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You know, there are a couple of things that we can find in abundance around in and around Walker County. One is new construction and the other is clayey soils. If you have any doubt about that take a look around the Smith Lake area with all the new housing developments and subdivisions or else look along our highways with all the new road construction and renovation particularly around the Corridor X construction areas. New houses are being constructed both in the Jasper area as well as all around Walker County. Before we go any further, let me first say that I certainly am not opposed to these new developments, they are a sign of the times and a sign of much needed growth in our county.

The other thing we have in abundance around here is soils with high clay content. Clays can range from very poorly drained yellowish clays or even grayish clays that indicate very poorly drained soils to very well drained red clay soils. The red clay soils actually indicate that the soil is very oxygenated and tends to be very high in iron content. These soils are similar to the very productive agricultural soils of the Limestone Valley in North Alabama where cotton and other agronomic crops are grown.

The combination construction and clay soils, however, creates a great dilemma between what is good for construction and what is good for growing plants. I can't count the number of calls each year I get with a common complaint, and that complaint is usually stated something like this...."we recently bought or built a new house and our grass and landscape plants greened up and did fine for a while but they either died out during the summer or else did not green up again this year".

Here is the reason why this happens in many cases. In areas of new construction, the top soil is usually scraped away and removed down to the clay subsoil. This clayey subsoil is then packed down repeatedly to form a very hard packed surface. This compaction is necessary in order to make a firm enough bed in order to build houses, roads, shopping areas, or other buildings. I have seen this happen time and time again.

This compaction; however, along with the loss of top soil and organic matter can and often does ultimately result in the premature death of landscape plants, garden crops, and lawn grasses. The root systems of plants

cannot penetrate this tightly compacted clay bed and thus cannot take up nutrients and water. Plants may do fine for a while as long as rainfall holds up or else as long as we keep our irrigation going. When the dry weather of summer hits; however, the plants can decline rapidly. This is especially true of turfgrasses and sod. Sod is often laid right on top of the clay layer and never establishes a root system.

Clay, especially red clays, are used by builders to make bricks with, and if not dealt with properly by homeowners prior to planting landscape plants and grass, then a whole yard full of bricks is what you will get if the soil is worked or tilled when too wet or else when the summer dry weather and sunshine bakes the underlying clay that was already compacted in order to build our homes and roadways.

Clay actually refers to nothing else other the size of the particles that make up a soil. Clay particles are very tiny and pack well, silt is intermediate in size, and sand particles are the largest of the particles that make up soil. Clay actually does have a very high capacity to capture and hold nutrients. We can and often do tend to overfertilize clay soils resulting in fertilizer burn or soluble salt toxicities because of this property.

Phosphorous and to a lesser extent potassium can reach extremely high levels in just a few years of repeatedly applying balanced fertilizers such as 8-8-8 or 13-13-13. This is why it is very important to test your lawn, garden, or landscape soil every two to three years.

For those of us with the dilemma of tightly compacted high clay content soils, especially in new development area, there is one very critical step that can help to overcome this problem but it needs to be done prior to seeding, transplanting, or laying sod. That is to incorporate organic matter back into the soil. Remember that in most cases around new developments top soil and thus vital organic matter has been removed and the underlying subsoil packed hard as a rock in order to prevent post construction settling resulting in structural damage.

Organic matter can be defined for landscape and yard purposes as such things as compost, rotted shredded pine bark, composted (not fresh) stable manures, or old rotten sawdust. Notice a common thread here, that is decomposed or rotted materials. A six in layer of good rich topsoil and organic matter will be needed in order to establish a healthy lawn or to maintain a healthy sod. Many people make the mistake of assuming that since we are laying sod, we can skip this critical step and lay the sod right on top of the clay subsoil.

Even under ideal conditions, Walker County topsoils contain only about one to one and one-half percent organic matter. This falls well short of

the three to four percent organic matter that allows plants and grasses to grow well. The organic matter will help hold moisture in sandy soils and will allow for better drainage in tightly packed high clay content soils. The organic matter will also help to loosen the soil and allow your plant's roots to penetrate the soil and grow so that the plant experiences less problems with drought stress.

Establishing and growing plants on tightly packed clay areas particularly around new construction areas often presents challenges; however, with a little care and planning we can have the best of both worlds.... continued growth marked by newer and better roads, newer higher quality housing, and better public facilities such as shopping areas as well as having healthy and colorful landscapes, lawns, and gardens to accent the new construction.