Sod Quality Grass Seed Mixtures

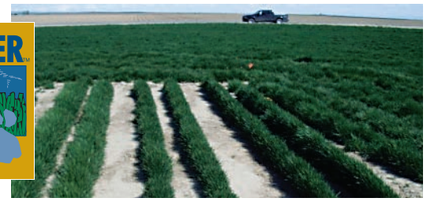
Tall Fescue Sod Mixture

Black Beauty Fescues are dense and dark-green in color.

BLACK BEAUTY TALL FESCUE MIXTURE

30% DAKOTA TALL FESCUE
30% TAOS TALL FESCUE
30% TOMBSTONE TALL FESCUE
05% BLUE-TASTIC KENTUCKY BLUEGRASS
05% DEEPBLUE KENTUCKY BLUEGRASS
100% "SOD QUALITY" PROFESSIONAL SOD MASTER MIXTURE

SUGGESTED SEEDING RATE (250-LBS. PER ACRE)



Blue-Tastic Kentucky Bluegrass seed trial in Plymouth, Washington.

BLUE PANTHER KENTUCKY BLUEGRASS MIXTURE

25% BLUE-TASTIC KENTUCKY BLUEGRASS
25% DEEPBLUE KENTUCKY BLUEGRASS
25% MIDNIGHT STAR KENTUCKY BLUEGRASS
25% SKYE KENTUCKY BLUEGRASS
100% "SOD QUALITY PROFESSIONAL SOD MASTER MIXTURE

SUGGESTED SEEDING RATE (50-LBS. PER ACRE)

2007 Crop Report: Greg Hagen

The fall of 2006 was not the best for establishing new fields and maintaining older stands. We had a fairly warm dry fall that carried us into November. The established fields suffered due to lack of moisture and newly seeded fields did not germinate until late into November. Some Perennial Ryegrass fields did not show signs of germination until January. The spring has also been colder and longer than normal, but with adequate rain.

Kentucky Bluegrass

Kentucky Bluegrass will be in short supply and simply more costly. This is due to competition for acres with corn, wheat, other grain crops and vegetables. The competition for acres is not going away this fall; so I would expect a continued increase in price for 2008.

Tall Fescue

The acres of Tall Fescue production have not increased significantly from last year. Demand has been very strong and inventories are low. The crop appears to be coming along well and I would expect an average yield.

Fine Fescue

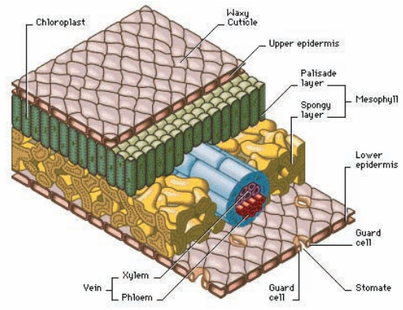
Fine Fescue acres are up from a couple of years ago, and the crop looks just a little on the lighter side; the wild card will be how much more rain we will get this month and in early June to fill the seed.

Perennial Ryegrass

Most of the fields have weathered fairly well for the year. Some fields have been removed this spring but not more than 2 or 3%. The crop is a little behind due to a cold spring, however, for the most part the fields are improving and supplies of Perennial will not be short.

Seed Stock Field - Dakota Tall Fescue

Anatomy of a Black Beauty Grass Leaf



The outermost layer of the leaf is the epidermis, which is protected by the waxy coating of the cuticle.

Contact: East of the Rockies
Barry K. Green II
P.O. Box 326, Farmingdale, NJ 07727
Ph. 1-800-526-2303, Ext. 202
Fax 732-938-5788

Email: bgreenii@jonathangreen.com

Contact: West of the Rockies
Greg Hagen
General Manager/Cascade Intl. Seed Company
Ph. 1-800-826-6799
Fax 503-749-1824

ghagen@grass-seed.com

Jonathan Green
FOR THE BEST LAWN IN TOWN

www.jonathangreen.com

A Product of Cascade Research

www.cascadeinternationalseed.com

The Question:

2007

Why Do Jonathan Green Grass Seed Varieties Look and Perform Better than those which have previously been available?

Black Beauty Tall Fescue in North Carolina at 5 months.

