BY **SUZ TRUSTY**

CAPE FEAR HS, HORT FIELD OF THE YEAR

The baseball field of Cape Fear High School earned the Sports Turf Managers Association 2003 Baseball Field of the Year honors in the High School/Parks and Recreation division. Located in Fayetteville, NC, this field has evolved from a diamond in the rough to a gem that draws the admiration of players, coaches and fans. It doubles as a teaching tool in a turf program that is channeling the best and the brightest to sports turf management.

Initiating and coordinating this evolution process and the program is horticulture instructor, Terry W. Nance.

The baseball field is on the school property, located behind the main structure. The field was established in 1969 using a loam/clay base material for the skinned infield area. Single-head quick coupling irrigation devices were installed at four locations in the outfield and one main head was positioned behind the pitcher's mound. The outfield was leveled and seeded with common Bermudagrass.

The dugouts were 6 feet wide, 20 feet long and 7 feet high with wire mesh screens with one walkway and no top. Because the baseball outfield was used as the practice field for football each fall, the outfield fence was erected as a temporary structure during baseball season.

Hose pipes with irrigation stands were connected to the quick coupling heads for irrigation. While this method was functional, it required dragging the hoses out onto the field and off the field each time for each irrigation cycle. There were no major field improvements from the point of establishment until the mid-eighties.

Moving forward

Nance arrived at Cape Fear as a horticulture instructor for the 1985-86 school year. With a shared love of baseball, he and Head Baseball Coach Terry Jeffrey soon developed a good working relationship and elements of sports field maintenance began working their way into the horticulture program. By the 1988 school year, they were exploring the feasibility of grassing the infield.

Nance says, "In the summer of 1989, we sodded the infield with Hybrid Bermuda 419. Coach Jeffrey did most of the work. His ailing father spent much of that summer sitting at the side of the field under an umbrella, visiting with his son and watching the turf infield develop. Coach Jeffrey lost his dad a couple of years later, but greatly appreciated their time together and the enthusiasm they had shared for the project."

Once the infield was established, the Baseball Booster Club and the horticulture students helped construct two state-of-the-art dugouts. These brick structures are 40 feet long, 10 feet wide and 8 feet high and are covered with a shingled roof. Each dugout was built with a 10 x 10-foot storage area with locking doors for field maintenance and practice equipment.

Nance says, "Once the field improvement project began, support for further field enhancement grew. A major element, the installation of lights for night games was the next component. Having games at night allowed us to double and triple our attendance. To accommodate our fans, we added several prominent seating facilities that gave us a capacity for approximately 300-400 people. Our Legion baseball coach, Wendell Smith, who is also the assistant varsity coach, and his family built an impressive press box to facilitate game coverage and further enhance our stadium appearance."

As the field improved, the level of the field maintenance program also moved forward, all part of the evolution process that has led to the establishment of a yearlong turf management class.

Proper field maintenance is essential with the intensity of field use. Scheduling of on-field activities is nearly year-round. High school baseball starts in February and runs through late May. As the high school season concludes, American Legion play begins. Action starts in late May and continues through mid-August. After legion ball finishes, high school football practice takes over the outfield. The Varsity team practices in left field and the Junior Varsity team in right field. Practices conclude in late November or early December.

Nance says, "Our major field concern is the wear caused by football practice. We work with our football coaches to move drills from spot to spot to reduce compaction. Still, the continual use during October, November and into December puts a great deal of wear on the perennial ryegrass, which has been overseeded primarily for spring baseball play.

"An added challenge to creating an excellent playing surface and developing a quality turf is the lack of proper irrigation in the outfield. Our water source is cut off from November through late March, when temperatures are too cold for operation of our existing irrigation system. This greatly reduces the level of maintenance we can provide for our perennial ryegrass during the period when the stress of wear is extremely high. While an improved irrigation system is on our wish list, it's not an

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option with our existing operating budget and our Booster Club has already committed its major resources to paying for a state-of-the-art weight room. At this point, we try to manage our overseeding program for maximum establishment and turf coverage during the period when irrigation is available and must rely on a combination of other maintenance practices and Mother Nature's precipitation to carry us through into spring."

Evolution of the program

Sixty percent of the curriculum for each of the horticulture classes is set by the state of North Carolina. Nance says, "Instructors have the flexibility to supplement the remaining 40 percent focusing on what we feel is important in our region. That's where our turfgrass studies come into play.

"I saw the 1988 boom in golf course development in North Carolina. Having possible opportunities for our students in these areas, I started attending the state Turfgrass Conference. Through the educational sessions and discussions with the speakers and golf course superintendents, I picked up information on turf cultivar selection, weed and insect identification and control, fertilization and fertilizer application rates, mowing techniques, and the types and uses of equipment for maintaining premium turf. Over the past 10 years, we've tried to bring in a little more turfgrass research and knowledge into the program each year. We've worked to incorporate all the elements into a teachable format that could be applied with a combination of classroom and hands-on instruction at the high school level."

