



Ministry of Forests &
Range



Seedling Stock Specifications

for Commercial Forest Nursery Contracts
(Applicable to 2009 Seedling Requests)

File: 18500-03/2009

GENERAL SPECIFICATIONS

Seedlings- shall be free of any diseases, insects, chlorosis or mechanical damage.

Shoots - shall not have forked tops without a clearly dominant leader, ie. the leader shall have dominance of at least 2.5 cm;
- shall not be forked from the base.

Buds - in those species that form terminal buds, the terminal buds must be visible and viable.

Roots - seedlings with sparse or deformed root systems shall be culled out;
- seedlings shall have a sufficient amount of roots to make an extractable plug and to be in balance with the foliage;
- root dry weight targets of no less than 500-600 mg (313B) and 700-800 mg (415B) are recommended as a guide for indicating plug cohesion and extractability.

Stocktypes:

PSB	Plug Styroblock
PCT	Plug Copper Treated
PAP	Plug Air Pruned
PBR	Plug / Bareroot Transplant
PPT	Plug to Plug Transplant
BBR	Bareroot
BRL	Bareroot Large
CRC	Rooted Cutting

Containers:

211A	240 cavities per block
310B, 313B	160 cavities
411B	144 cavities
410, 412B, 415B	112 cavities
412A, 415D	77 cavities
515A, 512A	60 cavities
615A	45 cavities
615B	28 cavities

Last Revision: November 19, 2008

STOCK SPECIFICATIONS - CONTAINER SEEDLINGS - AGE 1+0 Nov 19, 2008
 Applicable to Ministry of Forests Contracts for 2009 Sowing Year

Species	Stock Type	Cull	Height (cm)		R.C.D. (mm)	
			Target	Maximum ⁽²⁾	Cull	Target
Alder (Dg, Dr), Alder, Sitka (Alnucri), Aspen, Trembling (At) Birch (Ep)	PSB410	13	20	--	2.4	3.2
	PSB415B	15	23	--	2.6	3.4
	PSB412A	15	23	--	2.7	3.6
	PSB415D	20	30	--	2.8	3.7
	PSB515A	23	34	--	3.3	4.2
	PSB615A	25	40	--	4.0	5.5
Cedar, Western Red (Cw)	PSB313B	14	22	30	2.0	2.4
	PSB410	16	25	35	2.2	2.8
	PSB412B	16	26	36	2.2	2.9
	PSB415B	18	29	40	2.4	3.2
	PSB412A	18	30	42	2.5	3.4
	PSB415D	20	33	46	2.7	3.9
	PSB512A	20	35	50	2.8	4.0
	PSB515A	20	35	50	2.9	4.2
	PSB615A/615B	30	45	60	3.2	4.5
Cedar, Yellow (Yc)	PSB/CRC410	13	22	32	2.2	2.8
	PSB/CRC415B	17	26	35	2.4	3.2
	PSB/CRC412A	17	26	35	2.5	3.3
	PSB/CRC415D	20	30	40	2.6	3.5
	PSB/CRC512A	20	32	44	2.8	3.7
	PSB/CRC615A	30	40	50	3.5	4.0
Douglas-fir, Coast (Fdc)	PSB313B	12	19	26	2.4	3.0
	PSB410	16	25	34	2.6	3.2
	PSB415B	18	28	38	2.8	3.3
	PSB412A	18	30	42	3.0	3.7
	PSB415D	20	35	50	3.2	4.2
	PSB512A	20	35	50	3.3	4.4
	PSB515A	25	40	55	3.4	4.6
	PSB615A	30	45	60	3.5	4.8
Douglas-fir, Interior (Fdi)	PSB/PCT313B/411B	12	18	25	2.3	3.0
	PSB/PCT410	13	20	28	2.6	3.2
	PSB/PCT412B	13	20	28	2.6	3.3

