



Palm Beach Trade Winds



By MICHAEL BAILEY
Boca Greens Country Club

Which came first, the seed or the egg? If it was the egg, one can sure bet the evolution was a lot easier compared to the seed. The evolution of quality overseed in the turf industry has been complex and tedious. If one only thinks of buying some grass seed and throwing it over the lawn to make it green, then it is quite simple. However, when one thinks of minimal mowing height, density, texture, disease resistance, drought and wear tolerances, color, and —oh yes — putt-ability, the seed becomes a little more complex.

Have you ever wondered where in the world do all those finute (fine and minute) seeds come from? There are few geographic locations in the United States that are climatically favorable year round for such seed research and production. An area of the country with the most consistant weather is in the northwest, generally Oregon. Their weather can best be described as a humid mesothermal climate of the marine west coast, meaning the region is blessed with cool winters and mild summers. Remembering an automobile bumper sticker that once said "cars never fade here, they just rust way", it is common for yearly rainfall to average 38 inches. This cool, moist climate with nutritious soil can readily be a heaven for such overseed demands.

Phil Gardner and Keith Longshore of Lakeshore Equipment and Supply Co. recently had the opportunity of flying over the valleys of various seed production. The most favorable of all is the Willamette Valley of approximately 80 miles wide and 120 miles long that is protected from the east and west by mountain ranges. Longshore states "I was most impressed with the breathtaking beauty of the valley tucked between the mountains with such vastness of fields upon fields of beautiful green turfgrass".

From the air the production seems so simple. However, settling down to the roots, one finds many people devoting decades to research and development. A theoretical seed of an established name and label actually has years of development tucked under its cotyledon.

The seeds of crosses are taken from parent plants of ideal characteristics. Test plots are grown on 2½ foot centers with as many as 2000 repetitions. After evaluating an entire season of growth, as little as 20 plots are then selected for continuing research. After four or five years of continually growing out the desirable plots, an evaluation is made for a possible product. Cultural evaluations consist of two primary factors. Plots are either clipped at turf heights to simulate a golf course's need, or let grow to a natural height to evaluate seed yield. A plot must not only be desirable from a turfgrass manager's point of view, but the seed yield must be great enough to economically support the cost of production. The seed yields can play an important factor relating to cost and supply of the demand. The average seed yield is approximately 400 lbs/A, however Dr. William Meyers of Turf Seed Inc. has noted the best ever yields that have almost reached 3,000 lbs/A.

The time of seed harvesting is perhaps the key to all the work of a season. In the early morning the seed is harvested much like the skill of any vegetable grower. The seed can shatter later in the day when the plant is drying from the sun. If the seed falls, all is lost. However, premature harvest of the seed will also result in less volitale seeds.

The quantity of seed yield is not as important as the quality. Yield trials are conducted of desirable plants to evaluate the product. This consists of as many as 350 "miniature fields" of a repetition. A yield trial is a row of four, with the outer two rows being the barrier or protector to the middle two rows. The inner two rows consist of more evenly dispensed sunlight and more equal amounts of fertilizer. After the plots have grown out, the stalks are cut and the seeds are then counted for quantity and quality. A germination test is conducted to test for the amount of annual flourescence within the stand. This procedure involves allowing the seedlings to germinate and initiate roots. The young seedlings are then placed under an ultraviolet light. Annual ryegrass roots will cast a pale white glow, whereas the perennials do not cast a glow, which can prove to be an important test for the quality of your seed.

Once a yield trial has been grown and harvested, the crop is burned off to eradicate the amount of stems and accumulated thatch material. The plots are then regrown for

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several seasons until the most desirable product is finally found. If a seed is believed to merit production, planting on a large scale is performed. The seeds are planted in the fall within lots which average 40 acres, but can range as high as 100 acres. The seeds are applied with a drill type machine that drops the seed into the ground. Immediately following, in the same process, a narrow strip of charcoal is sprayed over the row of soil to purify the seed from a proceeding massive application of Karmex at a rate of 3 lbs/A to eradicate all other undesirable weeds.

During the period of germination until harvest, much work is involved with hoeing of the rows and applications of herbicides. Longshore states, "I was most impressed with the cleanliness of the fields and the manner of professionalism within the crews." Round-up is applied from a large spray tank pulled by a tractor, with individual hand guns of five to six rows at a time. Employees walk through the fields to spray out any undesirables. Fertilizer applications average a total of 4 lbs of N/1,000/yr. Relatively few pesticides are applied. Mother Nature seems to be very kind to this region of the country as the weather generally provides for an ideal harvest.

The growing season comes to a climax around mid-summer as harvest usually occurs in July. The process begins with the swathing of the seed which is the cutting of the seed stalks. Timing is critical as moisture from the dew must be present in order to keep the seeds intact. This is usually done from 8 p.m. to midnight and then restarts from 6 a.m. until 9 a.m. or when the dew begins to dry just past sunrise. The combining of the seed or the picking up of the material is then performed during the dry period of the day which occurs approximately from 11 a.m. until 7 or 8 p.m.

The seed material, once harvested, begins the final process of being cleaned. This involves four (4) major processes, whereupon the final results produce bags upon bags of pure seed material. Stage one of the cleaning process involves sizing sieves or large types of screens which remove most all foreign matter. Approximately 80% of the material left is of pure seeds. An air stream process is then used for removal of dust and fragments of plant matter resulting with just only seeds to be processed. A series of indents then picks the seeds into regions of desirable and undesirable seeds. A gravity table is the final process. This consists of tables that shake the seeds of heavier and larger particle

sizes from those of lighter and smaller sizes. The final result produces the desirable material which stays in the middle.

From here, the ultimate step is the certification of the seed. Dr. William Meyers can best describe the certification as "the added insurance to the customer that he is getting the genetic quality of what the breeder developed." The certification program of the State of Oregon is one of the foremost, thorough and most respected in the country. Under the program, an average of 120,000 acres per year are monitored. Oregon produces 75% of all grass seed nationwide.

Theoretically, the seed is the beginning of all. However, if you're beginning is to start on the right track, one must employ the best research and development. We, as turfgrass professionals, must be aware of the best products available and produce the ultimate product within our means. ■

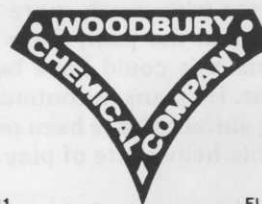
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