



The DryJect Visits The Shenvalee Resort

A beneficial part of any turf manager's cultural-management scheme, aeration is the most important process we use to help relieve soil compaction, open pore space and manage thatch. On golf courses, it is essential to the management of all fine turf areas.

Even so, aeration is also the most disruptive procedure done on turf. Whether on a golf green, a football field or a home lawn, most of our "customers" (golfers, athletes, homeowners) hate to see it done. On putting greens, golfers' view is that it affects playability, and our view is that they wouldn't have greens to play on without aeration. This is the problem I face at Shenvalee, and it's probably an issue for any turf manager anywhere.

The Shenvalee is a 27-hole resort facility that averages 55,000 to 60,000 rounds a year. Open year-round, we really don't have a downtime except in the winter months, when we still average about 1,000 rounds a month. Aerifying in the winter is not an option, since we have to do it when the turf is actively growing and will quickly heal. Unfortunately, the optimum aeration timeframe is also prime golfing weather.

Donnie Martz, Shenvalee's general manager, approached me last fall after it took about two-and-

a-half weeks for the course to heal from aeration. He asked me to explore other aeration methods that would shorten the heal time and return the greens to playing conditions as soon as possible. He understood about the need for aeration and its benefits, but we do have bills to pay and stockholders to please, so he gave me the task to find another way.

Accordingly, I went to the Golf Industry Show in Orlando this past February with this goal in mind. During a seminar on managing green speeds (presented by Dr. Thom Nikolai, Ph.D., from Michigan State, and Michael Morris, CGCS), I saw, for the first time, the use of the DryJect. This machine uses water pressure to create holes (for sand or inorganic amendments) and then fills those holes completely by injecting the amendment. The process is not new, but it has been improved over the last few years.

Michael Morris used the DryJect at his course to introduce amendments into his greens. Michael liked the process because there was little or no disruption to the putting surfaces immediately following.

Above: In one pass over the turf, the DryJect machine creates aeration holes and fills those holes with amendments.

The next day, I talked to the DryJect representatives there at the show. They gave me all the pertinent info I needed, plus a DVD of the process. I headed back to Virginia with hopes of an answer for the powers-that-be at Shenvalee.

After meeting with Shenvalee's greens committee and GM, and after viewing the DVD, we decided that we would give the DryJect a shot on our greens. I spoke with Paul King from DryJect Carolinas and set up August 22-23 as our DryJect days. Paul sent me some preliminary information on what they would need from us in terms of manpower, sand quantities, hauling machinery, etc.

Paul also told me that two other courses in Virginia had used the DryJect procedure. One of those courses was Goodyear Country Club in Danville, home to Mark Vaughn, editor of the Virginia Turfgrass Journal. I emailed Mark and asked his opinions of the process, and he was very pleased with the results of the work done on nine of his greens. With that in mind, we lined everything up per Paul's request and were ready when they arrived.

Our DryJect day

Paul brought three operators and their machines, which each cover about 4,000 square feet per hour. So, with three machines, our overall speed for the two days was approximately 12,000 square feet per hour.

Except for a minor glitch with the equipment, the process went off without a hitch. We covered the Creek Nine in about six hours (67,000 square feet) and moved to the Olde after lunch. We finished Day One at 6:30 p.m., with 18 holes DryJected and completed. On Day Two, we covered the Miller Nine and our practice green, and we were done by noon. So, in a day and a half, we did 187,000 square feet of greens, start to finish.

After we DryJected, we dragged the greens. I used two different drag attachments — a standard steel drag mat and the Turf Groomer brush reels from Jacobsen on my GKIV — to see which one would work better. The brush reels, set just a hair above height of cut of my greensmower, worked beautifully, with little or no tufting of the DryJect holes. The steel drag mat tended to tuft the edges of the holes and bruised a little more than the brush reels did.

Afterwards, we used a roller to smooth any irregularities in the greens surface. In fact, we decided to roll again the first two days after the process, with irrigation each night. Then we put the greensmowers back on the greens, with a slight increase in height until the first of the next week to avoid any light sand issues.

Things you need to know

First, you'll need to assign one staff member to work with each DryJect machine to keep the hopper loaded with sand. The hopper needs to be refilled at about every pass, so the person stationed at the greens is busy.

