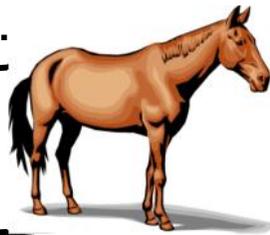


Notes from....



Serrano Creek Ranch Equestrian Center

OCTOBER 2011

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Best Trail Improvement

Jan Buck
2014

This month's *Serrano* goes to Jan Buck who quietly petitioned the City of Lake Forest to change the railing on Trabuco Bridge to a security fence. Because of her efforts, the scariest part of the trail ride is vastly safer and far less anxiety producing. Some improvements are temporary, but this one will improve trail riding forever! Be sure to thank Jan for a job well done.

Winterization will begin October 31. Work will start in the front breezeway and wind its way to finish in the back area by the park. For the vast majority, you're quite familiar with the protocol. Page three is the stall-a-gram. For those seeking a reminder of what is the best, please see last year's newsletter ([link here](#)) for a thorough discussion. If our winterization program is new to you, please feel free to visit the office and chat us up, and we'll bring you up to speed.

A big challenge in managing a stable in an urban setting is dealing with those citizens that are either indifferent or detest horses. No doubt their #1 complaint is the odor of a stable. *Serrano* is no exception to this rule. To be a good member of the community, we've been engaged in a long term solution to minimize the stable's aroma.

First, as always, a little science. When manure, urine and bedding are composted, we try to achieve a ratio of 30 parts of carbon-based inputs with 1 part nitrogen-based input. For sake of brevity lets call carbon *shavings* and nitrogen *urine*. This balanced ratio is what bacteria require to grow. When properly blended, the material breaks down quickly. The only byproducts of this process are water vapor and carbon dioxide. When there is an excess of urine, the pile will smell of ammonia. This is because in with a shortage of carbon, the by product of urine decomposition is ammonia.

Your horse's stall footing is a compost pile in a different shape. Many stalls in the stable have an ammonia odor. Again this is because the urine and shavings are not in the proper ratio. Thus the bacteria produce ammonia rather than water vapor.

When the stable had many more barns, there was significantly more shavings to act as the carbon source. As these have been converted to pipe stalls, the amount of urine is the same, but the shavings that

balance out the urine have been greatly reduced. Additionally, the recession has forced many pipe stall occupants to curtail their shavings purchases. The net effect of both of these trends is that the stable produces more ammonia than has been the historical case.

Now on hot or windy days, the ammonia dissipates very quickly as such the levels drop near / below sensitivity thresholds. On cold / still days there is less mixing of the atmosphere, and the ammonia levels go up.

In the fall, often hot days are followed by cool evenings. This creates an atmospheric effect known as an inversion layer. It works like this. During the hot day the earth, and buildings heat up. As the cool night arrives, the stored thermal mass of these buildings keeps the air warmer around them as compared to a distance away. These heat sources create a chimney effect as cool air is heated, and then rises up.

Because the stable has far less thermal mass, it cools off much faster than the surrounding neighborhoods. As air flows from a warmer surrounding area to the stable, the air cools off and falls. This forms a cap and traps gases close to the ground. As the wind continues to blow across the stable, the ammonia trapped air, then moves to adjacent residences. Now the telephone starts to

ring. September and October are the highest potential months for this kind of complaint. The issue eventually is solved by our annual winterization program that removes the urine-soaked soil in the stall, and replaces it with fresh footing.

In the last few years, science and business have developed products that contain a specific bacteria and / or enzyme that consume the urine in such a way that no ammonia is produced. These bacteria are put into a concentrated solution and then applied regularly to counteract the presence of urine.

During the summer, we did a trial and obtained very good results from using one of these products. To reduce our fugitive ammonia, we will be instituting a new program of daily application in our regular cleaning. Starting in October, the "uriney" areas of stalls will be misted daily with the bacteria. This spray poses no risk to your horse. Instead, by reducing ammonia levels, your horse's lungs will be much healthier.

If you prefer more than the minimal maintenance levels that the stable will be doing, you can purchase the concentrate from the store. Since you are contributing to reduction of the ammonia levels, the stable will be selling the spray at our cost. For more information on the product itself, you can check out this link [Bye Bye Odor](#).

and Oklahoma which is drawing available feed to these two states. Since they lack the rainfall to grow their own pasture and hay.

As was mentioned in the May newsletter that we would revisit the feed prices and adjust them either up or down depending on market conditions. Please find below the new feeding rates that will be effective November billing for our current customers.

While markets are always unpredictable, professional estimates for feed prices going into this winter call for even higher prices. We understand that these increases come at a bad time for everyone. The stable has frozen wages for the last few years to keep costs under control. We have reduced capital projects to offset increases in employee medical insurance and the general inflation, so that boarding rates can remain fixed for the near future. Unfortunately we have no control over the commodity markets, international currencies, and weather patterns.

Effective November 2011, feed rates will be as follows:

Feed	3 lbs.	5.5 lbs.	9.5 lbs.
Alfalfa	28	45	72
Bermuda	25	39	62
Orchard	33	54	88
Timothy	35	58	94

Those of you who do the family grocery shopping no doubt have seen food prices rise considerably over the last few months. Unfortunately, prices for horse feed have continued to escalate as well. Not only are horse owners competing with other types of livestock operations, but they must compete with other food types. Many farmers are switching away from hays / grasses, and instead are planting more profitable commodities such as corn, soybeans, and even cotton.

Coupled with this is the ongoing drought in Texas



