the turf and make a rich soil to plant in. May not be the best method for native plants, which require leaner soils.
2. **Manual Removal/Sod Cutter:** Using a spade or shovel, you can dig up the grass by cutting it into manageable sections. Renting a sod cutter can make the job significantly easier and quicker. This machine slices the turf into strips, which can then be rolled up and removed. method is labor-intensive but effective for smaller areas.
3. **Solarization:** This environmentally friendly method involves covering the grass with clear plastic sheeting for several weeks. The heat trapped by the plastic will kill the grass underneath, making it easier to remove.
4. **Herbicides:** For those who prefer a chemical approach, applying a non-selective herbicide can kill the grass. Be sure to follow all safety instructions and consider the impact on the surrounding environment.
5. **Hire a Professional:** If you're dealing with a large area or prefer to leave it to the experts, hiring a landscaping professional could be the best route. They can assess the situation and recommend the most efficient method for your specific needs, potentially saving you time and effort.

Before starting any turf removal project, consider the end goal for your landscape. Whether you're planning a new garden, installing drought-tolerant plants, or creating a new outdoor space, choosing the right method for turf removal can set the foundation for a successful transformation.

Resource Central's Sustainable Landscaping Webinars



Sheet Mulching



Sheet mulching is a sustainable gardening technique that involves layering organic materials, such as cardboard, compost, and mulch, directly onto the ground over turf to suppress weeds and improve soil health. This method is particularly beneficial for smaller areas, as it requires minimal maintenance, while somewhat labor intensive initially. By decomposing over time, the layers enrich the soil, creating a nutrient-rich horizon ideal for planting.

This method takes longer, but builds robust soils. Steps to sheet mulch include:

1. Water the area thoroughly, and shave down any existing plants or grass.
2. Lay down a layer of untreated cardboard or newspaper, overlapping the edges a minimum of 6".
3. Spread a layer of green mulch, like grass clippings, to provide nitrogen. Top with brown mulch, like shredded bark or wood chips.
4. Continue layering with alternating green and brown mulch. Regularly water the area, especially during dry periods.
5. Wait (how long depends on the season) while the layers break down. The colder the temperature, the longer the decomposition takes.
6. After about 6 weeks of decomposition in the summer and 2+ months in the spring or fall the soil can be planted into. The longer you wait, the more likely the turf underneath won't come back up again.



Sod Stripping & Removal

Manual removal and sod stripping are two common methods for removing turf, each with its own set of advantages and disadvantages. Manual removal involves using tools like shovels and hoes to dig up turf, making it a labor-intensive but precise method. It allows for selective removal and is environmentally friendly, as it doesn't require chemicals or machinery. However, it can be time-consuming and physically demanding, especially for larger areas. On the other hand, sod stripping involves using a sod cutter to slice the turf away from the soil, which is faster and more efficient for large expanses of grass. While sod stripping minimizes the physical labor required, it is less suited for small or intricately landscaped areas.



These methods are relatively quick and effective, depending on the size of the area, but they require rigorous labor, heavy equipment, or both, and leave you with lots of material. Manual removal and sod stripping steps are as follows:

1. First, water your turf and cut it fairly short.
2. Cut overlapping strips of sod and roll them up, or grub them out bit by bit with a shovel.
3. For sod stripping, cut strips short enough to be moved easily.
4. Sod can be tossed, recycled, composted, or flipped over and covered with a deep layer of soil to prevent grass from regrowing.



Chemical Removal



Spray with a non-selective herbicide like glyphosate. This method is a relatively fast, cheap, and easy way to kill your lawn. It maintains the soil's structure and microbiology and leaves the organic content (dead grass and roots) in place to decompose. Because you are not disturbing the soil, weed seeds are not brought to the surface to germinate. You may need to apply the herbicide 2-3 times, 2-3 weeks apart. **ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS for safe application.**

Step-by-Step Process:

1. **Preparation:** Begin by reading the product label carefully to understand the specific instructions and safety precautions. Ensure you have the necessary protective gear, such as gloves, goggles, and a mask, to protect yourself from chemical exposure.
2. **Weather Considerations:** Choose a calm day for application to avoid the herbicide drifting to unintended areas. Ideally, apply the herbicide in dry conditions with no rain forecasted for at least 24 hours.
3. **Mixing:** If the herbicide is in a concentrated form, mix it with water according to the manufacturer's instructions. Use a clean sprayer dedicated to herbicide application to prevent cross-contamination.
4. **Application:** Evenly apply the herbicide over the turf you wish to eliminate. Use a consistent sweeping motion to ensure complete coverage. Be cautious around desirable plants, as non-selective herbicides will damage any vegetation they contact.
5. **Post-Application Care:** Allow the herbicide to work over several days. You may start seeing results within a week, depending on the product used and the turf type. Reapply if necessary, following the guidelines on the product label.



Do's:

- Wear protective clothing, including gloves, goggles, and long sleeves.
- Follow the manufacturer's instructions carefully.
- Do keep children and pets away from treated areas until the herbicide has dried.

Don'ts:

- Don't apply herbicides on windy days to avoid drift.
- Don't use more than the recommended amount, as this can harm the soil and surrounding environment.
- Don't dispose of herbicide containers improperly; follow local regulations for disposal.

Solarization

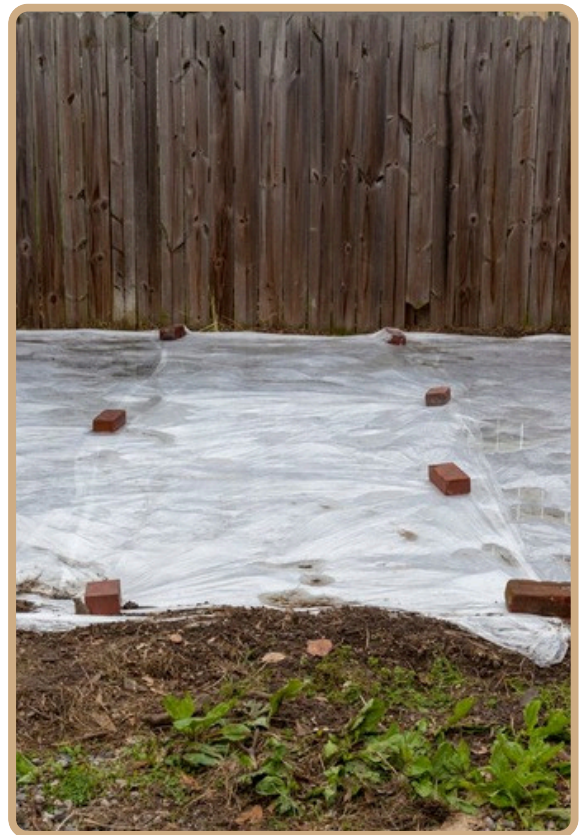


Solarization is an ecologically-conscious process used to remove turf by harnessing the sun's energy to heat turf and the soil and eliminate unwanted grass and weeds.

