EVENTS

CALENDAR

FEBRUARY

18-19 Southwest Athletic Turf Clinic, Will Rogers Memorial Complex, Fort Worth, TX. Contact Athletic Turf Association, Inc., P.O. Box 1114, Hurst, TX 76053. (817) 282-4965.

18-20 Iowa Turfgrass Conference, Des Moines Convention Center, Des Moines, IA. Contact: Dr. Michael Agnew, 105 Horticulture Bldg., Iowa State University, Ames, IA 50011. (515) 294-0027.

24-26 Western Pennsylvania Turf Conference, Pittsburgh Expo Mart/Marriott Hotel, Monroeville, PA. Contact: Christine King, Pennsylvania Turfgrass Council, P.O. Box 417, Bellefonte, PA 16823. (814) 355-8010.

MARCH

2-4 Midwest Turf Conference, Stewart Center, Purdue University, Contact: Dr. Clark Throssell, Purdue University, 2-443 Lilly Hall, W. Lafayette, IN 47907. (317) 494-4785.

2-5 Massachusetts Turfgrass Conference, Springfield Civic Center, Springfield, MA. Contact Dr. Joe Troll, University of Massachusetts, Dept. of Soil Science, Stockbridge Hall, Amherst, MA 01003. (413) 549-5295.

9-11 Winter Turf Short Course, University of Tennessee, Knoxville, TN. Contact Tom Samples, Box 1071, Knoxville, TN 37901-1071.

24 Third Annual Sports Turf Institute, Cal Poly University, Pomona, CA. Contact: Kent Kurtz, Dept. of Horticulture, Cal Poly University, 3801 W. Temple Ave., Pomona, CA 91768. (714) 869-2176.

APRIL

13-14 Southeastern Turfgrass Conference, Georgia Coastal Plain Experiment Station, Tifton, GA. Contact: Dr. Glenn Burton, Dept. of Agronomy, Coastal Plain Experiment Station, Tifton, GA 31793. (912) 386-3353.

THE FRONT OFFICE

OPINION PAGE

REPORTERS FINALLY RECOGNIZE THE SPORTS TURF MANAGER

Now that Super Bowl XXI is history, it is obvious that sports turf managers received more publicity in the past two months than they have in the past four years. The Super Bowl made 130 million television viewers aware of beautiful, SAFE sports turf.

Despite this newfound publicity, as the hype of Super Bowl XXI built to a crescendo, the story behind the scenes was not fully told. We thought you would like to know this fascinating tale, so I spent days at the Rose Bowl and many evenings on the phone with George and Chip Toma to put together the story beginning on page 12.

Although only a few men received the recognition for Super Bowl XXI, there is no question they helped the image of all sports turf managers. At last, they are receiving the recognition they truly deserve. The recent publicity will go a long way to furthering the awareness of the public and the owners of professional football and baseball teams to the needs of a professional turf manager.

The playoffs leading up to the Super Bowl also made some very strong statements to the public. David Frey at Cleveland Stadium and Steve Wightman at Mile High Stadium in Denver amazed both the announcers and the viewers with the condition of their natural turf fields after weeks of freezing temperatures, snow and heavy use. Both fields had to be maintained for a month after their regular season schedule was over.

There is no question that managers of today's sports complexes can do Houdini-type magic to make a sports field come alive. Although this magic is generally associated with the appearance of a field, I believe the most important thing in the minds of the best sports field managers is the safety of the players using their field(s). Turf managers have to do both to keep their jobs today.

Needless to say, golf course superintendents have been doing the very same thing for many years. As the professional golf tour began again last month, superintendents are being recognized for the spectacular condition of their courses, especially those courses constructed specifically for a televised tour event.

It's great to see that sports journalism is finally giving some recognition to "the man behind the scenes."

From the beginning, we have felt that sports turf management is comprised of golf course superintendents, athletic field managers and and those who maintain the grounds around sports complexes. We've also maintained that colleges, schools and parks have many of the same problems as professional stadiums.

Our approach is different from the mass media and other trade publications. We have to be more attuned to the problems of growing natural turf under heavy use. We are aware of the damage to golf turf caused by hundreds of golfers every day, seven days a week. We are equally aware of the wear and tear to fields from two teams every football, baseball and soccer game. Only the resourcefulness of the sports turf manager keeps these sports complexes in play.

One of the most positive effects of increased publicity will be new talent. As young students exploring career options see sports field managers on television and read publications about them, they will investigate this career for their own futures.

It is largely the aggressive, ambitious and progressive superintendent, drawn to golf largely by television and sports, who has propelled golf course management into a new age. He sets goals and acquires the education, experience and contacts to achieve them. It will be the same kind of aggressive, ambitious and progressive person who will take athletic field management into a new age of its own. Increased publicity is making it all possible.

Bruce Shanks

Behind the Scenes

Phil Ishizu (second from right) paints the Rose and the end zones every year for the Rose Bowl.

