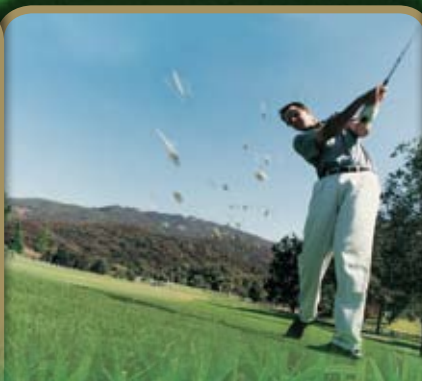




Why you should plant Seeded Bermuda...





PRINCESS 77

Certified Hybrid Bermudagrass

Establishment Guidelines for Princess 77

- Traditionally, we state that the time to plant bermudagrass is when the soil temperature reaches 65° F (17° C). The reason for waiting is warm season grasses, like Bermuda, germinate at 65° F (17° C). Mother Nature plants seed in the fall after they mature on the plant and fall to the ground. Research shows us that we can plant early in the spring when time permits and the seed will lie dormant until the conditions are acceptable for germination. Therefore, you can plant your Bermuda seed as early as February in the transition zone and achieve a quality stand of bermudagrass quicker than waiting until May (Richardson et al., 2006).
- Take a soil sample and follow fertility recommendations prior to planting.
- Cover seed with no more than 1/8 inch (3mm) of soil.
- After seeding, soil moisture in the root zone must be maintained for 2-3 weeks.
- After new turf is established, less frequent, deep watering is desirable.

Starting Turf from Seed Provides Many Convenient Advantages

- Seeding is faster and requires less equipment and labor than sprigging or laying sod.
- Seed can be easily transported and stored, whereas sod or sprigs must be planted immediately to maintain quality.
- Seed production and quality is certified consistently by the Arizona or California Crop Improvement Associations.
- Where winter injury, transition from overseeding, or excessive wear makes renovation projects necessary, Princess 77 can be inter-seeded to create a denser stand.



Using Princess 77 Seed Offers Many Advantages:

- Turf quality that is equal to the best vegetative varieties in the industry
- Less expensive than sprigs or sod
- Faster establishment time than sprigs
- Establishment and renovation projects are easier with seed
- Requires 21% less water than Tifway 419
- Faster divot recovery and good wear tolerance

Princess 77 Graces the Back Nine in Chihuahua, Mexico

When the Club Campestre San Francisco in Chihuahua, Mexico decided to expand from 9 to 18 holes, they wanted to do it right. Architect David Fleming was brought in to design the new nine holes and experienced superintendent Emilio Castorena was hired to manage it. Once constructed, hybrid bermudagrass would be established on the fairways.

The first attempt to establish bermudagrass from sprigs failed to establish before winter, so Castorena was tasked to find a better, more cost-effective way to establish a high quality bermudagrass turf.

Princess 77 hybrid bermudagrass from seed was brought in that November and seeded onto a tee box for evaluation. By covering it with plastic, Castorena was able to keep ground temperatures under the plastic warm and the Princess 77 filled in by February. Satisfied that this was going to make a viable option for the upcoming season, plans were made to go ahead with seeding the rest of the course that spring. The results were exactly what Castorena had hoped for. Where soils were good, Princess 77 filled in completely in four weeks. Rockier soils required eight weeks.

“They told me I wouldn’t be able to grow anything on this rocky type soil,” Castorena recalls. He went on to describe the ease of handling a seeded variety. **“Princess 77 is a lot easier to handle as opposed to sprigging and you get faster establishment than you would with a vegetative type. With sprigs you get clumpiness and have to topdress to get it level. With Princess, I didn’t have to topdress at all.”** While this saved time for the maintenance crew, Club Campestre San Francisco was also saving money. Princess 77 seed costs about half the price of sprigs.

