

their families. In fact, I applaud and congratulate my Hispanic friends who have graduated from NCCC and moved on to one of the unionized plants in our area. Better pay, much better benefits, definite year round work, which they deserve and which they will retain because of their great work ethic.

Most of the union guys that I know could positively be compared with any golf course superintendent!

Some other acquaintances in town, not really friends of mine, really do milk the union system and it makes me somewhat perturbed. They have this invisible layer of job protection provided by the almighty union, so no matter their attitude, work habits or lack of desire to work, they keep their position intact! And heaven help the naive manager who institutes proceedings to get rid of the dead weight. Inevitably Mr. Worthless gets reinstated, with the naive manager getting the cold shoulder or much worse from everybody else!

My resentment is fueled by the growing realization that we in the golf superintendent position have precious little job security. Not nearly enough job security. Too many guys have their heads on the chopping block lately and live with the real possibility that all those years of service to a golf facility may not be enough to sustain a career.

Superintendents have to look into themselves and depend upon themselves to sustain their careers. Unfortunately, we have no larger organization negotiating on our behalf for salaries, stock options, or benefits.

I resent the fact that so many of these union guys are able to retire at approximately age 55 with these great pensions and buyouts! Wouldn't that be nice?

What do superintendents get at age 55? If they are still in the business, that means that they're really good and that their club does appreciate them. A very high percentage of us have left the business due to burnout and frustration, moving on and searching for a position that will provide security and benefits. Maybe they go join a union somewhere!

Labor unions are a fact of life here, to the point where our course offers golfers a discount if they show their union card!

Hey, would I love to have a professional labor organization representing me and my superintendent brethren in the golf course world. an association with real bite and power to prevent me from getting fired should I temporarily screw up or piss off the wrong people! But, problem is, no such organization exists for golf course superintendents. We sink or swim on our own merits and at times get sunk by forces beyond our control.

One of the locals of the Teamsters is making a strong effort to organize golf course maintenance staff personnel at various golf courses across Chicago Land. Alarmingly, they have had some very real success and will probably continue to successfully organize workers down in this region.

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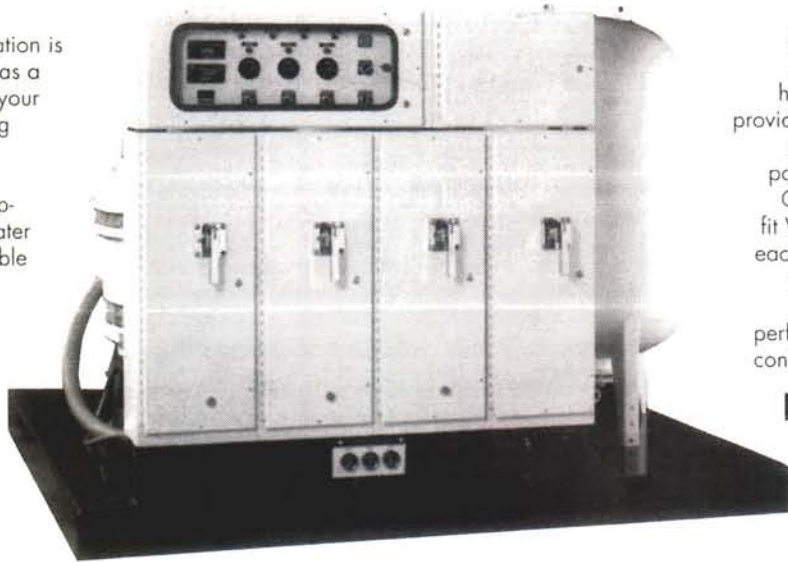
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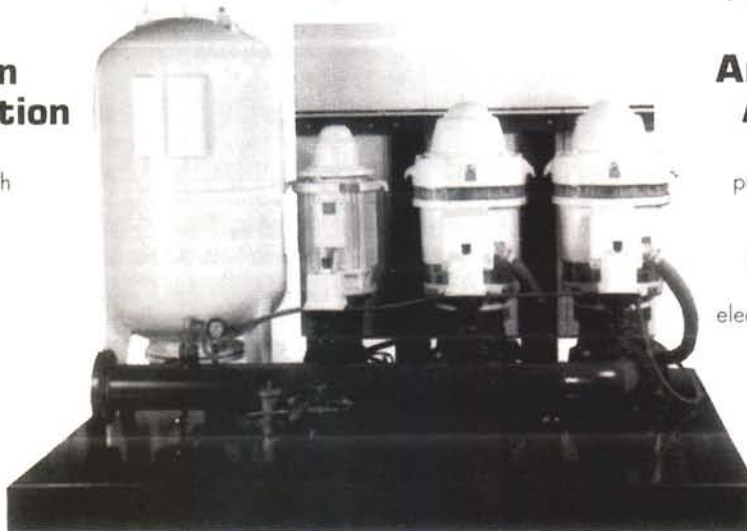
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Is there merit in the case that they are making to these men and women, primarily Hispanic, to join the union? Definitely yes, under certain circumstances. Here are a few examples:

