

# Polo fields:

## uniquely challenging turf management



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**A**T THE BEGINNING OF 2011, all I knew about polo was that Prince William liked to play the sport and that I could buy a t-shirt with a polo player in the corner for more money than I am willing to spend on a t-shirt. As an assistant golf course superintendent, I didn't even know that Colorado had polo fields.

As I toured the J-5 Equestrian Center during my first interview, I knew immediately that my first year managing polo fields might provide a unique variety of challenges.

When these polo fields were built more than 20 years ago, the intention was to use them for polo as a hobby, not as a professional polo facility. The fields were built without drainage, without proper grading and it appears as though 4 to 6 inches of

sandy loam was thrown on top of the native soil and rock that were left over from the cobblestone mine that the area was used for at the beginning of the century.

When our team, Valiente, took a lease on the fields the team owner and players realized that in order to play at a competitive level, the condition of the fields would need to change dramatically. Valiente's vision is to bring these polo fields to a level beyond past expectations and to create a standard for the

turf and playing surface that could be compared with the world class polo fields in Florida, California and Argentina that they are used to playing on.

### POLO BASICS

Outside of polo circles, little is known about the sport, so let's start with a few polo basics. These fields are regulation size, 300 yards long by 160 yards wide. That is just less than 10 acres per field. In perspective, each polo field is larger than 9 football fields. This facility has two regulation playing fields and a 3-acre practice field. The entire length of each field is lined with 11-inch high side boards. Although the side boards and end lines indicate the boundaries of the field of play, the areas outside of these boundaries are not considered out of bounds. If the ball or the players move outside of these borders, they simply continue playing and move back into the boundaries. The field markings are simple. The end lines are painted across the length of the field; the center is indicated with T-shaped markings, and the 30, 40 and 60 yard lines are marked for penalty shots. The goal posts are 10 feet high, 24 feet apart, and are placed in the center of each end line.

Each player rides 4 to 6 polo ponies during the course of the game to keep the ponies rested for maximum performance. Each team has four players on the field, plus two umpires on horses. The game is played in 6 chukkers (periods) of 7 minutes each. So there are 10 horses running, stopping, and turning at full speed for 42 minutes. Every step a horse takes creates four divots. I don't know how many divots are made when 3 to 5 games are played each week, but I can assure you, it is a lot, and that is where the job of turf manager comes in.

The divot operation is probably the most unique aspect of polo field maintenance compared with other sports. A 1,100-pound horse running at 40 mph



and cutting at 180 degrees creates a whole new category of divot. Most of you have probably heard about the divot stomp, where the spectators enter the field between chukkers and stomp down the divots. This is very helpful, but we only hold one formal event each year where we have spectators to fulfill this duty. The first thing the turf crew does after each match is walk the field, flipping and stomping the divots. Doing this immediately is extremely important so the divots don't dry out. The field is then rolled to keep a smooth surface and to protect the mowers from scalping the mounds that each divot creates. Now it's time to fill 10 acres of turf that are covered in divots wall to wall. Sod is not an option. If a horse slips on unrooted sod and breaks its leg, then that horse, unfortunately, has played its final match. Therefore, we must use seed.

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#### COMPOST NEEDED IN DIVOT MIX

The divot mix is 80% sand and 20% compost.

The compost is an absolute necessity to hold moisture for germination because we are restricted to a very delicate watering regimen (more on this later). We use an 80% Kentucky bluegrass and 20% perennial ryegrass blend for the divot mix. The ryegrass germination is critical to hold the divot together until the KBG comes in. We always are experimenting to find the best methods for germination. In the heat of the summer, we began experimenting with pre-germination. The methods were extremely scientific and calculated, meaning we threw the seed bags in a horse trough full of water and poked holes in them, letting them soak for a day. Did this help? I can't tell you for sure, but I believe that it worked to our benefit.

I plan on continuing pre-germination and comparing with other methods like using a pre-coated-seed for higher germination rates. The best and most efficient process will never be found because there always will be something new to try and see what happens. Once the seed and sand are mixed we load it into a trailer. The trailer is pulled back and forth slowly with 8 to 10 divot fillers following, each with a bucket in hand. For the next 6 to 8 hours, it's scoop, drop, smooth and move until all of the divots are filled. A final drag with a chain between two carts will help clean up any sand piles and save the life of the reels for the next mow.

Our watering situation is also very unique compared to most turf properties, mostly because there is no in-ground irrigation on the fields. We use large water reels, each 300 yards long. We also have water cannons outside the playing field that are spaced at every 75 yards. The reels are pulled out with a tractor and reeled



in as the water pressure turns the turbine to move the gears. I mentioned before that we are on a very delicate irrigation regimen. These fields have no drainage, and the reels, even at their fastest rates, will put out enough water to replace the ET on a 90 degree day, so it is impossible to throw a light syringe over the property to cool it down.

The moisture level in the soil directly affects the horses' ability to run, turn and stop. Too wet and the turf becomes too soft and sloppy, too dry and the turf becomes too firm and slippery. There is a 4-to-6 hour window of optimal playing conditions where the irrigation has dried enough to play on and before the fields are too dry and firm. Timing is everything and adjusting to weather conditions is extremely important. For spot treatment over such a large area the best option is to pull around above ground lines with pods that hold the irrigation heads upright. This allows us to keep the moisture levels adequate and even due to the inconsistencies of the fields. As if all that weren't difficult enough, we share our pump station with the HOA and cannot water at night due to pressure loss. The irrigation challenges are plentiful, but with a strong dedication to spot watering we have been able to keep a consistent playing surface and green grass throughout this season.

These fields were not originally intended for professional polo. They had been aerated, but need more than a simple aeration twice a year. Compaction from polo requires increased cultivation. Using a verti-drain we were able to get down 8" on the 1st attempt, 11" on the 2nd and 15" on the 3rd. Adding 3 core aerations, 5 times slicing, 3 times verti-cutting for thatch removal, and adding over 2,000 tons of top-dressing sand, the turf and soil received a sigh of relief from 2 decades of compaction and thatch build up. These cultivation practices brought the surface firmness to an acceptable, and at a few times this season, an optimal level for polo play.

The increased cultivation is a key factor in the level of improvement that these fields experienced this year. Paying attention to details that may have been overlooked before has created a more optimal growing environment for the turf. Adding practices such as adjusting fertility based on soil tests, getting disease diagnosis from extension labs and the introduction of wetting agents have all contributed to a very successful product for our polo team to play on.

My goal when I arrived here was to make our fields comparable with the world class facilities where the highest level of polo is played. I believe at times during this season, we have achieved that goal. With a little fine tuning, my goal now is to keep those conditions on a consistent level throughout the playing season. There will always be new methods to try, new innovations in our industry and more opportunities to learn from mistakes. Improvement is always on the horizon, and perfection, although never obtainable at its true definition, is the only acceptable outcome for the future. ■

*Dave Radueg is Polo Fields Manager at the J-5 Equestrian Center, Littleton, CO.*

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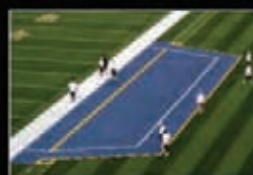


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