

Highland's Hills

A segregate from the bentgrass complex in Oregon found certain cleared hills in the foothills of the Cascade Range just southeast of Salem, Oregon (Willamette Valley), very much to its liking. Indeed, in this relatively restricted area, Highland bentgrass, as it became named,¹ has proved irrepressible. Here old fields turn to Highland bent, just as cultivated soils in the upper Midwest turn to Kentucky bluegrass. The grass seems ideally adapted to make a fine protective cover on land generally too sloping for cultivated crops, and has extended its domain appreciably in the last three decades.

Although differences are not invariable and perfect, the cultivar now recognized as Highland bentgrass seems distinguishable from the creeping bentgrasses in seed, panicle, and ligule characteristics, and in general mass appearance in the field. Distinction between Highland and Astoria, both of them *A. tenuis*, is not so easily recognized, and scarcely possible on the basis of voucher specimens alone. But agronomists who are familiar with the growing characteristics feel that recognition is possible, at least during certain stages. It stands to reason that there is some segregation of genes to conform with habitat, for Astoria bentgrass is grown on low-lying soils, generally high in peat and "swampy" until drained, in the more coastal areas where rainfall is exceptionally heavy (up to ninety inches per year).

By contrast, Highland bentgrass flourishes in the hilly region where soils are heavier and better drained, where summers are hot and bright, and where rainfall is more limited (in the neighborhood of forty inches, mostly during winter). The Highland cultivar is almost indistinguishable from what is marketed as "Colonial" bentgrass, the latter having become the approved common name for all *A. tenuis*. Seed from the circumspect Highland area is termed "Highland Colonial," while that from other sections simply "Colonial."

Highland Versatility

The parallel between Highland bentgrass and Kentucky bluegrass is interesting. Natural Kentucky bluegrass, with a complex and extensive gene assortment, has supplied candidate grasses which have made first-rate ecotype cover in many differing habitats thousands of miles apart in this country. Evidently Highland is a segregate out of a similar broad complex of bentgrasses, made by nature but recognized and perpetuated by man. Highland is thus bequeathed a fine measure of identicalness nicely blended with a generous measure of subtle genetic variability which should stand it in good stead as a lawn grass. This chance alliance of adapted segregate with unusual foster habitat satisfied an ecological situation somewhat peculiar for bentgrass. One would not expect a bentgrass to do so well as does Highland on unirrigated hills where summers turn hot and dry—such as are summer conditions in the hot midwestern United States, which is generally considered poor habitat for bentgrasses.

Phone: 312 669-5452 or 312 669-5377

LOUIS SCHACHTNER

Distributor

BLACK DIAMOND HUMUS SOIL

HUNTLEY, ILLINOIS

The question is inescapable: if a bentgrass segregate has become adapted to such an ecological situation in Oregon, why would it not fit similar climates in the East? Certainly it seems as though it should². But it is questionable whether the pure Highland cultivar has been thoroughly enough and widely enough tested through the eastern United States to know. In good "bentgrass country" of the eastern United States, such as near the Great Lakes and in New England, much volunteer bentgrass is already growing, possibly some native, but more likely escapes from seed mixtures sown in the area through the decades. Included are many variants which form dense colonies or "mats," which are both distracting and difficult to care for when they invade lawns planted to other grasses. For this reason, the name "bentgrass" has not been looked upon favorably everywhere.

Experience with Highland bentgrass on the grounds of The Lawn Institute, however, indicates that it is not an aggressive invader of bluegrass—indeed the reverse seems to be true. We are intrigued by the possibility that this may be a bentgrass for hot, dry summer conditions, which can survive in midwestern lawns which must be clipped closely, without all the meticulous care generally required for creeping bentgrasses. Maybe here is a cultivar among lawn grasses which satisfies a condition against which Gleason Matoon in his *Horticultural Newsletter* takes umbrage for ornamentals generally: "How different from the newer hybrids these old favorites (speaking of ancient planting noted on farms). (Newer types) are precocious and colorful, but they lack qualities we long for in flowering shrubs and garden perennials. More especially we ponder on the continual urging to spray, prune, protect, fertilize, weed, and cultivate. Do the new kinds require such babying? If so, forgive us for longing for plants which will persist with neglect and continue to fulfill their roles in this complex world, without the necessity for giving them a daily injection or feeling their pulse weekly."

¹ Hyslop and Schoth recognized it as a distinctive "variety" in 1926. The first seed was harvested in 1927 from a volunteer stand. Certification status was accorded in 1934.