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Species	Stock Type	Cull	Height (cm)		R.C.D. (mm)	
			Target	Maximum ⁽²⁾	Cull	Target
Douglas-fir, Interior (Fdi)	PSB/PCT415B	15	22	30	2.8	3.5
	PSB/PCT412A	15	24	34	3.0	3.6
	PSB/PCT415D	15	27	40	3.2	4.0
	PSB/PCT512A	15	27	40	3.3	4.2
	PSB/PCT515A	15	28	42	3.4	4.4
	PSB/PCT615A	15	30	44	3.5	4.6
Fir, Amabilis (Ba)	PSB313B	9	17	25	2.2	2.7
	PSB410	10	19	28	2.4	2.8
	PSB415B	11	20	30	2.5	3.0
	PSB412A	11	20	30	2.7	3.2
	PSB415D	13	25	36	3.0	3.5
	PSB512A	13	26	38	3.2	3.7
Fir, Grand (Bg) Fir, Noble (Bn)	PSB313B	12	20	28	2.3	2.8
	PSB410	14	23	33	2.5	3.2
	PSB415B	15	25	35	2.7	3.4
	PSB412A	16	30	44	3.0	3.7
	PSB415D	20	33	46	3.1	3.8
	PSB615A	25	40	55	3.7	4.4
Fir, Subalpine (Bl)	PSB313B/310B	7	12	22	2.0	2.5
	PSB410/411B/415B	7	17	27	2.3	2.8
	PSB412A	8	19	30	2.6	3.2
Hemlock, Mountain (Hm)	PSB313B	12	19	26	2.2	2.8
	PSB410	12	20	28	2.3	2.9
	PSB415B	14	22	30	2.5	3.0
	PSB412A	15	23	31	2.5	3.1
	PSB415D	16	24	32	2.6	3.2
Hemlock, Western (Hw)	PSB313B	12	20	28	2.2	2.8
	PSB410	12	20	28	2.3	2.9
	PSB415B	15	25	35	2.4	3.0
	PSB412A	15	25	35	2.6	3.3
	PSB415D	18	26	35	2.8	3.5
	PSB512A	18	26	35	3.0	3.6
	PSB515A	18	28	38	3.1	3.7

STOCK SPECIFICATIONS - CONTAINER SEEDLINGS - AGE 1+0 Nov 19, 2008
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Species	Stock Type	Cull	Height (cm)		R.C.D. (mm)	
			Target	Maximum ⁽²⁾	Cull	Target
Larch, Western (Lw), Larch, Siberian (Ls), Tamarack (Lt)	PSB313B	10	17	24	2.2	2.8
	PSB410	12	20	28	2.5	3.0
	PSB415B	14	22	30	2.6	3.2
	PSB412A	14	23	32	2.8	3.3
	PSB415D	15	27	40	3.0	3.5
	PSB512A	15	27	40	3.2	3.7
Pine, Lodgepole (Pli) (Plc) * Pine, Ponderosa (Py) Pine, White (Pw)	PSB/PCT310B	6	11	17	2.3	2.7
	PSB/PCT313B/411B	6	12	19	2.4	2.8
	PSB/PCT410	7	13	20	2.6	3.2
	PSB/PCT412B	7	14	21	2.6	3.3
	PSB/PCT415B	8	14	21	2.7	3.3
	PSB/PCT412A	8	15	22	2.8	3.4
	PSB/PCT415D	8	15	23	3.0	3.6
	PSB/PCT512A	9	16	24	3.1	3.7
	PSB/PCT615A	10	18	26	3.4	4.0
Spruce, Sitka and Crosses (Ss, Sxs)	PSB313B	14	22	30	2.2	2.6
	PSB410	16	25	35	2.4	3.0
	PSB415B	17	27	37	2.6	3.2
	PSB412A	17	28	38	2.8	3.5
	PSB415D	18	29	40	3.0	3.8
	PSB512A	20	34	48	3.3	4.3
	PSB515A	22	36	50	3.4	4.4
	PSB615A/615B	30	45	60	3.8	4.8
Spruce, White/Engelmann & Crosses (Sx, Se, Sw, Sxw) *	PSB/PCT313B/411B	11	18	25	2.4	3.0
	PSB/PCT410	12	19	27	2.6	3.2
	PSB/PCT412B	12	20	28	2.7	3.3
	PSB/PCT415B	13	20	32	2.8	3.5
	PSB/PCT412A	13	24	35	3.0	3.7
	PSB/PCT415D	14	27	40	3.2	4.0
	PSB/PCT512A	14	27	40	3.3	4.2
	PSB/PCT515A	16	28	42	3.4	4.5
PSB/PCT615A	20	35	50	3.8	4.8	

Note: (1) These figures are all ABSOLUTE.

