Dear Diana C.,

Thank you for taking the time to comment on your experience with our Blend product. I'm sorry that in the rush that COVID 19 has created for landscapers and their suppliers, we were not able to assist you in understanding what you were purchasing.

Our core product is the manure-based compost. It works very well because it amends the soil. When applied, it feeds the millions of organisms that live in the soil. It is these microbes that consume the compost, and it is their waste products that feed the plants. Unlike chemical-based fertilizers, an organic (meaning carbon-based) amendment does not directly feed plants but requires a robust soil biota to digest it first.

Dr. Elaine Ingham is the scientific (and popular) leader in teaching what she calls the Soil Food Web. Here is a brief video explaining the scientific role of compost - organic matter. https://www.youtube.com/watch?v=NVhY4ssMtbI. For a more lengthy and detailed video that she is in, check out https://www.youtube.com/watch?v=xzthQyMaQaQ. The USDA has widely accepted the Soil Food Web science. Here is a link to the Department's Soil Primer https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/biology/. Lastly, here is a link to the USDA's soil video series https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/soils/health/

Soil is composed of five ingredients: minerals (sands, silts, and clays), air (oxygen), water, organic matter, and biota (Soil Food Web organisms). Existing soil will have all five, just the organic matter, and the biota will be low. Adding only compost increases the organic matter, which increases the biota, which increases the plant-available nutrients. The minerals, air, and water are supplied by the yard.

We often hear customers tell us that they have dug out all their "bad" soil to reinvigorate their gardens. I always cringe when I hear this because they have thrown out the soil biota as well. Again, the biota may be significantly diminished, but some amount will still be present in the soil. Using an analogy, one can buy all the building materials to build a house, but if there are no workers, the materials will sit on the site. If the site is staffed, the building materials will be transformed into a beautiful home. Removing all the "bad dirt" with its existing biota is the same as having no workers on the job.

In our Blend product, we add dirt to the compost, so we are providing two of the five ingredients (organic matter and minerals) rather than just one (organic matter). To ensure we are not selling you dirt with weed seeds, we daily water and turn the dirt to "sanitize" it. Hence the dirt we use is lifeless. Not included in the Blend are the air, water, or biota. The most important, the biota, needs to colonize the Blend to become soil.

As a stickler for definitions, we expressly do not call this mixture *soil*, *topsoil*, etc. For it would need to be permeated with the many organisms as mentioned in the Soil Food Web. While others may sell you a topsoil, it is the same mineral and organic matter combination that we sell. No one includes all the essential biota. We can thank the Yellow Pages and Google for forcing all compost sellers into their category of Top Soil, even though what we all make is not topsoil.

So how does Blend become soil in your yard? Three ways:

1) Over time organisms will migrate to your new Blend. Placing Blend near existing soil will increase the rate of colonization as there is less distance for the biota to travel. Filling pots (especially if they are sitting on concrete) with our Blend is the other extreme and will take a long time to become soil. While many have had good luck, we don't recommend using our Blend in this type of application.
2) You can inoculate your bed. Putting a few shovelfuls of dirt from another area of your garden will speed up the process. If you have a place that is doing exceptionally well or has a similar type of plants; take from here.
3) Transplanting: Should you move plants from one part of your garden to the new area, you'll see the fastest colonization. This is because most of the soil biota live near the plant's roots (rhizosphere). Doing this will give the most significant boost.

When planting recently purchased containerized plants, you will likely see a down period. This is because these plants have been fed an extremely rich diet of fertilizers, so they will grow quickly and bountifully while at the wholesale

nursery. When delivered to the retail center, they need to look fantastic so that customers will buy them. Because their diet is so rich, they produce more leaves and fewer roots. Unfortunately, when you plant them, no soil in your garden can match the fertilizer intensity of the wholesale nursery. Once planted, the containerized plants will seek to achieve the correct balance between roots and leaves. It is common to see the plants droop or drop leaves, as they struggle to achieve the right root: leaf balance.

The second problem is that the containerized plants are transitioning from a synthetic based fertilizer feed to an organic-based soil. Unlike the plant you have transplanted that will bring its soil organisms with it, the commercially grown plant will have far fewer to no microorganisms. So besides the need to increase the roots, it will have to wait for the biota to multiply to begin to feed it.

Years ago, a habitat restoration botanists gave me a stern warning. If you want faster growth, buy in the smallest container size possible. A one-gallon will outgrow a 15 in a short time. Why? Because the one gallon will have a better root to leaf ratio and will more easily adapt to the new environment. The 15 gallon has spent too much time in the nursery living off the extreme rich diet for months to years.

To reduce the shipping weight, our Blend is delivered as dry as possible. Proper rehydration is critical. I've added instructions to our website to assist in this effort. http://serranocreeksoils.com/resources/Blend%20Instructions.pdf Because the plants are transitioning to their new home; we find that customers get frustrated with their lack of growth. This is especially true if the plant is dropping leaves to achieve a correct root/leaf balance. Thinking that the problem is not enough water, they add more and more. Unfortunately, they are drowning the plants and preventing air from getting to the root zone to allow the biota to breathe. A sign of over-watering is yellow leaves. To assist in the *when to water problem*, I have prepared a video to give some guidance. https://www.youtube.com/watch?v=bYGqeRntdgQ

On a more philosophical note, great soil is not made in a single day. Soil is one of the most complex environments on the planet. It takes years for Mother Nature to create. The productive farmland of the great plains is the result of eons of time. We can greatly reduce the conversion time by supplying composted organic matter to a few years, but it is not like synthetic grass, concrete, and other more instantaneous landscape features.

Sincerely,
Matt Rayl