Nance also began taking students on field trips to local golf courses. Students not only saw and learned about such turf maintenance practices as core aeration and verticutting, they also focused on the business side of the course. They observed and discussed how the maintenance facility was set up and how maintenance programs were developed and tracked and how people management skills like dealing with employees, golfers, and the front office all fit into the picture.

Observing the surging interest in sports, Nance began exploring options to expand the program into sports turf management to give his students yet another venue to consider. In 1999, he became involved with the Eastern North Carolina Sports Turf group, including Tommy Walston of the Kinston Indians and Dr Art Bruneau. He attended his first sports turf focused meeting 3 years ago at North Carolina State University's Carter Finley Stadium with Ray Brincefield and Clark Cox conducting the field maintenance seminar. Enthused by the possibilities, he began incorporating the same educational and field trip combination for introducing the profession to his students.

Trips included: a broad spectrum field day at the Kinston Indians conducted by Walston; a tour of the Carolina Panthers' home, Erickson Stadium in Charlotte, conducted by Tom Vaughn; a tour of the Charlotte Knights Triple A baseball facility with Eddie Busque; and last year, a tour of the Louisville Bats field conducted by Tom Nielsen for students attending the national FFA convention. Each trip brought more student enthusiasm, and more networking contacts enabling him to expand the program.

"By the 2001-2002 school year, I had set aside times during instruction periods for students to complete a wide range of turf activities. In 2002-2003, my Horticulture II class involved approximately 25 students in three classes working at different times. Their program included fertilizing, aerating, overseeding, topdressing, cleaning of dugouts, and setting up the pitcher's mound and batting cages. My 2002-2003 Landscape Design class involved approximately 40 students in two classes working at different times. Their program included: mowing duties following a mowing chart for mowing patterns, painting of the field, raking and dragging the infield, setup of the pitchers mound and home plate for games, and pest identification and analysis of control measures.

"In 2001-2002, we established our first Field Maintenance Crew which involved eight students who work on the facility year-round. During the season, they work on the field to prepare it for practices and game day situations and manage the field before, during and after games. The crew is selected from the top class members with an interest in sports turf management who are willing and able to devote this level of commitment to a volunteer project. We've continued the program since then."

Nance incorporates precision and attention to detail in every aspect of his program. While budgets are always a factor, especially at the high school level, and resources must be allocated to achieve the best results, Cape Fear's field maintenance focuses on player safety and field consistency. Nance says, "We make the comparison to a pro level field a part of everything we do. There are limitations on what equipment students can operate. Our baseball coach mows the outfield with a rotary mower. To reduce the possibilities of injury, we focus on hand operations with equipment and tools they can push, pull, or drag. They can calibrate spraying equipment, but a licensed operator must make the applications. Students learn to mow with a walk-behind reel mower at a consistent height and in the assigned pattern. They are responsible for organizing the tools, keeping the hoses in place, and handling all the equipment they are authorized to use in the proper manner. We emphasize that the organization shown when you walk into the facility tells a lot about you and what kind of job you are going to do."

The field preparation for junior varsity and varsity practices is the same as game day preparations except for the decorative painting on practice days. As part of the game setup painting, Cape Fear's Colts are treated to a horseshoe wrapping around the back of home plate as well as the Colts name between the plate and backdrop. The FFA field crew proudly wear that designation on their shirts and hats and neatly

wear pants to complete the professional image.

Nance says, "The field crew demonstrates the professional attitude of the program to the fans and the community as they work. The condition of the field, combined with their on-field performance, has done much to promote our horticulture program throughout the area. The support of Cape Fear's coaches, administration, and Booster Club for our entire program has been excellent and we can't begin to thank them enough for it. Another key has been the educational benefits and networking connections through STMA. Being able to convey to our students the ideas and the commitment and dedication of these professionals makes our program work. After I attended the Major League Baseball Seminar at the 2004 Conference, we decided to take our field up one more notch. In March, we completely rebuilt our mound, incorporating bricks for greater consistency and insuring that our measurements were exactly to specifications. We reworked our home plate area as well."

Nance has been working since 1994 to get a focused turfgrass management course into the horticulture program. He was one of 48 teachers that gathered in Dallas in 1996 to develop the curriculum. This was brought back to North Carolina, where he and others continued to work with Gene Maples of the North Carolina Turfgrass Council and Dr. Art Bruneau of North Carolina State to revise and fine tune the program. This model was presented to Benjie Forrest, the state director. In 2003, the State of North Carolina Department of Public Instruction approved a career development course in turfgrass management as a course of study.