Also, although Paul recommended having sand piles at each green, I didn't want to deal with three cleanup messes afterwards. So I decided to use only one big sand pile and keep five-gallon buckets filled with sand at each green, which worked out very well. We put 20 buckets at each green to be used for the fill process.

Initially, I planned to have one runner go to all three greens and pick up empty buckets, go back to the main sand pile, refill and then bring back buckets. That plan went to pot after about an hour. One person was not enough to keep three greens supplied with sand, so I ended up assigning one runner per machine. Using that method, we were able to keep the buckets filled and the machines moving.



The DryJect machine is an impressive piece of equipment for its size.



Here's the finished look of the DryJect process.



Following the DryJect procedure, we “dragged” the greens with Turf Groomer brush reels.

Because the fill procedure was tedious, I ran split crews on Monday. I had six people come in at 6:00 a.m., and a second crew came in at 10:00 a.m. In hind-sight, I possibly could have brought everyone in at 6:00 a.m. and rotated people on the fill and haul process. But I think 13 hours of hauling and lugging sand buckets is a bit much.

If your greens are somewhat compacted, the machine will tell you, figuratively. Since it uses water pressure to create the holes, if it hits something really hard, the hole will be smaller. And since the machine automatically assumes a standard hole depth, it will pour that regulated amount sand into the hole, thus slightly over-filling the holes in compacted soil. I was able to find out which of my greens were a little harder than others, but with the summer we just had, I had an idea anyway.

Cost issues

The cost is about \$.03 per square foot. We DryJected about 175,000 square feet of greens and collars, so our total was about \$5,250. The process took less than a day and a half, when core aerification is a three-day process, so the quick turn-around was nice.

I feel that this process is more than worth the price we paid. We mowed greens three days after we DryJected, and all of the comments about our greens were positive. I even received a call from a friend of mine in the business whose greens chairman had visited my course that weekend. They wanted to know how we recovered so quickly from aerification.

My experience and opinion

My thoughts on this procedure? For one, I think it's a great tool for anyone looking to aerify greens. Several superintendents questioned me about not pulling cores in the fall versus “punching holes.” For my course, my thatch layers are acceptable. If your greens have major thatch issues, you would probably want to core, but I still think the DryJect would help.

I am trying to get more straight sand into my greens, which range from 12-35 years old, with a mix of sand-based greens (80-10-10 mix, with the 10 being topsoil to an old push-up-style green), and my greens had issues of holding water when I arrived three years ago. Since I will core and vertical mow this coming spring, I will address thatch issues then. I will also deep-tine at least once a year to help alleviate compaction issues. So this version of aerification is a great way for me to incorporate more sand into the soil profile.

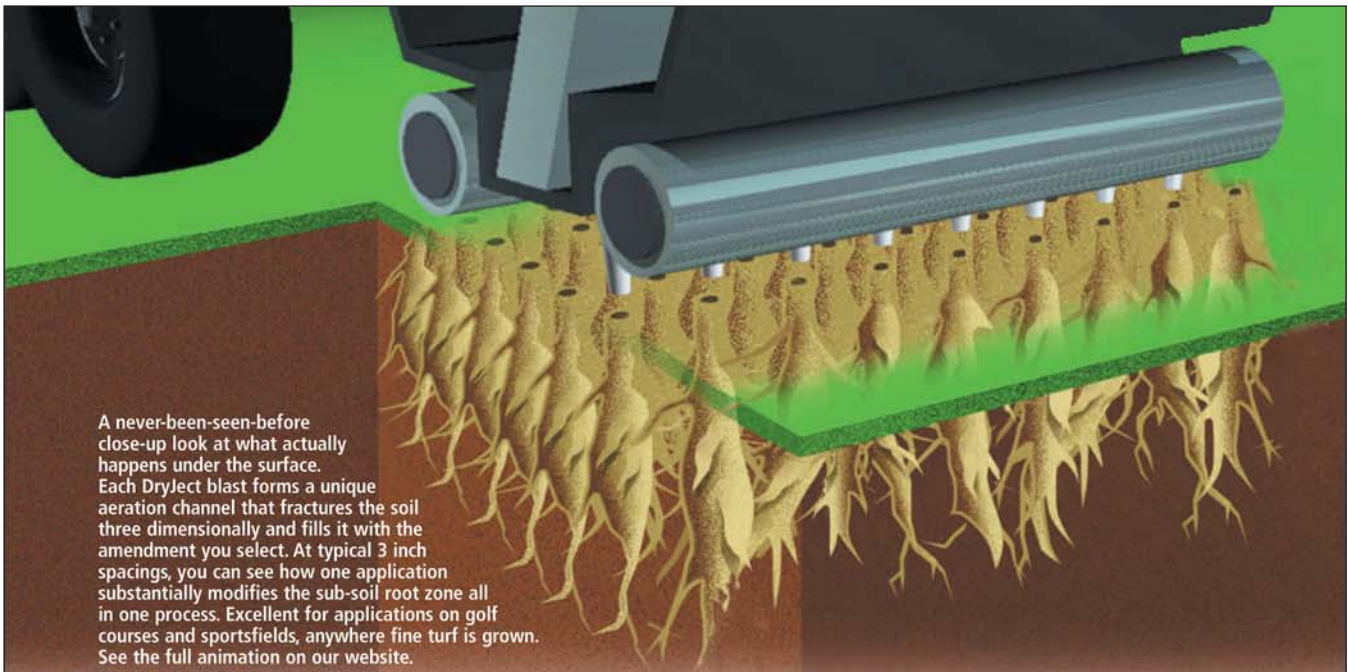
Secondly, greens are much more playable the next day, as compared to standard core aerifying. The holes were filled completely, and the greens had little or no sand on top of them after they had been rolled and irrigated. My GM and a couple of members came out to check things out during the process, and they were very pleased with the final product.