Let's face it. The vast majority of the more than 130 million people watching Super Bowl XXI last month really didn't pay much attention to the turf. Their eyes were focused on the New York Giants and the Denver Broncos as they tried to outsmart and overpower each other.

The banner-draped stadium, the flawless natural turf, the colorful end zones and the roaring crowd of 103,000 were seen mainly as a backdrop to the game action and between downs as televison cameras panned the famous Rose Bowl.

To viewers, the Super Bowl is both exciting entertainment and a fitting "Grand Finale" of the football season. No other sporting event, except for the Olympics, compares to its flare for the spectacular. The NFL comes closest to giving David Wolper, the producer of the opening and closing ceremonies of the 1984 Olympics and Statue of Liberty centennial celebration, a run for his money.

In pure California fashion, this year's Super Bowl featured one of the largest halftime shows ever held in conjunction with a sporting event. Two thousand Disney characters flooded the field at half-time for 12 minutes of a carefully staged tribute to Hollywood. The show included George Burns on tape and Mickey Rooney in person. As the actors and dancers left the field, fireworks hidden beneath the sidelines rocketed into the sky over Pasadena to prepare the fans for the second half.

It's hard for turf to compete with such excitement. But, for sports turf managers, the story behind the Super Bowl turf is captivating. It's a story that goes back 21 years when both field standards and sporting events were just beginning to feel the power of television.

The common bermudagrass turf at the Los Angeles Coliseum was half dormant during the first showdown between the National Football League and the American Football League in January 1967. However, NFL Commissioner Pete Rozelle had not overlooked the turf. He remembered how impressed he had been with the field during a Thanksgiving Day game in Kansas City between the Kansas City Chiefs and the San Diego Chargers. Rozelle told Lamar Hunt, owner of the Chiefs, and reporters from the Associated Press and United Press International, that he'd never seen a football field look as beautiful. Rozelle's word quickly spread throughout both leagues.

Rozelle asked Hunt and Chiefs President Jack Steadman if he could borrow their groundskeeper for the upcoming NFL championship game at the Cotton Bowl in Dallas, TX, and the first Super Bowl to be held in Los Angeles. Both events were especially important to Rozelle, since they would be televised in color for the first time. With the two leagues merging, he wanted everything to be perfect.

The groundskeeper's name was George Toma, a hard-working man from Pennsyl-

The day after the Rose Bowl game, Richard Gonzales verticut the paint out of the turf to prepare for reseeding.

at Super Bowl XXI

vania who had worked his way up from the minor leagues in Wilkes-Barre, PA, and a number of stops in Florida, to the Royals. The Chiefs and the Royals shared the same field in 1967. Emil Bossard, the groundskeeper for the Cleveland Indians and "dean of stadium groundskeeping" for more than 30 years, taught Toma many of his tricks to making a ballfield please coaches, players and fans while he was in the minors.

One of those tricks was painting. Toma used much of the single week he had to prepare for the Super Bowl I painting two large footballs with crowns in the center of the field. At that time there was no NFL logo to occupy this space. In big block letters he painted "Chiefs" in blue and red in one end zone and "Packers" in green and gold in the other end zone.

When setting up the Cotton Bowl for the NFL championships that year, Toma met "Doc" (Dr. James) Watson, a Texan with a Ph.D. in turfgrass management who worked for The Toro Company in Minneapolis, MN. Today, Toma, his son Chip and Watson work together on every major NFL event.

Watson suggested Toma "wake up" the Coliseum turf with calcium nitrate fertilizer and careful irrigation. Since he only had a week, overseeding with perennial ryegrass was out of the question. Another trick applied was mowing the field to provide a noticeable change in pattern every five yards.

When television viewers saw Super Bowl I on a color set, they knew this was not just another football game. It wasn't just the first contest between the champions of both football leagues. It was a new and improved attempt to build a stage for sporting events made possible largely by color television. To some it was ranked as a step forward in television technology that would change American life in a way not unlike the "space race."

Super Bowl I was a turning point in both television and professional football. Today we realize it was also a turning point for the quality of gridirons across the country, from the professional stadium to the local park. Advances in turfgrass management necessitated by the growing significance and rising standards of the Super Bowl during its 21 years of competition, are applied today at every level of football.

One thing is certain, the NFL takes over for this major media event. It's as if Rozelle is keeping his personal word to the television networks at all costs. His word is passed down clearly by NFL Special Events Coordinator James Steeg to the networks, the security, the stadium management and the field turf managers.

