



**Count on it.**

## **Soil types - What's in a name?**

Perry Vayo and Anita Matlock

[www.yardcare.com](http://www.yardcare.com)

What's in a name? Well, unlike the message delivered by those words in Romeo and Juliet, when talking about that substance from whence the rose comes, there is a lot in a name. Soil, it turns out is a subtle and complex thing. It comes in many varieties, and the variety you have can be a major consideration when creating watering schedules for your home's automatic irrigation system. The basic components of all soils are sand, silt, clay, and humus. When they are in perfect balance, you end up with loam; the fertile, free-draining, water retaining, soil that is the stuff of gardener's dreams. Sadly, too few of our yards are blessed with this perfect blend of ingredients. Most soil tends to fall far to one side or the other of this perfect balance. What this means for our purposes is that every type of soil drains at a different speed. This is known as its "percolation rate." It affects how much and how often you need to put water on your plants. In fact, the difference in percolation rates of one type of soil over another can be as much as 100 percent! So, if you don't know what type of soil you are watering, you could be substantially under-, or over-watering your plants without realizing it. This is why, when setting up an irrigation schedule for your landscaping, it is so important to know what kind of soil you have.

### **Soil Types**

Soils have been broken up into twelve types, depending on whom you ask. With names such as: andisols, gelisols, mollisols, and others that sound just as intimidating, it is no wonder most people have no idea what type of soil is in their yard. But, the truth is, most soil types are various combinations of the three most basic soil types: sandy, loamy, and clay. The ideal type is loam. If you could analyze one square foot of loam soil, you'd find it was composed of 10% clay, 20% silt, 20% sand and 50% air space! As the scientific nomenclature implies, there is great variation in the possible combinations, but the three basic types are the ones we will pay attention to.

- **Sandy Soils** are loose and allow water to drain readily. They tend to be low in nutrients and more acidic than loams and clays.
- **Loamy Soils** fall somewhere between sand and clay soils. They are composed of many different sized soil particles, are rich in organic matter, and they combine moisture-

holding capacity with good drainage. Loamy soils make an excellent medium for growing most plants.

- **Clay Soils** consist of very small, tightly packed particles. They tend to be dense and hard to work. However, clays are generally rich in nutrients, have a high water-holding capacity, and can be very productive.

### **Determining Soil Type**

There are many methods for figuring out what kind of soil you have in your yard. You can spend money to have your soil tested in a lab, but for purposes of irrigation, it is better and cheaper just to get your hands dirty with the following tests.

#### **The Feel Test**

Pick up some moist soil to rub between the thumb and fingers. Rub it back and forth several times and feel it very carefully.

- A clay soil will be slick and smooth with little or no grittiness.
- A predominantly sandy soil will be gritty and will not stick together well.
- A loamy soil will stick together easily, but not tenaciously like clay.

As the soil dries between your fingers, rub it into dust and feel it some more. A loam soil will have a component to it that feels like flour. This is silt, a soil particle size between sand and clay. Clays may also have a floury feeling to them, indicating the presence of silt. Clay will lack the gritty sand component found in loams.

#### **The Squeeze Test**

Get a hand full of dirt from the yard on a day when the soil is moist. Squeeze it in your hand. Does it hold together, or fall through your fingers? Does it feel sticky? Just by doing this you can get an idea of what type of soil you have.

- Clay soil, when squeezed feels sticky, holds together well, and forms an impression of your fingers.
- Sandy soil, when squeezed in your hand slips through your fingers. It feels gritty and will not hold together very well.
- Loam is a mixture of sand, silt, clay and organic matter, and is the best and easiest soil to plant with. Loam soil will feel spongy in texture and will be dark brown or black in color.

## **The Jar Test**

Fill a glass jar about a third full with soil from your yard, be sure to remove all rocks and any plant matter, like stems and roots. Add water to the top of the jar, along with a tablespoon of detergent, and cap it tightly. Then, shake it well and set it aside to settle overnight or until the water is fairly clear. Then evaluate the results.

- Sandy soil will settle completely and leave the water looking fairly clear.
- Loam soil won't settle completely. The water will look dark and have bits of organic matter floating in it.
- Clay soil will leave a distinct line of clay at the top of the settled material.

Using these three tests will give you a good idea of what kind of soil you have in your yard. Depending on the geology in your area you may even have more than one kind to factor in, so repeat your testing at various locations if needed. Then factor the characteristics of your soil type(s) in when you are deciding when and how much to water your plants. Your landscaping will reward you with the sweetest smelling roses (and best looking plants) you would ever want.