- There have been situations that I've encountered in which golfers, management or fellow staff members make derogatory, racist comments or jokes about our Mexican employees... usually overheard by myself either on the course or in the clubhouse. Sometimes I confront the person and sometimes I'll let it go.

- There have been more than a few instances of complaints about "them Mexicans" not showing enough courtesy to golfers on the course, usually from beer soaked patrons who expect, but never show, courtesy to others!

- There was one instance in particular this fall in which two of my key men were winterizing the irrigation system and accidentally sprayed a guy with water and high pressure air. This jerk and his friend threatened our employees with physical harm and raised fists, and accused them of harassment as they played their round of golf! I happened upon the scene about five minutes after the initial confrontation, and proceeded to have a very heated argument with these two losers, defending Manuel and Lupe, who have faithfully been with the club for about three years!

- There are many landscaping firms down here who don't pay overtime to their Mexican laborers. Would we, as golf course superintendents, ever consider not paying overtime to a white dude? Probably not.

- There is a widespread attitude in this area among the locals that the Mexican population contributes very little, are a drain on government, and steal jobs from "whitey." Interesting also that these same ignorant types would never consider doing the necessary work taken on routinely and without complaining by others.

- There is a much better attitude among the young concerning ethnic diversity, I think. Lots of good Hispanic students, athletes, and friends all across the school system makes things more equal on their level. In fact, my 16-year old son spoke up right away upon reading this column. He's in his youth and innocence and has noted the subtle racism that too many public golfers have toward Mexicans.

Ryan says, "So would Hispanic golf course workers like a strong union representing them?" I think they might. You know what they would like even more? EQUAL RESPECT. Wouldn't you want equal respect if you were living in Mexico? You would. So wait! I know some of you out there are thinking I am full of something right now. Why? Take a closer look next time... who should be making fun of the Hispanic mowing the lawn on # 17 or your beer soaked buddy who can't hit the ball and is slobbering on himself? So I ask you strongly to enforce keeping racism off of the golf course!

So, I guess that the soapbox better close down for now.

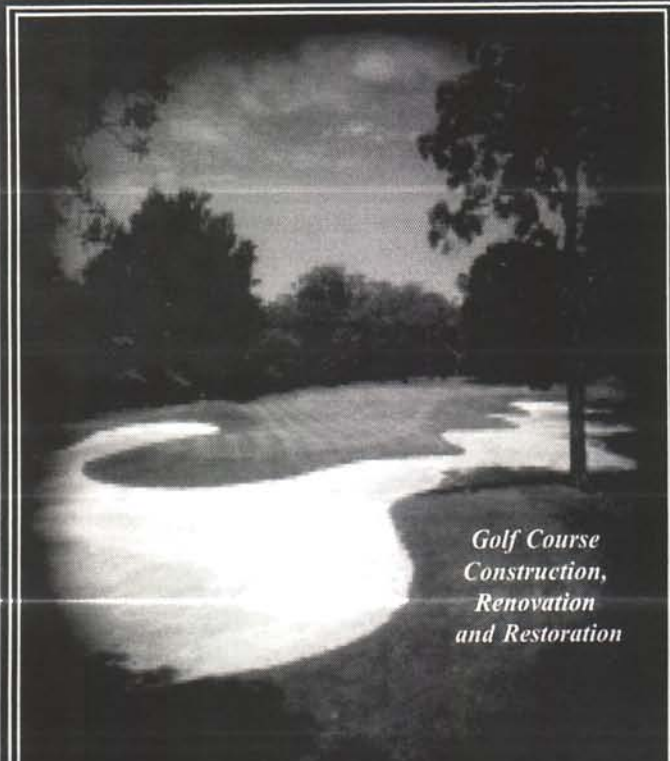
Golf course superintendents down here are dealing not only with their own problems . . . but with possible labor organizing problems as well.