This method involves covering the turf area with clear plastic sheeting, trapping solar heat to raise the soil temperature to levels that kill grass, weed seeds, and soil-borne pathogens. One of the primary benefits of solarization is its chemical-free approach, making it an environmentally sustainable option for turf removal.

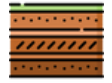
Step-by-step guide to solarizing:

1. **Select the Area:** Choose the section of turf you want to solarize. This method works best in areas that receive full sun for most of the day.
2. **Prepare the Soil:** Mow the grass as short as possible and remove any debris or large clumps of grass. Water the soil thoroughly, as moisture conducts heat better and enhances the solarization process.
3. **Apply Clear Plastic Sheeting:** Cover the prepared area with clear plastic sheeting, typically 1 to 2 millimeters thick. Secure the edges by burying them in soil to prevent heat loss and to keep the plastic in place during windy conditions.
4. **Seal the Edges:** Ensure that the plastic is tightly sealed around the edges to trap heat effectively. You can use soil, rocks, or stakes to keep the plastic taut and secure.
5. **Monitor and Maintain:** Leave the plastic in place for 4 to 6 weeks during the hottest part of the year, typically in late spring through summer. This duration allows the soil temperature to rise sufficiently to kill unwanted organisms.
6. **Remove the Plastic:** After the solarization period, carefully remove the plastic sheeting. The soil is now ready for reseeding or planting, as it should be free of weeds and pests.



Solarization can be time-consuming, often taking several weeks during the hottest part of the year, and may not be as effective in cooler climates or during periods with limited sunlight. It is not aesthetically pleasing and may invite complaints from the neighbors, but it is low-effort option with fairly consistent results.

Know Your Soil



Your soil composition sets the stage for the success of your garden. Healthy soils make healthy landscapes! Soils are made up of a mixture of three main particle sizes and organic matter, and each has its own benefits and drawbacks. Getting to know your soil is the first step in improving the resilience and longevity of your home's ecosystem.

Loam is sand, silt, & clay in nearly equal proportions. It's more ideal for plant growth as it balances the benefits of each particle type.



Silt has a medium particle size. This size creates pockets of water that are ideal for uptake by plant roots.



Soil horizons are the distinct layers within a soil profile.

Sand is the largest soil particle. Sandy soils drain more readily and retain fewer nutrients.

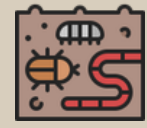


Clay is the smallest soil particle. Clay retains water and nutrients well but compacts easily and has poor drainage.

Soil Basics



Soil texture describes the proportions of **sand, silt, & clay** in a soil sample.



Soil organisms help **break down organic matter** for the soil microbiome. They are an important for healthy soils.

Soil structure describes **how those particles are arranged** into aggregates.



The soil microbiome is the community of microorganisms that inhabit the soil.



Compost is **decayed organic matter** that provides material for plant nutrition.

One pound of compost can hold up to four times its weight in water!

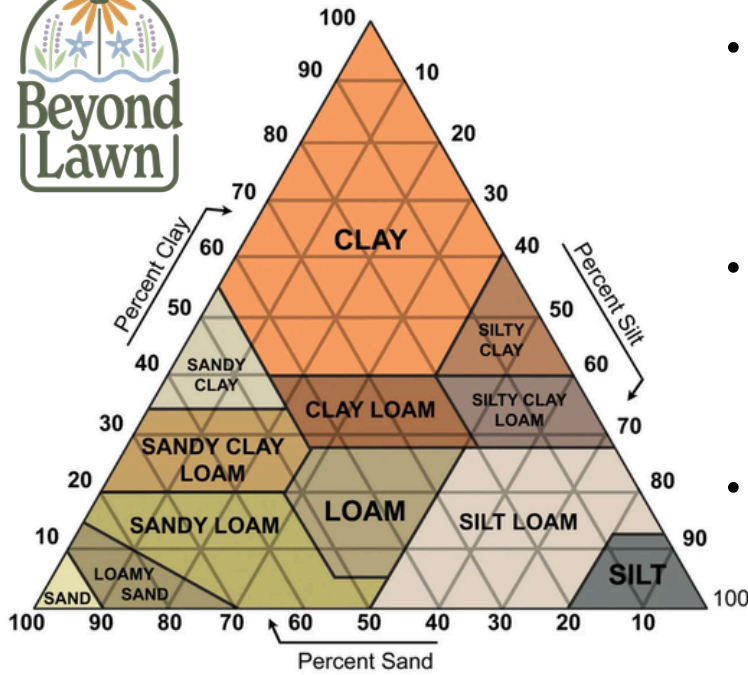
It is important for the biotic function of the soil by providing services like:

- Nutrient Cycling
- Improving Soil Structure
- Pathogen Suppression
- Water Retention
- Enhancing Plant Growth, and
- Carbon Sequestration



pH is a test of how **acidic** or **basic** a soil is. Many plants prefer neutral soils, but some are adapted to different pHs.

