Only Extinguish® Plus Gives 'em Both Barrels.

Fast acting. Long lasting. Extinguish Plus is the only dual-active bait that kills adult fire ant workers and sterilizes the queen.

Blow away fire ants before they take another bite out of your assets. These little buggers account for nearly $6 billion* of damage annually in the United States. Extinguish Plus gives you the double barrel approach to fire ant control with an adulticide to knock 'em down and an insect growth regulator (IGR) for long lasting results.

Unsuspecting workers take the bait back to the mound as food, eat it and die. They also spread it to the queen—effectively eliminating colony growth and relocation. Extinguish Plus is fire ant ammo approved for indoor and outdoor use where fire ants are a problem.

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*source: USDA

to grow to about 4 inches tall. Then about four weeks before the season starts we gradually bring down the height of the cut to 1 1/2 inches, our playing height. In mid-August, we apply a slow release fertilizer (22-5-8) that will carry us through the fall season.

Once the season starts, we line the field using a pressurized paint liner (rather than aerosol cans or lime), which we find cost effective if we are lining more than two fields in one day. Just this year we have experimented with using about a tablespoon of growth regulator per five gallons of paint on our first lining. We have found that this helps us hold our lines and reduces labor cost on future linings. However, we only use this on fields that are so tight that we don't have a lot of options for "moving" the field. In most instances, we prefer to "move" the high traffic areas every six weeks by relining the field to alter the location of these high traffic areas. No matter which form of lining we use, it is coupled with stopping by our fields during the first week of the season to educate users about not working teams in high traffic areas for regular practice.

During the season we fill holes, repair and adjust sprinklers, however, we have found that "in season" maintenance work aimed at growing grass (like over seeding), other than aerating, is generally pretty ineffective as anything we do is torn up by the players in a few days. We also work with user groups to have them educate their coaches about moving drills around so that they save the high traffic areas for games. We encourage that fixed or heavy goals be removed and replaced by lightweight movable goals.

If we aren't on the shutdown approach, we are on the "no cleated sports other than softball/baseball" from March 1 to June 15. In this case the field has no shut down period but we do the slit seeding and topdressing 2 weeks before the baseball season opens. We put out signs that say "No Rugby, Soccer, Lacrosse or Ultimate." The field is a little thin at the start of the season but it only takes a few weeks and the field looks great. Because baseball/softball is a holiday for our fields, by the middle of June, the fields are in great shape for the soccer season, which starts in mid August or early September.

Costs

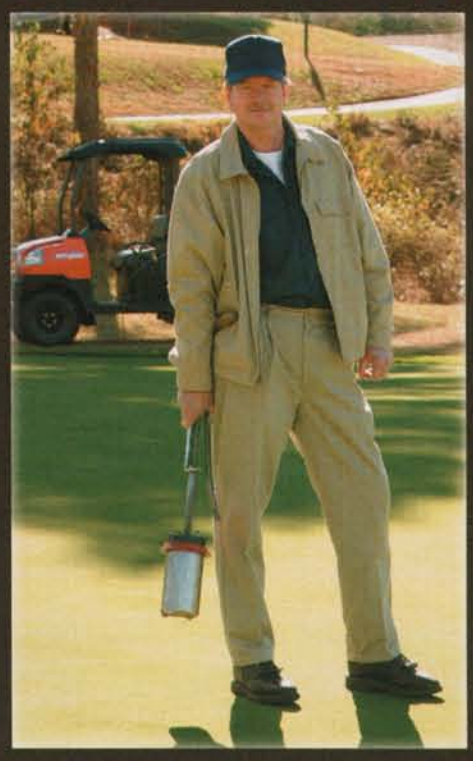
With labor rates at about $20 per hour it costs us about $12,000 per year to maintain a field (excluding the cost of water which runs about $5,000 per year). Our maintenance includes, mowing once or twice a week, aerating and fertilizing about four times a year, topdressing twice a year, removing all trash a couple of times a week and field prep every week (including lining). We are also on the field about two or three times a week adjusting water and checking for problems. But the actual cost of maintaining a playing field versus any other public grass area is significantly less than $12,000 because every public grass area needs mowing, irrigation, etc. We figure the additional costs for an athletic field (compared to just public grass area) is only about $6,000 per year.

There are two things that set our maintenance approach apart. First, is that people who work on our fields have total responsibility for the quality of the playing surface. If the sprinklers are broken, or the grass is too long, or there is a gopher hole, there is a single individual who has 100% responsibility. They may need to call in a sprinkler mechanic, but if the field isn't in good shape, it's their problem.