The advice from superintendents who have been involved with all of this highly recommend attacking problem areas - working conditions, worker training, better pay and enhancement of benefits, retention of quality people, and creating a positive environment for your employees, whether white or Hispanic.

Do not ignore or delay; do not let your organization ignore or delay any possible problem area. The unions just might come calling.

Hispanic employees are a very real and critical part of any golf course operation. Any intelligent superintendent/manager realizes that his/her success is partially due to one's employees. Looking out for their welfare as much as possible is not only good business... it is the right and human thing to do.

Hopefully, if superintendents faithfully do that, others in the golf course world will take note, appreciate hard work and consistent results and not be so quick to pull the plug when people run into problems. It is the least that we should be able to expect. ♻



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Core Cultivation: A Necessary Evil?

By Dr. Frank S. Rossi, Department of Ornamental Horticulture, Cornell University

Editor's Note: There have been several articles from across the country of late that ask the question Professor Rossi asks in the title of an article he authored in Volume 11, Number 3 of Cornell University Turfgrass Times (CUTT). It is a topic that can be controversial, as our own Dr. Wayne R. Kussow discovered in a piece he wrote a few years ago for The Grass Roots. Read on to learn of Dr. Rossi's thoughts on the subject. The article appears here with permission.

There are few practices that turf managers feel are more vital and users of turfgrass feel are more disruptive to play than the process of cores cultivation. In fact, a 1996 golfer survey conducted by the GCSAA indicated that 77% of respondents ranked "recently aerified greens" as the most bothersome aspect of golf turf management.

Core cultivation is a preferred term to aeration in that cultivation will often improve water movement, which is as or more important than aeration. The aeration concept actually is derived from one of the first mechanical cultivation devices developed by the late Tom Mascaro.

Regardless of semantics, a perennial discussion occurs each year on golf courses throughout the country, among golfers and turf managers, on the essential nature of cultivation. "Can it be after the Labor Day tournament?", "Do we have to do it every spring?", "The golf season is short and aeration disrupts the surface for a month." Many superintendents hold firm, some are flexible, others stop altogether.

Kurt Theummel at Walnut Hills Country Club in East Lansing, Michigan has not aerified his greens

for almost 20 years. "Why should I aerify if my greens are in good shape, I don't have thatch accumulation, and I don't have compaction?" All good questions that beg other questions regarding why as an industry we are so committed to core aerification.

Why Cultivate?

Core cultivation has been the primary means of managing the inherent traffic a turf receives and the subsequent soil compaction that is typically confined to the upper few inches. Soil compaction is defined as the pressing together of soil particles into a more dense soil mass. The degree of compaction is often determined by measuring the soil bulk density.

Bulk density is simply the dry weight of the soil particles contained in a specific volume, reported as grams per cubic centimeter (g/cc). The more particles crammed into a specific volume, the less pore space, the higher the bulk density, and consequently the less air-filled porosity (aeration).

Interestingly, the increased adoption of sand based root zones originated with the thought that properly sized sands would resist compaction. In addition, the high percentage of air-filled pores would allow for improved drainage and better root growth. Also, in the last decade there has been an increase in the use of straight sand topdressing.

The question remains, if we have more sand than ever in the greens, and sands are supposed to resist compaction, why are we cultivating so much? Is it from lay-

ered profiles that result from poor material specification? Is it due to organic matter accumulation? Is it because of poor quality water that brings particulate matter of possibly calcareous sands that degrade and "plug" pore space? The answers are yes.

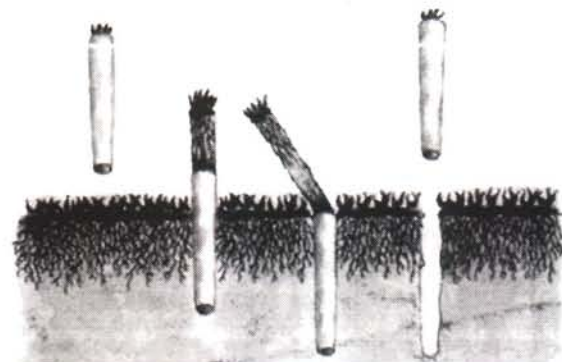
Regular core cultivation is employed to reduce organic matter (OM) accumulation at the surface. The undercomposed or partially decomposed organic matter that is referred to as thatch is thought to be reduced through regular cultivation. This would be accomplished by increasing aeration and mixing soil with OM, thereby enhancing degradation. However, very few studies bear this out.