So what did the golfers think? The Club reports that everyone is excited about playing the back nine. **“The color and texture of the grass is comparable to Tifway 419.”** However, Castorena sees advantages with using Princess 77. **“The ball sits up nicely on the turf, even at the higher mowing heights in the rough. Play moves along better because people can find their balls much easier.”** Because Princess 77 performs well at different mowing heights, only one variety of bermudagrass was necessary for the fairways, roughs and tees. **“I’m happy with the end result,”** says Castorena. **“It does the job for me.”**

Establishment Method

Variables

Cost/Acre

Princess 77 Seed
0.75 – 2 lbs./1,000 sq. ft.

31 – 87 lbs./acre

\$600/Acre

Sprigs

300 – 500 bu./acre, variety
and size of the project

\$1,272/Acre
Geographically Dependent

Sod

Variety and pricing in your area

\$11,326/Acre
Geographically Dependent

*Prices used are estimates and may vary depending on supplier, region, size of area being established, equipment and labor required, etc.



Emergence - 5 days



2 weeks



3 weeks



Fairway - 2 weeks



Fairway - 3 weeks



Sprigs vs Seed - 3 weeks



A 21% SAVINGS in irrigation volume (as compared to 419) through the summer months can add up to significant cost savings at the end of the year.

1997 National Bermudagrass Test Griffin, GA

1999 Data for Drought Tolerance (Wilting)
Ratings and Percent Recovery from Drought
Dormancy

Variety	Drought Tolerance	Drought Recovery
----- 1-9; 9=No Wilting-----		
Tifgreen	6.0	85.0%
Princess 77	5.7	91.7%
Tifsport	5.3	81.7%
Jackpot	5.0	80.0%
AZ Common	4.7	71.7%
Mirage	4.7	76.7%
Savannah	4.7	83.3%
Blackjack	4.3	80.0%
Sun Devil II	4.0	78.3%
Tifway	4.0	63.3%
Patriot	3.3	70.0%
LSD	1.1	26.0%
C.V.	15.2	20.9%

For complete report go to www.ntep.org, National Bermudagrass Test – 1997: Table 15A, Table 39A.

New Mexico State Wins with Princess 77



In 2003, the Grounds Crew at New Mexico State University in Las Cruces was given the responsibility of renovating Aggie Memorial Stadium after the first undefeated football season at home.

The field had been overseeded with a perennial ryegrass blend every autumn for aesthetics and retention of a safe, healthy playing surface during the fall and spring football seasons. Plant competition with the ryegrass, coupled with wear on the existing bermudagrass had resulted in very sparse bermudagrass coverage. After discussing the matter with Dr. Bernd Leinauer, State Extension Turfgrass Specialist for the College, Pat Montoya, NMSU Grounds Crew Manager, along with Bud Jones and the rest of the Grounds Crew at New Mexico State decided it was time to take action.

It was determined that the field would be renovated using seeded bermudagrass. This would allow the Grounds Crew to cost effectively repair worn areas now, as well as in the future. According to Dr. Leinauer, **“The variety Princess 77 was selected because it most closely matched the existing Tifway in terms of leaf structure, texture and uniformity.”**

In early May, following the final spring football game, the ryegrass was sprayed with Pronamide (Kerb) and then physically removed with a flail mower. In addition, the field was deep tine aerified and then spiked in

several directions. It was determined in mid-June that any residual Pronamide had degraded and that soil temperatures were adequate for planting. A verticutter was used to cut through any remaining thatch, exposing the soil. The grooves created by the verticutter formed a seedbed that allowed for good seed-to-soil contact while protecting the germinating seeds from the dry New Mexico winds. The seedlings emerged from these grooves and began to cover the field.

Just 50 days after the field was overseeded to Princess 77, it was pronounced to be “at full density and in excellent condition.” How did this new turf hold up? **“Remarkably well,”** says Bud Jones, Assistant Grounds Manager who was also pleased with Princess 77’s ability to recover quickly.