While preparation of the Coliseum field for Super Bowl I took less than a week, planning for Super Bowl XXI took more than a year. The Rose Bowl field received months of attention by turf experts from across the country, in addition to its own consultant,

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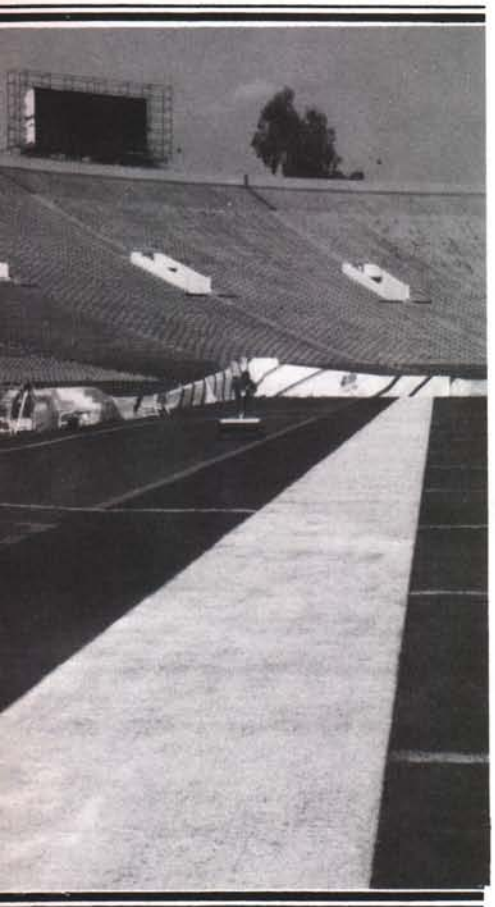
Chip Toma arrived before the Rose Bowl to begin pregerminating perennial ryegrass for the painted areas of the field.

George Toma (right) and Don Hunt check the core depth as the end zones are aerated to open up the soil for seeding.

Super Bowl

continued from page 13

Dr. Kent Kurtz of Cal Poly University, Pomona, CA. Since the Chiefs were in contention for the AFC playoffs this year, Toma could only make short trips to Los Angeles to check the Rose Bowl and practice facilities in Anaheim and Irvine. His son Chip, however, arrived at the Rose Bowl on December 27 and didn't leave until the field was cleaned up on January 26.



Pregerminated seed was mixed with humus and spread over bench areas and previously-painted portions of the field.

The biggest complication was the fact that the Rose Bowl game between Arizona State University and the University of Michigan preceded the Super Bowl by only three weeks. All the special painting done for the Rose Bowl had to be removed, new turf established in painted areas and new designs applied. The hash marks, numbers and side lines had to be changed from college standards to NFL standards. For Richard Gonzales, head groundskeeper for the Rose Bowl, every day since the last University of California-Los Angeles (UCLA) game, November 22, had been spent at work.

Gonzales has been the head groundskeeper at the Rose Bowl for six years. During his 28-year career with the city of Pasadena he has been in charge of the greens for Brookside Golf Course, an eighteen-hole course located adjacent to the Rose Bowl, and worked on the city parks, tree and street painting crews. Brookside Golf Course has the rare distinction of being used as a parking lot during the Rose Bowl and Super Bowl.

He is one of those stadium groundskeepers that has to make his field fit any special event that the event coordinator books for it. The event coordinator for the Rose Bowl is Connie Borg who works for Don Hunt, the stadium director. In addition to being the home field for the UCLA Bruins, the Rose Bowl hosts concerts, international soccer exhibition games, and swap meets, and serves as a location for many movies and commercials.

An annual event they book is a motocross which takes place anytime from May to August. So, Gonzales starts his busy season each year by burying his beautiful field with tons of dirt for the motocross. The entire field is first covered with polyethylene to prevent the imported soil from infiltrating the field soil and to protect the irrigation system.

Part of the contract with the motocross producer is the cost of installing new sod following the event. All imported soil is trucked off, the old sod is stripped, and new Santa Ana bermudagrass from Pacific Sod is installed.

Prior to the motocross in 1985, core samples were taken of the field to check drainage levels. More than 1,100 tons of medium sand had been tilled into the top eight inches of soil in preparation for the Olympics soccer finals in 1984. Nevertheless, the core samples indicated that layers had developed below the surface slowing percolation and infiltration. Catch basins along the sidelines had also become clogged with soil.

To correct the problem, 30-inch deep drainage trenches were dug 15 feet apart extending the length of the field and filled with medium sand. Some humus was mixed with the sand in the French drains to provide uniform turf color after the field was resodded. The drains were connected to four new catch basins. Old catch basins were cleaned out with high-pressure hoses.

Gonzales covered the field with polyethylene and the dirt for the motocross was brought in. These were tough days for Gonzales because in 1985 the motocross was in August. Less than four weeks after the motocross, the Bruins had their home opener.

As soon as the crowd emptied the Rose Bowl after the motocross, trucks and loaders removed all the imported soil. In three days the old sod was removed, the top six inches of soil was tilled carefully to avoid disrupting the function of the new drainage system. The field was fine-graded to a 24-inch crown and new Santa Ana sod was installed.

Gonzales was grateful for summer temperatures the next three weeks as the sod knitted rapidly with careful irrigation. For the next four months he concentrated on managing the bermudagrass.