Second is speed and attention to detail. We visit the fields every few days adjusting the water, looking for problems, etc. And the problems are fixed immediately. All of this is doable in most management programs; it just isn't done in most localities.

As for funding we often derive our maintenance revenue from field fees. On the fields we totally manage we charge youth teams about $10 per hour and adult teams $25 per hour. The basis for field fees is that athletic fields require a higher level of service than do other publicly maintained spaces (median strips, general park areas, etc.). At the above rates, two hours on one of our fields costs a youth player about $.67 and an adult player $1.66. Our users have no problem paying these fees, provided they get a decent field in return. **ST**

Doug Fielding is Chairperson of ASFU, a non-profit group that maintains and develops playing fields and represents the interests of players to governmental agencies. He can be reached at doug.fielding@companion-group.com.



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Kyle Field's turf the "13th man"?

The football stadium at Texas A& M University in College Station is home to the 2004 STMA College Football Field of the Year. Leo Goertz, athletic fields maintenance manager, and his assistant manager, Craig Potts, deserve congratulations for this award.

The famous home of the "12th Man," Kyle Field was built nearly 100 years ago; from 1927 until 1972, it featured a native soil, natural grass surface, then, as was the trend, Astroturf was installed. In 1996, the A & M athletic department began reconstruction of the surface, removing the plastic, asphalt base, and 16 inches of subsurface.

This subsurface was compacted and 4 inches of pea gravel was added along with drainage pipe. A 12-inch sand rootzone meeting USGA standards was placed over the pea gravel and laser-graded to an 8-inch crown, fumigated, and planted with Tifway 419 washed sod. Irrigation is provided by an electronically controlled system that consists of seven zones with 57 Hunter I-40 heads and is capable of applying 1/2 inch of water an hour.

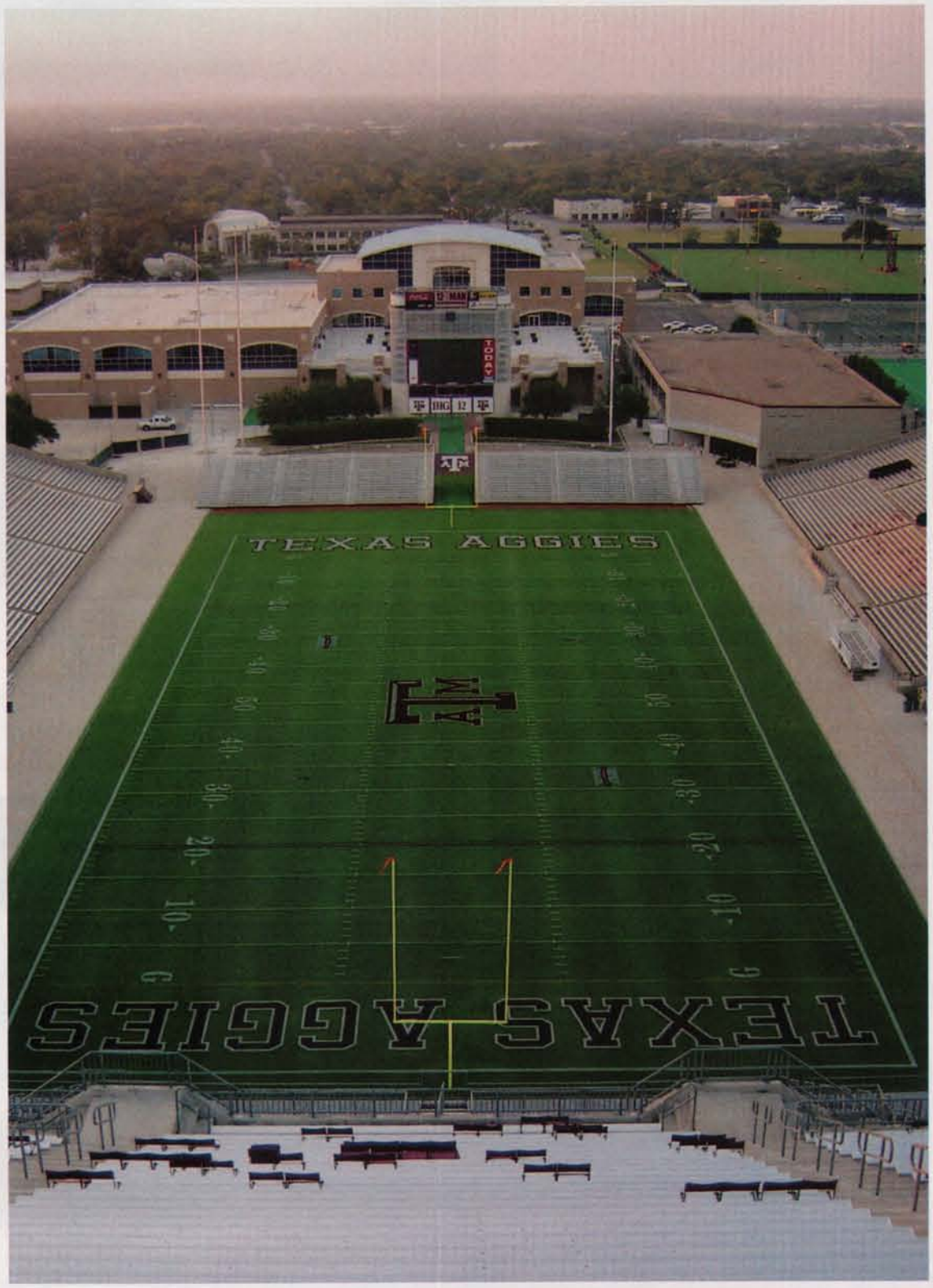
Kyle Field sees action 8-9 months a year, most heavily between May and November. Besides Aggie football demands, the field also see Corps of Cadets final review as well as numerous media functions. The summer finds hundreds of young athletes on campus for football camps, and in the fall the field hosts high school playoff action as well.

