

## Appendix A - Detailed 5-year demand forecast by species

Species	Total 5 YR Demand	%
Ginkgo biloba	2,729	4.70%
Syringa reticulata 'Ivory Silk'	2,013	3.47%
Quercus rubra	1,987	3.43%
Celtis occidentalis	1,677	2.89%
Liriodendron tulipifera	1,546	2.66%
Amelanchier arborea	1,450	2.50%
Platanus x acerifolia 'Bloodgood'	1,353	2.33%
Gymnocladus dioicus 'Espresso'	1,257	2.17%
Picea glauca	1,229	2.12%
Pyrus calleryana 'Chanticleer'	1,221	2.11%
Cercidiphyllum japonicum	1,129	1.95%
Acer x freemanii 'Autumn Blaze®' ('Jeffersred')	1,105	1.91%
Magnolia acuminata	979	1.69%
Ulmus americana	975	1.68%
Gymnocladus dioicus	941	1.62%
Quercus macrocarpa	938	1.62%
Ginkgo biloba 'Princeton Sentry'	862	1.49%
Cercis canadensis	859	1.48%
Fagus sylvatica	821	1.41%
Maackia amurensis	790	1.36%
Nyssa sylvatica	786	1.36%
Celtis occidentalis 'Prairie Sentinel'	786	1.35%
Tilia cordata	785	1.35%
Liquidambar styraciflua 'Moraine'	770	1.33%
Carpinus caroliniana	748	1.29%
Tilia tomentosa 'Sterling Silver'	660	1.14%
Ulmus parvifolia	660	1.14%
Syringa pekinesis 'SunDak'	660	1.14%
Gleditsia triacanthos var. inermis 'Shademaster'	648	1.12%
Acer rubrum	636	1.10%
Tilia americana 'American Sentry®' ('McKSentry')	600	1.03%
Acer saccharum 'Green Mountain'	594	1.02%
Eucommia ulmoides	571	0.98%
Pyrus calleryana 'Redspire'	550	0.95%
Fagus sylvatica 'Dawyckii Purple'	542	0.93%
Amelanchier canadensis	533	0.92%

Species	Total 5 YR Demand	%
Platanus x acerifolia	525	0.91%
Malus 'Spring Snow'	520	0.90%
Prunus serrulata 'Kwanzan'	492	0.85%
Ulmus 'Accolade'	473	0.82%
Betula nigra 'Heritage®' ('Cully')	465	0.80%
Liriodendron tulipifera 'Ardis'	420	0.72%
Ostrya virginiana	413	0.71%
Acer x freemanii 'Armstrong'	407	0.70%
Acer saccharum	405	0.70%
Cladrastis kentukea (or Cladastris lutea)	404	0.70%
Tilia cordata 'Greenspire'	403	0.69%
Betula nigra	396	0.68%
Crataegus crus-galli	375	0.65%
Ulmus americana 'Princeton'	370	0.64%
Acer platanoides 'Royal Red'	359	0.62%
Sorbus thuringiaca	350	0.60%
Picea pungens	332	0.57%
Aesculus hippocastanum 'Baumannii'	330	0.57%
Cornus florida	330	0.57%
Fagus sylvatica 'Riversii'	315	0.54%
Gleditsia triacanthos var. inermis	302	0.52%
Platanus x acerifolia Exclamation!™ ('Morton Circle')	302	0.52%
Carpinus betulus	294	0.51%
Platanus occidentalis	292	0.50%
Phellodendron amurense 'Macho'	290	0.50%
Fagus sylvatica 'Asplenifolia'	290	0.50%
Carpinus betulus 'Frans Fontaine'	290	0.50%
Ulmus japonica x wilsoniana 'Morton'	285	0.49%
Ginkgo biloba 'Autumn Gold'	283	0.49%
Amelanchier laevis	282	0.49%
Robinia pseudoacacia 'Purple Robe'	282	0.49%
Fagus sylvatica 'Purpurea Pendula'	280	0.48%
Gleditsia triacanthos var. inermis 'Sunburst®' ('Suncole')	275	0.47%
Cercis canadensis 'Forest Pansy'	250	0.43%
Cercis canadensis forma alba	250	0.43%
Acer campestre	247	0.43%
Tilia americana 'redmond'	242	0.42%
Aesculus glabra	241	0.42%
Acer griseum	238	0.41%
Liriodendron tulipifera 'Aureomarginatum'	238	0.41%