During the UCLA season, the field is generally aerated twice, lightly verticut, fertilized three times and lightly topdressed with sand. The bermudagrass is mowed at one inch. After the last Bruins game, Gonzales has to switch gears from bermudagrass to overseeded perennial ryegrass.

Fortunately, the motocross was in May last year giving Gonzales more time to prepare for UCLA. But he only had five weeks to get ready for the Rose Bowl and four weeks after that for the Super Bowl. The day after the November 22 Bruins game, Gonzales and his crew, consisting of Steve Martinez and Stanley Large, heavily verticut and aerated the Santa Ana and removed all plugs. The length of the field between the hash marks was aerated more heavily with a Core Master to obtain one-inch spacing between holes. Gonzales used Greenaires to aerate the rest of the field with a two-inch pattern. All cores were removed. The field was seeded with Ph.D., a blend of perennial ryegrasses, fertilized with a

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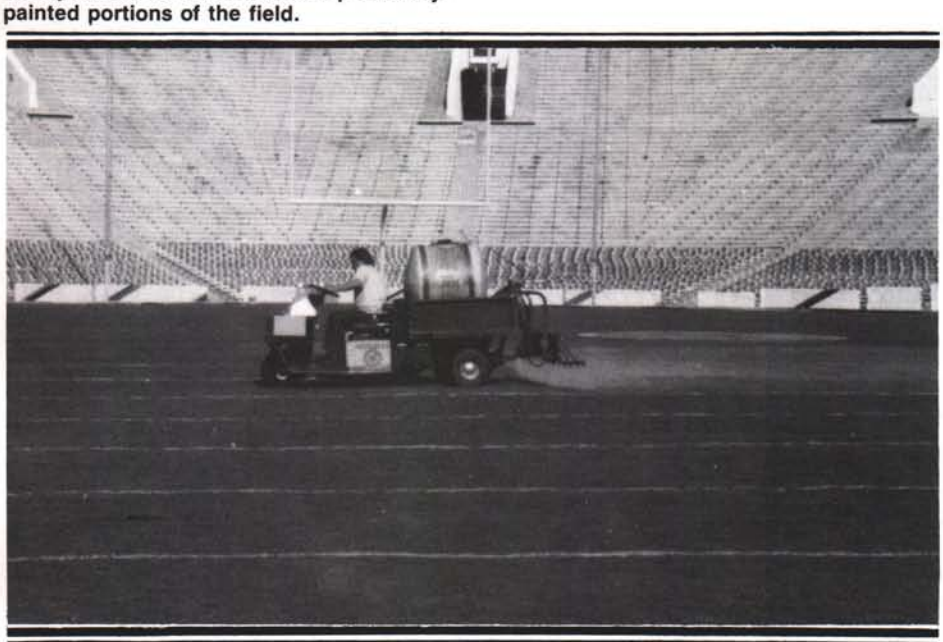

Three applications of iron were sprayed on the field between the Rose Bowl and the Super Bowl.

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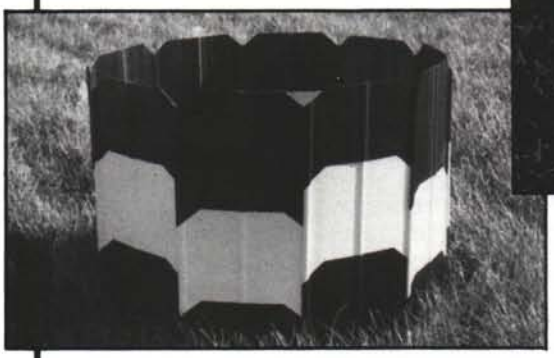