The band

The university's renowned Fightin' Texas Aggie Band, a military style marching band, creates issues for Leo and Craig. The 400-member band's routines are intricate and include many members' stepping in exactly the same spot. This creates considerable wear, especially in the vital middle of the gridiron. The toughest part is Friday morning's pre-game practice, which damages the field the day before the football game. Add in traditional Friday night Midnight Yell practice and the fact that the field is open to fans after every home game!

Water management is a big issue. Summer temps of more than 100 degrees combined with 100% humidity aren't good for turfgrass. Also, the municipally supplied irrigation water is high in sodium, a problem within a problem. The maintenance staff watches carefully for signs of stress and reacts to those signs with deep and frequent watering. Wetting agents and turf conditioners are sometimes used to maximize water infiltration and retention.

Goertz and Potts are responsible for all A & M's varsity



athletic complexes. With baseball, soccer, softball, tennis and track, it totals more than 21 acres of turf. The soccer field will host this December's NCAA Women's Championships.

Equipment Used

Toro 5500 5-gang fairway mower
Toro Multi-Pro 1200 sprayer
Toro Multi-Pro sprayer
Toro Workman 3200 w/ utility bed
Toro Workman 3300 w. topdresser
Toro 5400 HL sweeper
John Deere 955 utility tractor w/ loader bucket
John Deere Aercore 1500
John Deere 6 x 4 Gator
Club Car utility vehicle
Parker Estate sweepers
Graco 3500 line laser airless painters (3)
National 8400 belt-driven verticutter
Smithco Sweep Star P48 turf sweeper
1-ton construction roller (rented)
Cub Cadet walk-behind edger
String trimmer
Stick edger

In-season maintenance program

(Fungicide and weed control applied as necessary throughout the year; painting of field done as needed.)

July/August
Mow daily at 5/8 inch
Fertilize biweekly with 21-0-18 at rate of 0.5 lb. N/1,000 sq. ft.
Irrigate as needed
Core aerify, sweep, and roll field with 1-ton roller
Aerify using 1/2-inch solid tines
Topdress with sand that matches original field profile

September
Mow daily at 3/4 inch
Fertilize biweekly with 21-0-18 at rate of 0.5 lb. N/1,000 sq. ft.
Irrigate as needed
Aerify using 1/4-inch needle tines as schedule permits
Apply foliar application of iron as needed

October/November
Mow daily at 3/4 inch
Fertilize biweekly with 21-0-18 at rate of 0.5 lb. N/1,000 sq. ft.
Irrigate as needed
Aerify using 1/4-inch needle tines as schedule permits
Overseed with 5 lbs. perennial ryegrass (Futura 2000) and 10 lbs. annual ryegrass (Pantera) per 1000 sq. ft.
Apply foliar application of iron as needed

December
Mow as needed at 1/2 inch
Irrigate as needed ST

Connecting controllers with the Internet

BY **LUKE FRANK**

There was a time when irrigating a sports complex required considerable time and manpower. Central control was but a glimmer in somebody's innovative eye. But, gone (for the most part) are the days of dragging hoses across a hundred acres of turf eyeballing the uniformity for the day, doing your best to keep hot spots under control.

