



CRANBERRY • TOWNSHIP •

Cranberry Township's Athletic Field Maintenance Manual

HERE IS A SAMPLE of some of the guidelines and Do's and Don'ts that are included in this manual, which details maintenance practices for volunteers from user groups:

BASEBALL AND SOFTBALL

A. DETERMINING FIELD PLAYABILITY

The decision to play on fields that are too wet is the number one cause of damage to ball fields and the top reason for player injury. And often, techniques used to make a wet field "playable" cause additional damage. Making the tough call to postpone a game due to wet conditions is the best decision for player safety and to preserve season-long playability of the ball fields.

B. WATER REMOVAL TECHNIQUES FOR SKINNED INFIELDS

The most important mistake to avoid is the removal or movement of infield mix. A level field will drain better and have fewer puddles. Low spots or depressions catch and hold water EVERY TIME!

Use a pump to remove puddles.

1. Dig a hole and place the field mix out of your way.
2. Let the water drain into the low spot you've created.
3. Use the pump to move the water into a bucket.
4. Empty the bucket outside of the playing field into a drain.
5. Replace the field mix into the hole and level with a rake.

DO NOT Use These Methods on Wet Fields!

DO NOT use brooms to disperse puddles.

DO NOT sweep a puddle into the grass.

DO NOT remove muddy infield mix from the field.

All of these unfortunate techniques move infield material and leave a depression or low spot that will hold water every time it rains.

For small or shallow puddles, use a water absorbent pillow. 1. Allow the absorbent material to soak up the water. 2. Have a bucket nearby to wring out the pillow or sponge. 3. Empty the bucket of water off the field of play into a drain.

After the standing water has been removed, use a rake or nail drag to loosen the infield mix so it will dry more quickly. Allow time to air dry.

C. ADDITION OF FIELD DRYING AGENTS

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face, Pro's Choice, Diamond Pro, Rapid Dry, and Profile are the most common products used to assist with wet infield conditions. These products should be used judiciously for two reasons: they are an expense to the program and they change the properties of the infield mix when used abundantly.

Never use more than three bags of drying agent to make a field playable!

D. INFIELD GROOMING TECHNIQUES

1. Remove the bases and plug the base anchor sleeve before beginning any operations.
2. Vary the dragging pattern every time the field is groomed.
3. Scarify the field with a nail drag or needle tines.
4. Finish groom the field with a drag mat or broom. Go slowly!
5. When finished dragging, stop 5 to 6 feet before the edge of the skin and lift the drag. Shake any excess field mix off before exiting the field.
6. Exit the field in a different location each time to prevent build-up of infield mix in one location.
7. Hand rake out the pile left from the field drag.
8. Hand rake: base paths end-to-end, home plate, and the back radius of the infield.
DO NOT pull the nail drag or mat into the grass for any reason.
DO NOT take a nail drag or mat within 24" of the grass edge. Only hand rake edges to prevent lips from forming.
DO NOT take a nail drag over home plate.
DO NOT drive the nail drag or mat down base paths or around home plate on baseball diamonds with a grass infield.

E. SKINNED INFIELD LEVELING

Baseball and softball fields are designed with a specific slope to drain water from their surface. Underground drain pipes are virtually useless and rarely installed on ball fields. Keeping the infield slope correct will prevent puddling and therefore field closures. Players sliding, mechanical field groomers, and other factors contribute to un-level skinned infields. A diligent approach to correcting high or low spots is the most important task of a field manager.

For small areas, use a leveling rake. 1. Pull the material from a high spot and deposit it in a low area. 2. If the infield mix is dry, wet the leveled area and compact it with a tamper or the grooming machine tires. Otherwise, it will not stay in place.

For medium sized areas, use the leveling attachment of the grooming tool. 1. Remove the bases and plug the base anchor sleeve. 2. Loosen the field material with a nail drag or needle tines. 3. Make sure the leveler is NOT in the float position. 4. Make wide sweeping turns in several directions over the area that needs to be leveled. 5. If the infield mix is dry, water the area and compact it with the tires of the grooming machine. Otherwise, it will not stay in place.