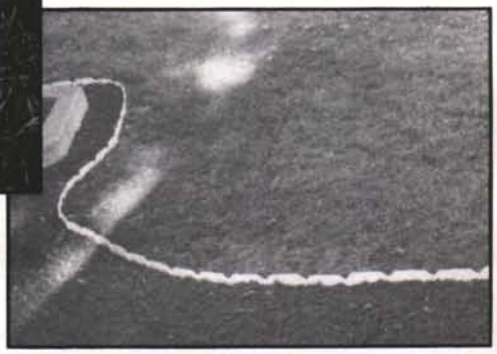

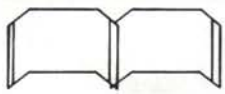

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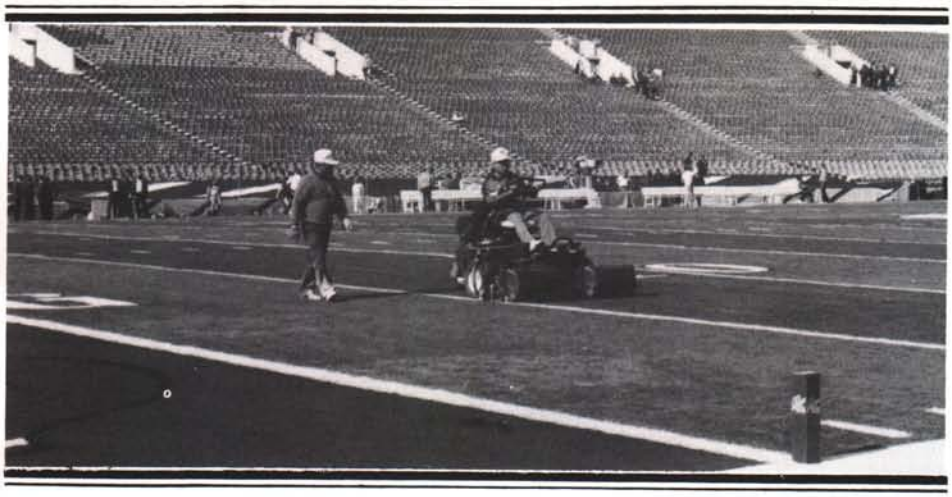

Hours before the Super Bowl, Chip mowed the field at 3/4-inch as his father watched.

The Kansas City crew touched up the paint the day of the Super Bowl.

The manicured field and draped stadium ready for the Super Bowl to begin.

Super Bowl

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Scotts starter fertilizer and topdressed with 60 tons of silica sand. After using brushes to work the sand into the greatly-thinned bermudagrass, the field was irrigated. The crew finished in time to spend Thanksgiving Day with their families.

With only weeks to the Rose Bowl game, Gonzales had to push the young perennial ryegrass. The entire field was covered with perforated polyethylene to create a greenhouse effect for the turf. Soil temperatures underneath the cover were almost ten degrees higher than uncovered areas. After the seed germinated, Gonzales applied 12-12-12 fertilizer at a rate of one pound per 1,000 square feet. To his relief, a dense stand resulted. Gonzales set his triplex greensmower at 1¼ inches to allow the ryegrass to shade out the dormant bermudagrass.

Trying to keep the field "on the dry side," Gonzales irrigated infrequently, depending largely on heavy dews characteristic in December. Once painting began, irrigation would be greatly restricted.

Three days before the game, Gonzales applied very light applications (three ounces/1,000 square feet) of iron in the form of Ferromec. He mixed the iron with marking dye to make sure the boom sprayer was getting even coverage and applied the iron in two directions. The day before the game, a six-ounce application of iron was made to give the turf that extra green appearance.

At the same time, the Pasadena city paint crew and the Jaycees started painting the field. The city painters did the yardlines, sidelines and hash marks. Phil Ishizu, owner of Sunny Slope Nursery in Pasadena and Jaycees volunteer, used his artistic skills to paint the Rose in the center of the field and the endzones. Two, and in some cases three, coats of latex paint, mixed as one gallon of paint to two gallons of water, were needed to get coverage of the turf. More than 600 gallons of paint were used on the field prior to the Rose Bowl game.

The week before the game, Chip Toma arrived to start pregerminating 800 pounds of perennial ryegrass seed for the Super Bowl. With the help of Harry Stalford of International Seed Inc., supplier of the seed, Chip started soaking the seed in 55-gallon drums. The seed had to be germinated no later than two days after the Rose Bowl game.

Chip also started making arrangements for practice fields at the University of California, Irvine, and the Rams training facility in Anaheim. Each team needed lockerrooms and two practice fields for the week prior to the Super Bowl.

The New York Giants practiced at the Rams training center. Those fields required only marking since Pacific Green Care's Neal Beeson had the fields in shape for the Rams. Beeson was the former groundskeeper for Anaheim Stadium and is very familiar with professional football team needs in a practice facility. He also likes to avoid over-

seeding bermudagrass if possible. The Tifgreen bermudagrass looked as good as overseeded perennial ryegrass when Toma visited the facility. "The trick is young growth winters better than old growth," says Beeson. He keeps bermudagrass green longer than others by careful sprigging, fertilization and irrigation.

The Denver Broncos practiced at the University of California, Irvine. Since that school's football program had been discontinued years before, Toma's job was basically taking the old football field, now used mainly for soccer and track, and bringing it back to life. The bermudagrass on the site was dormant yet dense enough for a good surface. The decision was made to sod over portions of a cinder track around the field and create two fields on the site. After installing the sod, Toma sprayed the entire area with green dye, marked the fields and put up the goal posts. A tarp was borrowed from the Rams in case of rain. Toma didn't want to take any chances.

At both locations, Toma installed eight-foot-high wind screens around the fields to shield the players from curious fans and the press. Security was tight and maintained on a 24-hour basis.

The week of the Rose Bowl, Toma brought in reinforcements. Ten members of the Chiefs and Royals grounds crew were flown in to help Gonzales and his crew. George Toma flew in to help Chip start the work for the Super Bowl. On Friday morning, the day after the Rose Bowl game, the field was filled with turf equipment operated by both the Rose Bowl and Toma's crews.