Species	Total 5 YR Demand	%
Betula alleghaniensis	237	0.41%
Quercus bicolor	235	0.41%
Pinus strobus	229	0.39%
Quercus robur	224	0.39%
Quercus muehlenbergii	205	0.35%
Thuja occidentalis	198	0.34%
Celtis laevigata	195	0.34%
Quercus robur 'Fastigiata'	185	0.32%
Koelreuteria paniculata	185	0.32%
Prunus serotina	182	0.31%
Acer saccharum 'Legacy'	175	0.30%
Acer platanoides 'Crimson King'	171	0.29%
Aesculus x carnea 'Fort McNair'	170	0.29%
Metasequoia glyptostroboides	170	0.29%
Syringa reticulata	168	0.29%
Ulmus carpinifolia 'Pioneer'	155	0.27%
Zelkova serrata	151	0.26%
Liquidambar styraciflua	149	0.26%
Tilia americana	148	0.26%
Acer nigrum 'Greencolumn'	145	0.25%
Acer saccharinum	140	0.24%
Celtis occidentalis 'Chicagoland'	134	0.23%
Quercus velutina	134	0.23%
Fagus sylvatica 'Atropunicea' ('Purpurea')	118	0.20%
Sophora japonica	117	0.20%
Amelanchier x grandiflora 'Robin Hill'	115	0.20%
Amelanchier x grandiflora 'Ballerina'	115	0.20%
Acer saccharum 'Endowment'	115	0.20%
Quercus coccinea	105	0.18%
Betula lenta	104	0.18%
Liriodendron tulipifera 'Fastigiatum'	102	0.18%
Carpinus betulus 'Fastigiata'	100	0.17%
Sassafras albidum	100	0.17%
Catalpa speciosa	99	0.17%
Quercus alba	99	0.17%
Acer nigrum	96	0.17%
Phellodendron amurense	92	0.16%
Fagus grandifolia	90	0.16%
Pinus resinosa	85	0.15%
Acer platanoides	83	0.14%

Species	Total 5 YR Demand	%
Salix discolor	83	0.14%
Acer platanoides 'Autumn Blaze'	74	0.13%
Sophora japonica 'Regent'	68	0.12%
Aesculus flava	67	0.12%
Betula papyrifera	64	0.11%
Juglans nigra	64	0.11%
Acer x freemanii 'Autumn Fantasy'	61	0.11%
Ulmus carpinifolia 'Homestead'	60	0.10%
Acer x freemanii	60	0.10%
Ulmus 'Frontier'	60	0.10%
Larix laricina	60	0.10%
Quercus palustris	58	0.10%
Acer pseudoplatanus	56	0.10%
Acer platanoides 'Columnarbroad' ('Parkway')	55	0.09%
Castanea dentata	55	0.09%
Carya cordiformis	51	0.09%
Cornus alternifolia	51	0.09%
Picea abies	51	0.09%
Carya ovata	50	0.09%
Tsuga canadensis	46	0.08%
Fagus sylvatica 'Dawyckii Gold'	42	0.07%
Crateagus crus-galli var. inermis	42	0.07%
Pseudotsuga menziesii	42	0.07%
Quercus macrocarpa 'Urban Pinnacle®'	40	0.07%
Aesculus hippocastanum	39	0.07%
Gleditsia triacanthos var. inermis 'Skyline®' ('Skycole')	37	0.06%
Salix nigra	37	0.06%
Acer rubrum 'Karpick'	37	0.06%
Tilia cordata 'Summer Sprite®' ('Halka')	34	0.06%
Liriodendron tulipifera 'Emerald City®'	34	0.06%
Tilia americana 'lincoln'	34	0.06%
Carpinus betulus 'Emerald Avenue®'	34	0.06%
Pyrus ussuriensis 'Prairie Gem®' ('MorDak')	34	0.06%
Juglans cinerea	34	0.06%
Morus rubra	34	0.06%
Populus x canadensis 'Eugenei'	34	0.06%
Elaeagnus angustifolia	34	0.06%
Zelkova serrata 'green vase'	33	0.06%
Abies balsamea	28	0.05%
Tilia cordata 'Corinthian®' ('Corzam')	26	0.04%