For large areas or storm wash-outs, a box blade attachment works best. This should be coordinated with the Parks Department or outside contractor.

F. CLAY REPAIRS

Clay surfaces provide very solid, firm footing and better wear characteristics than regular infield mix for high wear areas like the pitching mound and batter's box. Making a clay repair is similar to

making a repair with regular infield mix. The biggest difference with clay is that it must NOT be contaminated with any regular infield mix. Pitching mounds and batter's boxes should be repaired every time they are used.

Techniques for Clay Repairs

1. Dig out and discard all loose material including infield mix, clay chunks, and field conditioners in and around the area to be repaired.
2. Sweep the area free of all minor bits of loose debris and place to the side.
3. Wet the existing clay with a flower watering can, hand held sprayer, or hose nozzle with a fine spray pattern.
4. Add new clay and compact in 2" layers. Working with clay can be tricky so follow these pointers:
 - a. The new clay must have enough moisture content to stick to the underlying clay base that has been moistened. Other wise, the new clay will pop out of place and create a hazard.
 - b. If the clay is too sticky, wrap the tamper plate in a garbage bag to alleviate the problem.
 - c. Shredded, bagged clay is very easy to work with and store. It is excellent for small daily repairs.
 - d. Unfired clay bricks are great for large scale renovations and can be purchased by the pallet. Long term storage is not practical for bricks.
5. Add approximately ½" of new field conditioner over the repaired clay area.

G. GRASS EDGE MAINTENANCE

Regular maintenance where the skinned infield meets the grass edge will prevent the formation of a lip. After wet playing conditions, the most common player injury occurs from bad ball bounces. Lips are a major contributor to this type of player injury. Lips at the grass edge are also the primary barrier to water exiting the skinned part of the field. Water trapped on the skin will force cancellations and field closures.

Techniques for Maintaining the Grass-to-Skin Edge

A manual or motorized edger can be used as frequently as preferred to keep edges looking crisp.

Monthly edging is recommended.

Neatly rake all grass clippings out of the infield mix when edging is complete.

Sod should be purchased and installed if edges are significantly deteriorated.

Sod installation should only be under taken in the early spring or fall. Sod will usually require hand watering for the first year.

The Parks Department or an outside contractor should be contacted if sod installation is desired.

H. Field Lining Techniques

Only use "Athletic Field Marker" for foul lines and batter's boxes on skinned infields. DO NOT substitute lime or other white materials because they may be less expensive.

Only use marking paint that is specifically manufactured for turf. Always use a string as a guide line.

Only use athletic field marker on skinned infields for important events. Overuse without removal will contaminate the infield mix and cause undesirable results.

Sod installation should only be under taken in the early spring or fall.

Remember, the entire infield foul line should be UNDER first and third base.

SOCCER, FOOTBALL, LACROSSE

B. WATER REMOVAL TECHNIQUES FOR GRASS FIELDS

The most important mistake to avoid is the removal or movement of soil from the field. Fields are designed with a specific slope to drain water from their surface and low spots or depressions catch and hold water EVERY TIME!

Use a pump to remove big puddles.

1. Carefully remove the top layer of sod and set it aside.
 2. Dig a shallow hole and let the water drain into the low spot you've created.
 3. Use the pump to move the water into a bucket.
 4. Empty the bucket outside of the playing field.
 5. Replace all of the soil and compact with your shoe. Replace the sod.
- DO NOT Use These Methods on Wet Fields!
DO NOT use brooms to disperse puddles.
DO NOT remove muddy soil or turf from the field.

All of these unfortunate techniques leave a depression or low spot that will hold water every time it rains. Leveling a low spot is the best method to prevent puddling. The Parks Department is responsible for field leveling.

For shallow puddles, use a roller squeegee.

