

Birth Of A Bluegrass



Much of the development work for Adelphi bluegrass was accomplished in fields like this one at Adelphia Breeding Station, Rutgers University. Here, bluegrass candidates are screened for favorable characteristics.

THE introduction to the turf industry of a new bluegrass named Adelphi Kentucky Bluegrass climaxes many years of plant breeding, screening, testing and performance trials. Unlike other bluegrasses, this new variety was developed using some of the newest techniques in plant breeding available today.

The development of Adelphi can be traced to nearly a decade ago to Rutgers University. Dr. C. Reed Funk, turf plant breeder, and Dr. Jerry Pepin, who then was a student, applied the practice of controlled cross breeding of selected Kentucky Bluegrass parent plants. The uniqueness of this work becomes apparent when you realize that Kentucky Bluegrass is basically asexually reproduced. Nevertheless, these researchers selected plants having most of the features desired in turf.

Strong characteristics were picked over weak features; high resistance to disease was genetically implanted; and, a superior seed was developed.

Following this initial laboratory breeding, seed was sown at several locations both in rows and in plots. Abnormalities were carefully rogued out and remaining seed was harvested. The process was then repeated. The result was many new bluegrasses "man created" as a result of man's first application of controlled parentage breeding in the Kentucky Bluegrass field culminating in the production of commercially usable varieties.

Dr. Pepin kept a set of comprehensive notes rating each of these new bluegrasses over a five-year period. Comparisons were made against existing known and estab-

lished varieties. One new bluegrass, FS-200, consistently came out on top. Further evaluation of this bluegrass showed it's superior qualities. Samples of the seed were sent to 14 universities and several private testing grounds. Plots were established throughout the country and comparisons were made.

At this point, it appears that the genealogy of Adelphi can be traced to seed plots and performance tests. Like chemical candidates, seed varieties must pass rigid tests over many

seasons and in many soil types before final introduction can be made into the commercial market.

While Adelphi was tested in many tests, one of the early problems dealt with getting sufficient seed to conduct these tests. Large-scale testing requires a quantity of seed. With the basic research complete, interested researchers now turned to commercial interests for further testing on large-scale plots.

Under a cooperative agreement between Drs. Funk, Engel, Battle,

Industry Comments On Adelphi . . .

Richard Browne, greenskeeper, Inwood Country Club . . . Adelphi is a low growing, attractive, sturdy variety. It's dark color and the tightly knit turf it forms are real attributes. The color stayed green longer into the fall and it greened up earlier in spring than the other grasses on my course. It's hardy blade makes it perfect for tees and fairways as it gives a much better ball lie. Dollar Spot hit surrounding bentgrass but none appeared on the Adelphi even though I did not apply any fungicide. . . .

Leonard DeLalio and Al Stattel, president and manager (respectively) Delalio Sod Farms. . . Adelphi appears more vigorous in establishing turf. Color stayed dark green well into the fall and greened up earlier in the spring. The low growing characteristic of this grass gives it an attractive appearance, ideally suited for fine lawns. . . .

Dick McGovern, partner, McGovern Sod Farms. . . The feature of Adelphi which is most obvious and outstanding is it's deep dark green color compared to other varieties we use. This in itself makes it ideal for us as a sod grower. It also has desirable growing characteristics. A vigorous rhizome and tiller growth make it an unusually good grass for sod production from the lifting and handling standpoint. We haven't noticed any diseases on the Adelphi which usually crop up on the other varieties we are using. We think Adelphi is another big winner. . . .

Maclinn and Hess at Rutgers University and J. & L. Adikes, Inc. of Jamaica, N. Y., a 117-year-old firm, this bluegrass variety would undergo further evaluation. A marketing agreement would follow if the variety turned out to be adapted to mass production.

The Adikes firm had been following the breeding program and had shown interest in conducting production evaluation trials. Working with Dr. Pepin, vice-president Robert A. Russell selected the highest performing candidate, FS-200M or P-69 as it was known by this time.

Being a marketing rather than a production firm, Adikes contracted with Jacklin Seed Co., Inc. Dishman, Wash. to accomplish production trials. Seed and plugs as well as several thousand plants started in a greenhouse were shipped to the west coast.

Here, careful site selection and grower performance consisting of field history over the past seven years, soil make-up, distance to other bluegrass plantings, grower management and others were taken into consideration. The result was a site in the Orchard Prairie section of the Spokane foothills farmed by Dave Gramlow.

The field was divided into three sections. Breeder or mother plants taken from tillers were placed in one part; greenhouse grown plants in another; and seed supplied by Rutgers comprised the final section. In addition, an adjacent field was seeded in order to supply enough seed for trial plantings in the east and other areas.

Similar evaluations and rouging out as in research tests but on a larger scale were accomplished during the growing season.

Concurrently, a number of small plantings were established in the east. One of these was located on a tee at the Nassau Country Club on Long Island, N. Y. After three years, greenskeeper Charles Brett says, "I planted Adelphi in 1969 and have maintained it at 1/2-inch to 3/4-inch cut. Three pounds of nitrogen and three treatments of fungicides are applied yearly. The deep, dark green color through the year naturally caught my eye first as well as the denseness and manner in which the variety spreads.

"Dollar spot was very heavy in surrounding bentgrass but none appeared in the Adelphi. The stiffer blade of Adelphi gives the ball a better set-up, making it an ideal grass for tees and fairways," he concludes.

Others also report that Adelphi



This is Mitchie Stadium, West Point. Note the possible use for the darker Adelphi, caused here by reversal of the mowing direction.

has a high resistance to leafspot (*Helminthosporium* spp.).

Dr. Kenyon Payne of Michigan State University says, "It appears to us that Adelphi has good resistance to leafspot, excellent color and appearance and therefore should have an excellent potential as a bluegrass variety. It has also shown in our test to have good resistance to snowmold. We have found it to be an excellent performer."

Harvest at the Gramlow production facility indicated that Adelphi



Dr. C. Reed Funk of Rutgers University inspects a row of Adelphi Kentucky Bluegrass placed on 36 inch centers rather than the usual 30 inch spacings. Note tightly-knit growth.

warranted even larger scale production. Following marketing agreements, production agreements and patent issuance, Adelphi is now available for commercial sale.

The birth of a bluegrass may be a long and complicated route. Many hundreds, no thousands, of candidates are screened before a determination can be made. Adelphi has literally "passed the test" and Adikes believes a winner is now available.



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