

Seed Mix Templates

This section includes an assortment of Excel seed mix templates. The templates are representative of some of the various methods of writing seed mixes that we have seen over the years. These mix templates can also be used to generate mix tags. Each template includes brief instructions, a sample mix, and a blank spreadsheet for your use. If you require a different XL format, please call or email our office. If you would like a spreadsheet with multiple mix templates, please call or email; our office.

Many of our mix templates use decimal pounds to enter seeding rates instead of pounds and ounces. Historically, it was common to see seed mixes written listing some species as ounces per acre and some as pounds per acre. Decimal pound is an artificial measurement that simplifies spreadsheet formulas, not metric but not paying homage to base 16 math. Once you become accustomed to working in decimal pounds, they will be quicker to use, be less prone to errors, will simplify (or eliminate) XL formulas, and ultimately use less paper and ink/toner to print seeding specifications.

oz	lbs
0.25	0.016
0.5	0.031
0.75	0.047
1	0.063
2	0.125
3	0.188
4	0.250
5	0.313
6	0.375
7	0.438
8	0.500
9	0.563
10	0.625
11	0.688
12	0.750
13	0.813
14	0.875
15	0.938
16	1.000

Each spreadsheet also has a alphabetized species list as the final item. As you type a botanical name, Excel's Autofill will finish the name. Autofill works best when there is a continuous line of data between the list and the data entry point.

Submitting your seed mixes for quotes or estimates in one of these Excel spreadsheets will speed up the processing and return of your quote.



Explanation of Terms

Adjusted lb/ac is the actual bulk seed amount needed to provide the specified per acre PLS seeding rate.

Crop seed (other crop seed) is the percent of crop seed not named on the tag. Many times seed may become mechanically mixed during harvesting, storing, and processing, or through field contamination.

Dormant seeds are viable seeds, other than hard seeds, that fail to germinate when provided the specified germination conditions for the kind of seed in question.

Germination (seed germination) is defined as the emergence and development from the seed embryo of those essential structures, which for the kind of seed in question, indicate its ability to produce a normal plant under favorable conditions.

Hard seed is seed that does not swell or germinate within its established period of viability. A hard seed has a tough impermeable coat, or testa, that does not allow water or air to reach the embryo. Hard seeds are encountered in legumes, mallows, geraniums, &c.

Inert (inert matter) is the portion of dirt, sand, stones, sticks, glumes, stems, broken seed, insects, etc.

Lot number is a unique alpha-numeric sequence that identifies a particular batch of seed from a producer, field, and/or year, etc., such as L39-11-G86 *Lolium multiflorum*. Lot numbers are mandatory. Legally, a definite quantity of seed identified by a lot number or other mark, every portion or bag of which is uniform within recognized tolerances for the factors which appear in the labeling.

Noxious seed is seed from a "noxious weed" species that has been designated by an agricultural authority and recognized by a state or federal legislative body as one that is injurious to agricultural and/or horticultural crops, natural habitats and/or ecosystems, and/or humans or livestock.

Origin means the State, District of Columbia, Puerto Rico, or possession of the United States or foreign country, or designated portion thereof, where the seed was grown. If the origin is unknown, it must be stated.

Pick number is a unique alpha-numeric sequence that identifies a particular seed, seed mix or mixes, during and after the preparation of an order.

PLS Pure live seed is that portion of a quantity of seed that can potentially grow, excluding nonviable seed, inert matter, other crop seed, and weed seed. PLS is calculated as $PLS = (\text{percent purity} \times \text{percent total viability}) \div 100$.

Purity (pure seed) include all seeds of each kind or each kind and variety under consideration present in excess of 5 percent of the whole. Pure seed includes immature seeds, seeds with the seed coats removed, broken seeds larger than one-half a seed, insect-damaged seed, germinated seeds, empty seeds, and seeds with nematode galls, fungal bodies, and spongy or corky caryopses.

TZ is 2,3,5-triphenyl tetrazolium chloride. Seed samples are preconditioned (moistened), prepared (sliced open, seed coat removed, embryo excised, etc.) and stained with TZ. Living seed tissues that are exposed to TZ solution are stained reddish. The pattern of staining indicates seed viability. TZ tests are generally indicative of germination plus hard seed and/or dormant seed

Viable seed (total viability) equals germination plus hard seeds and or dormant seeds; or TZ results may be used when germination is in process.

Weed ("weed seeds") includes the seeds of all plants generally recognized as weeds within this State, and includes the seeds of restricted noxious weeds as determined by regulations adopted by the Department.

PLS Examples

Example *Lespedeza capitata* 98.40% pure, 25.00% germination, 70.00% hard, zero dormant

$$\text{PLS} = (98.4 \times (25 + 70 + 0)) \div 100$$

$$\text{PLS} = (98.4 \times 95) \div 100$$

$$\text{PLS} = (9348) \div 100, \text{ or } 93.48\% \text{ PLS}$$

$$\text{one PLS lb} = 1 \div .9348 = 1.069 \text{ bulk lbs}$$

Example *Scirpus acutus* 99.66% pure, 1.00% germination, zero hard, 82.00% dormant

$$\text{PLS} = (99.66 \times (1 + 0 + 82)) \div 100$$

$$\text{PLS} = (99.66 \times 83) \div 100$$

$$\text{PLS} = (8,271.78) \div 100, \text{ or } 82.72\% \text{ PLS}$$

$$\text{one PLS lb} = 1 \div .8272 = 1.208 \text{ bulk lbs}$$

Example *Sparganium eurycarpum* 99.85% pure, germination NA, hard NA, dormant NA, TZ 90%

$$\text{PLS} = (99.85 \times (0 + 0 + 0 + 90)) \div 100$$

$$\text{PLS} = (99.85 \times 90) \div 100$$

$$\text{PLS} = (8986.5) \div 100, \text{ or } 89.87\% \text{ PLS}$$

$$\text{one PLS lb} = 1 \div .8987 = 1.113 \text{ bulk lbs}$$

Revised 03 March 2013.