Only use roller squeegees made for turf.

Apply downward pressure on the handle as you walk.

Push standing water toward the outside of the field, never toward the middle.

A Water Hog is a giant sponge!

The absorptive outer layer soaks up water like a sponge.

The equipment is designed to "squeeze out" the outer sponge and hold the water in the internal cylinder.

The cylinder is opened and emptied away from the playing surface.

D. PORTABLE GOALS

Soccer and Lacrosse fields would be incomplete without the portable goals that provide the target for scoring! The primary concern with moveable goals is their ability to tip over and cause an injury. Hardware or weight bags can be used to secure the bottom crossbars to prevent tip-overs but must be done safely and correctly. Cranberry Township's Partner Associations provide guidelines for moveable goal safety to their participating members.

Stakes, bag weights, and plate weights are 3 approved methods to prevent tip-overs!

Move the goals for all non-game events! This significantly reduces wear at the goal mouth.

E. FIELD LINING TECHNIQUES

Always use a string as a guideline.

Only use marking paint that is specifically manufactured for turf.

DO NOT rinse paint into any drain! It violates local, state, and federal law. Move to an isolated lawn or wooded area and spray out the rinsate. ■

For the full manual, see <http://www.cranberrytownship.org/DocumentCenter/Home/View/16789>



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Athletic Field Use Policy

HERE ARE SOME HIGHLIGHTS of Cranberry Township's policy manual for field users:

The purpose of this document is to establish policies and procedures that govern the use of Cranberry Township athletic fields with the overall goal of safe and playable conditions for all eligible users. The policy will outline the responsibilities of users from the initiation of an athletic field reservation with the Parks & Recreation Department through post event activities. Under all circumstances, Cranberry Township's Partner Associations (Seneca Valley Soccer Association-SVSA, Cranberry Township Athletic Association-CTAA, and Seneca Valley Junior Football Association-SVJFAC) assume full responsibility for the actions of any groups subletting fields in accordance with their lease contract. This document supersedes all previous athletic field use policies.

Bi-annual meetings will be held to discuss field specific issues such as maintenance schedules, facility issues, camps, tournaments, clinics, and overall timelines for use. The Athletic Field Use Policy will be reviewed at the bi-annual meetings and suggestions for changes or additions will be considered. The policy will be updated once annually each January. The meetings will be seasonal in nature with spring/summer sports slated for February/March and fall sports planned for June/July. Meetings will be initiated by Cranberry Township and will include representatives from Parks & Recreation, Public Works, and administrative personnel as deemed necessary. Each Partner Association requesting athletic field reservations is required to assign a representative to attend the meetings.

PARK RULES & REGULATIONS

All park visitors are required to abide by the rules of this policy as well as all Township ordinances. Park rules include, but are not limited to, the following:

- Athletic fields and shelters require reservations for use and can be scheduled through the Parks & Recreation Department.
- Pets are only allowed in the Rotary Dog Park located in Community Park.
- Alcoholic beverages, gambling, and fireworks are strictly prohibited.
- No glass containers are permitted in the park.
- Permitted field users are responsible for the sportsmanship of their players, coaches, officials, and spectators.
- Parking is in designated lots only. No parking is permitted on grass or landscaped areas for any reason. User groups must inform their participants and spectators to park in designated lots. It is the permitted user's responsibility to alleviate traffic and parking issues.
- At the conclusion of a practice or game, users must collect all litter and garbage from the field and adjacent areas and deposit in provided trash receptacles.
- The last field user of each day is responsible for moving nets, goals, benches, tackling sleds, bases, etc., completely OFF

the playing surface for maintenance and mowing purposes.

- Fencing and buildings are strictly off limits for use as warm-up targets, batting soft toss, or throwing against in any fashion.