- (2) If stock is at or above maximum height, it may be accepted if it has an RCD equivalent to the target specifications.
- (3) If there is a discrepancy between these listings and the Schedule 'A' of the nursery contract, the Schedule 'A' will be deemed correct.
- (4) * Note: All 1+0 summer plant seedlings (seedlings lifted for immediate planting from June 1 through August 31) will have Root Collar Diameter (RCD) cull and target specifications reduced by 0.2 mm.

STOCK SPECIFICATIONS - CONTAINER SEEDLINGS - 2+0
Applicable to Ministry of Forests Contracts for 2009 Sowing Year

Nov 19, 2008

Species	Stock Type	Height (cm)			R.C.D. (mm)	
		Cull	Target	Maximum ⁽²⁾	Cull	Target
Cedar, Yellow (Yc)	PSB/CRC415B	18	26	35	3.5	4.5
	PSB/CRC512A	20	35	45	3.7	4.6
	PSB/CRC615A	30	45	60	4.0	4.8
Fir, Amabilis (Ba)	PSB410	12	22	32	3.2	4.0
	PSB415B	14	25	36	3.4	4.4
	PSB412A	14	26	38	3.5	4.5
	PSB415D	16	29	42	3.8	4.8
	PSB615A	16	30	45	4.0	5.0
Fir, Grand (Bg) Fir, Noble (Bn)	PSB415B	15	27	40	3.4	4.2
	PSB415D	20	35	50	4.0	4.6
	PSB615A	25	40	55	4.2	5.0
Fir, Subalpine (Bl)	PSB412B	8	17	27	3.0	3.8
	PSB410	8	19	30	3.2	4.0
	PSB415B	8	20	32	3.4	4.5
	PSB412A	10	20	30	3.3	4.3
	PSB415D	10	23	36	3.8	5.0
Pine, Lodgepole (Pli) (Plc), Pine, White (Pw)	PCT/PSB415B	12	25	35	3.6	4.8
	PCT/PSB412A	12	25	35	3.8	5.0
	PCT/PSB415D	14	25	35	4.0	5.3
	PCT/PSB512A	14	25	35	4.0	5.3
	PCT/PSB615A	14	25	36	4.3	5.6
Spruce, White/Engelmann And Crosses (Sx, Se, Sw, Sxw)	PSB415B	14	27	40	3.6/4.0**	4.8/5.0**
	PSB412A	15	29	40	3.7/4.1**	4.9/5.3**
	PSB415D	16	30	44	4.0/4.4**	5.3/5.7**
	PSB512A	16	31	46	4.1/4.5**	5.4/5.8**
	PSB515A	17	32	47	4.2/4.6**	5.5/5.9**
	PSB615A	20	35	50	4.5/5.0**	6.0/6.5**

- Note: (1) These figures are all ABSOLUTE.
(2) If stock is at or above maximum height, it may be accepted if it has an RCD equivalent to the target specifications.
(3) Please note that if there is a discrepancy between these listings and the Schedule 'A' of the nursery contract, the Schedule 'A' will be deemed correct.

STOCK SPECIFICATIONS - CONTAINER SEEDLINGS - 2+0

Nov 19, 2008

Applicable to Ministry of Forests Contracts for 2009 Sowing Year

** Note: The smaller number is the specification applied to stock lifted from June 1 to September 14 of the second year (2+0 SU). The larger number applies to stock lifted after September 14 (2+0 SP). Note that 2+0 spring plant stocktypes are not recommended for spruce species.

STOCK SPECIFICATIONS - CONTAINER (PLUG TO PLUG) TRANSPLANTS
 Applicable to Ministry of Forests Contracts for 2009 Sowing Year

Nov. 19, 2008

Species	Stock Type	Cull	Height (cm)		R.C.D. (mm)	
			Target	Maximum ⁽²⁾	Cull	Target
Cedar, Western Red (Cw)	PPT615A 1+1 *	30	45	60	3.2	4.5
Cedar, Yellow (Yc)	PPT615A 1+1 *	30	40	50	3.5	4.0
Fir, Grand (Bg)	PPT615A 1+1 *	25	40	55	4.2	5.0
Spruce, White/Engelmann and Crosses (Sx, Se, Sw, Sxw)	PPT515A 0.5+0.5	16	30	45	3.5	4.5
	PPT615A 1+1/0.5+1.5	18	36	55	4.4	5.8

* Example: Grown in 313B containers for first year, transplanted to 615A for second year.