Soil Textural Triangle

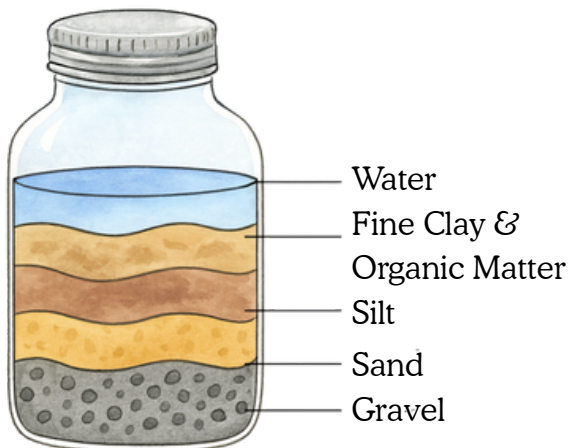


Common Actions by Soil Type

- **Sandy Soil:**
 - Add organic matter
 - Incorporate silt or clay
 - Consider using mulch to maintain moisture levels.
- **Clay Soil:**
 - Introduce coarse sand or organic matter for improved drainage
 - Avoid working with clay soil when it's wet to prevent compaction.
- **Silty Soil:**
 - Enhance drainage and structure by mixing in organic matter
 - Add sand to improve drainage
 - Regularly aerate/reduce compaction

The soil textural triangle is a handy tool for anyone looking to understand the composition of their garden or home landscape soil. It categorizes soil based on the percentage of sand, silt, and clay it contains, helping to identify the soil type, such as sandy, loamy, or clay. By using the triangle, homeowners can determine which type of soil they have and how it affects water retention, drainage, and nutrient availability. This knowledge is helpful for choosing the right plants or making soil amendments.

Jar Soil Texture Test



Conducting a jar soil test is a simple and effective way to determine your soil texture composition at home.

Start by collecting a soil sample from the area of interest, making sure to remove any debris like rocks or roots. Fill a clear jar about one-third full with the soil, then add water until the jar is nearly full. Add a splash of dish soap to help separate the soil particles, seal the jar tightly, and shake it vigorously for a few minutes. Allow the jar to sit undisturbed for 24 to 48 hours. The soil will settle into layers. By measuring the thickness of each layer, you can estimate the percentage of sand, silt, and clay, giving you a clearer picture of your soil's texture.

Soil Amendments



Soil Tests



Consider a **soil test** before you choose what amendments to make! **Eagle County Conservation District provides affordable soil tests** to help guide your decision-making process.

Many water-wise and native plants can be harmed by the wrong nutrients, so it's important to understand your plant's needs before making any amendments.

There are two major types of soil found in the mountains: granite soils and clay soils. Both soils are generally high in nutrients, but **clay soils have poor drainage** while **granite soils dry out quickly.**



Bioavailability refers to the degree to which elements or compounds in soil are available for uptake by plants, microorganisms, or other organisms. Many nutrients are in a form plants are unable to use and must be broken down or converted first. Among other factors, cation exchange capacity, pH, and electrical conductivity influence what nutrients are available for uptake in a soil profile.



Organic Amendments

Derived from living organisms, these improve structure, water retention, nutrient availability, and promote soil health.



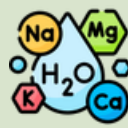
Compost is perhaps the **best and most common** soil amendment.



Manure is a widely used amendment, but it is often **high in salt content**, which may be harmful to soils.



Wood ash, sphagnum, peat, wood chips, grass clippings, straw, biosolids, and sawdust are other organic amendments.



Inorganic Amendments

Like lime and gypsum, are **mined or manufactured** and can address specific soil issues like acidity or nutrient deficiencies:



Fertilizers have elements like **nitrogen, potassium, & phosphorous**, which are **essential to plant growth.**

More ≠ better when it comes to fertilizers!



Lime is a carbonate, oxide, or hydroxide of calcium that **raises soil pH, making it more alkaline.**

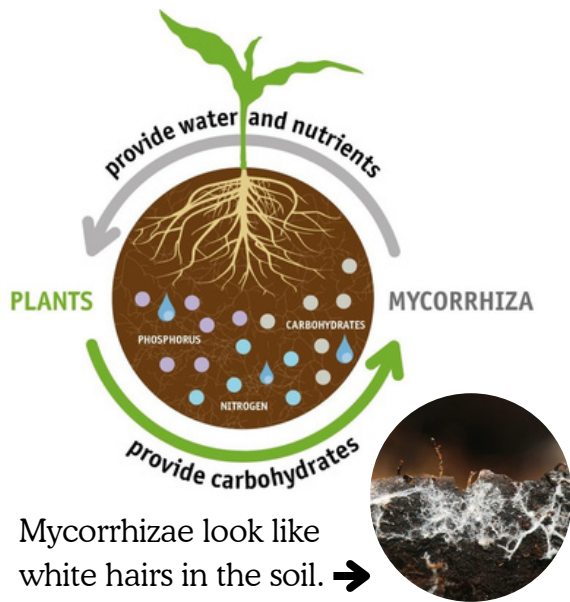


Gypsum is a calcium sulfate. It **doesn't affect soil pH** but **provides calcium and sulfur.**

Soil Health Basics



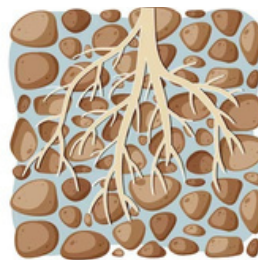
Maintaining healthy soils in home landscapes is crucial for fostering vibrant plant growth and supporting a balanced ecosystem. One effective strategy is to regularly incorporate organic matter, such as compost, which enhances soil structure and boosts nutrient content. Minimizing soil disturbance by using no-till methods and employing mulching techniques can protect soil health by preserving moisture and reducing weed growth.



Mycorrhizae are a type of beneficial fungi that form symbiotic relationships with plant roots, enhancing nutrient and water uptake. In the garden, mycorrhizae can often be identified by the white, thread-like structures that weave through the soil and around plant roots. These fungi help improve soil structure by binding soil particles together, which enhances aeration and water retention. By supporting robust plant growth and increasing resilience against diseases, mycorrhizae play a crucial role in maintaining a vibrant and sustainable home landscape. Integrating them into your garden can lead to healthier plants and a more productive soil ecosystem.

Managing soil compaction in the landscape is essential for maintaining healthy plants and soil.

Soil compaction occurs when soil particles are pressed together, reducing pore space and limiting air and water movement. This can lead to poor root growth and decreased nutrient uptake in plants. To minimize soil compaction, it's important to avoid walking or driving heavy equipment over the soil, especially when it's wet. Incorporating organic matter, like compost, can help improve soil structure and increase its resilience. Regularly aerating the soil and maintaining a diverse plant cover can also aid in preventing compaction, ensuring a thriving garden ecosystem.



Healthy



Compacted

Causes of Compaction

- Foot Traffic
- Snow Storage
- Repeated Turning or Tilling
- Equipment or Machinery



Compost tea is an effective, natural way to inoculate soil with beneficial microbes, enhancing its overall health and fertility. By applying this nutrient-rich liquid, you introduce a diverse range of microorganisms that improve soil structure, foster plant growth, and increase resilience against pests and diseases.