The Answer:

Our plant breeders have searched the world seeking out new and diverse germplasm sources to incorporate into our pool of turfgrass breeding candidates. Scientific breakthroughs pioneered by Dr. Xunzhong Zhang, of Virginia Tech University have been incorporated at every stage of our turfgrass breeding and evaluation program to screen these new turfgrass candidates for traits which will be desirable to sod growers. Many grasses are culled from the list during this evaluation process. The Black Beauty Tall Fescues and Blue Panther Kentucky Bluegrasses are not cookie cutter grass varieties, based on previously released bluegrasses and tall fescues. These are ground breaking new grasses, each of which has a role to play in making the final sod seed mixture superior to the sum of its parts.

The Results:

Sod Growers are reporting faster new seeding establishment, improved turfgrass color and grass blade uniformity and at harvest time superior sod strength. These grasses are the first to lift!

This Jonathan Green Sod Master Program brochure for 2007, explains how we used the new photo-chemical efficiency and anti oxidant tests to increase stress tolerance and disease resistance, in bluegrasses and tall fescues.

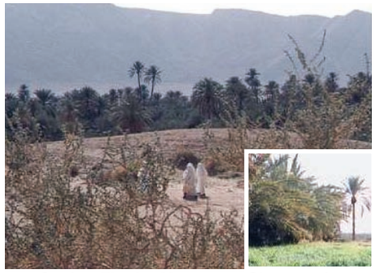
There is an old saying in the grass seed business, "The lawn can never be better than the seed you planted it with". This is especially true when planting grass seed for sod production. Please take advantage of our turfgrass knowledge and expertise and let us work with you to improve your sod plantings this year.

Blue Panther Kentucky Bluegrass in Rhode Island at 5 months.

Jonathan Green
FOR THE BEST LAWN IN TOWN

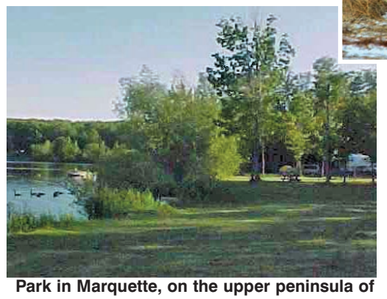
We Traveled the World –

to add new turfgrass germplasm to our breeding program



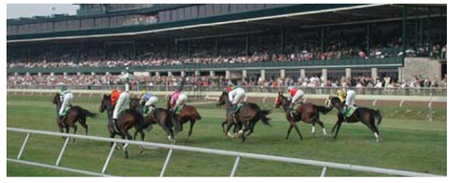
Oasis - Figuig, Morocco - Close to the Algerian border where the first parent plant used to breed Black Beauty Tall Fescue was discovered in 1993.

The invisible waxy cuticle coating on the grass leaf protects the plant from extremes of both heat and cold.



Park in Marquette, on the upper peninsula of Michigan, where the second parent plant used to breed Black Beauty was discovered in 1995.

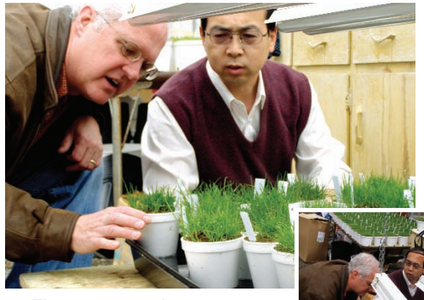
Tigers roam in this preserve located in Harbin, China, where one of the seven bluegrasses used to breed Blue-Tastic was discovered.



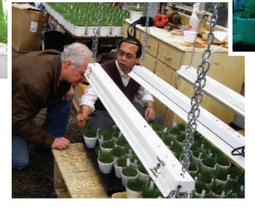
A horse racing track in Lexington, Kentucky, was home to one of the bluegrasses used in the breeding of Blue-Rrific.