** First phase in mini-plug containers (eg. 540), transplanted to 515A for second phase.

STOCK SPECIFICATIONS - BAREROOT AND TRANSPLANTS
For Reference Only if Required for 2009 MoF Contracts

Nov 19, 2008

Species	Stock Type	Height (cm)			R.C.D. (mm)	
		Cull	Target	Maximum (2)	Cull	Target
Alder (Dr, Dg- -- (a) mesic and Alnucri) ---- (b) brush (L)	PBR 0.5+0.5	25	35	50	3.5	7.5
	PBR 0.5+0.5	30	50	70	5.0	10.0
Cedar, Western Red (Cw)	BBR 2+0	12	18	30	3.0	4.0
	PBR 1+1	30	45	60	4.0	6.0
Cedar, Yellow (Yc)	PBR 1+1	25	35	50	3.5	6.0
Douglas-fir, Coastal (Fdc) ----- (a) mesic ----- (b) brush (L)	PBR 1+1	20	30	40	4.0	5.5
	PBR 0.5+0.5	15	20	30	3.0	4.0
	BBR 2+0	20	30	40	3.5	5.5
	BBR 2+0	35	45	60	4.5	6.4
	PBR 1+2	40	60	80	7.0	12.0
Douglas-fir, Interior (Fdi)	BBR 2+0 PBR 0.5+0.5	12	15	30	3.0	4.0
	BBR 2+1 PBR 0.5p+1.5	15	22	40	4.0	5.0
Fir, Amabilis (Ba)	BBR 2+0	10	16		3.0	3.5
	PBR 0.5+1.5	15	22	-	4.0	5.5
Fir, Grand (BG) -(a) mesic ----- (b) brush (L)	BBR 2+0	15	30	40	3.0	5.5
	BBR 2+0	25	40	60	3.5	6.0
Hemlock, Western (Hw)	PBR 1+1	20	40	60	4.0	6.0
Larch, Western (Lw)	BBR 2+0	12	15	25	3.0	4.0
Pine, Lodgepole (Pli)	BBR 1+0	6	12	--	2.2	2.7
	PBR 0.5p+1.5	10	17	30	3.0	4.2
	BBR 2+0 PBR 1+0.5	10	15	25	3.0	4.0
	PBR 0.5+0.5	7	15	20	2.5	3.0

STOCK SPECIFICATIONS - BAREROOT AND TRANSPLANTS
For Reference Only if Required for 2009 MoF Contracts

Nov 19, 2008

Species	Stock Type	Height (cm)			R.C.D. (mm)	
		Cull	Target	Maximum (2)	Cull	Target
Pine, Ponderosa (Py)	BBR 2+0	15	20		3.0	4.0
Pine, Western White (Pw)	PBR 1+1 BBR 2+0	10	20		3.0	4.0
Spruce, Sitka & Crosses (Ss, Sxs)						
	PBR412A 1+1	14	22	30	4.0	5.0
----- (a) mesic	BBR 2+0	20	30	40	3.5	5.5
----- (b) brush	BBR 2+0	35	45	60	4.5	6.4
----- (a) mesic	PBR 0.5+1.5	25	35	50	4.0	7.0
----- (b) brush	PBR 0.5+1.5	40	60	80	7.0	12.0
Spruce, White/Engelmann and Crosses (Sx, Se, Sw, Sxw)	PBR 1+1 PBR 0.5p+1.5	17	27	37	4.0	5.0

NOTE:

- (1) These figures are all ABSOLUTE.
- (2) If stock is at or above the maximum height it may be accepted if it has an R.C.D. equivalent to the target specifications.
- (3) Please note that if there is a discrepancy between these listings and the Schedule 'A' of the nursery contract, the Schedule 'A' will be deemed correct.
- (4) For other 0.5+0.5 PBR transplants, use container 1+0 stock specifications.
- (5) For .5 and 1.5 PBR transplants, use 1+1 stock specifications.

BASE STOCK FOR TRANSPLANTS

Species	Age	Height (cm)			RCD (mm)	
		Cull	Target	Max (ht)	Cull	Target
All Species	0.5	8	15	20	1.8	2.2