The field was firm and fast for the ultimate contest between the Giants and the Broncos.

After waiting for the turf to thaw from an overnight freeze, the crew used Parker sweepers to remove all divots and trash. Rain was forecast for Saturday evening so the crew had only two days to get the pregerminated seed planted.

The plan was to cut out as much of the paint in the center of the field, the end zones, the numbers, sidelines and the hash marks as possible. These areas had to be reseeded with the pregerminated ryegrass so new grass would conceal up the old paint. A triplex greensmower with verticut blades was used for this purpose. A large vacuum picked up the painted thatch and grass.

The painted areas were aerated with shattercore (solid) tines to open up the soil for the seed to germinate. The pregerminated seed was mixed with peat moss and Milorganite and sown with a drop spreader. The black Milorganite absorbs heat from the sun to warm the soil. The areas were lightly dragged with a harrow to work the seed into the soil. Scotts fertilizer with iron was applied. Finally, the areas were lightly watered by hand and covered with perforated polyethylene.

Almost two inches of rain fell on Saturday and Sunday. Temperatures dropped to the 60s and stayed down for more than two weeks. The field froze each night and could not be walked on until mid-morning. Toma began to consider other options.

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Super Bowl
continued from page 17

Much of the paint still remained in the turf. Toma had to get the ryegrass up to hide the old paint before he started his painting. After ten days, he removed the covers and applied calcium nitrate at a rate of three pounds/1,000 square feet. The ryegrass was just beginning to camouflage the old paint by the end of the third week.

As the crew waited hopefully for the ryegrass to grow, they worked on the practice fields. The teams were to arrive in a few days. The coaches had already checked the practice facilities with Toma.

The NFL wanted a fast field to minimize any difference between artificial surfaces the Giants play most of their games on and the natural fields the Broncos were undefeated on. Toma decided the field would be cut at 3/4-inch for the game, so he started lowering the height of cut from the Rose Bowl's standard 1¼ inch in 1/16-inch increments. His main concern now was getting the field repainted and keeping damage from pregame rehearsals to a minimum.

Eight days before the game, the crew started painting the sidelines, hash marks and endzones. Three coats of paint were applied to each end zone and geotextile was used to cover them while the crews worked on the goal posts. Despite all efforts to protect the field the turf near the entry ramps was wiped out in the first rehearsal of the halftime production. Sod from Cal Turf was quickly brought in and installed. Toma has the authority to stop field rehearsals if the damage to the field becomes significant.

After each rehearsal, portions of the painted areas had to be touched up. Toma waited until three days before the Super Bowl to paint the NFL Shield in the center of the field. The final rehearsal of the halftime show was being taped in case it rained during the game on Sunday.

Also during the last week, iron applications were started up again. Every third day light applications of iron were made with a boom sprayer. "The nice thing about Ferromec," said Toma, "is it doesn't stain the white lines." The field was mowed with walk-behind greens mowers during the final week to avoid tracking paint onto the turf. All irrigation was done by hose to avoid any potential problems with damp latex paint.

With all rehearsals completed on Friday, each team practiced for an hour on the game field on Saturday. Toma had from 3 p.m. on Saturday afternoon until gametime the next day to repair any damage to the field.

White areas that had not held the latex paint were touched up with white traffic paint. The field was mowed a final time at 3/4 inch. That would have been all, but the halftime show included fireworks buried in the sidelines of each corner of the field which shot yellow nickel-sized chips onto the field. Toma had three minutes to pick these chips up before the second half started. As the Disney characters finished their act, three of Toma's crew fired up small Deere tractors, two pulling a set of Parker sweepers and one a large blower. In a design practiced the day before, the crew did a formation sweep of the field as the teams reentered for the second half.

These sweepers were used one last time the day after the game. "We try to leave the field in better condition than when we arrive," Toma pledges. "Rich (Gonzales) is a good groundskeeper so we didn't have that much to fix."

While Toma was in Los Angeles last November, he also started planning the turf for Super Bowl XXII at Jack Murphy Stadium in San Diego, 14 months before the game.

