UNDERSTANDING TURFGRASS BREEDING, DEVELOPMENT, PRODUCTION AND SEED QUALITY

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"First the Seed" This is the motto for the American Seed Trade Association, but it also applies to any turf situation. The genetics within the seed you plant will go a long way in determining your success or failure. No management program can ever totally compensate for poorly chosen seed. Using the right seed for a specific turf situation will make any turfgrass manager's job easier.

The turfgrass seed industry is set up so that a seed user can get the right seed for any situation. I would like to discuss the process of breeding, developing and producing turf seed of the highest quality and what that means to turf seed users.

The yearly consumption of turf seed is approaching one billion pounds per year. About 60% of that billion pounds, is produced in the Pacific Northwest. The combination of a perfect seed production climate and an infrastructure built around elite seed growers has resulted in this huge seed industry in Oregon, and to a lesser extent, in Washington and Idaho.

The seed industry is organized to produce seed of varieties of turfgrasses that have been developed by breeders all over the world. The types of cultivars range from "common" seed to the most elite types of bred varieties.

"Common" seed is a commodity. This type of seed is usually selected directly from nature (examples are Linn perennial ryegrass, Kentucky 31 tall fescue, Kenblue, Park, South Dakota common Kentucky bluegrass, and Canadian Creeping red fescue).

Improved and "elite" varieties are developed from breeding programs at private and public institutions. Well-known public programs would be Rutgers, Penn State, Rhode Island, Michigan, and Nebraska. Private sources would include the many company owned breeding programs in Europe and North America.

Seed Quality refers to the mechanical purity and the germination percentage of seed. By law, any seed bag or box must have a label that tells you what is in the container and describes its seed quality. The more important components of seed quality are as follows:

Germination: This refers to the percentage of seeds that will sprout. The higher the percentage, the better.

Crop Seed: This is the percent by weight of other lawn or agricultural seed in the seed you purchased. The lower the percentage the better. Some "other crop" such as *Poa trivialis*, bentgrass, timothy, orchardgrass, and other objectionable persistent species should be avoided.

Weed Seed: If any weed seed is present, it is listed by percentage of weight. The lower the percentage, the better.

Noxious Weeds: These troublesome weeds must be listed on the seed label. For quality turf, avoid purchasing seed containing these weeds.

Inert Matter: This is any material in the seed that is not capable of growth. Inert matter is not really a problem, but the lower the percentage, the better.

Other Information: This includes the name of the producer/distributor, where each variety was grown, a lot number for tracking the seed through the marketing channels, and when the seed was tested.

All seed is either certified (blue tag) or uncertified. Certified seed is produced under guidelines specified by the state certification agency. The certification agency is responsible for maintaining the pedigree of superior varieties under a generation system of appropriate records and inspection to ensure that genetically pure varieties are produced.

Sod quality seed (gold tag) is certified seed that meets higher seed quality standards than certified seed. Sod quality seed is more expensive, but the extra cost is justified for sod growers and other situations where the highest quality of turf is needed.