We Evaluated our new Discoveries –

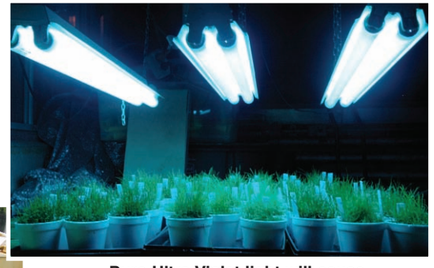
in the laboratory and in our test plots. We bombarded these grasses with punishing, pure Ultra Violet Light, nonstop, 24 hours a day for 10 straight days.



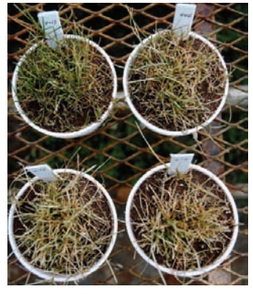
The grass samples were grown in calcite clay for even fertilizer and water distribution.



One month after germination, each grass variety was evaluated and rated.

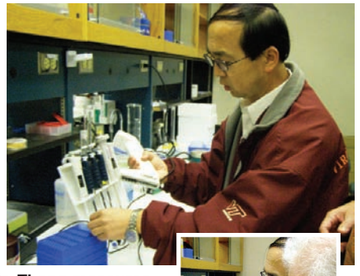


Pure Ultra Violet light will cause permanent skin damage after only one hour of exposure.



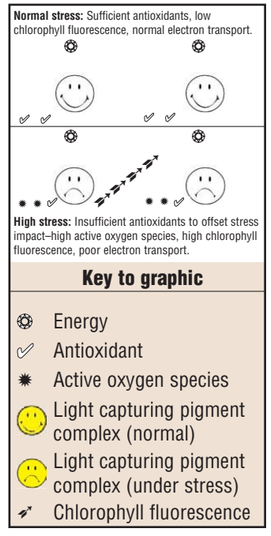
These tall fescues and kentucky bluegrasses were cooked after 10 straight days exposure to the Ultra Violet light.

Three weeks later, leaves have once again emerged on many of the grass varieties tested for stress tolerance.



Dr. Zhang measures the antioxidant content of each plant.

The grasses with the highest level of antioxidants recover the fastest.



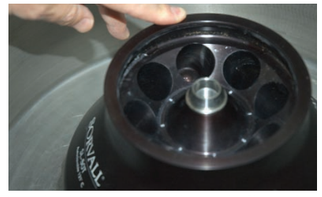
We Screened our New Grasses –

to evaluate their ability to make and store food for times of stress, with the **Photo Chemical Efficiency Test** *and for disease resistance, using the* **Antioxidant Test.**

The Field Chlorophyll Fluorometer is the scientific instrument developed by Dr. Zhang to perform the Photo Chemical Efficiency Test.

Dr. Zhang cuts a sample of this experimental grass to test for its antioxidant content.

All grass samples are labeled and frozen in dry ice so the antioxidant content will not degrade during transport back to the lab at Virginia Tech.



By spinning the plant tissue in the rotary centrifuge at 14,000 RPM, the antioxidant enzymes are separated out and can be measured.

By freezing the plant tissues to -80°C, antioxidant levels remain stable for up to six months.

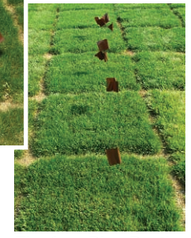
The micro-plate reader establishes the amount of antioxidant proteins in the samples.

We Crossed and Back Crossed our Final Plant Selections –

for uniformity, and to make sure that these turfgrasses performed on sod farms as well as they looked in our plots.

Every seed entry is planted three times at random in the unirrigated test plots to insure accuracy when rating.

There is a direct correlation between high levels of antioxidants and disease resistance.



The four Blue Panther Bluegrasses shown above topped the trial in the unirrigated turf plots.

Blue Panther Bluegrasses topped the sod strength test.

A single Black Beauty plant survives in a desert setting in southern California.

Blue Panther Kentucky Bluegrass Mixture ready to plant.

Jim Keeven of Emeraldview Sod Farm, Jefferson City, MO, on 4 month old Black Beauty.

Black Beauty is often shipped in 1,000 pound tote bags.

Dave Johnson of Johnson Farms, Deerfield, NJ, on Black Beauty Tall Fescue sod.

Blue Panther planted on the left establishes weeks earlier than the bluegrass mixture on the right, seeded on the same day.