APPENDIX 2. Seed mix calculations, mix evaluation and common grasses and legumes

Table 1. An example of a seed mix calculation[a]

(1) Desired species %	(2) kg/ha to yield 300 LPS/ (%÷100)	(3) Seedling rate kg/ha 1000 cm^2	(4) Species by weight (1x2)	(%)
Creeping red fescue	.45	26	11.7	39
Annual rye grass	.15	66	9.9	33
Orchard grass	.10	30	3.0	10
Alsike clover	.20	18	3.6	12
White clover	.10	18	1.8	6
TOTAL	1.0		30.0	100

a

i) Select the species and the desired proportion of the ground cover, Column 1.

ii) Select the yield of live pure seed for Column 2 from Table 1, Column 3 or 4.

iii) Compute seedling rate in Table 2 by multiplying the respective values in Column 1 by Column 2. The summation of Column 3 is the mixture's application rate.

iv) Divide the seeding rate for each species by the total kg/ha (x 100) to obtain the species % by weight, Column 4.

v) Note the difference between the desired species percent, Column 1, and the percentage of various seed by weight in the mixture, Column 4.

Table 2. Evaluating a seed mixture[a]

(1) Mixture[b] % by weight species	(2) LPS/ 1000 cm^2 / 1 kg/ha + 100 (1x2)	(3) Seed density 1000cm^2 (Table 1)	(4) LPS at ground 1 kg/ha (%)	
Perennial rye grass	.30	5.1	1.53	8.2
Creeping red fescue	.25	12	3.00	16.2
Redtop[c]	.05	105	5.25	28.3
Kentucky blue grass	.10	40	4.00	21.5
Red clover	.20	16	3.20	17.2
Alsike clover	.10	16	1.60	8.6
TOTAL	1.00		18.58	100.0

a i) Select rate for Column 2 at 1 kg/ha from Table 1.
ii) Obtain seed density (Column 3) by multiplying Column 2 by Column 1.
iii) The percent LPS (Column 4) is obtained by dividing the respective seed density by the total seed density in Column 4.

b Values in Column 1 could use the actual seeding rate kg/ha for each species. Column 1 x Column 2 would thus give the actual seed density (Column 3) for the seed application rate.

c Note for redtop % by weight, Column 1, vs % LPS, Column 4.

Table 3. Some common grasses and legumes used for seeding in British Columbia and the live pure seed ratings

Common Name	Scientific Name	(1) Thousand Seeds/kg	(2) Pure Live Seed per 1 000 cm^2 at 1 kg/ha	(3) Seeding rate to yield 150 PLS/1 000 cm^2 (kg/ha)	(4) Seeding rate to yield 300 PLS/1 000 cm^2 (kg/ha)
Smooth brome	Bromus inermis	275	2.5	60	120
Sainfoin	Onabrychis viciaefolia	40	0.4	375	750
Tall fescue	Festuca arundiunacea	506	5.0	30	60
Birdsfoot trefoil[1]	Lotus corniculatus	1036	10.0	15	30
Perennial lupines[1]	Lupinus corniculatus	48	0.6	250	500
Beardless wheatgrass	Agropyron inerme	297	2.6	58	116
Intermediate wheatgrass	Agropyron intermedium	220	2.2	68	136
Crested wheatgrass	Agropyron cristatum	441	4.2	36	72
Crested wheatgrass	Agropyron desertorum	386	3.7	41	82
Slender wheatgrass	Agropyron trachycaulum	353	3.4	44	88
Streambank wheatgrass	Agropyron riparium	375	3.7	41	82
Siberian wheatgrass	Agropyron sibericum	551	5.2	29	58
Tall wheatgrass	Agropyron elongatum	174	1.7	88	176
Russian wild rye	Elymus junceus	375	3.5	43	86
Alfalfa (Rambler)[1]	Medicago sativa	496	5.3	28	56
Alfalfa (Anik)[1]	Medicago falcata	496	5.3	28	56
Alsike clover[1]	Trifolium repens	1503	16	9	18
Cicer milk vetch	Astragalus cicer	320	3.2	47	94
White clover[1]	Trifolium hybridum	1464	16	9	18
Sweet clover[1]	Melilotus spp.	577	5	30	60
Altai wild rye	Elymus angustus	125	1.2	125	250
Pubescent wheatgrass	Agropyron trichophorum	200	1.9	79	158
Canada bluegrass	Poa compressa	5510	50	3	6
Big bluegrass	Poa ampla	2021	17	9	18
Kentucky bluegrass	Poa pratensis	4752	40	4	8
Redtop	Agrostis alba	11020	105	1	2
Hard fescue	Festuca ovina	1245	11	14	28
Creeping red fescue	Festuca rubra	1355	12	13	26
Meadow foxtail	Alopecurus pratensis	1984	17	9	18
Creeping foxtail	Alopecurus arundinaceus	1984	17	9	18
Orchardgrass	Dactylis glomerata	1190	10	15	30
Annual ryegrass	Lolium multiflorum	478	4.5	33	66
Perennial ryegrass	Lolium perenne	544	5.1	29	78
Reed canarygrass	Phalaris arundinacea	1115	10	15	30
Timothy	Phleum pratense	27	27	6	12

[1] Legume.
[2] Column (3) & (4) The desired number of PLS required per 1000 cm^2 divided by column (1) PLS/1000 cm^2 at 1 kg/ha.

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