Promoting Soil Health



Promoting soil health in the home landscape is essential for thriving gardens and sustainable ecosystems.

One effective strategy is incorporating organic matter, such as compost, which enriches the soil with nutrients and improves its structure. Minimizing soil disturbance through reduced tilling helps maintain the natural soil structure and encourages beneficial soil activity. Incorporating strategies like composting, no-till, compost tea, or sheet mulching can create a thriving, active soil profile that provides everything a plant might need.



Vermiculture is the process of using worms to break down organic matter, which contrasts with traditional composting as the worms rapidly decompose larger materials, allowing microbes to swiftly utilize the nutrients and significantly reduce the overall turnaround time.

Eagle County Conservation District's Soil Health Program



For larger-acreage properties, Eagle County Conservation District offers soil tests and analysis to help landowners make informed decisions and implement soil health practices on their properties. Visit eccdistrict.org to learn more.



Resource Central's Webinar Series

Resource Central's webinar series on compost and soil health provides a comprehensive introduction to sustainable gardening practices. Participants can discover the advantages of composting, methods to enhance soil health, and ways to support ecological balance through expert-led discussions. Whether you're a novice gardener or an experienced horticulturist, these webinars offer invaluable insights into creating a vibrant and resilient garden ecosystem. By participating, you'll gain the knowledge and confidence to nurture and improve your soil, and by extension, your landscape.



Planting Windows



Planting or seeding at the appropriate times of year is essential for optimal plant growth and survival. Good planting practices align plant lifecycles with favorable weather conditions, soil temperatures, and water availability, thereby enhancing development, working with instead of against the environment, and minimizing vulnerability to pests and diseases.

Grasses

Cool Season (i.e. bluegrass, ryegrass, fescues) - Anytime from early April (as soon as temperatures begin to warm) through mid-September. In Eagle County, the optimal time to seed is April & May and late August to mid-September. Dormant season seeding can also be done in mid-October until there is snow on the ground. This method works well when wildflowers are also being seeded.

Warm Season (i.e. blue grama) - June through July. Seeding after July is not recommended, as seeds need warm soil to germinate.



Trees

Spring (April to mid-June) or fall (September to early-October), when temperatures are moderate, allowing them to establish roots before extreme weather hits.

Perennials

Spring: May and June- After the last frost, but before the summer heat.

Fall: Late August through September- The soil is still warm enough for the roots to establish themselves before winter.



Native Wildflower Seed

Late fall until there is snow on the ground, the winter cold and snow will promote seed germination the following spring. Wildflower seed can also be seeded in early spring or late summer to early fall, some seeds will not germinate until they have gone through a winter.

Shrubs

Spring (April to mid-June) or fall (September to early-October), with fall generally considered the ideal planting time for most shrubs in the state.



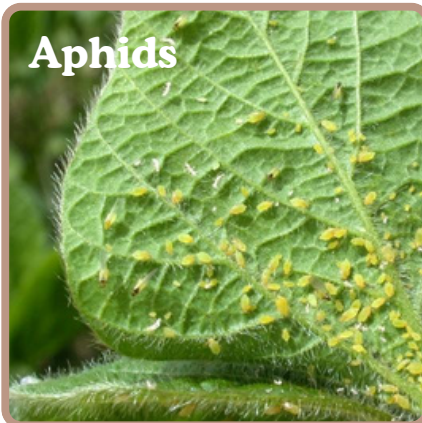
Retail Plant Selection



When selecting plants from local nurseries, look for healthy, vibrant foliage and check for any signs of disease or pests. Plant material grown locally will be more adapted and resilient when introduced into the landscape. Read the tag, and make sure it is suited to your USDA plant hardiness zone. When in doubt, choose plants one hardiness zone lower than your are in. Also, inspect the roots if possible—healthy roots are firm, not mushy. Choose plants that are appropriate for your climate, hydrozones, and soil conditions to ensure they thrive in your garden.



If you buy plants in early spring, consider acclimating them by placing them outside in a sheltered area for a few days before planting them directly into the ground. This process, known as hardening off, helps plants adjust to the outdoor environment, reducing transplant shock and promoting stronger growth. While they may be hardy, many nursery plants have not experienced cold temperatures and have not needed to adapt to adverse wind or weather. Hardening off gives them the best chance for success.



When purchasing plant material, check for signs of unhealthy plants. Inspect leaves for discoloration, wilting, or pest damage like holes, borers, or webbing. Examine the soil for unpleasant odors or excessive dryness, indicating root rot or neglect. Choose plants with strong stems and vibrant foliage, avoiding those with visible mold or fungi. Ask staff about the plant's care history for informed decisions.

Planting Basics



Properly planting your trees, shrubs, and perennials sets them up for healthy, successful growth and survival. One key to successful planting is in understanding how your plant's roots function in the soil—another is knowing when to plant. **Always try to understand your soil's structure and amend accordingly before you plant.**

Plant like a Professional



Bring a watering can or hose & water into the hole both before and after you backfill



Avoid planting in the middle of the day for reduced stress



Shake or break off nursery potting soil from the bottom of the root ball



For non-natives, add some compost or slow release fertilizer in the hole



Plant perennials on-grade with the surrounding soil

How to Plant a Tree or Shrub

At time of planting, **prune only dead, broken, or double leader branches**

Stake tree and remove wraps & labels

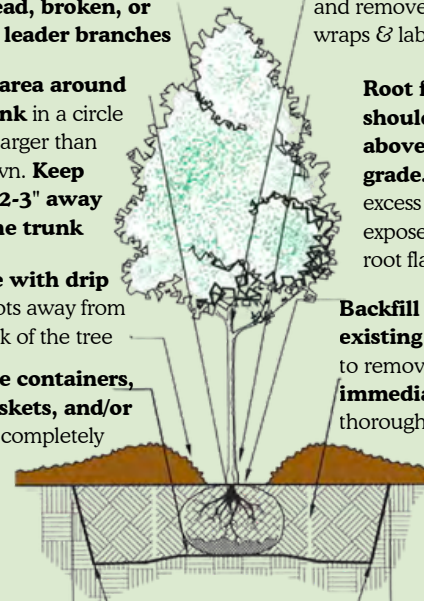
Mulch area around the trunk in a circle slightly larger than the crown. **Keep mulch 2-3" away from the trunk**

Root flare should be 1-2" above finished grade. Remove excess soil to expose original root flare

Irrigate with drip over roots away from the trunk of the tree

Backfill with existing soil. Tamp to remove air. **Water immediately** and thoroughly

Remove containers, wirebaskets, and/or burlap completely



Dig the hole at least twice as wide as the root ball



Bare Root Planting

Bare root planting is used for dormant plants shipped without soil or for special applications like **native planting or crevice gardening.**

Benefits of bare root planting include:

- Allows establishment in the natural soil
- More extensive and fibrous root system
- Can establish more quickly and grow faster
- Easier to transport and plant
- Cost effective & fewer inputs

Best results during spring/fall planting windows



Seeding

Seeding is best done during windows specific to the types of plants you are trying to grow, often spring or fall.

