

# TECHNICAL NOTES

U-S-Department of Agriculture

Soil Conservation Service

TN - PLANT MATERIALS - 34

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## PLS - WHAT IS IT AND HOW CAN WE USE IT?

PLS is this abbreviation for "Pure Live Seed" and is a way of expressing seed quality. PLS is the percent of pure, viable seed in a lot of seed. It is determined by multiplying percent total germination by percent purity and dividing by 100.

Some native grass seed lots contain a higher percentage of inert material. Legumes, such as rose clover have a higher percentage of dormant or hard seed. Germination tends to decrease in all seeds as it ages. These conditions can vary widely between different seed lots. By California law, seed sold needs a germination test within 15 months of sale. Consequently, it is a good idea to use PLS seeding rates for all plantings. Seeding rates, established on a PLS basis, provide the same amount of viable seed per acre even when quality of different lots and the total amount of seed planted per acre may vary considerably.

To illustrate, we have two lots of 'Zorro' annual fescue and the recommended PLS seeding rate is 5 pounds per acre:

Lot #1      100 lbs. seed, purity 98.5%, germination 84%:

$$\text{PLS} \quad \frac{98.5 \times 84}{100 \times 100} = \frac{8274}{100} = 83\%$$

Adjusted seeding rate to obtain 5 lbs. PLS per acre

$$\frac{5.0}{0.83} \quad 6 \text{ lbs. per acre} =$$

$$\text{Lot \#1 would seed } \frac{100}{6} = 16.6 \text{ acres}$$

Lot #2      100 lbs. seed, purity 96.07%, germination 77%:

$$\text{PLS} \quad \frac{96.07 \times 77}{100 \times 100} = \frac{7397}{100} = 74\%$$

Adjusted seeding rate to obtain 5 lbs. PLS per acre =

$$\frac{5}{0.74} = 6.8 \text{ lbs. per acre}$$

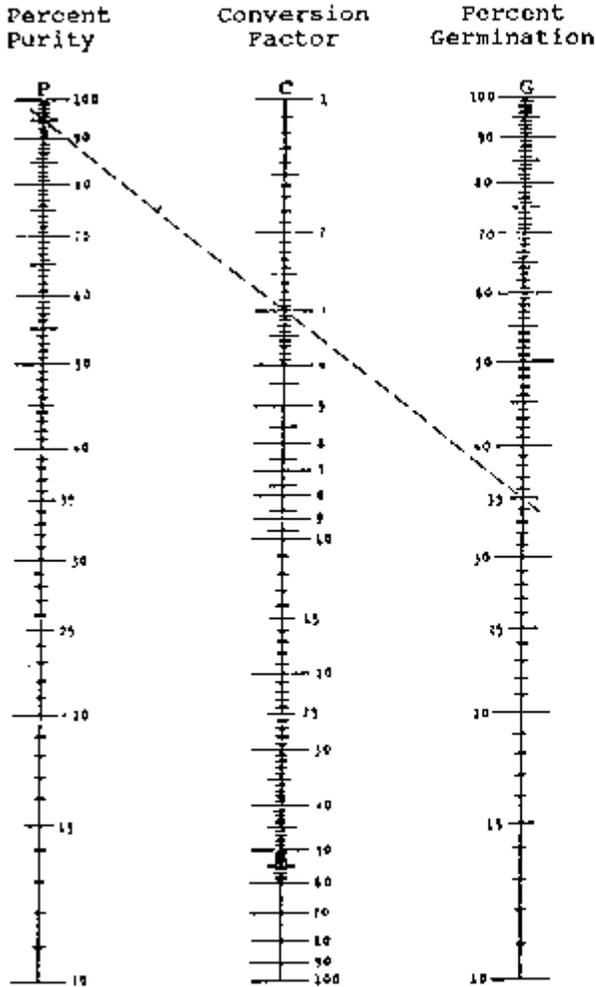
$$\text{Therefore, Lot \#2 would seed only } \frac{100.0}{6.8} = 14.7 \text{ acres.}$$

The chart on the reverse side of this sheet can be used to adjust the seeding rate for any lot of seed to PLS equivalent.

Prepared by Robert D. Slayback, State Plant Materials Specialist Resource Technology Staff, SCS, Davis, California. Material revised from Idaho TN Plant Materials No. 2 dated October 1990.

PURE LIVE SEED (PLS) CONVERSION CHART

PURE LIVE SEED (PLS) CONVERSION CHART



To Use the Chart

Locate the percent purity on line P and percent germination of the seed on line G. Lay a straight edge between these two points. The point of intersection with line C is the conversion factor for this lot of seed.

Example:

Purity 95 - line P  
Germination 35 - line G  
Factor 3.00 - line C

It will take 3 lbs. of this seed to equal 1 lb. pure live seed. If the PLS seeding rate is 5#/ac., 15#/ac. would be the adjusted seeding rate for this lot of seed.