Recovery of Bermudagrass from Divots

Princess 77 & Sovereign (SWI 1012) recover significantly quicker than traditional vegetative type bermuda i.e. Tifway and TifSport. (Karcher et.al., 2005)



“Princess 77 recovers very fast from damage caused by divots. We’ve seen divots start recovering in 3 days and fill-in completely in 10-14 days in the summer.” - Mario Aguiar, Cimarron Golf Resort, Cathedral City, CA

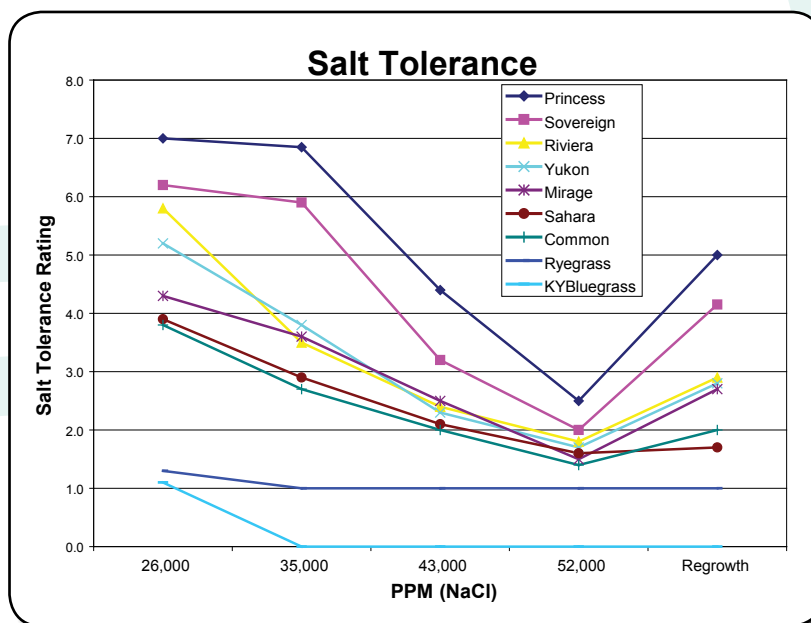
Salt Tolerance Test



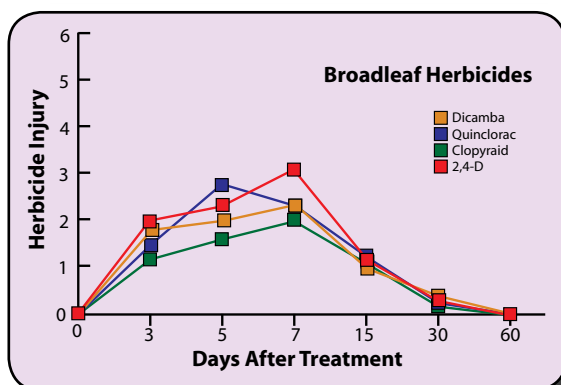
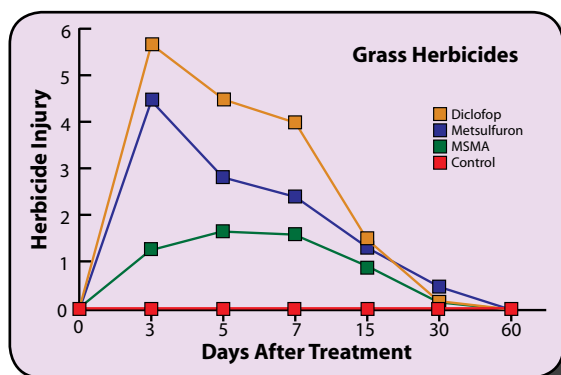
A study of salt tolerance was conducted by Dr. Charlie Rodgers and Trent Murphee to evaluate the tolerance of salinity of several bermudagrass cultivars. Using a randomized complete block design with 14 replications, the entries were solid seeded into containers. Once all the cones were established, i.e. 100%, daily dunking in the salt bath was

initiated. The test began at 26,000 ppm salt (Sodium Chloride, NaCl) and contained a modified Hoaglands Solution to provide nutrients to the plants. The growing medium used was 100% silica sand. The cones were dunked 7 days a week, 1 time per day. The cones were left submerged for 15 minutes – it was determined this was enough time for the cones to reach complete saturation.

The salinity level was ramped up every 2 weeks – beginning at 26,000 ppm; then 35,000 ppm; 43,000 ppm; 52,000 ppm and then watered with fresh water for 4 weeks and regrowth was evaluated. Cones were evaluated at the end of each concentration level (every 2 weeks). Ryegrass and Kentucky Bluegrass were added as salt susceptible controls.