Many seeds need **stratification**, a period of dormancy, to germinate successfully. Others require soil temperatures to reach a threshold for a certain amount of time. **Knowing your plant's life cycle is the only way to ensure proper germination.**

Nursery and Potting Soils



Plants potted in nursery soil are, more often than not, ill-suited for planting straight into garden beds. Nursery (potting) soil, is crafted to promote fast plant growth through large pore space and excellent drainage, ensuring young plants receive the optimal conditions needed to thrive in a controlled environment and get to market quickly, but this presents challenges when introduced into landscapes.



Nursery soil often contains lightweight materials like perlite, vermiculite, and peat moss, which enhance aeration and prevent waterlogging, but also dry out roots quickly and leave the plants prone to wilt. Natural soils have higher sand, silt, and clay content, which has varied pore space, slows down the draining of the water, and makes water more available to roots.

Nursery soils are also high in organic matter and low in mineral content, which means they are also relatively low in nutrient content. In order to control for this, nursery plants are given precise nutrients at the exact time they need them, as every plant's needs are the exact same. Gardens don't work that way!



To compound the issue, once nursery soils have dried out, they become hydrophobic, or water-repelling. Have you ever noticed that the water sits on top or drains straight through when you water a houseplant with dry soil? That's because it takes time for fiber-dominant nursery soils to absorb water again after they have dried out. A quick spray won't be enough.



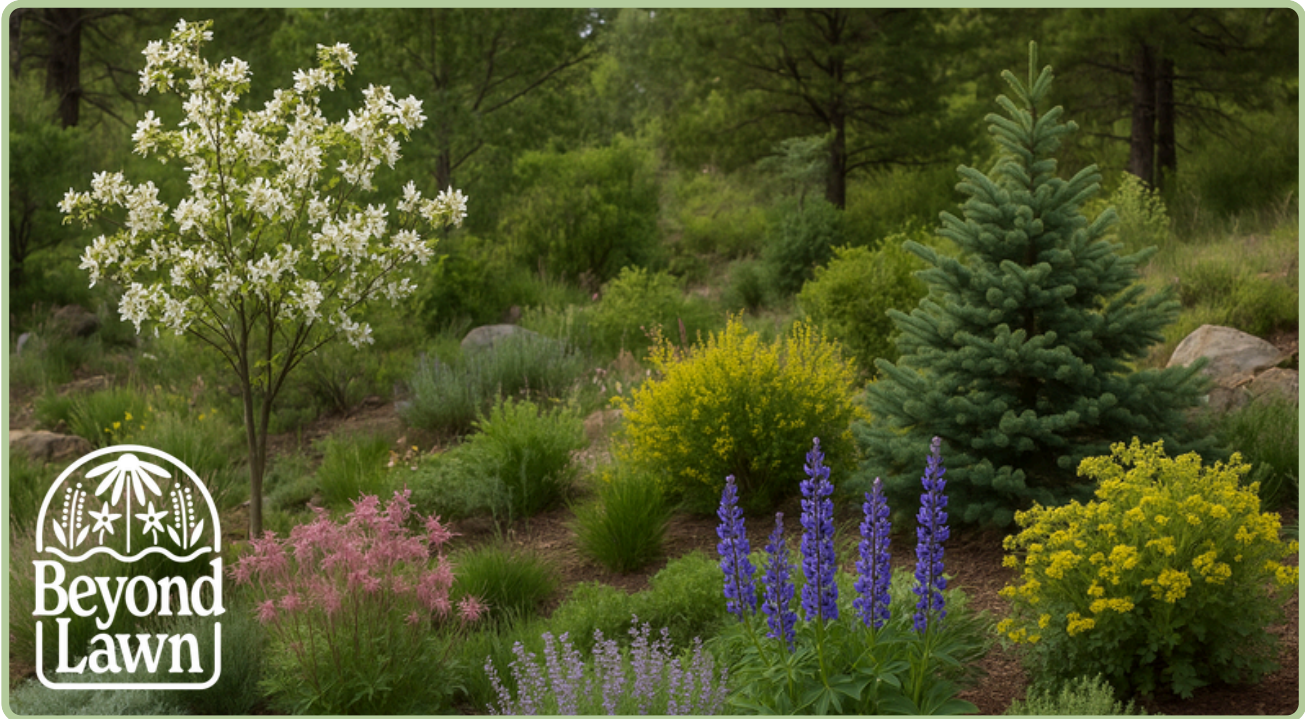
To minimize the drawbacks of planting in nursery soil, shake off as much potting soil as will readily come loose from the root ball and mix it with the existing garden soil. Then plant as you normally would, fill with the mixed backfill soil. and water thoroughly to remove air next to the root hairs. This will give your plant the best chance for success.



Right Plant, Right Place



"Right Plant, Right Place" is a fundamental principle in horticulture and landscape design that emphasizes the importance of selecting plants that are well-suited to their environment. This approach not only enhances the aesthetic appeal of gardens and landscapes but also promotes sustainability and reduces maintenance efforts. By understanding the specific needs of each plant—such as sunlight, soil type, and water requirements—gardeners can create thriving ecosystems that support biodiversity.



Species vs Varietal

A **species** is a group of plants that share common characteristics and can interbreed, representing the basic unit of biological classification. In contrast, a **varietal**, or **cultivar**, is a plant variety that has been selectively bred for specific traits, such as color, size, or resistance to pests, within a species.

Choosing the right species ensures that the plants are suited to the environmental conditions, while selecting the appropriate varietal allows for customization of aesthetic, functional, or maintenance aspects of the landscape.