FIELD RESERVATIONS & SCHEDULING

Athletic field use permits are issued through the Parks & Recreation Department. Requests must be submitted and approved prior to play. As well, cancellations and changes must be communicated with the Parks & Recreation Department so that scheduling software can be maintained completely and accurately. Correct contact information is required with each reservation so unexpected problems or closures can be communicated quickly.

PREVENTION & MAINTENANCE

Cranberry Township requests that Partner Associations refrain from or limit their use of heavy traffic wear areas during practices, regardless of weather, to assist in providing the best field conditions possible for scheduled games. This includes: goal areas, pitching mounds, foul lines, and any other portion of the field showing wear due to traffic. Preventing additional wear during non-game activities will greatly lengthen the playability of fields as the season progresses.

SCHEDULES

Partner Associations are responsible for maintaining an accurate schedule with the Parks & Recreation Department. The Public Works Grounds Maintenance Division will arrange operations around the daily schedule provided by the Parks & Recreation Department to minimize interference whenever possible. Therefore, unscheduled activities interfering with planned grounds maintenance operations are obliged to move at the request of Cranberry Township personnel.

MAINTENANCE CLOSURES

Fields may be closed at the discretion of the Grounds Maintenance Manager or designated Cranberry Township representative during times when the fields remain playable for certain operations such as aerification, emergency irrigation repairs, or pesticide applications. Partner Associations will be notified in advance whenever possible.



FIELD STATUS RECOMMENDATIONS

Cranberry Township will maintain a web page (www.cranberrytownship.org/fields) that provides daily field status recommendations of "open" or "closed" for Graham Park based on the playability, safety, and saturation of the athletic fields. The page will be updated Monday through Friday at 11 am and at 9pm Friday and Saturday evening for the following day's play. If fields are listed as "closed" on the Township's website, Partner Association leaders have the opportunity to overwrite the decision since field playability may improve between the time of the web posting and scheduled play. Similarly, if a field is listed as "open" and precipitation deteriorates conditions so that field damage or unsafe conditions ensue, Partner Associations are responsible for cancelling or suspending play. Field damage will be addressed by the steps outlined in the following "Progressive Action Plan."

DETERMINING FIELD SATURATION

In order to make the determination of field saturation an objective measure, the grounds staff will use a Lincoln Soil Moisture Meter to read the level of water present in the soil. The meter reads 0-10 with 10 being complete saturation of the soil. When the meter reads 10, the field will be deemed too wet for use and designated as "closed." The grounds staff will use the meter on a minimum of 3 locations on each field: center field, goal mouths, and in the case of baseball/softball fields, the location of position players in the outfield. Readings will be taken as close to the webpage posting time as possible.

PROGRESSIVE ACTION PLAN FOR ATHLETIC FIELDS

- 1) The Grounds Maintenance Manager or designated Cranberry Township representative will inspect fields daily to determine if damage has been sustained that reduces the safety and playability of the surface.
- 2) Dated photos will document field conditions when damage occurs. Photos are stored on the Township's (W:) drive and are available upon request.
- 3) Fields will be closed as necessary for rest and renovation following events which cause damage and reduce safety. Users will be notified of rest periods on the Township's website and signs will be posted signifying the field as "closed." Cranberry Township may employ measures such as temporary fencing to isolate playing surfaces while renovation and grow-in is undertaken to restore safe playing conditions.
- 4) Continued or un-repairable damage by Partner Associations or other permitted users will result in the discontinuation of the agronomic maintenance program except for mowing. Primary field users will be notified in advance of Cranberry Township's intentions to change, discontinue, or temporarily suspend field maintenance programs.
- 5) Cranberry Township reserves the right to choose a third party regarded as an "athletic field expert" to settle disputes regarding the playability, safety, or un-repairable status of a field and its resultant rest and renovation period. An expert will be chosen through affiliation with a university and work in the field of agronomy or hold the minimum title of Director in a company specializing in athletic field maintenance. ■

For the full policy manual, see <http://www.cranberrytownship.org/DocumentCenter/Home/View/16788>

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Same stadium, new owners —one turf manager's story

GAINESVILLE IS LOCATED IN NORTHEAST GEORGIA on the shores of Lake Lanier. It is home to the Gainesville Red Elephants, a high school football team with a rich tradition and history. Their home, City Park, is a community landmark. The stadium has been around since the early 1900's, and has been a staple in the community.