Art or Science?

The science in support of core cultivation has not been consistent.



While coring seems drastic, a typical operation affects less than 10% of the surface.



Core cultivation is best accomplished by the removal of a core as opposed to solid tine cultivation.

Some have found an increase in water infiltration rates and oxygen levels, others have found decreases. Several researchers have reported no effect on thatch accumulation, others have reported decreases.

An interesting study conducted in the late 1970s by Marty Petrovic working with Paul Rieke at Michigan State University measure increased compaction around the walls of a soil recently cultivated with a hollow tine unit. They also noted increased compaction at the base of the core that persisted for 90 days. This was the first confirmed report of the development of a "cultivation pan" at the base of the coring operation. As a result of this and others' work, mechanical units that go below the normal 4" depth to break up the compacted pan layer are more widely used.

Paul Rieke published another important study in 1993 with Jim Murphy of Rutgers University. A loamy sand soil supporting a Penneagle bentgrass putting green was subjected to seven hollow or solid tine core cultivations over a three years period. Cultivation had no effect on soil compaction, total porosity, and water infiltration unless significant compaction already existed. Soil strength, a measure of the resistance of the soil and thereby indirectly the compaction level, was decreased (less compaction) one week following cultivation. However, three weeks after cultivation, the effect on soil strength had diminished. This point argues for increased frequency of coring operation, but concern remains for the development of a pan layer at the base of the tine depth.

Organic matter accumulation in the Rieke and Murphy study was not reduced by core cultivation, in fact it actually increased! However, the percentage organic matter per unit of depth did decrease, suggesting a dilution of the OM with the incorporation of soil. This dilution concept has been enhanced recently by

researchers from Penn State and Michigan State universities investigating the influence of topdressing material, frequency, and rate on thatch. While there was no significant reduction in organic matter from the 100% sand topdressing, when compared to peat and soil treatments, there was a significant reduction when compared to the non-topdressed plot. Coring was not a component of this study, however, if dilution is a primary means of managing thatch, can't we just topdress and skip the aeration?

The Deep

One consistent issue that is evident in golf turf systems is the presence of layered soil profiles. Sometimes these profiles are designed, such as the USGA Method for Putting Green Construction. Also, they occur as a result of changing materials for topdressing, or regular hollow or solid tine cultivation to a consistent depth, or even because organic matter has accumulated at the surface. More important than how they occur is where they occur.

Our research at Cornell University on a sand based putting green has shown that bentgrasses are prolific root producing grasses. In addition, over time the roots continue to be localized at the surface. Any removal of root material or reduction in rooting would be welcome. Unfortunately we have grown accustomed to enhancing root growth as a means of improving turf. I wonder if more roots are always a good thing, especially if they are surface roots? Furthermore, if I would rather not core cultivate to disrupt the surface, it appears from previous research that topdressing will work to dilute surface OM accumulation.

But what can you do when the entire profile is compacted very deeply or the layering is below a 4" depth? Deep tine cultivation with the Verti-drain or other mechanical devices such as the Floyd-McKay drill that penetrate from 8" to 16", could be effective. There is limited

research and what is available suggests that the effects of these processes diminishes from 3 to 8 months after treatment.

Unplugged

As long as turf receives traffic, is regularly watered and fertilized and golf is played on it, the debate will rage on about the importance of cultivation. No reasonable agronomist would categorically eliminate the use of cultivation because each situation is different. For example, if Walnut Hills had exceptionally poor quality irrigation water, not coring would be foolish. Many management consideration must be integrated precisely for "not coring" to be successful.

In the absence of these unique conditions, many new technologies are on the market or coming. The use of high pressure water injection systems introduced by Toro and more recently by Deere and Textron, offer great potential for increased aeration and infiltration with reduced surface disruption. Quad-tine aerification units appear to be less disruptive and are widely used. But why do we always have to make holes?

If we want to get more oxygen into the root zone, why not inject it? This is the basis for the Sub-Air system that pumps various concentrations of oxygen through pipes under the ground. The jury is out on this approach, and clearly what we have to date cannot warrant the expense of retrofitting an existing green.

On the other hand, the solution to the coring controversy is to be clear about the objectives. Is it performed for reducing compaction? Is it for OM accumulations? Is it for overseeding or soil modification? Can any of these be accomplished without severe surface disruption? Should they be? In the end, we know precious little about the dynamics of the golf turf system, let alone the role of a sound cultivation program. Consequently it appears that the debate about this issue will continue. ♣