Webinar



Check out Resource Central's webinar on plant selection to help guide your plant-selection process. **Not all the plants discussed are suited to Eagle County!**

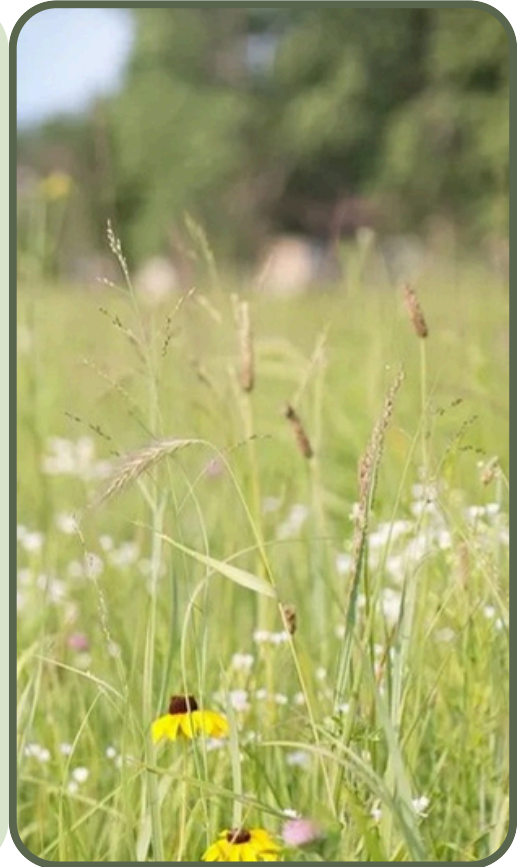
Meadowscaping



Native and drought tolerant grasses (meadows) are an excellent low-maintenance and affordable option. Seeding multiple grass species provides diverse root depths, adding to the stability and health of your soil. They also provide excellent forage and cover for birds and beneficial insects. **Meadowscaping is a water-wise landscaping practice that works well for large areas of turf conversion and can be done at scale.**

How to Create a Meadowscape:

1. Remove your turf grass
2. Make sure to eradicate all noxious weeds in your yard before putting down any new seed
3. Sow the seeds
 - a. Optional: Lay down 3-4" of crusher fines
 - i. We recommend using crusher fines, also known as decomposed granite. Why? Crusher fines are free of weed seeds. Applying a thick layer (3-4 inches) will prevent weed seeds in the underlying soil from germinating and create a weed-free planting substrate.
 - b. Sow the seeds on top of the soil/crusher fines and lightly rake in the seeds
 - c. Pack it down & water area to produce strong seed to soil/crusher fine contact
 - d. Irrigate for at least one growing season
 - e. Watch your meadow grow!



The Eagle County Conservation District sells various grass and wildflower seed mixes to suit your needs, from low-growing to pasture mixes. Click here, visit our website at eccdistrict.org, or refer to the link in our useful links page.

Helpful Hints During Establishment

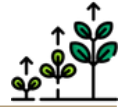
- Consider seeding in the fall. Sow your seed right before the first snowstorm. The seed will lie dormant and establish the following spring when the snow melts.
- While your meadow is establishing, make sure you weed your new yard frequently.
- Is your seed not establishing? Place a white sheet over the area for 1-3 weeks.
- Water at least once or twice a day during the establishment period.

Planting Timeline



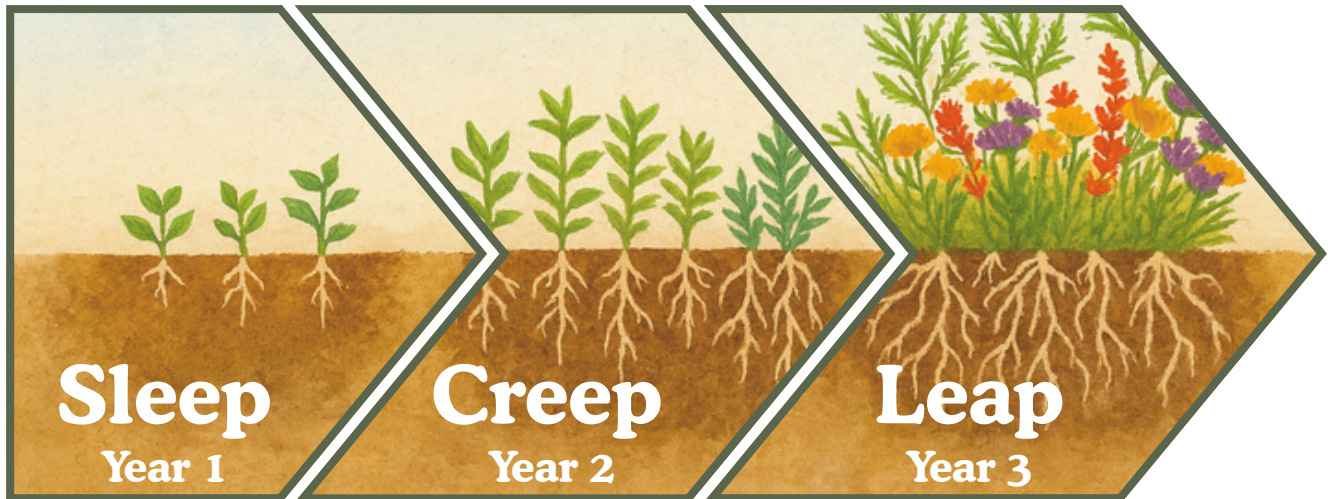
April	Prepare your garden beds by clearing debris and loosening the soil, creating an ideal environment for planting. Plant wildflower seeds as the soil begins to thaw.
May	Plant hardened off perennials, shrubs, and trees once irrigation is on, or if hand-watering. Early to mid-may is a good planting window to let the plants root before temperatures warm.
June	Plant perennials to establish them before the summer heat. Past mid-June, pause planting until temperatures have cooled. Annuals and warm season vegetables can be planted safely after about June 15 th .
July	Warm-season grasses need warm soil temperatures to germinate, and they are best sown in midsummer. Plant trees, shrubs, and perennials only if necessary.
August	Warm-season grasses can still be sown. Again, one of the hottest months, so planting perennials, shrubs, and trees is not recommended until temperatures cool.
September	Plant trees and shrubs in early September to encourage root growth before winter dormancy. Perennials can also be planted at this time, to take advantage of cooler weather and good rooting conditions.
October	Newly planted or transplanted plants should have a minimum of six weeks before the ground freezes to root before winter. Work your way back from that, depending on where you are, and don't plant after.
November	Seed native wildflowers before the first snowfall or permanent snow. Many native wildflower seeds need winter dormancy in order for their germination to happen the following spring. Sow once temperatures are consistently below freezing at night and below 50 degrees during the day.