Herbicide Strategies for Newly Seeded Bermudagrass



Several post-emergence herbicides caused significant injury to newly seeded Princess bermudagrass, including diclofop, meqsulfuron, 2,4-D and dicamba. However, all plots recovered fully from herbicide injury by 30 DAT. This data demonstrates that a range of post-emergence herbicide programs can be used effectively to control weeds in newly seeded bermudagrass. Charcoal banding also proved to be an effective means of establishing bermudagrass from seed and permits the use of pre-emergence herbicides in a seeded planting. This technique is of great value when attempting to establish a seeded bermudagrass in an area with a history of annual, grassy weeds. (GCM McCalla et.al., 2002)

Herbicide injury of newly seeded Princess bermudagrass as affected by grass (top) and broadleaf (bottom) herbicides. Herbicides were applied at one, two and four weeks after emergence, and data for this graph are averaged across all application periods. Error bars indicate significant differences between herbicide treatments at each evaluation period ($P \geq 0.05$).



CITY OF MOUNT DORA

Parks and Recreation Department
510 North Baker Street
Mount Dora, FL 32757

(352) 735-7183
Fax: (352) 735-1406

Email: parksandrec@cityofmoundora.com

Date: August 22, 2007

To: Pennington Seed

Subject: Princess 77 Bermuda Seed

Recently the City of Mount Dora used Princess 77 Bermuda Turf to surface its new Dog Park.

We'd like to highlight the following:

- The Princess grew in faster than normal sprigging processes
- We were able to open the facility sooner than we would have under other grassing processes
- The facility has been open for approximately 2 months and is providing an adequate use surface under extreme use demands
- Because of the initial success of Princess 77 Bermuda Turf, the City of Mount Dora has decided to install Princess 77 on our new Athletic Sports Fields

Summary:

Being a new process, we are happy with the initial results and look forward to the future...particularly using a seeded Bermuda to renovate damaged use areas and to quickly establish new turf areas. We have also been happy with the support given by the Pennington Seed Professionals.

John Burt, CPRP, CPSI

Parks and Facilities Manager
Mount Dora, Florida

SEEDING INTO AN EXISTING STAND OF BERMUDAGRASS

To successfully establish Princess 77 into an existing stand of bermudagrass, more than proper seed to soil contact is required. Research demonstrated that a non-selective herbicide at 4 qts. per acre must be applied to the existing Bermuda prior to verticutting. Once the herbicide is absorbed by the existing Bermuda, the area must be verticut and the debris removed to convert to the desired Princess 77. (Philly et al., 2005)



Princess 77 Makes Fairway Renovation a Breeze at Cimarron Golf Course

Cimarron Golf Resort is a John Fought designed 36-hole golf course in Southern California's scenic Coachella Valley. The courses opened for play in January of 2000 with fairways and roughs seeded entirely to ryegrass. While the ryegrass flourished during the winter, warm temperatures in the summer months required Cimarron's staff to over-water the ryegrass to keep it alive. This practice led to other problems including muddy fairways and turfgrass diseases that lowered the overall level of play at the course during the summer months, resulting in fewer rounds and lower revenues. Cimarron needed a solution that would not shut the courses down for renovation. The goal would be to establish a turf with the disease





resistance and reduced water usage of bermudagrass without sacrificing turf quality.

This was a tough situation that called for a tough grass and Princess 77 was chosen for the job. Tom Christy, Head Agronomist for OB Sports knew that Princess 77 had proven in the National Bermudagrass Trials to possess color, density and overall turf quality equal to the most elite vegetative bermudagrass varieties in the industry. Under Tom's guidance, Princess 77 was direct-seeded into Cimarron's ryegrass

fairways in just 3 days.

"We have seen great seedling vigor in Princess 77 being over-seeded into ryegrass fairways," reports Mario Aguiar, course Superintendent at Cimarron. **"We had full coverage in eight weeks and never shut down for renovation. Our fairways look great and we are thrilled with the ease of handling seed as opposed to sod."**

While the dense, dark green turf provides excellent play for Cimarron's patrons, the staff at Cimarron has picked up on other advantages.

