



The University of Georgia College of Agriculture

Coastal Plain Experiment Station

P.O. Box 748

Tifton, Georgia 31793-0748



DEPARTMENT OF AGRONOMY

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GIST 342-3360

August 23, 1985

Dr. W. H. Bengueyfield
National Director
USGA Green Section
Box 3375
Tustin, CA 92681

Dear Bill:

Although we have not received a request for an annual report on work that is covered in part and made possible by your USGA grant, I am assuming that one will be due about September 1, as in the past. The continuous support that we have received from USGA Green Section beginning in 1956 has contributed significantly to our turf research and we do appreciate it very much.

We are continuing to receive excellent reports on the performance of Tifway II, that you recall was a radiation induced mutant in Tifway that differed in that it carried more frost tolerance and more pest resistance than Tifway.

Most of the reports that we have received on Tifgreen II released officially in 1983 have been good. We received a report from a golf course in South Florida that had been planted to Tifgreen II sometime in 1984 that was developing many more seed heads than Tifgreen. This was not desirable. My son, Tom, at Sea Island, has a nursery of Tifgreen II and planted it in the summer of 1984 on a problem green that receives too much shade. It became well-established and made a satisfactory putting surface late in 1984. This past winter, we had our most severe winter at Tifton with temperatures of 0° F. The minimum temperature at Sea Island was 6° above. Tom said that all of the Tifdwarf greens on the 54-hole course for which he has responsibility came through well. Some of the Tifgreen II winter killed but he said that it came through the winter better than Tifdwarf has come on this shaded green in the past. He has not observed the many seed heads that were reported from the South Florida golf course. We are, of course, interested in getting reports from other places where Tifgreen II may be used. You may recall that Tifgreen II is lighter green in color and does not develop the undesirable purple color in the fall that characterizes Tifdwarf and Tifgreen. This characteristic has been recognized as desirable particularly where bermudagrass is not over-seeded with ryegrass.

The U.S. Department of Agriculture has placed at Tifton, an entomologist who is devoting some of his time to helping us create a bermudagrass resistant to the fall armyworm. We are trying to develop both pasture types and turf types that will be resistant. In 1984, we made a number of hybrids between one of the 10 Cynodon transvaalensis introductions that we have and the one

armyworm resistant introduction that we have in our collection of some 500 bermudagrasses from other parts of the world. We have a number of these F_1 hybrids that our entomologist is screening for resistance to the armyworm. Dr. Lynch will not be able to give us a report on his findings in time for this report. We hope that we will have a sterile triploid hybrid with enough armyworm resistance to not require treatment with insecticides when the fall armyworm appears.

When Jim Watson was visiting in South Africa last winter, he asked several people that he knew to send to us plants of C. transvaalensis that hopefully would be more winterhardy than the 10 introductions that we now have. The first response to this request came from Dr. Graham G. Corbett, Pro-Turf, P.O. Box/Posbus 784500, Sandton 2146, South Africa in March, 1985. When we grew it out and were able to check the taxonomy and the chromosomes of the plant that he sent, it turned out to be just another plant of C. dactylon. This was disappointing. Since then we have received letters from several other people, the letter generally indicating that they were unable to help with our request. On August 12, we received a letter from Mr. D. W. Kirby, Top-Turf and Associates C. C., P.O. Box 260, Alberton 1450, South Africa that read as follows:

"Please find enclosed 2 samples of Cynodons which have been located at + 7000 ft. above sea level by a contact of mine. He harvested them in summer and as it is now mid-winter, they are all dormant. I suspect that it is the finer grass which is the one you want and if so, I will collect live material and send it to you in October.

I have also located another source at ThabaNchu and as we are going to work in that area quite soon, I will collect specimens of these for you as well."

At least one and probably both of the dried specimens that we received were C. transvaalensis and since they came from an elevation of approximately 7000 feet above sea level, they should carry an unusual amount of winterhardiness. We replied immediately to Mr. Kirby's letter requesting that rhizomes of these grasses be collected, wrapped in polyethylene with a small amount of moist paper toweling and enclosed in an airmail letter directly to me. We believe these may be the bermudagrasses that we have been anxious to find in South Africa.

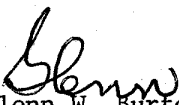
At Tifton, C. transvaalensis flowers only for a short period of time, usually earlier than C. dactylon. This year I had about 2 weeks in which I could hybridize our most winterhardy selection from the Berlin, Germany bermudagrass with the C. transvaalensis that had been most winterhardy in New Jersey in the winter of 1983-1984. I made many pollinations about sunup and hope to have a number of hybrids. I was a little distressed when I received a letter from Ralph Engel several weeks later indicating that in the winter of 1984-1985, the C. transvaalensis that had the best 1983-1984 rating and the one that we used in making hybrids had not come through the winter as well as two or three others. We will be planting the seeds from the hybridization effort in the greenhouse in December, 1985 and hope to have a number of F_1 hybrids for evaluation in the spring of 1986.

In last year's report, we indicated that Dr. Wayne Hanna had irradiated dormant sprigs of Midiron and had selected 67 mutants from the irradiation effort. Midiron is a sterile triploid developed by Ray Keene in Kansas many years ago.