² Harry A. Schoth, Professor Emeritus at Oregon State University, an outstanding expert on Highland bent, states: "Highland bent is very versatile, so far as soils are concerned. It is considered as perhaps the most satisfactory of the bents for low fertility soils and soils that may get quite dry during some periods of the year. . . . on the other hand, it will succeed on lands that may be quite wet during portions of the year. . . . Its use for turf is the result of wide adaptability, ability to withstand heavy abuse, generally satisfactory color, texture and appearance, comparative freedom from disease and insect attack, and good sod-forming ability that will stand heavy tramping without lasting injury."

RECENT LETTER TO THE EDITOR FROM DR. ROBERT SCHERY.

It seemed apparent that little or no *Poa annua* contaminates Highland bentgrass in its main growing area, the Silverton Hills on the east slope of the Willamette Valley near Salem, Oregon. Dr. Schery supposes that several factors are involved. For one thing in this particular area, where highland is so well adapted, it probably crowds the poa pretty well. Additionally, *Poa* probably does not do so well on well drained hills, and is not ecologically favored there. Also farmers take pains not to introduce *Poa*.

In 100 samples taken, there was not a single case

of *Poa annua*, although it was frequent in seed of other types of bent grown in the valley.

So it looks as though Highland bentgrass, from its main producing area, the Silverton Hills of Oregon, for all practical purposes comes to market free of *Poa annua*.



HOLMES' CORNER

by James L. Holmes

USGA Green Section
Mid-Continent Director

Lee Record and I had the privilege of attending the 7th Annual Nebraska Turfgrass Conference earlier this month. A solid ice sheet has formed over all of eastern Nebraska, to a depth of 4 to 8 inches. Golf course superintendents were curious to know what could or should be done about it. As a result of our experience in the Chicago-Detroit-Cleveland local the winter of 1963-1964, we informed the Nebraska superintendents that the complete, clear ice sheet present, should not be allowed to remain in place for longer than 25 days. After 25 days every effort must be made to remove said ice. A number of practices have been successful, such as applying a topdressing material, at rates of 100 to 200 lbs. per 1000 sq. ft., applying a natural organic fertilizer at a rate of approximately 50 lbs. per 100 sq. ft, breaking ice with machines such as front-end loaders or heavy duty vertical mowers and by punching holes through the ice with iron bars. In any event, past experience dictates that if ice is left in place for longer than the 25 days, turf damage will result. This is especially true on greens which tend to become "over wet" and have a history of turf problems. Water soluble, inorganic fertilizers must not be applied over ice as, resulting salt concentration will be toxic to grass. When grass begins growth in spring it should be allowed to grow for a few days before fertilizers are applied or do not force turf until a vigorous growth has been initiated.

It looks like this spring will be a far cry from the desiccation damage so prevalent last spring. However, a word of caution. If snow should melt and the same 3 or 4 warm days, temperatures in the 80's and hard dry winds prevail in late February or early March, it is probable that desiccation will occur. After

all is said and done, regardless of ice sheet damage which has and does occur, it is my opinion that more turf is lost to desiccation in late winter and early spring than from ice sheet damage.

An important point, repeatedly brought out during the Nebraska conference, was that of rapid surface and internal soil-water drainage. Unless rapid drainage is assured it is practically impossible to correct other problems. It seems that everyone involved in turf, is becoming more aware that rapid surface drainage is absolutely vital and one hears comments regarding the necessity of improving or building-in adequate drainage from simply everyone in the turf field.

A number of questions have come into our office regarding the use of snowmobiles on golf courses. For the past 3 or 4 springs I have observed considerable damage, especially to putting surface, where snowmobiles have been used. Most severe damage results in areas of heavy traffic or "trails." Even if snow is deep, repeated snowmobile traffic over a given area, encourages formation of ice, and turf suffers. Even though severe damage is done to putting green turf, all types of turf will suffer in heavy traffic locations. Even though it has not been definitely established, it would seem to me, that at least 8 to 10 inches of snow must be present before snowmobiles are allowed. Further, all putting surfaces should be fenced-off; (it would be advisable to isolate tees, also). Care should be taken that "regular runs" do not develop and snowmobile traffic is dispersed as much as possible. As soon as snow begins to melt in the spring all such traffic must be eliminated. Obviously, the golf course belongs to the members and if they wish to use snowmobiles throughout, it is their prerogative. Nonetheless, they should be made aware that serious problems can result, through the use of these machines, and the necessity of certain restrictions explained to them.

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