

QUALITY SEED FOR TURF

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The word quality can be quite ambiguous. What is meant by quality seed? Is quality used without an adjective necessarily synonymous with acceptable or excellent quality? Well, I certainly hope so whenever the advertising banner proclaims that quality seed is available at "special" low prices.

Whatever the case, quality has to be defined quite carefully and, certainly, several factors have to be taken into consideration.

1. Quality with respect to mechanical analysis of the seed itself.
2. Quality with respect to adaptation and use.
3. Quality with respect to compatability of the seed blend or seed mixture.
4. Quality with respect to durability of the turf.

Any one of these four factors can constitute a basis for advertising, but if the other three are not included, success of the resultant turf is not necessarily assured. Of course, even if all four quality components are properly considered, management of the turf thereafter is of equal if not greater importance.

Mechanical Quality

The mechanical characteristics of all turf seed shipped in interstate commerce and offered for sale is clearly identified on each container in the form of an analysis tag. This mechanical seed analysis plus germination are ascertained in seed technology laboratories which are either state or independently operated. The analysis tag identifies each grass, its mechanical purity and germination. Purity is dependent upon the amounts of inert matter (chaff, sand, broken seeds, etc.), other crops (not necessarily objectionable, but certainly can be) and weed seeds (objectional species, grasses or non-grasses). Percent germination is ascertained on the basis of 400 seeds having been germinated on moist filter paper. By multiplying Purity X Germination the true mechanical quality of the seed can be readily assessed. The result is expressed as Pure Live Seed (PLS) in the following formula:

$$PLS = \frac{\text{Purity} \times \text{Germination}}{100}$$

Obviously, the greater the resultant answer the better the mechanical quality will be.

Adaptability and Use

If grass seed were selected only on mechanical purity alone, any grass species would suffice: but will a good turf be the result? It is quite important, then, that correct turfgrass species and even varieties are chosen that have proven their ability to develop into a good turf under the climatic and soil conditions in the area where they are to be grown. Universities which conduct intensive turfgrass evaluation studies form a good background for information. Complete reports and recommendations are usually available. In some instances regional studies in which a large number of institutions test the same grasses under similar management conditions provide excellent indications on how widely a particular grass species or

variety is adapted.

Plans for obtaining quality turf seed also have to include considerations for the intended use of the turf area to be seeded. Roadside turf (low maintenance) would certainly consist of different grasses than an athletic field or the fairways of a golf course. Different grasses should be used in shade rather than in full sunlight.

Compatability of Blend or Mixture

A combination of grasses, either several varieties of one species (blend) or representative varieties of two or more species (mixture) usually has a wider range of adaptation than a single cultivar. When such combinations (blends or mixtures) are being considered, some thought has to be given that these combinations match satisfactorily in aggressiveness, texture, color and growth habit. Tall fescue is too coarse to match with red fescue or bentgrass; creeping bentgrass forms dense colonies that crowd out all other components; annual ryegrass in large proportions tends to smother slower growing grass types. Even within a blend/combination of several varieties of the same species) the inherent colors of cultivars can differ markedly. In Kentucky bluegrasses and red fescues deep green as well as very light green cultivars are in the trade. For instance Bonnieblue, Adelphi and Nugget Kentucky bluegrasses are quite dark as is Jamestown chewings fescue. Koket and Highlight red fescues and Brunswick Kentucky bluegrass are inherently light green. Cultivars of strongly contrasting colors should not be mixed because the resulting turf will have a mottled appearance.

Durability

The best mechanical quality of seed again does not assure proper suitability to form a strong, durable turf. Careful selection of the right cultivars that will provide an attractive turf for many years is, of course, important. While most turfgrasses are long-lived perennials, by far not all have the necessary tolerance to common adversities such as insects, diseases, drought, cold, flooding or traffic and compaction under turf conditions to provide satisfactory grass cover for any length of time. Unfortunately, not much thought is frequently given to these limitations of our turfgrass cultivars when seed purchases are made. This is especially true in cases where large public or also private projects are concerned with specifications written up by architects whose spec.-sheets haven't been changed in the past 15 years. Often grass species or cultivars are called for that have been far surpassed or completely replaced by better types. I often wonder what happens to all the valuable and detailed research information put out free of charge by our very competent Agricultural Experiment Stations?