**The Smart Water Triangle of Controls, Irrigation best practices and** *Soil Texture*

 I’ve been in the green industry since 2005 managing all aspects from mowing crews to design build to a brief stint in distribution and wholesale supply. I am now back as a specialty irrigation contractor in Largo Fl. I’ve always strived on building into my business new ideas some good some not so good. I however have always found that if my enthusiasm about water conservation applied to irrigation best practices shown in front of the customer earns their business. I would show up to a consultation with a measuring tape and pressure gauges and talk about the latest smart controller product, matched precipitation rates and hydro zoning. I had a recent revelation to bring something out of my quiver for these appointments to talk about. You see I have used Diatomaceous Earth in my business in Oregon as an extra amendment to be added to the soil before new sod jobs. I was able to sell that treatment 90% of the time. I did these treatments due to dry conditions in summer and customers unwilling to invest in proper irrigation. I helped to create savings to their water bill as 100% of my customer base where connected to potable water.

 Flash forward to when I was in distribution here in FL. I couldn’t find Diatomaceous Earth in our inventory system in which to offer to my contractor accounts. I decided to reach out to the source I knew of in Oregon and thus began the conversation of how this product applies to FL conditions vs Oregon. I did wind up my time at the distributor and re-started my company here in Largo August 2019. I wanted to solely focus on water conservation projects, practices, products and procedures. This was to include the specifying of AXISDE into every job where plantings or sod are specified. You see it’s easy to open a box and show the customer a new smart controller or open a bag of MP rotators and explain the lower precipitation rate compared to conventional sprays, but it can be a bit strange to talk to the customer about their soil texture as an irrigation contractor.

 December of 2019 at the IA show in Vegas I presented my “Smart Water Triangle” talk. During my presentation I asked how many are taking soil samples at their meetings. Not one hand went up. We have an untapped market as irrigators to bring something new to the table. I believe our FL environment is ripe for this opportunity. We have a multitude of water sources and restrictions. We have seasonal fertilizer bans and seriously course soil texture. We also have an influx of new residents who are more open minded regarding conservation practices and the use of natural means of correcting problems in the landscape.

 I Currently work like this. I will gather all my necessary site conditions and data and give the customer an overview of the “Smart Water Triangle” at that meeting. Some know of DE others accept the information and understand the concept. You see, no one else is talking about irrigation to this level. So I immediately set myself apart from the competition. When I explain the 30% conservation with a smart controller and the 30% conservation of using DE as a permanent soil amendment especially to customers who may be stuck on using potable water there is no other logical choice. The customers who use well water might say something like “show me the ROI”. I respond with I can. They may not be considering more vigorous root systems, extended life of your fertilizer applications not to mention electrical costs and pump life. I look at our water being connected in a big circle. I tell them I’m conscience of the use rather it’s out of a ditch, deep or shallow well, reclaimed pipe or drinkable. Not many can argue with that.

 So let’s get into some science. We have some special situations to overcome here in central FL. Regarding Soil texture…. Here are some of the battles we face. Poor water retention, little horizontal wetting, Higher soil temperature and low field capacity plus flush through of nutrients. With the sand particle as big as 2mm and a high ratio of air to mineral makeup puts our soil on the opposite end of the spectrum of what is considered optimal, or soil which is a balance of air, water and minerals with organics bringing up the rear. You see the sand particle has no internal storage space for air and water as Diatoms do. The AxisDE particle can hold 142 time its weight in water plus balance air and water and provide room for beneficial microbes to develop all due to the internal pore space. What’s more is that the natural occurring pore space is the perfect size for roots to uptake water and nutrients which are released back into the soil from the AxisDE particles.

 So what is it. AxisDe is fossilized plankton from ancient sea beds in Central NV. It is 90% Silica and 82% porous. It’s in the amendment class of IPIA (internally porous inorganic amendment) It will not break down and provides a permanent solution when integrated to the soil profile at 10% by soil volume. This product will uptake water at 111% and release at 92%.

 Plants are in transition until planted in their final spot. With AxisDE in the mix, plants feel at home, establish much easier and thrive. Research data expresses the following key points; 40% plant size increase University of Florida, Fort Lauderdale. Reduces Compaction Virtue of Low Density. 4 X More Roots, Ohio State. Increases Survival Rates, WY. DOT & USFS Trials. 4 X More PAW\* Ohio State, UC Davis, Auburn. More Air & Water Content, Augsburg, Auburn. Increases Vapor Exchange, Function of Added Pore Space. 400% More Root mass, Ohio State - 3 yrs. Cumulative. Reduces Irrigation, Ohio State, UC Davis, Rutgers, Auburn. Best PAW\* vs. all other Inorganics, UC Davis, Auburn, Rutgers. No Affinity for Sodium, Georg Armbruster, Lab Results. 60% More Pores and Best PAW\* Augsburg. 4 X More Root Water Uptake, Auburn. USGA SAND ----BASE SYSTEM = Uniform Moisture, AxisDE research confirms many Significant and robust improvements to USGA sand. Compared to both inorganic and organic amendments, AxisDE provides several distinct advantages. (Copywrite Envirotech) EP Minerals is a US Silica Company.

I like to look at the holistic picture with my customer by my side. Once we are together with the overall approach to their landscape all you need to do is write the order and feel great knowing that you provided more conservation than your competitor and helped our environment by applying the “Smart Water Triangle”

*Rich Miller began his career in the green industry and landscape design by cutting lawns over 14 years ago. After several months, he left his regular job and never looked back. That business grew into a thriving all-phase landscape contracting business and he grew professionally as an irrigation specialist.*

*In 2014 he obtained his Landscape Irrigation Auditor (CLIA) certification which allowed him to offer irrigation auditing services. He also became listed as an EPA WaterSense contractor with his local municipality.*

*These certifications helped him to design with water conservation and efficiency in mind. He provided hundreds of system modifications to clients who were connected to potable water, which in turn conserved water and reduced costs.*

*He also began using AxisDE (diatomaceous earth) on all of his sod installation projects. This soil amendment further helped in reducing irrigation inputs.*

*Additionally, Rich earned Certified Irrigation Contractor (CIC) in 2018 and relocated the Tampa Bay market to join SiteOne landscape supply as a business development manager. This experience further crystallized his drive to work directly with water purveyors, municipalities and water managers as an irrigation consultant and Florida State irrigation contractor.*

*His company, Rich Miller Landscape Service, Inc. is also now an exclusive sales agent for AxisDE in the state of Florida, Puerto Rico and US territories in the Caribbean.*

*He believes his offering to the marketplace to be complete and more efficient. The smart water triangle of controls, system components, ​and soil science can now be promoted in a whole new way to the Tampa Bay marketplace.*