Plant Establishment



All waterwise and native plants take a significant amount of water to get started, between 1-3 years. However, once your plants are established, they will require little to no water and will provide habitat and enjoyment year after year! Creating a thriving garden is a journey that unfolds over time, with each stage of growth bringing its own unique challenges and rewards.

Perennial, Tree, & Shrub Establishment



The first year, known as the "sleep" stage, plants focus on establishing their roots, often resulting in minimal visible growth above ground.

During the "creep" stage in the second year, plants begin to show more noticeable development, with gradual increases in foliage and blossoms.

Finally, the "leap" stage arrives in the third year, as plants reach their full potential, displaying robust growth and vibrant blooms.

Meadowscape Establishment

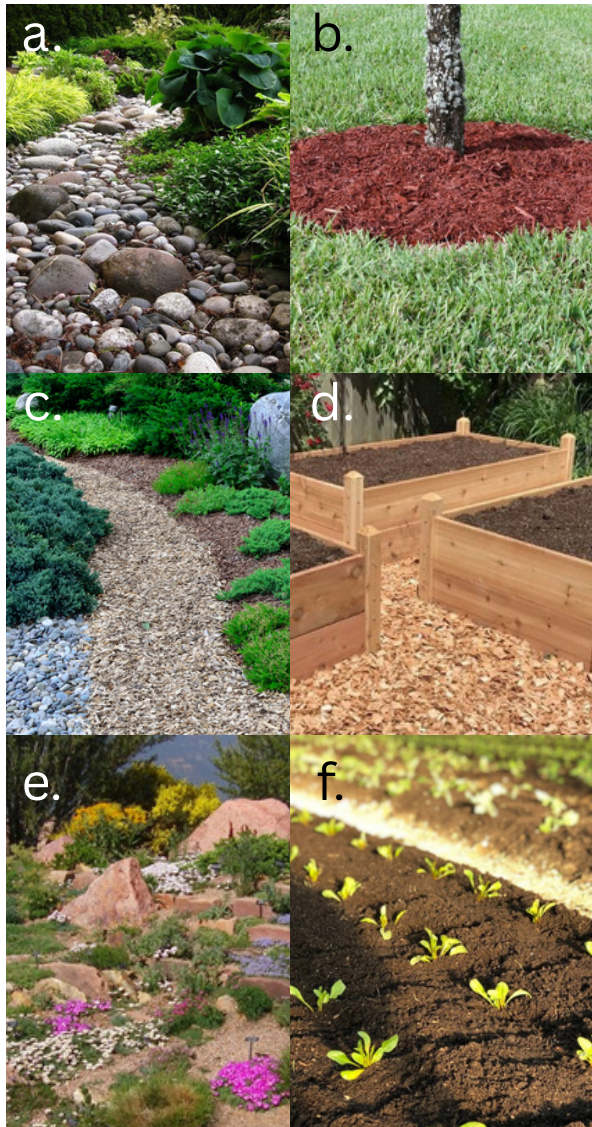
Meadowscape establishment requires careful management, including regular monitoring, weeding, and supplemental watering to ensure the successful growth of native grasses and wildflowers. The ultimate goal is to establish a self-sustaining meadow that supports a wide array of wildlife, enhances soil health, and contributes to the local ecology.




Mulching



A good mulch can slow the loss of water from your soils considerably, and it acts as an insulation layer against cold winters and harsh summers. It also reduces runoff by slowing down precipitation once it reaches the ground. Some mulches add organic matter to your soil as they are incorporated into the soil over time.



- a. **Gabion or medium river rock** is a good option for mulching with larger plants and for use in dry streambeds
- b. **Trees and shrubs should be mulched** to protect roots and reduce water loss, **but keep mulch away from trunks & stems**
- c. **Gravel, wood chips, and shredded cedar** add varied appeal, and there are pros and cons to each.
- d. **Wood chips** can be a cheap and attractive mulching option, especially for walkways and unplanted areas.
- e. **Pea gravel or crusher fines** make great options for xeric, native, or crevice gardening, but work well in most gardens.
- f. A heavy **compost** can make a rich, nutritious mulch (called **top dressing**), but it won't improve the structure or provide nutrients until it is mixed into the soil.

 **Quick Tip: Throw leaves into your beds in the fall for a cheap, effective winter mulch** that provides habitat for insects. Leave them there until soil temperatures are 50+ degrees and compost the rest!

When mulching, **add a 4-6" layer on top of the soil. In the mountain west, avoid using forestry mulches (wood chips, shredded bark, bark chips) in areas that are irrigated from above**—the mulch will absorb a portion of the water, and it will evaporate before fully benefiting the plants. **This also accelerates rotting**, so you will have to replace the mulch more frequently. Do not use organic mulches next to structures.

Rock Mulches



Rock mulches have become an increasingly popular choice in home landscapes, offering a modern aesthetic that can enhance the curb appeal of any garden. These mulches, typically composed of varying sizes and colors of gravel or river rocks, provide a durable ground cover that requires minimal maintenance compared to organic mulches. Among the benefits of using rock mulches, their ability to suppress weeds, retain soil moisture, and improve drainage stands out. Moreover, they are long-lasting and do not need frequent replacement, making them a cost-effective option in the long run.



There are some drawbacks to consider, however, such as the potential for increased heat absorption, which can stress certain plants, and the challenge of removing debris that may accumulate over time, creating opportunities for weeds to take root. Knowing the best shape and size of rock mulch for your application will minimize maintenance challenges. Balancing these pros and cons can help homeowners make an informed decision when incorporating rock mulches into their landscape design for a beautiful and functional space.



Chip gravel is the best option for mulching waterwise perennial beds with inline drip irrigation or point-source drip irrigation systems. Its size and shape allows it to lock together to reduce movement and suppress weeds.



2"-5" size is good for ← mulching at the base of buildings or in shrub beds. The smaller the size, the less potential that organic debris will collect in the gaps and present opportunities for weeds to grow.



← **Larger 5"+ river rock** is good for large, flat areas, like along the road, under trees, or next to houses.

