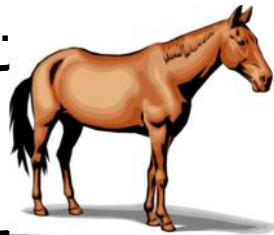


Notes from....



Serrano Creek Ranch Equestrian Center

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After last month's attempt at social commentary, its back to the usual dry science articles that are the lifeblood of this newsletter. For those who felt betrayed by the unusual subject matter, you're safe again.

In the "green world" the new buzz term is "life cycle assessment". This represents an effort by un(der) employed economists trying to calculate the total social costs of making, using, and disposing of a product. So, for example, a ceramic coffee cup may be less environmentally costly than a paper even though initially it "costs" more energy to make. The idea being that ceramic has many more mornings of use than the single paper cup.

Each year among the many things that we import to run the stable, you can add 750,000 pounds of gravel. This is the amount of gravel that we bring in to winterize the stalls, and that works out to be about 4,500 pounds per horse. In years past, that same 750,000 pounds would be picked up in small amounts each day in the cleaning process and mixed in our manure. It doesn't make a good soil amendment, yet when our manure was hauled away, it was some else's problem. As long as the truck made it past the front gate, what did we care?

When we started making the compost, it became our problem to remove the rock to obtain a sellable product. (Wow, what a real hassle.) We still viewed this as a waste product, and would spread it around the stable as a way of getting rid of it.

The gravel that we predominantly purchase for the winterization is called birds' eye. Technically it is gravel that passes through a screen that has holes 5/16" but doesn't pass through a screen with holes that are the size of sand (the next smaller screen). For the quarries that mine and screen aggregates, birds' eye is typically seen as a

(Continued on page 2)

Participants and observers alike enjoyed the barrel racing clinic held in the front arena on Sunday, July 21st. The morning drills were designed to increase cooperation and communication between horse and rider. The horses seem to love the games, and get quite excited. When that happens, they were not as responsive to listening when asked to slow or stop. Guest clinician Brianna Trepanier provided specific exercises to develop a better "whoa" for each horse (what works for one is not always successful for another). Later, rein and leg aids drills were performed to help the horse bend from the entire body and not the neck alone. As in dressage, this



Natasha Jensen put in to practice the morning's barrels lessons.

(Continued from page 1)

less desirable product. On one end the smaller particles (sand) have a very strong demand, and thus command a much higher price. On the other end, the larger size, pea gravel is the mainstay for concrete, and it too commands a higher price.

Many years ago we received a load of very small gravel like birds eye, that was 1/8" or smaller rather than the usual 5/16". This was the perfect size for arena footing. It acted like sand, but because it was larger, it would last much longer before ending up as dust under the pounding of the horses' hooves. I called the quarry and to my dismay discovered that this load was mistakenly taken from a special order. That material was four times the price and required a minimum order of 1,000 tons. Why so expensive you must be asking? The plant had to be reconfigured specifically with a different set of screens, and this was the minimum amount to be screened. Over the years I visited many large screening plants, and none of them make this material as part of their standard products. To date it remains one of my great unsolved quests.

Based on the advice of a successful radio therapist, I search for other ways to fill the unsolvable quest of 1/8" minus. Over the years, I've have experimented with two techniques to achieve this illusive particle size. The first was screening the arena footing to remove the dust. The idea being that we would add the birds' eye gravel to a point where it would be 20% of the footing. Horses would crush the footing over time. The particle sizes would be slowly reduced from 5/16" to 1/8" to sand, and then dust. A biannual screening would separate the dust from the good footing. We would then replace the equivalent in dust with more birds eye, and the process would be restarted. While this worked well, we created a lot of dust which is a big no-no. Because the arena had to be closed to do this work, in our rush to finish, much of the Higgs Boson 1/8" particles we sought were removed with the dust. Also dust tends to bond together (when moisture is present) into mini-dirt clods. When we screened, these little troublemakers would end up in the good footing pile to be reused. With a little harrowing, the dust ball broke up and the footing became dusty, though not as bad as before we started.

Our next attempt was the arena vacuum we

built, which sucked up the dust. Again this was successful to some degree. Being inspired while watching a street sweeper work, it did pick up only the finest material, but alas only off the very top of the footing. By the next day when the footing was harrowed, the dust free surface was buried and the dust reappeared. Like Thomas Edison, I still believe in the concept, it just needs many trials and much more time to be perfected. So for now we begin a new effort.

As we screen the compost for sale, a byproduct of gravel and some compost is collected. This is the pile stored by the bathrooms. Once that material decomposes some more and becomes drier, it is re-screened and the now much cleaner



gravel is placed in the pile at the front of the stable. Once we get about 400 tractor loads there, the material will be rescreened; separating out the 1/8" minus from the larger sizes. The larger material will be used for putting back in the stalls for winterization. The smaller 1/8" which is the Holy Grail I have for so long sought will be kept.

Once we have enough material, the front arena will be cut and scraped to the correct grade, and all the dusty footing will be removed and put in the turn out pen for later use as needed. The 1/8" material will then be brought in and spread in the arena. This material is far cleaner and should provide both comfortable footing as well as less dust. Our hope is that we'll have enough material to recondition the front arena before the next winter rains. After this arena is completed, we'll

(Continued on page 3)

(Continued from page 2)

move to the back arena using the same process, and then to the remaining arenas.

Now the gravel that previously was disposed of, has a much longer life: first as stall footing, then arena footing, and finally garden soil. Where before it had just a single purpose, now it serves three!

around?” But after a year or so, it finally sunk in. It turns out that the dirt I thought as worthless, is in fact a perfect material to blend with the compost to make an excellent planter mix. So in the last few years we have begun mining the arenas of the fine material so that we can get them back to the proper grade. In the last twelve months, we’ve been able to sell over 200 tractors loads of this material. Initially we would screen a yard or two to make the week’s orders. This last year we removed 10-20 yards from an arena at a time. It seems that fortune is smiling on us.



The other issue that the stable has faced is what to do with dusty arena footing once it becomes too dusty. We tried to throw it away, but received complaints from the trash company for weight and dust. There is no apparent commercial value to this very fine dirt so to truck it off to the landfill would be quite expensive. Not only do you have to pay for the trucking, but also the disposal fee. We always look for an inexpensive way to dispose of it. For example under pipes #150-160 are hundreds of cubic yards of arena dust that was used to build this pad.

Inevitably we just added new footing on top of the old footing, and the height of the arenas grew. In the high traffic area of the stable, we’d just put more gravel to cover up last years crushed dirt.

Shortly after starting the compost business, we began to get requests for material to fill raised beds, meaning a mixture of compost and dirt. At first I blew these off, thinking “Doesn’t everyone have hundreds of cubic yards of useless dirt lying

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