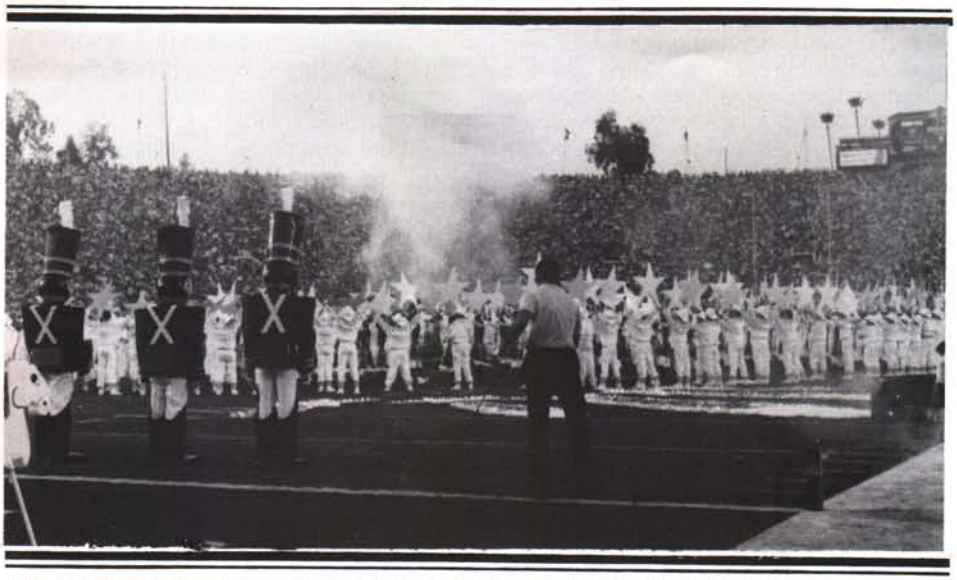
One event like the Rose Bowl each year is enough to excite a stadium groundskeeper. For Gonzales, two big events was a big challenge. But for Toma the cycle has continued for 21 years.

The day after the Super Bowl George and Chip Toma and their ten-man crew got on a plane headed for Hawaii for three weeks of preparation for the Pro Bowl. After that, Chip and the crew return to Kansas City and George heads for Fort Myers to prepare the fields for the Royals' spring training.

"None of this would be possible without a good crew, the support of Doc Watson and good groundskeepers at stadiums across the country," Toma warns. "Things have changed a lot since 1967 and Super Bowl I. Now we have experienced people and better equipment to work with. That's good for everybody in the business."

The main thing people will remember about the game is the Giants won after trailing the Broncos in the first half on an absolutely perfect day. They may not realize it, but the NFL also left a subliminal message in their minds, that a quality sports event must include a quality field. Sportscasters called the field "fast", almost as fast as artificial. One sportswriter called it Astrograss. All reporters felt the field was a fair surface for both teams.

The more reporters talk about sports turf, the more the public will become interested in it. In turn, they will expect higher quality fields in their own parks, schools and universities. Hopefully, they will take a tip from Pete Rozelle, who recognizes that behind every great field is a great groundskeeper. . . and when you find him, you give him the tools and men he needs to do a professional quality job. That's really the lesson behind the Super Bowl.



The halftime spectacular left a considerable amount of debris on the field.

Toma's crew had three minutes to clean up the debris and touch up the paint.

USDA PROVIDES OFFICES FOR SPORTS TURF COUNCIL

The National Sports Turf Council (NSTC) hopes the United States Department of Agriculture (USDA) can contribute to its growth today as it did to the growth of the United States Golf Association (USGA) in the first half of this century.

Back then, the USDA provided the fledgling USGA with office space, support services and research facilities at the USDA Turf Gardens located in Arlington, VA, now the site of the Pentagon. That assistance organized golf turf research in the country for the first time and led to the rapid development of improved golf turf technology. The USGA spread this new technology by creating the Green Section and publishing the Green Section Bulletin.

When the Pentagon was built for World War II, the USDA moved its turf research facilities to the Agricultural Research Center in Beltsville, MD. Fred Grau, who was director of the USGA Green Section in 1945 is today the chairman of the NSTC executive committee and lives in Beltsville. He and the executive board of NSTC agree that public sports fields today need the same centralization of turf research that golf courses did 60 years.

Dr. Jack Murray, research leader at Beltsville, approached the director of the facility, Dr. W. Klassen, and proposed that USDA enter a cooperative agreement with NSTC to speed up and centralize sports turf research. Klassen jumped at the idea and an agreement was signed during the Golf Course Superintendents Association of America conference in Phoenix, AZ, this month.

Under the terms of the agreement, USDA will provide NSTC with an office at the research center, secretarial support and space for field and laboratory research, all at no charge. The office will be staffed by Grau and Murray until a full-time executive director is hired. "We hope to have a director and perhaps two researchers with NSTC when enough funds can be raised," says Murray.

"There is a growing interest worldwide in playing field safety and higher interest in contracting out athletic field work," states Murray. "In this country sod farms do between $300-400 million in wholesale business. Americans spend another $24 billion each year on lawn care. But, sports fields are often neglected.
ority from the playground to professional spoorts."

NSTC is a non-profit organization working cooperatively with other turf organizations to improve the state of abused, overused athletic fields and school playgrounds in the U.S.

The new address for the National Sports Turf Council is: c/o USDA Agricultural Research Station, Beltsville Agricultural Research Center, Beltsville, MD 20705. (301) 344-3655.