Crusher fines have silt particles that allow them to bind together. They make a great substrate for pathways, and they work well for creating meadowscapes in areas of high weed pressure, as they can be seeded into and suppress the existing seed bank.





How to Mulch



Mulching is a useful gardening practice with many advantages. It effectively retains soil moisture, acts as a natural insulator, and suppresses weed growth. Proper mulching lessens competition for nutrients and simplifies garden upkeep.

Drip Irrigation

Inline drip or poly tubing is placed above the soil and below the mulch.

Mulch Thickness

To be effective, mulch should be thick enough (4" minimum!) that the top absorbs heat but the soil stays a consistent temperature and weeds do not readily germinate.

Mulch Benefits

Mulch (organic or inorganic)

- Prevents evaporation
- Regulates temperatures
- Provides insulation
- Suppresses weeds
- Can reduce compaction
- Supports microbial life

Soil Diffusion

Drip emitters do not need to be directly at the base of the plant, as the water will diffuse through the soil to cover the area.

Using Landscape Fabric



Landscape fabric is a popular tool in gardening and landscaping used primarily for weed control. When properly applied, it can be effective for a few years after installation, reducing the need for mechanical or chemical weed control. However, its drawbacks often outweigh its advantages, and other alternatives may be more appropriate options based on your needs.

While landscape fabric can be useful in specific scenarios, its short-term limitations should be carefully considered in any long-term gardening plan. Over time, landscape fabric can hinder healthy soil development by restricting the natural movement of earthworms and beneficial microorganisms. It also becomes ineffective over time as weeds grow through tears or on top of the fabric, necessitating maintenance and replacement. Moreover, most landscape fabrics are made of plastic that degrades and sheds microplastics into the soil and environment over time.



Mulch

Using an appropriate depth of mulch will provide most of the benefit of weed fabric with few of the drawbacks. A 3"-4" layer of mulch will suppress weeds, insulate roots, and minimize evaporation from the soil. Organic mulches decompose, adding organic matter to the soil over time. If you are using mulch, modify your irrigation to drip for maximum irrigation efficiency.

Landscape Fabric Alternatives



Cardboard is a cheap, effective way to suppress weeds for a few years. It decomposes over time, enriching the soil.



Butcher paper or **cardstock** are weed fabric alternatives that decompose faster than cardboard and are effective for larger areas.



Landscape fabric is harmful to native ground-nesting bee populations who need open soil to build their burrows. Choosing biodegradable weed barriers when installing new gardens benefits the soil microbiology, burrowing and ground-foraging insects, and all the flora and fauna that depend on them.

Synthetics in the Landscape

While synthetic materials like astroturf, rubber mulch, and plastic edging can offer convenient, short-term solutions for landscaping, they come with significant long-term drawbacks. These materials can exacerbate the heat island effect, making landscapes hotter by absorbing and retaining heat. Over time, they also present maintenance challenges and contribute to environmental concerns, as they break down into microplastics that contaminate soil and water, posing risks to human health, local wildlife, and ecosystems at-large.



Astroturf at high altitudes faces particular challenges due to intense UV exposure, which accelerates its deterioration and reduces longevity. During summer, the synthetic surface can become unbearably hot, posing risks to users and affecting usability. In winter, its stark, unnatural appearance contrasts with the surrounding environment. The common practice of installing impermeable barriers beneath astroturf exacerbates drainage and groundwater issues, while the turf itself sheds microplastics, contributing to environmental pollution. Once its lifespan ends, it is mostly not economical to recycle, often ending up in landfills, adding to its environmental impact.

Rubber mulch, while often marketed for its durability and low maintenance, can pose significant fire hazards in landscapes. It is flammable and can contribute to the rapid spread of fire, making it a risky choice in areas prone to wildfires. Additionally, rubber mulch absorbs and retains heat, potentially damaging plant roots and altering soil temperatures. Over time, it can break down into microplastics, which may leach harmful chemicals into the soil.



While plastic edging is often chosen for its affordability and ease of handling, it can present several challenges. Its installation is often trickier compared to other materials, and it doesn't effectively keep rhizomes out of garden beds like metal edging. Over time, plastic edging tends to become brittle and break easily, and it has a tendency to rise to the surface, reducing its effectiveness and aesthetic appeal.

DIY Best Practices



Plan Before You Dig

Call before you dig: Contact 811 to locate underground utilities before any excavation.

Start small: Phase projects over time to learn what works and avoid overwhelm.

Measure and mark: Clearly outline beds, paths, and irrigation zones before installation.

Work with existing conditions: Observe sun, slope, drainage, and soil before making changes.



Soil & Site Prep

Test your soil: Understand texture and drainage before planting.

Improve, don't replace: Add compost where needed rather than removing native soil.

Grade for drainage: Ensure water flows away from buildings and toward planted areas.

Remove turf properly: Sheet mulch or cut sod cleanly to reduce regrowth.



Installation Basics

Install hardscape first: Paths, edging, and seating should be completed before planting.

Set irrigation next: Install and test irrigation before plants go in the ground.

Plant at grade: Keep root flares visible and avoid planting too deep.

Water in thoroughly: Eliminate air pockets after planting.



Work Smarter, Not Harder

Use simple layouts: Fewer plant types and repeated patterns are easier to install and maintain.

Lift safely: Use proper body mechanics and get help with heavy materials.

Protect materials: Keep plants shaded and watered before planting.



Right Plant, Right Place

Match plants to site conditions: Choose plants based on sun exposure, soil type, slope, and drainage—not just looks.

Group plants by water needs: Place plants with similar irrigation needs together to avoid over- or under-watering.

Plan for mature size: Space plants for their full grown width and height to reduce pruning, crowding, and water stress.

Use climate-appropriate plants: Prioritize regionally adapted and waterwise species that can handle local weather extremes.



Maintenance Mindset

Expect establishment time: Year 1 sleep, Year 2 creep, Year 3 leap.

Monitor regularly: Check plants and irrigation weekly during establishment.

Adjust as you go: Fine-tuning is part of the DIY process.

Mulch generously: Maintain 2–4 inches of mulch, keeping it off plant crowns.



Know When to Ask for Help

Large trees: Hire professionals for planting or removal.

Complex irrigation: Get assistance if zoning or pressure is unclear.

Structural work: Retaining walls, grading, or drainage issues may require expertise.