"Princess 77 recovers very quickly from damage caused by divots.

We've seen divots start to recover in 3 days and completely recover in 10-14 days in the summer,"

says Aguiar. Princess 77 also helped Cimarron to achieve an environmental goal of cutting their overall water usage for this year by 15% reports Mark Goulet. **"We expect to achieve a 30% water savings next year by increasing the amount of Princess 77 on our course."**



Greenville Testimonial

David Brown is the Professional Turf and Maintenance Manager for the Eastern Parks Division of Greenville County Recreation District. He has worked in the golf course industry for over 20 years, both as superintendent and as head professional. He started working for Greenville County Recreation District five years ago, and has been an integral part of the overall turf program in the county.

David currently manages 4 soccer fields that were established from Princess-77. He also manages another field in the county that was established from 50% Princess-77 and 50% Yuma a few years ago. There are other fields in the district that have been interseeded with Princess-77 and Princess-77 has been seeded to replace damaged turf, i.e., goal boxes.

Most of the fields seeded with Princess 77 have been established for 3 full years and receive constant pressure from practice and play 52 weeks per year with a peak during spring, summer and fall. David maintains the Princess 77 fields on the same schedule as his 419 fields. David's program for fertilization and weed control follows the schedule above.



- Pre-Emergent weed control in late winter/early spring
- Nitrogen (and other supplements) applied in April for spring green up
- Straight application of Iron in May to aid in green up
- Slow release N application in June
- Several subsequent applications of N during the peak growing season
- "Primo" applied to all fields to encourage lateral growth and discourage vertical growth in order to cut down on mowing frequency (this program allows David to extend mowing periods out to about 7 day intervals).
- Straight application of Iron in early fall
- High K fertilizer for the dormant season in late fall/early winter

David recaps the advantages of using Princess 77 versus other vegetative varieties (sod or sprigs). **"Princess 77 has been very economical for our overall program when you compare the cost of establishing a field from seed versus sodding or sprigging. I get quicker establishment during the initial grow in period with almost full coverage in just 8 weeks. In addition, we used less water during grow in and maturity stages. Princess 77 was impressive as compared to 419 under the same maintenance program with a longer growing period through the summer and into the fall and a quicker spring green-up. That coupled with high**

wear tolerance and very low weed pressure after initial establishment proves to me that Princess 77 is desirable for high traffic on recreation and sports fields."

David and Greenville County are very pleased with the overall performance of Princess 77, both during establishment and into maturity. The fields get a tremendous amount of play throughout the year and Princess 77 has held up well under this pressure. David and Greenville County plan to establish additional Princess 77 fields in the near future and to renovate existing fields with Princess 77 as needed.



City of Atlanta

The City of Atlanta Parks and Recreation Department planned a major sports turf renovation project in early 2007. The total project encompassed 66 sports fields, including soccer, football, baseball and softball and approximately 1,000,000 sq.ft of turf. Up until renovation each park had a different variety of grass



and the turf was thin and weedy at each location.

The City of Atlanta selected Princess 77 Bermudagrass seed for 50% of

the renovation project. Tifway 419 Bermudagrass sod was chosen for the other half of the project's turf area. The City contracted with the Astra Group in Woodstock, Georgia and the project was managed by Philip L. Spackman, a turf and sports field construction consultant with Grassworx, LLC of Norcross, Georgia.

The seed was planted in March and April of 2007 by Grassworx and was seeded at a rate of 2 lbs./1,000 sq.ft. with a billion seeder. Most of the area planted with Princess 77 was an overseed type application with seed being prepared by an aerovator. The grow-in was managed by TruGreen ChemLawn. The first application of fertilizer was one month after planting. After establishment, TruGreen Landcare was contracted to mow

twice per week with rotary mowers.