IMC'S INDUSTRY GROUP SOLD, RENAMED AIMCOR

The Industry Group of IMC Corporation, which manufactures and markets Turface soil conditioner, has been purchased by Weise Peck and Greer, a New York investment group, and renamed AIMCOR (Appled Industrial Materials Corporation). William Wrobel, Aimcor's director of corporate communications, says IMC sold the group to help pay for its purchase of Mallinckrodt Chemical Corp. last year.

Aimcor will be moving its headquarters from IMC's headquarters in Mundelein, IL, to the Northbrook area shortly says Wrobel. It will also have group headquarters in Connecticut and Pennsylvania. The Minerals Group, which produces Turface, will operate out of the Illinois corporate offices. Charles Gallagher, former chief executive officer of Susquehanna Corp. and vice president of building products for Owens Corning, is the new CEO for Aimcor.

Turface, a processed-clay soil conditioner used for basepath mix, is one of 75 products manufactured by the corporation. Wrobel says marketing of Turface, a product closely related to "kitty litter," will be more aggressive under Aimcor. One plant in Blue Mountain, MS, produces all soil conditioner and kitty litter for the company. It has been expanded recently to increase production.

Weed Control In Cool-Season Athletic Fields

By Dr. Thomas R. Turner,
University of Maryland, Beltsville

Sports turf maintenance is certainly one of the most difficult challenges in the entire field of turfgrass management. Conditions limit the obtainment of satisfactory turf for sports activities, such as budget limitations often encountered in both construction and maintenance, general overuse and concessions made to ideal agronomic practices due to user demands. Thin and open turf subsequently develops and weeds encroach with little resistance.

Weed control is not just a question of aesthetics. Weeds provide much poorer footing than turfgrasses, are more slippery than turfgrasses and provide almost no resiliency or cushion for athletes. Annual weeds crowd out desired turf and, upon dying, lead to soil erosion and an uneven playing surface. Furthermore, weed-infested fields require more frequent mowing. Due to the importance of minimizing weeds in sports turf, careful attention needs to be given to developing a sound program for their control.

A successful weed control program must be two-pronged. First, the potential for weed infestations must be minimized through the implementation of sound agronomic principles and practices in construction, establishment and maintenance. Second, when weed problems eventually develop, herbicides must be properly selected and carefully fit into the overall athletic field management program.

Fumigation of soil prior to establishment can greatly reduce future weed problems.

Construction and Establishment

Good turf density is critical in avoiding potential weed problems. Any factor that can influence the development of turf density must be considered, especially during construction and establishment.

The soil or soil mix has major long-term impact on potential weed problems. A poor soil will invariably compact much easier when used for sports activities. Poor soil also drains insufficiently, setting the field up for a number of common turf weeds, such as knotweed, goosegrass, crabgrass, and annual bluegrass.

Soils for sports fields should be carefully selected for percolation characteristics. If soil is amended with organic matter or sand, the amended soil should be tested by a soils laboratory. Some amendments can actually worsen drainage when mixed with certain soils.

Many weed problems can be avoided by specifying that imported topsoil be free of difficult-to-control weeds such as nutsedge, quackgrass and annual bluegrass. These weeds are very often found as contaminants of topsoil.

Improper construction invariably leads to weed encroachment, particularly in regard to drainage. Drainage systems that are properly designed and spaced for the particular soil are critical. Where reliance is placed on surface drainage, the proper grade must be established to quickly move water off the field. It is extremely important that this grade be even and consistent. Any pockets or depressions where water can collect will lead to a loss of turf and a site for initial weed encroachment.

Seedbed fertility is taken for granted more often than any other factor in the establishment of a field. Soil should be tested by a reputable university, state or commercial laboratory. Laboratory recommendations should be followed carefully.

While seedbed nitrogen applications are very important, soil pH and phosphorus are equally important. Far too many times weeds predominate in fields where seemingly everything has been done properly. Upon testing the soil, it is found to have a pH in the range of 4.0 to 5.0 and the soil phosphorus is very low.

Several research studies have shown long-term effects of phosphorus applied to seedbeds and subsequent reduction of weeds such as dandelion and crabgrass. For example, phosphorus applications in one study decreased crabgrass encroachment by as much as 26 percent and dandelion encroachment by 55 percent.

Liming and fertilization are relatively inexpensive and represent false economy when omitted or applied at less than recommended rates.

A well-constructed field does not assure a satisfactory playing surface if the proper grass species and varieties are not selected. Many times I have inspected athletic fields only one to two years old that are more than half weeds because an unadapted turfgrass species or variety was planted. It is important that only turfgrass species and varieties proven to perform well in your area be planted.

Factors such as anticipated use levels, irrigation capabilities and maintenance level capabilities must be considered during grass selection. Also, always try to buy quality, certified seed which has no or minimal weed seed. Certified seed will have this information on the label of each bag.

Once a turfgrass mixture has been selected, many annual weed problems can be greatly reduced by planting at recommended times for your location. For example, seedings in mid-spring through early summer in Maryland are doomed to annual weed