A country/western song popular not too long ago vocalized the advice, "Let's get back to the basics of life." It's a good bit of advice.

In the turf business, as in the business of life, the basics are important. The basic ingredient necessary for fine turf is quality seed. Attempting to save a few dollars by purchasing something less than the best will most likely provide unsatisfactory results that mean extra work and added expense once the turf is established.

In other words, starting out with the best makes the job of turf maintenance much easier in the long run.

Buying quality grass seed sounds like a simple enough proposition. But it's not always as easy as it seems.

The problem is with the seed label. The terms, numbers and percentages printed there can be confusing and misleading. And without adequate knowledge of seed label terminology, it's easy to purchase inferior seed. To obtain quality grass seed, a turf manager needs a thorough knowledge of how to read and interpret the label information.

According to the Federal Seed Act, the following information must be printed on the label:

1. The name of the seller.
2. The lot number of the seed.
3. The date the seed was tested.
4. The seed variety.
5. The percent of seed purity.
6. The percent of germination for each variety.
7. The percent of crop seed present.
8. The percent of inert matter.
9. The percent of weed seed present.
10. The noxious weeds by name and number per pound.

Terms such as purity, germination, crop, weeds, noxious weeds and inert matter are very important facts of the seed label. They can reveal and conceal many important facts. Unfortunately, these are the same terms that are most often misunderstood.

**Purity.** Purity is the percent by weight of pure seed, crop, weeds and inert matter in the package. It should total 100% and, therefore, account for everything in the package.

Because purity is an indication of quantity, not quality, a bit of simple arithmetic is necessary to determine how much of the pure seed in the mix will actually germinate. This is accomplished by multiplying the percent purity by the percent germination.

Using the Scotts Proturf Winter Turf I label (printed Fig. 1) as an example, this would mean:

\[
\begin{align*}
38.90\% \times 90\% &= 35.01\% \\
29.05\% \times 90\% &= 26.15\% \\
19.20\% \times 90\% &= 17.28\% \\
9.85\% \times 87\% &= 8.57\% \\
&= 87.01\%
\end{align*}
\]

Adding these figures shows that 87.01% of the ProTurf Winter Turf I is pure live seed.

**Germination.** Germination is the percent of pure seed that will grow in an ideal laboratory environment in a prescribed time. A standard laboratory germination test consists of 400 seeds (four replications of 100 seeds each) subjected to alternating temperatures of 60 to 80°F for 28 days at 95% humidity. The seeds are kept moist and illuminated under cool white fluorescent lights for eight hours each day.

**Crop.** Crop is the percent by weight of seeds grown as an agricultural crop. These seeds must be specified by name if they comprise more than 5% of the weight of the package. Examples of grasses grown as cash crops, but undesirable in a ryegrass/bluegrass overseeding mix such as ProTurf Winter Turf I are bentgrass, tall fescue, timothy, redtop and orchardgrass.

**Inert Matter.** Inert matter is the percent by weight of material in the package that will not grow. The more inert matter a package of seed contains, the less turf you are getting for your money. ProTurf Winter Turf I contains only 1.41% inert matter in a 50-pound bag.

**PRO TURF WINTER TURF I**

**GRASS SEED MIXTURE**

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>8271</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINE TEXTURED GRASSES</td>
<td>GERM</td>
</tr>
<tr>
<td>38.90% Manhattan Perennial Ryegrass</td>
<td>90%</td>
</tr>
<tr>
<td>9.85% Victa Kentucky Bluegrass</td>
<td>87%</td>
</tr>
<tr>
<td>COARSE KINDS</td>
<td></td>
</tr>
<tr>
<td>29.05% Loretta Perennial Ryegrass</td>
<td>90%</td>
</tr>
<tr>
<td>19.20% Pennfine Perennial Ryegrass</td>
<td>90%</td>
</tr>
<tr>
<td>OTHER INGREDIENTS</td>
<td></td>
</tr>
<tr>
<td>1.50% Crop</td>
<td></td>
</tr>
<tr>
<td>1.41% Inert Matter</td>
<td></td>
</tr>
<tr>
<td>0.09% Weeds</td>
<td>No Noxious Weeds</td>
</tr>
<tr>
<td>Net Weight</td>
<td>50 lbs</td>
</tr>
<tr>
<td>Seeds Tested:</td>
<td></td>
</tr>
<tr>
<td>Control No.:</td>
<td></td>
</tr>
</tbody>
</table>

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Weeds. Weeds are a major threat to all fine turf. The weed percentage listed on the seed label is the percent by weight of all seeds in the package which have not been included in pure seed or crop.

According to the federal seed labeling regulations, the label does not have to identify what or how many weeds are present (except noxious weeds). Consequently, because one harmless needlegrass seed weighs the same as 32 highly undesirable chickweed seeds, both would be listed as the same percentage on the seed label.

Noxious weeds are determined by each state individually and are those weeds that are difficult to control by chemical or cultural means. If grass seed contains any noxious weeds, they must be listed by the name and number of seeds per pound. Unfortunately, many of the weeds classified as noxious pertain more to farm fields than to turf.

For example, Poa annua is considered extremely undesirable in fine turf, but is considered a noxious weed in only a handful of states. Any many times, even when Poa is listed on the seed label, buyers fail to realize it because it is termed “annual bluegrass” instead of Poa annua.

As shown on the Winter Turf I label, the seed mixture contains no noxious weeds.

According to the Federal Seed Act, grass varieties must be listed on the seed label by weight under two broad classifications — fine textured and coarse textured grasses. Within these categories are many grasses which vary a great deal in number of seeds per pound.

Actually, a seed label would provide a much more accurate description of what’s in the package if grass varieties, crop, weeds, etc. were listed by seed count rather than weight.

While a pound of ryegrass contains only 226,800 seeds, a pound of Penncross Bentgrass contains about 30 times that many seeds — 6,800,000. Because of these tremendous differences, the turf manager should always consider seed count when analyzing a seed label.
For example, consider a hypothetical seed mixture containing 65% Kentucky bluegrass, 22% fine fescue and 10% bentgrass. Calculating actual seed count, a pound of this mixture would contain 1,423,976 bluegrass seeds, 952,560 bentgrass seeds and 116,707 fine fescue seeds. In other words, although bentgrass appears insignificant on the label, it actually makes up well over one-third of the mixture!

Keeping all of these things in mind the next time you purchase grass seed should help make the purchase a wise one.

Seed Law (continued)

Another point which I would like to make concerns the "Disclaimer clause" or "nonwarrant clause" frequently printed on seed labeling. The Florida Seed Law states that the use of such a clause does not relieve or exempt any person from any provisions of the Law.

Department inspectors are available to assist you by sampling seed, fertilizer and pesticides when you wish. Call on us to come by to make an inspection, collect samples or interpret labels.

Editors Note: Paul Crisp is assistant chief, Feed, Seed, Fertilizer and Pesticide Bureau, Division of Inspection, Florida Department of Agriculture and Consumer Services.