The land was donated to the City of Gainesville in 1866 by the Banks family. The property and stadium was managed by the Parks and Recreation Agency. The stadium has been added to and upgraded throughout the years. In 2005 a complete renovation was done to the playing surface and several upgrades were done to the stadium. A sand-based field with subsurface drainage was chosen. A new irrigation system and TifSport bermuda turf were installed. This was a much needed upgrade and has been very well received by the players and community.

The field is set down in a bowl. Air movement is very limited and it has its

own micro climate. We have battled take-all patch ever since the renovation. In 2007 we had to replace 13,000 square feet of sod and in 2008 only 5,000 square feet. I slowly started to get it under control. We started preventative fungicide treatments and an aggressive aerification schedule. On two occasions we were able to completely grow in with no sodding. I kind of just learned to manage it because the disease really never leaves.

I was employed by Parks and Recreation in 2003. In 2006, I was promoted to Turf Manager. Along with our parks, youth league fields and adult softball complex, my responsibilities also included our baseball facility and City Park



THE CREW

From left to right

David Presnell, Ryan Casper, Travis Partin, Josiah Bowers

But just when I thought everything was going great the rug was about to be pulled out from under me.

JOHN MASCARO'S PHOTO QUIZ

John Mascaro is President of Turf-Tec International

Can you identify this sports turf problem?

Problem: Brown line on field in January
Turfgrass area: Soccer Stadium
Location: Cary, North Carolina
Grass Variety: 419 Bermudagrass

Answer to John Mascaro's Photo Quiz on Page 33



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wrote **Chip Baker**, Asst. Baseball Coach, Florida State University, Tallahassee, FL

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Stadium. These two venues are our showcases and very special places to the community. I truly enjoyed managing these two facilities because of their high expectations and the success of our high school teams. Along the way I obtained my Certified Sports Field Manager (CSFM) status, won the 2008 STMA High School Football Field of the Year Award, and precisely molded my turf program to a tee. But just when I thought everything was going great the rug was about to be pulled out from under me.

STRAINED RELATIONSHIP

The relationship between the city school system and Parks and Recreation had always been a bit strained. In the spring of 2011, rumors started to fly about the stadium being deeded over to the school system. With the recession, government agencies were also strained. After all of my

work and planning I could only think "How is this going to affect me?" Was my beloved stadium being taken away from me? I was very concerned but decided to take a positive approach.

Around mid-May, all of the discussions resulted in a decision. The school board and city council made an agreement to deed the property to the school system and Parks and Rec would manage the facility for one year. This also allowed for a new 9,000 square foot field house to be built. I decided to take a different approach than my coworkers. Instead of doing the minimum amount possible, I set out to do the best possible job I could do. This decision proved to be the right choice.

With all the talk about the field, rumors started to escalate about me. Everyone knows how I felt about the stadium and wondered what I would do. Focusing on work resulted in possible new opportuni-

ties. Almost immediately I started getting calls asking if I would consider working for the school system. Behind the scenes I started toying with the idea of starting a new department. The lure of the high expectations the community had for the stadium intrigued me. While one side was coming after me, my current employer was talking to me about staying.

With one year left I buckled down and focused on my turf. Now the baseball facility was rumored to be changing hands also. Things started coming together and my decision was becoming crystal clear. The summer passed and football began. I was focusing on having the best field ever and made it clear to the school I wasn't going to talk to anyone until after the season was over. The football team was having a great season and as a result we hosted four home playoff games. We even had to work during Thanksgiving to prepare for a Friday game. Everyone was excited about playing at home so to me it was business as usual. We lost the last playoff game and the season was over. While I was closing down the stadium my mind started to look ahead. It was time to make a big decision.