My plans are to continue to use this procedure for our fall aerification. It addresses my areas of concern, and for my supervisors and golfers, it addresses the issues that concern them. We were able to meet halfway and provide a way to give everyone involved what they wanted.

I'm not saying the DryJect is the end-all as it relates to aerification. It's simply another tool that's available. For us, it's a tool that we plan to use for years to come. ☺



You'll need to assign at least one staff member to keep the hopper on each machine full of your amendment.



A never-been-seen-before close-up look at what actually happens under the surface. Each DryJect blast forms a unique aeration channel that fractures the soil three dimensionally and fills it with the amendment you select. At typical 3 inch spacings, you can see how one application substantially modifies the sub-soil root zone all in one process. Excellent for applications on golf courses and sportsfields, anywhere fine turf is grown. See the full animation on our website.

For the first time ever, see the unique aeration and subsurface injection of DryJect®.



Nobody has ever seen before the unique, dynamic pattern of three dimensional channels that are created by a typical DryJect application. The aggressive subsurface changes created allow for air, water and nutrients to feed the root zone like no other system on the market today without disrupting the surface. DryJect has been used on some of the nation's top golf venues including Oakmont, Winged Foot and Merion. Also, the Dallas Cowboys Training Center uses DryJect.

Only DryJect Contractors give you this 3 dimensional, dynamic effect.

DryJect does two unique functions at once. First, as an aerator. Most aeration equipment punches, drills or slits; some pull plugs. Only DryJect aerates three dimensionally-side to side, front to back and even connects hole to hole. There's no glazing of hole walls, broken tines on buried rocks, changing tines or depth concerns of cracking drainage or other buried lines. It's a revolutionary concept using powered water - a patented Venturi process - to open the soil for air, water and amendments in high volume without disturbing the surface.

Secondly, it's the only machine that can inject while aerating. Following a water blast into the turf, it instantaneously injects a selection of flowable dry amendments - sand, peat, diatomaceous earth, calcine clay, zeolites, top dressing, seed, wetting agents, insecticides, or biological products, you select the mix. For root zone modification, DryJect can use about one ton of material per green.

DryJect Service Center Contractors eliminate the traditional need for a crew to drag, fill and remove cores; saving a tremendous amount of labor and time. Some have calculated savings into six figures for a year. What's more, DryJect allows you to start a soil modification program even as part of your regular aeration.

Why own equipment when you can contract for it with an authorized, experienced DryJect Service Center Contractor? With over two dozen territories nationally, there's a dependable DryJect contractor near you. Check out the full animation on our website or phone today for more details, pricing.



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Only DryJect Contractors can inject while aerating.

Over two dozen Contracting Service Center franchises nationally, DryJect has a location near you.

Contact details for authorized DryJect contractors (franchises) are listed on the web. Interested franchise candidates contact the Administrative Offices at 800-270-8873 or email info@dryject.com.

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