Philip Spackman testifies to the merits of Princess 77 by saying, **"By the end of summer, in most cases you could not tell the difference between the fields that were sodded with 419 vs. the seeded Princess 77 fields. On most of the baseball fields, the infields**

were renovated and laser graded. After grading the hips and shoulders of the infields were sodded to prevent erosion and maintain the grade. The outfields were seeded with Princess 77. Upon a September inspection of the fields, we could not find where the 419 sod ended and the areas seeded with Princess 77 began."





Featuring - Certified Mohawk, Sultan, and Sydney Turf-type Bermudagrasses

The Bermuda Triangle is not a mystery anymore! Three of our better-seeded varieties have been blended together to provide an excellent turf with wide adaptation. These top performing varieties have improved turf density, color and moderate cold tolerance. For turf that stands up to the demands of today's turf professionals and the best of the best, seed Bermuda Triangle Blend.

Characteristics:

- Certified Quality
- Dark Green Color
- Medium Fine Texture
- Improved Cold Tolerance
- Excellent Drought Tolerance
- Increased Turf Density for Wear and Durability
- Wide Range of Adaptation due to Genetic Diversity



Recommended Uses:

Golf Courses (Fairways, Tees and Roughs)
Athletic Turf Fields
Parks
Schools
Home Lawns
Commercial Landscapes

Randy Dunn, North Georgia College & State University Athletic Director

North Georgia College & State University in Dahlonega, Georgia, recently received approval for full membership in the NCAA and the Peach Belt Conference. Randy Dunn, Athletic Director and his staff decided that it was also a great time to renovate and upgrade their soccer field. Prior to renovation, the field's surface was a mixture of turfgrasses, primarily perennial ryegrass and tall fescue with some bermudagrass.

Overall, the existing surface was clumpy, unleveled and rough, not very desirable for competitive play. With plans for renovation, Randy needed to determine the best grass for playability and durability and bermudagrass was his species of choice. While working with Precision Turf who assists with management of the field to investigate the installation of bermudagrass, they found a desirable alternative to sprigging and sod. That alternative was seeding the field with one of the new hybrid bermudagrasses. At this point, North Georgia College & State University contacted Pennington Seed, a leader in the bermudagrass industry to help evaluate their needs. After reviewing the specifications for the field, Ber-

muda Triangle was selected due to the qualities of the varieties in the blend.

Randy Dunn states, "**Bermuda Triangle fit our needs perfectly. We stripped and laser-graded the field in late July, then planted the Bermuda Triangle by hydroseeding, and played our first game at the beginning**

of September. Everyone is pleased with the ease of establishment and the quick coverage. The players have seen excellent traction. We are very pleased with having seeded Bermuda Triangle on our field."



Bermuda Triangle an Excellent Choice for North Georgia Soccer Field



Introduction

Prior to renovation, the soccer field at North Georgia College was established with “common” Bermuda and hybrid 419 on the sidelines. Common bermudagrass is a far inferior turf compared to the hybrid Bermudas used on most athletic fields. Common has very low turf density, poor disease resistance, less cold tolerance and slower turf growth recovery compared to the hybrids. In addition to being established in common bermudagrass, the overall condition of the field was poor at best. It was extremely undulated with areas of sharp grade changes where water would accumulate and increase the chance for player injury. It needed lots of work to address drainage and potholes and a major overhaul to increase the field’s ability to maintain healthy turf growth.

Renovation Takes Place

The budget for the college’s soccer field was extremely limited, but there was a tremendous need to renovate the field as soon as possible. Precision Turf, EFS and Pennington Seed all came up with a plan to solve the needs of the university and its soccer program. Precision Turf began the task of complete renovation of the field. It was tilled

and laser graded and prepared for hydro-seeding. Bermuda Triangle was selected for seeding the soccer field due to its elevation and possible need for a cold tolerant variety. EFS hydroseeded Bermuda Triangle on July 13, 2007.

“The Bermuda Triangle grew in very aggressively and although we could have played on it earlier, we were able to keep the team off the field for 88 days,” says Eric Holland, Professional Turf Manager for Precision Turf. “I was very impressed with the Bermuda Triangle and I had no idea it would produce a turf so quickly with such density. Most of our jobs are high end and are laser graded and sodded with hybrid Bermudas. We will definitely promote Bermuda Triangle in the future. It is an excellent alternative to sod, especially when a limited budget is part of the equation.”

