What to do in the April Iris Garden

How to Prepare Your Garden Soil For Planting. by: Steve Bender

Healthy soil is the key to happy plants. Whether you're about to create your first garden from scratch or beginning to prep existing beds for the coming growing season, take the time to check your soil and make it the nutrient-rich home your green babies deserve.

No matter the season, garden size, or level of gardening expertise, consider this your guide to all things soil—from what to know about it (i.e. what healthy soil looks like and the types and textures available) to how to maintain a thriving garden (like how to check the drainage, how to keep healthy soil, and more). Follow along each step, and when you get to the end and your soil is officially ready for planting, be sure to bookmark this page for the start of next season. After all, a happy garden starts with a good foundation, so you want to get this right.

What Healthy Soil Looks Like

Healthy garden soil supports plant roots and gives them access to nutrients, water, and air. It's fast draining yet moisture retentive, neither too dense nor too loose. Most roots grow in its upper layer (topsoil), which is especially biologically active—home to earthworms, microbes, and other beneficial organisms

In the topsoil, earthworms improve drainage and aeration as they tunnel, while their castings add nutrients. And organic matter such as ground bark and vegetable matter decomposes, creating a soft, dark substance called humus. Below the topsoil is the subsoil. Although it contains plant nutrients, it's not as hospitable to roots as the topsoil. Improving your topsoil can have the most beneficial effect on plant health. To achieve healthy topsoil, treat your planting beds with organic amendments, or grow cover crops to add organic material to the soil and loosen it. Organic gardeners prefer natural fertilizers, which provide a more sustained release of nutrients and encourage beneficial soil-dwelling organisms.

How to Check Your Soil Texture

All soils contain mineral particles formed by the natural breakdown of rock (as well as varying amounts of organic matter, air, and water). The size and shape of these particles determine the soil's texture, whether clay, sandy, or loam

1. Thoroughly wet a patch of soil; let it dry out for a day.
2. Pick up a handful of soil, and squeeze it firmly in your fist.
    - It is predominantly clay if it forms a tight ball and feels slippery.
    - It's sandy if it feels gritty, doesn't hold its shape, and crumbles when you open your hand.
    - It's loam if it is slightly crumbly but still holds a loose ball.
3. Amend the soil as needed. The amendments listed below are typically sold at nurseries in 1- or 2-cubic-ft. bags, and in bulk at building suppliers. You'll need a cubic yard of organic material to cover 100 square feet of planting bed to a depth of about 3 inches.

How to Check Your Soil Drainage

Poor drainage causes water to remain in the pore spaces, so air—necessary to roots and beneficial soil-dwelling organisms—is unable to enter the soil. Soil texture and a low-lying location can contribute to poor drainage, as can running heavy machinery over the soil and walking on planting areas. The best way to improve soil drainage is to work in large amounts of organic matter. You can also regrade the area so that excess water drains off. Or create raised beds above the problem soil and fill them with good soil.

How to Check Your Soil pH

Soil pH is a measure of how soil ranges from acid through neutral to alkaline. A pH of 5 to 7.2 is ideal for most plants. Soil with a pH of 7 is neutral—neither acid nor alkaline. A pH below 7 indicates acidity, while one above 7 indicates alkalinity. If the pH is extreme in either direction, key nutrients are chemically "tied up" in the soil and not available to plant roots. If you're not sure whether your soil is acid or alkaline, or if you suspect your soil is deficient in some nutrients, check it using a simple test kit from the nursery. For a more precise reading, have the test done at a laboratory. Once you know the pH of your soil, you can adjust as necessary. For acid soil, raise pH by adding lime. For alkaline soil, you can lower soil pH by adding sulfur. And to treat salty soil, add organic matter and flood the soil periodically to wash away the salts.