With the introduction of new piping materials after World War II, and a sprinkle of ingenuity, these hoses assumed the form of PVC pipe buried in the ground. What a concept—permanently bury a pressurized delivery system, cut down on labor, close the watering window, and establish a standardized coverage uniformity for the site.

Site managers surely must have felt smiled upon. They had improved control over what was applied when, and their turf presented a more even growth, color and overall health. However, it remained cumbersome releasing a crew to strategically punch sprinkler heads into the ground, each into its own quick-coupler. And when the irrigation set was complete, the crew went back out to pull heads from one zone and punch them into the next. It must have felt like some horticultural game of Battleship.

Then along came control zones hardwired to a mechanical clock, enabling the water manager to create irrigation "programs" with increased regularity and efficiency. No more manually opening and closing valves, nor did one have to be present to activate irrigation sets. This must certainly have felt pioneering, however the challenge of managing large sports turf sites still demanded a lot of time and resources.

A new level

Irrigation central control surfaced some 50 years ago, as mechanical controllers with pins and dials were hard-wired with relays to activate irrigation sets from a central location. From a single spot on the site, you could control irrigation zones as far away as you were willing to run wire. What a luxury for a turf manager, and what power to create and implement a practical irrigation management plan. Although the technology was proving itself to be efficient and reliable, adoption was cautious and measured.

Ten years later, computerized central control hardwired a network of solid-state irrigation timers together, taking water management to a new level. Communication with the control system was evolving into a two-way street, with newfound accuracy and reliability. Not only could you monitor and collect valuable, real-time field data, but also you could use these data to develop and upload irrigation programs back out to the satellites.

Over the years, various other forms of communication in the ground and over the airways have since linked irrigation managers with their systems. Radio control has come a long way in connecting disparate data points, sometimes miles apart, to activate and program irrigation. And the software and programming features are astounding, although 50 years from now preschoolers will laugh.

A future in irrigation?

Leaps in technology have an interesting effect in our society. They excite pioneers who have the foresight to refine its use and bring it mainstream. But not without risks. As quickly as new technology emerges and the production race heats up, existing technology is rendered obsolete.

It seems that combinations of computer software, hardwire connections and the airwaves are coming together to further shrink our ever-contracting world. Central control is becoming global in scope. The question remains whether or not it can be engineered in a simple, affordable, practical configuration that will be adopted by the masses.

Hardwiring components together remains the gold standard, but you can download irrigation data from the field and program irrigation sets through radio frequencies as well, provided you are able to clearly define the radio signal range and clarity. These technologies cost money and require some end-user sophistication.

Other transmission/receiver equipment that can be used includes modems, cell modems, e-cards, dedicated servers and so forth. These transmission lines span the globe and can deliver a wealth of information quickly and reliably.

I'd be surprised if most irrigation controller manufacturers weren't developing a prototype that incorporates the World Wide Web, and there are those that already have products on the market. Besides the obvious advantage of connecting manager with site wherever the Internet reaches, use of the Internet is reliable and affordable.

It might be worth exploring how complicated and expensive these control system options are, and how practical they might become. You never know when you'll need to connect cricket fields in Orlando with soccer fields in Katmandu in an intricate irrigation web of water management. ST

Luke Frank is a veteran writer who specializes in irrigation topics. He can be reached at lukefrank@earthlink.net.

Underlayment can affect drainage, hardness

In Boulder, CO, Boulder Valley School District (BVSD) has more than 50 schools serving nearly 28,000 students. BVSD's operations department manages the sports and athletic programs for the district's six high schools. Given Colorado's harsh climate with extreme temperature variations and intense sun exposure, field maintenance is one of the biggest challenges for the department.

For a recent field installation at Monarch High, BVSD, having decided on a synthetic field, assembled a complete team of architects, engineers and contractors to review their various options. They then chose a Tarkett Prestige (29mm average sand/rubber infill) turf system, as well as a base system by Brock USA comprised of polypropylene beads.

According to school district project manager Lou Novak, "To date there has been no adverse drainage incidents. We did have an intense 1-inch downpour late last summer and there was no noticeable effect on the field.

Traditional under-turf systems lower the G-max rating (a common measurement of field hardness). Softer may make safer but also slower. Brock USA says its product has the ability to absorb impact without affecting the speed performance of the field.

"The field plays very fast. We are aware of this because the District has three fields with "e-layers" under them and they are noticeably softer and slower playing," Novak says. "We had the field tested by Biomechanica last October using the ASTM F1936 and ASTM F355 methods. The average field G max was 93, which would indicate a soft field."