Construction started on the field house in January. A construction zone inside the stadium offers plenty of challenges. They were there to do a job and I just tried to keep them away from the field. Finally after a year and a half of waiting I sat down and started talking with the school. This job was going to be a challenge. It would be a complete start up from scratch; from equipment, to a shop and a new staff. One thing was made clear from the beginning. The school wanted the field to be managed at the same high level everyone had come to expect. The standard was not going to change. If anything the standards were elevated.

The baseball facility was also turned over to the school, and I began to develop the department the way I wanted it ran. One consideration was whether or not to contract out some services for the first 2 years in order to buy equipment and implement our program. Either way, the school system wanted to hire me to oversee the process. Baseball and soccer soon started and I was working double-time. I spent most of my free time working on a

plan for my future. My family was very supportive. My wife never said a word as I worked 16-hour days preparing. Around April, I finally made a decision. Now after 2 years of wrangling, I accepted a job with the school system. During this process my father's health had declined and he passed away toward the end of the season. I am so thankful I was able to talk with him about this and get his advice.

MOVING FORWARD

With my decision made, I turned in my notice and looked to the future. I would stay to the end of May and begin my new job on June 1, 2013. We were slated to take over July 1 so I wanted a month to get everything in order. The baseball and soccer teams were making deep runs into the playoffs so my schedule never relented.

After looking at every possible angle we decided to do all the maintenance in house. Some of the other school fields were under contract so I would have a year to prepare. We leased a fleet of Toro equipment, posted

two full time positions and a part time position. I decided to implement an internship program to fill the part time position. Using the month of June to prepare was soon thrown out the window. I learned that aeration/topdressing and resodding was scrapped by Parks and Rec so it would all fall on me. Instead of pointing fingers, once again we decided to buckle down and handle the situation.

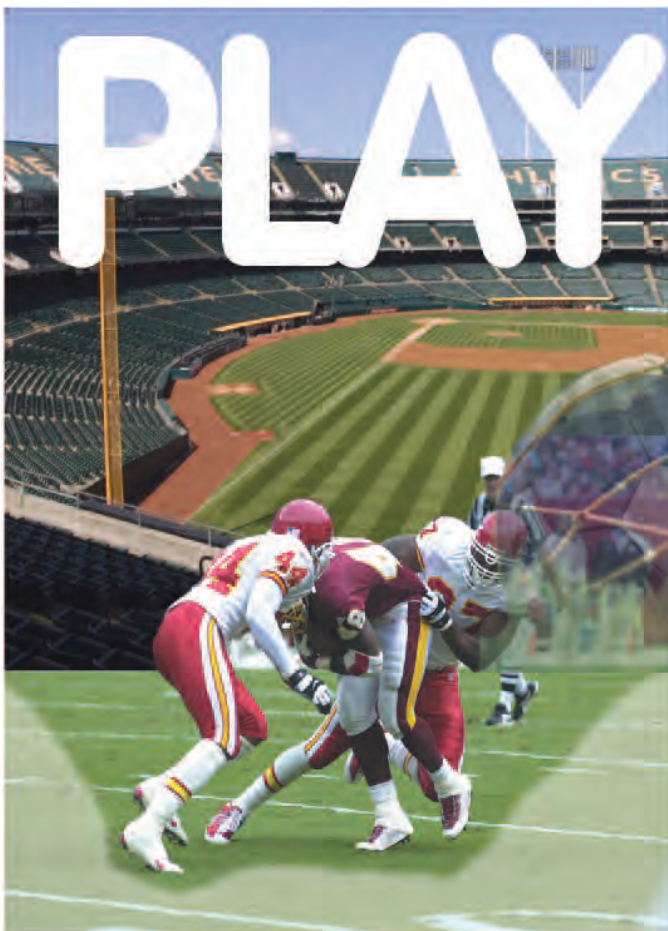
With our first game being televised and our new field house being dedicated, I knew a lot of eyes would be on us. Training the crew was done while we were in full swing. It turned out great because I learned what each person's strengths and weaknesses were. As a crew we were thrown right into action. They had to learn on the fly and under pressure. Football season went off without a hitch, and a lot of people said it was the best the field had ever looked. The team ended up winning a state championship so we are looking forward to another great year.