The soccer field is mowed several times per week with a high end TORO rotary mower. Fertility is managed by Precision Turf’s Maintenance Division.



City of Easley



Easley, SC is the host city for the “Big League World Series” (16-18 year old youth boys league). The tournament was held at the J.B. Red Owens baseball complex in late July of 2006 and again in 2007.

Eleven teams from all over the world participate in this week long tournament in Easley. There are approximately 12 games played during this particular tournament week along with scrimmages and practices (so the fields undergo heavy pressure in addition to the regular play that they receive during the rest of the year).

While preparing for the tournament in 2006, Ben Wigington of Wigington Turf and Melvin Aiken of the City of Easley Parks and Recreation District noticed some persisting problems on several fields. These issues were spring dead spot and a general “weakening of the 419 turf” due to years of Perennial Ryegrass pressure during spring green up. The tournament was played in 2006 on a stand of 419 bermuda and Perennial Ryegrass.

The field problems persisted during the spring of 2007. As the summer months approached, Ben and Melvin knew that there was a definite problem with the main field where the tournament is played. The City suspended all play on the field during the final week

of June, giving Ben and Melvin one month to prepare for the tournament that would begin in late July. They sprayed out all of the residual Perennial Rye and inter-seeded Pennington’s Bermuda Triangle into the stand of 419. Some areas of the field were completely bare, and the entire infield was **“almost gone”** according to Ben. They irrigated the field and had germination in 5-6 days. Ben and Melvin waited until the grass reached the second leaf stage and then **“pushed it to maturity with subsequent Nitrogen applications.”** They managed to have the bare spots filled in and thicken the entire turf within 30 days. The tournament was played as scheduled, and the turf held up perfectly as a result of the Bermuda Triangle. The field has filled in very well since then, and Ben has applied other Pennington seed products to other fields on the complex as a result.



Homeowner

Wes Martin, homeowner in Woodstock, Georgia was faced with selling his home and relocating in 2006. One of his concerns was the condition of his lawn and the possibility of negative impact on the sale of his home. Wes did a little research and decided to plant Bermuda Triangle, a blend of three different seeded bermudagrasses. He tilled his yard and hydroseeded the lawn at a rate of 2.5 lbs., per 1,000 sq.ft. At planting he fertilized with 300 lbs/acre of 19-19-19. The rainfall hit just right and he only had to irrigate once per week. Wes says, **“In just 3 short weeks, I was cutting grass and in 4 weeks I had complete coverage. I planted in August and had a fully established lawn by mid-September before the lawn went dormant. Best of all, seeding with Bermuda Triangle was 1/6 the cost of the purchase price of sod not including labor. I put my house on the market in January and it sold in just 5 days. Needless to say, I plan to seed with Bermuda Triangle on my new home lawn next year.”**

Sovereign

BERMUDAGRASS

Sovereign solves the dilemma when planting a warm season grass in the upper transition zone. Bermuda grass is sought after worldwide for the high traffic & wear tolerance in addition to the quick recovery from injury and Sovereign alleviates the concern regarding lack of cold tolerance. The thriving germplasm selected in Northern KY when breeding Sovereign ensures the utmost tolerances to the elements. The fine textured and bright green color, and aggressive growth satisfies all turf managers.

JUST RELEASED

Table 5B

Turfgrass Quality Ratings of Bermudagrass (Seeded) Cultivars For Each Month Grown at West Lafayette, In (North Central Region) 1/ 2003-06 Data
Turfgrass Quality Ratings 1-9; 9 = Ideal Turf: Months 2/ 3/

Name	Jun	July	Aug	Sep	Mean
Yukon	3.8	4.8	5.8	6.7	5.0
Sovereign (SWI - 1012)	2.3	4.3	5.7	.	4.1
Riviera	2.5	3.8	4.5	5.0	3.8
Sundevil II	1.3	2.0	3.7	.	2.3
Transcontinental	1.0	2.0	3.3	.	2.1
Tift No. 1	1.0	2.0	2.7	.	1.9
Mohawk	1.0	1.0	2.0	.	1.3
LSD Value	1.4	1.4	1.4	.	1.0