In the fall of 2004, the program will be available through the agricultural departments not only across North Carolina, but also across the nation. Nance says, "I'll be adding the class to my program then, as will two other instructors within the 16 counties of our Southeastern regional area. A workshop will be offered this summer for teachers at Brunswick Community College, conducted by Dr. Bruce Williams and Benjie Forrest. It's designed to give them the turfgrass training they'll need for this course. As part of our pioneering work on it at Cape Fear, we held a similar workshop 3 years ago, which helped spark broader interest in the class."

Nance notes that many professionals in the industry have told him they wished there were programs similar to his when they were in high school. They'd have found their calling sooner. And that's what it's all about. Nance says, "Six of our 18 seniors in this year's program have been accepted into the turfgrass management program at North Carolina State. Our student captain of the turf team for the 2 previous years is already in that program and on their field crew. Not only are we maintaining one of the best fields in our area, but our students are learning they need the right attitude and the desire, along with education and experience, to achieve their goals." **ST**

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Cape Fear Maintenance Schedule

January

Infield irrigation system shut off

Fertilize infield and outfield perennial ryegrass with 24-4-12 slow release at rate of 1/2 pound Nitrogen (N) per 1,000 square feet

Drag and rake fields

Check field for problems

February

Infield irrigation system still shut off

Continue to fertilize with 24-4-12 slow release at rate of 1/2 pound N per 1,000 square feet every 21 days

Start reducing perennial ryegrass height of cut from 1-1/2 inch to playing height of 1 inch

Continue raking mound, home plate and infield for conditioning

Clean and clear any weeds from baseline skinned areas

March

Open irrigation lines

Begin irrigation augmenting natural precipitation to supply 1 inch of water per week

Fertilize with 24-4-12 plus 15-0-14 mixture at rate of 1/2 pound N per 1,000 square feet on 21-day intervals for start of baseball season

Mow infield daily with reel mowers to 3/4-inch height

Begin applying water to skinned areas to condition field for appearance and playability

April

Irrigate augmenting natural precipitation to supply 1 inch of water per week

Fertilize with 24-4-12 plus 15-0-14 mixture at rate of 1/2 pound N per 1,000 square feet for maximum green-up

Mow infield daily to 3/4-inch height due to green-up of hybrid Bermuda 419

Conduct soil test and adjust fertilization program based on test results

Apply summer herbicide for crabgrass and goosegrass control following standard IPM procedures

May

Apply chemical control to eliminate perennial ryegrass

Apply liquid iron for green-up due to above application

Check field for weeds and spot treat if necessary following standard IPM procedures

Fertilize with 24-4-12 plus 15-0-14 mixture at rate of 1 pound N per 1,000 square feet at 21-day intervals

Mow infield daily to 3/4-inch height

Irrigate augmenting natural precipitation to supply 1 inch of water per week.

June

Core aerate field to reduce compaction and help stimulate growth of hybrid Bermuda 419

Mow infield daily to 3/4-inch height

Fertilize with 24-4-12 plus 33-0-0 mixture at rate of 1 pound N per 1,000 square feet at 21-day intervals

Apply control for nutgrass if necessary following standard IPM procedures

Check field for insects and spot treat if necessary following standard IPM procedures

Irrigate augmenting natural precipitation to supply 1 inch of water per week.

July

Mow infield 4 times per week to 3/4-inch height

Fertilize with 33-0-0 at rate of 1 pound N per 1,000 square feet at 21-day intervals

Conduct soil test and adjust fertilization program based on test results

Check field for brown patch and dollar spot and treat if necessary following standard IPM procedures

Irrigate augmenting natural precipitation to supply 1 inch of water per week.

August

Core aerate field

Apply 5 pounds of 0-0-54 per 1,000 square feet for root and stem development for winter care Continue edging field

Check for mole crickets and armyworms using 1 gallon of water with 1 Tbsp. of liquid soap applied to 1 square foot areas and treat if necessary following standard IPM procedures

September

Core aerate and drag cores in two weeks prior to overseeding

Overseed field with perennial ryegrass at rate of 15 pounds per 1,000 square feet

Topdress with 1/4 pound of sand/potting soil mixture

Apply starter fertilizer at rate of 1/2 pound N per 1,000 square feet

October

Irrigate lightly until seed emerges, adjust irrigation as turf develops to promote good root establishment

Mow at 2-inch height for good root establishment

Continue starter fertilizer at rate of 1/2 pound N per 1,000 square feet at 21-day intervals

November

Shut down infield irrigation system

Mow twice weekly at 2-inch height

Continue starter fertilizer at rate of 1/2 pound N per 1,000 square feet at 21-day intervals

Conduct soil test and adjust fertilization program based on test results

December

Infield irrigation system still shut off

Continue mowing program

Apply control for spring poa annua and for broadleaf weeds in late December following standard IPM procedures