Looking back at things I think every-

thing turned out perfect. I wouldn't change my decision and I think the school system made the right decision. Next year we will be adding the remaining fields and picking up additional equipment and staff. I have had great support from everyone in the school system, from my department head, Keith Vincent, to the Superintendent and the School Board. They were determined to make this a success and they all stood behind me. Starting a department completely from scratch offered a lot of challenges; however, it has made me a better manager in the long run.

I wanted to tell this story to help my fellow turf managers if they find themselves in a similar situation. Most of us are truly dedicated to our turf and do whatever it takes to give the athletes the best surface possible. Just remember if you always give your best it will pay off for you in the long run. ■

David M. Presnell, CSFM, is athletic fields manager for the Gainesville (GA) City Schools.



BALL!

FOOTBALL, BASEBALL, SOFTBALL, SOCCER

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SAFETY

and potential liabilities for sports turf managers

WORKING AT BRIGHAM YOUNG UNIVERSITY (BYU) we use mostly university students to help us do our jobs. We employ 350 to 400 students from May to October and employ 100 to 150 students from November to April. On average a student works for our department for about 12 weeks, resulting in a high turnover. This requires us to have a stringent training program in place including a Safety Program; we are constantly in training mode. Even with as much training as we provide our student employees, accidents still happen.

Here is an example of a serious accident that happened on my turf crew. My crew was asked to use a Soil Reliever featuring $\frac{3}{4}$ inch solid tines on the skinned area of our softball field. We started our runs from the third base side of the infield, near the fence, and made our run to the infield edge in right field. We would back the machine up and start another run next to the just completed run, each run moving closer to the

home plate area. We had an equipment operator and a spotter to assist in backing the machine up to the fence along the third base line. On one of the runs about halfway through the job, as the machine backed up with the spotter standing directly behind it in the pinch area, the operator went to start another run but the machine was still in reverse. The consequence of the oversight was the spotter being trapped between the fence and the Soil Reliever, with resulting injuries of a broken right leg and a tine going through the instep of his left foot.

As we started the project I stayed and watched to make sure my workers doing the job correctly. I watch them make several runs and the spotter always stood to the side of the machine as it was back up for the next run, the operator had no problems in operating the tractor safely. The accident occurred when both the operator and the spotter had a lapse in judgment.

INVESTIGATION TRIGGER

The accident triggered an Occupational Safety Health Administration (OSHA) in-

vestigation. The two workers involved in the accident were questioned as was I. I had to show training records for the two individuals and we had to demonstrate that we could operate the equipment in question safely. The finding of the OSHA investigation was a \$5,000 fine levied against the BYU for having an inconsistent training program. BYU's cost for the employee's medical treatment came to about \$150,000. Could this accident have been prevented? Yes. Most accidents happen because the employee gets complacent in doing a job over and over and forgets to think about safety; instead, he thinks "It will never happen to me."

So how can we prevent accidents in the future?

Believe it or not the answer is OSHA. Why OSHA? Quoting from their website: "With the Occupational Safety and Health Act of 1970, Congress created the OSHA to assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance. OSHA's core mission is to ensure a safe and healthy workplace for every working man and woman in the Nation." Maintaining a safe workplace environment is good common sense and it's the law.

Here is a fictional case study: Let's say you have an employee suffer a work-related, serious injury. The law states you must report the accident to OSHA within 48 hours which includes Saturdays and Sundays. If you fail to report the accident on time or at all you will be



DAVID SCHLOTTHAUER, sports turf manager, Brigham Young University, Provo, UT.