Table 18A

Percent Living Ground Cover (Fall) Ratings of Bermudagrass Cultivars 1/ 2003-06 Data

Percent Living Ground Cover in Fall: Locations 2/

Name	AZ1	IL2	LA2	MO1	OK1	SC2	Mean
Contessa (SWI-1045)	83.8	87.3	73.3	88.7	99.0	94.7	88.5
Sovereign (SWI-1012)	69.2	94.8	80.0	91.8	99.0	94.4	87.3
Patriot	47.8	96.3	70.0	95.2	99.0	91.9	80.5
Yukon	52.7	68.0	71.7	95.4	99.0	94.0	77.1
Sunbird (PST R68A)	69.9	73.4	73.3	27.7	99.0	93.4	70.4
Sundevil II	57.4	63.5	68.3	69.7	99.0	93.4	70.4
Arizona Common	60.8	19.8	63.3	5.0	98.3	91.4	48.7
LSD Value	22.8	34.6	15.7	30.6	0.4	8.1	13.8

These examples represent a few of the varieties tested in the NTEP 2003 National Tall Fescue Report, 2003-2006 Data, Final Report. For complete trial data, go to www.ntep.org

Testimonial from Marc Moran, Atlee High School, Mechanicsville, Virginia

Sovereign Bermudagrass was seeded onto the Atlee High School Field in Mechanicsville, Virginia. Mark Moran, professional turf manager for the school states, "We have been really pleased with Sovereign Bermudagrass. It is one of the best seeded

bermudagrass varieties we have used and it really stands up well to the abuse it gets on our practice field. It takes traffic from football practice every day and withstands a three-hour band practice once a week. It established quickly

and had rapid grow-in. Sovereign Bermudagrass is economical compared to sprigging and presented a great alternative to sprigging with no sacrifice in quality."





Dr. Arden Baltensperger's Innovative Research Leads to Princess 77



Dr. Baltensperger was Director of Research for Pennington Seed/Seeds West from 1989 until 2000. He was an Assistant Professor at the University of Arizona from 1958 until 1963, and a Professor at New Mexico State University from 1963 until 1988, where he served as head of the Department of Agronomy for twelve years.

Dr. Baltensperger's innovative research led to the development of the first seeded F1 hybrid bermudagrass. Princess-77 was the first commercially available seeded bermudagrass to rank in the same statistical category as the elite vegetative varieties of bermudagrass. Dr. Baltensperger holds Plant Variety Protection on more seeded bermudagrasses than any other Research Scientist, having received a total of 7 PVPs since 1988.

Princess-77 was used as the base turf for the NFL Super Bowl Fields, the only times a 100% seeded bermudagrass base has been used for that event. Princess-77 is currently being grown on golf courses in 8 states in the U.S. and in 7 foreign countries, all with resounding success. The variety Princess-77 Hybrid Seeded Bermudagrass has brought success and widespread acclaim to Pennington Seed's grass seed program.

About Pennington Seed and Seeds West

Bermudagrass is a major seed crop planted on America's lawns, sports fields and golf courses around the Southern U.S., and in tropical and subtropical regions around the world. Much of the world's production of bermudagrass comes from Pennington Seed, Inc., through its fully owned subsidiary, Seeds West. Seeds West pioneered the research and development of improved turf-type bermudagrass varieties with the release of NuMex Sahara in 1989. Their warm season turfgrass research program has released many more improved varieties since that time. Another industry milestone was marked in 1995 when Princess 77 became the first commercially available seeded hybrid bermudagrass variety. Today, improved turf-type varieties of bermudagrass are used in countries around the world.

Pennington Seed, Inc., is the leading seed, lawn and garden supply distributor in North America and a top grower, packager and conditioner of quality lawn seed, field seed, forage seed and wild bird feed. Pennington Seed is a wholly owned subsidiary of Central Garden & Pet Company (NASDAQ:CENT).



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