Brock USA says its system provides rapid water drainage both vertically and laterally, actually draining water faster than the turf itself, so in many cases a simpler drainage system can be used. The system's 4 x 4-foot mechanically interlocking panels are installed completely flat to secure a foundation for the artificial turf. The final field profile is around 4-5 inches including the turf.

According to Novak, "We were able to go with less of a drainage structure, which saved money. Other

systems we researched can take 5 days to lay and 8-10 days to cure but our installation time was 3 days.

"Maintenance involves regular brushing to pick up debris, during heavy-use periods, weekly or bi-weekly, during lighter periods, monthly," says Novak. "We don't do much in grooming or raking as the brushing adequately raises up the turf blades. Also, given the low g-max, we don't need to soften up the infill mix. We have plowed snow from the fields on a couple of occasions and had to redistribute some of the rubber granules that were pulled up," Novak says. **ST**

SITECONTROL VERSION 2.0

Rain Bird's SiteControl Version 2.0 is the latest version of its single-site, commercial central control product line; this version is now standard with all Rain Bird SiteControl packages. Using RainWatch for SiteControl, Version 2.0 offers communications flexibility through satellite and two-wire decoder options for ease of installation and expandability. It also includes a Minimum ET capability that postpones irrigation until a minimum evapotranspiration threshold is reached, promoting deep watering for optimum turf conditions and water savings.

Rain Bird/800-984-2255
For information, circle 076 or
see http://www.oners.ims.ca/5064-076

HUNTER'S NEW CONTROLLER

The new ACC is the first standalone version of a top-level controller to offer both real-time flow sensing and site specific Et capabilities. Hunter's most advanced controller ever, the ACC also offers the opportunity to add central control communication capability. Additional features include 6 independent and 4 custom programs, independent day schedule options for each program, non-volatile 100-year memory, and the unique ability to conform to "watering windows."

Hunter Industries/760-744-5240
For information, circle 083 or
see http://www.oners.ims.ca/5064-083

NELSON'S EX PRO MAX

The 8710 EZ Pro Max is a sophisticated 2-wire, water-on-demand system. The moisture sensor measures the absolute water content of the soil by taking three independent readings: soil moisture, soil temperature and soil conductivity. The 8710 can easily be retrofit to any traditionally wired system by using a 16 and/or 32 zone decoder box. The decoders can be retrofit to any manufacturers 24V solenoid.

LR Nelson/888-635-7668
For information, circle 077 or
see http://www.oners.ims.ca/5064-077

RAIN MASTER'S ICENTRAL WITH ZIPET

This ET (EvapoTranspiration) data collection and dissemination service is offered by Rain Master to its Internet customers. Using ZipET users can get site specific daily ET (based upon zipcodes) delivered to any specific Eagle-i controller location throughout the US. The controllers automatically adjust irrigation watering schedules based on daily ET conditions so only water that has been depleted from the soil is replaced.

Rainmaster/800-777-1477
For information, circle 078 or
see http://www.oners.ims.ca/5064-078

Utility vehicle overview

If your budget has you thinking "new UV" here's a good place to start shopping:

TORO WORKMAN E2050

The Toro Company announces the introduction of its first electric product for sports turf managers, the Toro Workman e2050 utility vehicle, based on the Toro Workman mid-duty 1100/2100/2110 platform. When the battery levels become significantly low, the unit limits top speed and acceleration, alerting the operator to locate a charging location.

The Toro Company/800-803-8676
For information, circle 064 or
see http://www.oners.ims.ca/5064-064

JOHN DEERE GATOR TX TURF

Part of the new T-Series Gators, these models were designed with turf professionals in mind, featuring turf-friendly tires, improved operator comfort, and quieter operation. With all-wheel suspension and all-wheel hydraulic disc brakes, the Gator TX Turf can go anywhere on or off turf. And with a frame-isolated engine and exhaust system, a large-volume muffler and quiet foot-pedal operation, it's quiet.

John Deere/800-537-8233
For information, circle 065 or
see http://www.oners.ims.ca/5064-065

BOBCAT'S TOOLCAT 5600

Bobcat Company has added two options to its Toolcat 5600 utility machines, a turbo-charged, diesel engine and high-flow auxiliary hydraulics. Other attachments, including a high-flow snow blower, wood chipper and stump grinder, are compatible with the new high flow option. An optional 56-hp, turbo-charged, Kubota diesel engine is Tier-II emissions-compliant. The turbo model has an additional fuel tank, providing a 92 percent increase in fuel capacity and improved performance in high altitudes.

Bobcat Company/701-241-8700
For information, circle 066 or
see http://www.oners.ims.ca/5064-066