It is reported to be more winterhardy than the Tif bermudagrasses. A number of Dr. Hanna's mutants that have been maintained in 13 x 13 ft. plots have made better quality turf than Midiron. To check their winterhardiness, Dr. Hanna has planted 6-inch plugs of these bermudagrasses in bentgrass turf on the golf course at Blairsville, Ga. Blairsville is in the mountains of North Georgia and usually has winter temperatures considerably below 0° F. The golf course superintendent is keeping these bermudagrasses mowed at two different heights -- 1/4 inch and 1/2 inch to simulate golf greens and fairways. We hope that this will give us a practical method of screening our mutants and new hybrids for winterhardiness. The way these plugs come through the winter of 1985-1986 should help us to evaluate these mutants and also the method of screening for winterhardiness. Unfortunately, there seems to be no good laboratory method for screening turf or pasture grasses for winterhardiness.

If you have questions concerning this report, I shall be happy to try to answer them.

Sincerely,


Glenn W. Burton
Research Geneticist

P.S. I am enclosing herewith a copy of a page from the Georgia Crop Improvement News dated July-August, 1985, indicating that Georgia has a good certified turfgrass program that helps to get the product of our breeding program to the people who need it.

cc J. B. Moncrief
J. R. Watson
G. Landry
C. White

GEORGIA CROP IMPROVEMENT NEWS

FIELD INSPECTIONS OF CERTIFIED PEANUTS UNDERWAY

All applications for peanuts have now been assigned to one of the official GCIA Inspectors listed below. The inspections will be made before harvest time.

Terry Hollifield, 2425 S. Milledge Ave., Athens 30605

PH: 404-548-6810

Johnny Luke, Jr., Rt. 1, Box 565, Fitzgerald 31750

PH: 912-423-7168

Terry Crane, 2006 S. Lee St., Apt. E., Americus 31709

PH: 912-924-9773

Reid Willcox, Jr., Rt. 1, Marshallville 31057

PH: 912-472-7840

Malcolm West, 2425 S. Milledge Ave., Athens 30605

PH: 404-548-6810

Charles E. Neal, P.O. Box 321, McRae 31055

PH: 912-868-5597

Note: Should you need to harvest your crop before the field is inspected, contact the inspector in your area or call the GCIA Office. PH: 404-548-6810. Seed cannot be certified if they are harvested before the official field inspection is made.

David Skinner, Winder, Georgia is new Director and General Manager, Georgia Development Authority. One of the responsibilities of the authority is to continue the successful insured first lien real estate loan program and to develop and implement new loan-programs to assist Georgia farmers and agribusiness. For additional information contact GDA at 404-656-7547.

David is a certified seed grower and is a member of the GCIA Board of Directors representing the North Georgia District.

According to the official laboratory reports, over 95% of Georgia's certified small grain seed are free of any other crop seed.

Peanuts continue to be Georgia's number one certified seed crop. The association tagged over 1,200,000 bags of certified peanut seed for the 1985 spring planting season.

William A. Roquemore, Lakeland, Georgia is one of nine members appointed by Governor Joe Frank Harris to the State Fair and Agricultural Exposition

Authority. One of the duties of this authority will be to select the site for the Exposition.

Mr. Roquemore is a longtime member of the Georgia Crop Improvement Association and his company Patten Seed Company is a pioneer in the production and distribution of certified vegetatively propagated turf grass. The Patten Seed Company also had the original certified field of Coastal Bermuda grass.

SOYBEANS

Noxious weeds and other crops continue to be a problem in the production of high quality certified soybean seed.

Other crops to be on the lookout for and removed from the field are: (1) Cowpeas, (2) Corn, (3) Sunflower, and (4) Crotonaria.

Problem noxious weeds are: (1) Balloon Vine, (2) Giant Morningglory (Purple Moon flower) and (3) Cocklebur.

Soybean fields found to contain cowpeas, Balloon vine and Giant Morningglory will not be approved for certification.

Now is the time or it soon will be to rogue fields of noxious weeds, other crops, other varieties, mow the borders, clean and adjust harvesting equipment and clean and fumigate all storage facilities. **DO NOT WAIT UNTIL THE GCIA INSPECTOR ARRIVES TO TRY AND GET THIS DONE.**

CERTIFIED TURF GRASS

Interest in "Georgia Certified Turf Grass" continues to increase. Georgia now has over 600 acres of turfgrass in its certification program. This acreage is composed of the following varieties (1) Emerald Zoysia, (2) Raleigh St. Augustine Grass, (3) Tifdwarf Bermuda, (4) Tifgreen Bermuda, (5) Tifgreen II Bermuda, (6) Tifway Bermuda and (7) Tifway II Bermuda. Anyone interested in certified sprigs, stolons and/or sod should contact one of the following growers:

Georgia Seed Development Commission, Athens 30605

PH: 404-543-7676

Glen Oak Turf, Rt. 1, Oak Dr., Camilla 31730

PH: 912-336-7783

Grassings Unlimited, Rt. 2, Tifton 31794

PH: 912-382-8464

Hart, H.E., Jr., Rt. 1, Box 408, Guyton 31312

PH: 912-728-3380

McWhorter, Aaron, Rt. 2, Box 270, Franklin 30217

PH: 404-854-8249

Patten Seed Co., 119 Murrell Ave., Lakeland 31635

PH: 912-482-3131

Southern Turf Nurseries, Inc., Box 369, Tifton 31793

PH: 912-382-5655

Tifton Turf Farms, Box 1912, Tifton 31794

PH: 912-386-1587