Perlite versus Vermiculite

What Is Perlite?

Perlite is a kind of volcanic glass made out of mined volcanic rock. Up to seventy-five percent of Perlite is silicon dioxide, but magnesium oxide, potassium oxide, calcium oxide, water, and other elements are also present in smaller amounts. **Perlite looks similar to Styrofoam** and doesn't decompose, making it a good soil amendment for soil aeration purposes.

There are **different grades** of Perlite including coarse, fine, and medium-grade Perlite.

What Is Vermiculite?

Vermiculite is a naturally occurring aluminum-silicate material. In preparation for horticultural uses, Vermiculite flakes are mined and heated at high temperatures to form a worm-like shape. With a neutral pH and the ability to retain moisture, Vermiculite can make a good addition to a potting mix. Vermiculite is similar to a sponge in its structure. It therefore holds much water than Perlite meaning it offers less aeration when compared to Perlite.

There are also **different grades** of Vermiculite including coarse, fine, and medium-grade. Fine vermiculite is used for starting seeds and propagating cuttings. Course or Horticultural Vermiculite is used for in ground use.

Perlite versus Vermiculite

What's the Difference?

Characteristics of Perlite vs. Vermiculite

Characteristics	Perlite	Vermiculite
Loosens heavy, compacted soil	Best	Good
Provides drainage	Best	Good
Retains moisture and nutrients	Good	Best
pH level	7.0 to 7.5	7.0 to 7.5
Decomposes in soil	No	No

4 Pros of Perlite

Consider four ways Perlite may improve your garden soil mix.

1. **Water retention**: Perlite has porous nooks and crannies that can help retain some water in the soil.
2. **Aeration**: In addition to retaining some water, Perlite can also retain air, which helps with soil aeration. It also helps prevent soil compaction, helping facilitate good drainage in easily compacted clay soils. Perlite is often added to cactus soil mixes and soil mixes for other drought-tolerant plants.

Cons of Perlite

The primary disadvantage of using Perlite in or as potting soil is that it is not ideal for all plants. While Perlite might be perfect for desert plants and plants that need well-draining soil, Perlite is not ideal for plants that require consistently moist soil. Perlite is also extremely lightweight and may blow away if it isn't mixed thoroughly into the soil.

Perlite versus Vermiculite

4 Pros of Vermiculite

Consider some of the advantages of using Vermiculite as a soil amendment:

1. **Absorbent**: Vermiculite has a greater water-holding capacity than Perlite, which is great for promoting moisture retention. Use Vermiculite in your garden if you're growing plants that thrive in moist soil like hydrangeas and ferns.
2. **Soil aeration**: Much like Perlite, Vermiculite is effective at aerating soil and reducing soil compaction.

Cons of Vermiculite

Vermiculite can help build a strong growing medium, but it has drawbacks as well. Primarily, Vermiculite can hold water effectively, too effectively for some plants.

What to use

It depends on the type of soil you have and the plant you want to grow. Our sandy soil on the island drains very well, often too well. Bluffton, on the other hand, tends to struggle with the opposite: a heavy clay soil.

As we have sandy soil on HHI, I shy away from Perlite. I will **Vermiculite** when planting annuals or plants that like a little more moisture, such as Impatience, which tend to wilt in the heat of Summer. I also use it when planting ferns for example. Most ferns like their soil to be on the wetter side.

I will not use Vermiculite when planting plants that are advertised as 'drought tolerant' or with flower bulbs. They would rot.

I like the fact that this additive allows me to 'customize' the soil to some degree to the particular plant I am planting.

Mnemonic

So how to remember what's what, this mnemonic might help…:

Perlite makes soil more **P**orous, which is not good for sandy soil. So if you live on Hilton Head Island …

Lo**V**e your **V**ermiculite

Jacqueline Emery