



# Perennial and Rose Gardening Newsletter

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## *Things to remember:*

- 1. Soil compaction can be prevented, but may be difficult to do, especially with perennial gardening.*
- 2. Distribute weight when working on top of soils with equipment or when walking on top of prepared beds.*
- 3. Aerate the soil at least twice per year in problem areas.*
- 4. Irrigated soils (moist soils) are more prone to soil compaction than wet or dry soils.*
- 5. Don't work the Earth when it's wet!!!*

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## **Soil Compaction – Not conducive to root growth!**

I'm sure you are well aware of the watering requirements for roses, especially of the Hybrid Tea variety. Rose bushes grown in raised beds need around 1 to 2 full inches of water weekly, especially during long dry spells. As you can imagine, 2 inches of rain a week makes for very moist and sometimes wet flower beds. You might not know it, but research shows that moist soil, which is certainly better for plant roots than "wet" soil is more prone to soil compaction than the latter. Wet soils can be shaped and molded, but moist soils are more susceptible to reducing the size of pore space in between the soil particles. Soil minerals are basically made up of silt, sand and clay, but have open spaces surrounding the particles that can either hold air or water and maybe a ratio of both. However, as one can imagine, when repeated heavy equipment, heavy people and other mechanisms press down on the lawn, flower beds, etc. those porous spaces that once allowed for air (including the all important oxygen) now have no available volume to hold the much needed air and water. Thus, irrigation is more difficult and likely doesn't reach the root zone which can result in shallow root systems. The shallow root systems are primarily due to the water only reaching the top layer (crust) of the soil. The oxygen element is vital to root growth and plant development. So compacted soils have displaced oxygen and can result in reduced vigor in your roses, perennials or any garden plant for that matter. So, the goal should be to get oxygen and water space down into the soil and into a zone in which the roots can thrive, because as I stated in volume 1, number 2, it's what's beneath the soil line that is important in plant growth. At minimum, what's beneath the soil is just as important if not more than what's above.

## **Preventing and resolving Soil Compaction – What do I do now that I have compacted soil?**

As stated earlier, I water my rose beds quite frequently as well as all my perennial beds. Being in the hot south and with summer dry spells, this is absolutely necessary unless you are maintaining a drought tolerant garden, which is an Earth Kind approach—and I commend those that take this approach. Nevertheless, when walking on these prepared beds, you can imagine that with the moist soils and my 200 pounds of weight walking over the soils, over time one can quickly see the results of compacted soils and reduced plant vigor.

So what do I do? Well, you know what they say about an ounce of prevention

is worth a pound of cure, right? Right. But, I argue that there is not much I can do for my flower beds with the exception of distributing my weight more or using stepping stones, etc. You can distribute your weight when walking in these beds by placing a small board down on the ground and stepping on that, which in turn displaces or distributes your body weight across the entire board and reduces the soil compaction. I don't know about you, but my perennial beds would be especially difficult to handle using this method as near every square inch of bed space is covered with plant material. Thus, placing a board would damage some of my plants. I have found for me it is necessary to step over and beside plants throughout the bed, which unfortunately after a time



simply does result in soil compaction in areas. So what do I recommend for these situations? I recommend using your handy, old-fashioned pitch fork with tines at least 6 to 12 inches long (longer tines result in deeper aeration and penetration into the soil bed). When doing this it is also a good time to amend your soil with organics, which in and of itself can help with soil compaction issues. With pitch fork in hand, twice per year, once in the Spring and once in late Summer, I head out to the

garden area and begin aerating the soil to a good depth by inserting the fork tines as deep as possible, then moving the tines around in the soil to loosen it. Then I repeat this every 6 inches or so. I have found that this practice although for a large garden could take a considerable amount of time, does not hurt the plants and can be done directly on top of plants and thus perfect for my type of perennial garden. This aeration will aid in air and water reaching the depths of the plant roots and should result in overall vigor in your garden. It also aids in other nutrients reaching the plant. I have found that when my rose beds are a bit compacted, there's nothing more frustrating than seeing dollar signs run out of the beds and down the drain. However, after a dose of the pitch fork routine, you'll quickly notice that the beds can take on more water and liquid fertilizer without waste. Now, the fertilizer can reach the root zone rather than the top sixth of the soil with the remainder running off into the landscape, lawn or in my case the nearby drain.

In summary, your plants, like us need oxygen and water to thrive and they simply can't get those elements if your soil is compacted. So there's only a few options—avoid soil compaction and where unavoidable, resolve with core or soil aeration. For bigger gardens and lawns core aeration or the process of

removing small cores of Earth from the soil can be used. But I doubt you're going to want to put this device in your tidy perennial or rose garden and thus the use of the pitch fork comes in very handy. And don't forget organics . . . when aerating, it's a good time to work in organics with the soil, especially if your soil is low in organics. If you've never added organics to your soil chances are you don't have a high ratio of organics—that is unless your garden is in the middle of a cow pasture!

Happy Gardening!