

## A Simplified Guide to Understanding Seed Labels

### Introduction

One of the most important parts of establishing cover for any conservation practice is making sure that the correct species, variety, and amount of seed is planted. With many conservation species, it is essential to know and properly interpret what is in the bag. Understanding the seed label will allow proper decision making when planning and installing a seeding.

### Components of the Seed Label

The law requires that each seed lot offered for sale must be truthfully labeled. This is regulated by the Federal Seed Act as well as state seed laws. In addition, all state certification agencies comply with the minimum requirements and standards of the Association of Official Seed Certification Agencies (AOSCA) to insure uniform testing methods and minimum standards of seed quality. The format of seed labels may be variable, but all labels will have some semblance of the following as required by the Federal Seed Act for seed in interstate commerce.

- Variety and Kind – Cultivar/release name, species, and common name;
- Lot number – a series of letters or numbers assigned by the grower for tracking purposes;
- Origin – where the seed was grown;
- Net weight – how much material is in the container;
- Percent pure seed (purity) – how much of the material is actually the desired seed;
- Percent inert matter – how much of the material in the bag is plant debris or other materials that are not seed;
- Percent other crop seeds – other non-weed seeds;
- Percent weed seeds – seeds considered weed species;
- Name of restricted noxious seed (with number per pound of seed). Noxious weed species vary by state. There are 2 types of noxious weeds – restricted and prohibited. Restricted weeds are listed as seeds per pound of material in the bag. There should be no prohibited weeds;
- Percent germination (germ) – how much of the seed will germinate readily;
- Hard seed – seed which does not germinate readily because of a hard seed coat;
- Dormant seed – seed which does not germinate readily because it requires a pre-treatment or weathering in the soil. (Some suppliers may combine hard and dormant seed on the label.);
- Germination test date – date should be within 12 months of the planned date for using the seed;
- Name and address of company responsible for analysis (seller or grower).

You may also see the following additional information on the label:

- Total Viability/Germination – this may or may not be stated. Add Germination + Hard Seed + Dormant Seed. Total Viability may not equal 100%. This just means that some of the seed is not viable and will not germinate.

**Figure 1. A typical seed label.**

Reliable Seed Company 123 Production Way Seedville, VA 12345 USA Phone: (123) 456-7890			
‘Rumsey’ yellow indiagrass Sorghastrum nutans			
NET WEIGHT:	25 lbs	PURE SEED:	93.80%
LOT #:	IB097	OTHER CROP:	0.00%
DATE TESTED:	January 2006	INERT MATTER:	5.60%
ORIGIN:	PA	WEED SEED:	0.60%
		GERMINATION:	32.00%
NOXIOUS:	21/lb Giant Foxtail	HARD SEED:	0.00%
	15/lb Wild Garlic	DORMANT:	61.00%

In addition to the seed analysis label, there may be a second label indicating the certification class of seed. The most typical second label would be blue and would indicate it as **CERTIFIED SEED**. Certified seed is the progeny of seed that has been handled to maintain genetic identity and purity and has been approved by a state certifying agency. Certified seed should be the first choice for any seeding project, especially when cultivars are used.

### Using the Seed Label

- The total of Pure Seed, Other Crop, Inert Matter and Weed Seed should always equal 100%.
- If the purity or germination is very low, you may not want to use the seed;
- If there are noxious weeds, you should know what they are and whether they will be a problem on your planting site;
- Always purchase and use seed based on Pure Live Seed (PLS). PLS is the amount of seed which will germinate and can be calculated using numbers from the seed label.

#### **First, determine total viability**

$$\text{Viability} = \text{germination} + \text{hard seed} + \text{dormant seed}$$

Viability is the percent of seed which will germinate, though it may not all germinate the first season. In our example, total viability = 93.00%

#### **Next, calculate the amount of Pure Live Seed (PLS)**

$$\text{PLS} = \frac{\% \text{ Purity} \times \% \text{ Viability}}{100}$$

In our example:  $\text{PLS} = (93.8 \times 93)/100 = 87.23\%$

- PLS can be used for calculating the amount of seed you will need to buy for a planting or when calibrating the output of a drill.

$$\text{Bulk seed/acre} = \frac{\text{lbs. PLS recommended/acre}}{\text{Percent PLS}}$$

If we want to seed 10 acres at 8 lbs. PLS/acre., then

$$\frac{8 \text{ lbs. PLS/acre}}{.8723 \text{ PLS}} = 9.17 \text{ lbs. bulk/acre} \times 10 \text{ acres} = 91.7 \text{ lbs. bulk seed needed}$$

- Most native plant seed is sold on a PLS basis because germination and purity can be so variable. Always specify buying seed by the PLS pound to make sure you get the amount of seed you need. Some of the cool-season turf-type grasses (fescues, orchardgrass) and agronomic seed (oats, rye) are sold on the basis of bulk pounds only because germination and purity is typically very high and minimums are regulated by the Federal Seed Act.

## References

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