Species	Total 5 YR Demand	%
Fagus sylvatica 'Rosea-marginata'	25	0.04%
Tilia cordata 'Glenleven' (can also be Tilia x flavescens)	23	0.04%
Sorbus thuringiaca 'Fastigiata'	22	0.04%
Abies concolor	21	0.04%
Pinus nigra	21	0.04%
Populus deltoides	20	0.03%
Quercus ellipsoidalis	17	0.03%
Larix decidua	17	0.03%
Malus 'Profusion'	17	0.03%
Quercus x warei 'Regal Prince®' ('Long')	17	0.03%
Corylus columna	17	0.03%
Prunus sargentii 'Rancho'	17	0.03%
Acer rubrum 'Armstrong'	17	0.03%
Acer rubrum 'Autumn Flame'	15	0.03%
Malus 'Indian Summer'	10	0.02%
Malus 'Red Splendor'	10	0.02%
Acer saccharum 'Autumn Fest®' ('JFS-KW8')	9	0.01%
Prunus padus	9	0.01%
Picea omorika	7	0.01%
Acer platanoides 'Deborah'	6	0.01%
Acer platanoides 'Columnare'	6	0.01%
Acer platanoides 'Globosum'	5	0.01%
Picea mariana	5	0.01%
Abies fraseri	5	0.01%
Acer rubrum 'Franksred'	5	0.01%
Acer platanoides 'Drummondii'	5	0.01%
Sorbus americana	5	0.01%
Quercus imbricaria	3	0.01%
Acer truncatum x platanoides 'Warrenred'	3	0.01%
Acer platanoides 'Emerald Queen'	2	0.00%
Prunus serrulata 'Amanogawa'	2	0.00%
Acer ginnala 'Flame'	1	0.00%
Pinus ponderosa	1	0.00%
Populus tremuloides	1	0.00%
Pinus sylvestris	1	0.00%
Acer ginnala	1	0.00%
Populus grandidentata	1	0.00%
<b>Grand Total</b>	<b>58,011</b>	<b>100.00%</b>

## Appendix A - Detailed 5-year demand forecast by species

Species	2017	2018	2019	2020	2021
<b>Abies</b>	<b>3</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>
Abies balsamea	1	7	7	7	7
Abies concolor	1	5	5	5	5
Abies fraseri	1	1	1	1	1
<b>Acer</b>	<b>1,169</b>	<b>1,222</b>	<b>1,010</b>	<b>968</b>	<b>963</b>
Acer campestre	70	44	44	44	44
Acer ginnala	1				
Acer ginnala 'Flame'	1				
Acer griseum	55	46	46	46	46
Acer nigrum	10	11	25	25	25
Acer nigrum 'Greencolumn'	35	30	25	25	30
Acer platanoides	28	20	15	10	10
Acer platanoides 'Autumn Blaze'	14	12	24	12	12
Acer platanoides 'Columnarbroad' ('Parkway')	15	10	10	10	10
Acer platanoides 'Columnare'	2	1	1	1	1
Acer platanoides 'Crimson King'	37	37	32	32	32
Acer platanoides 'Deborah'	2	1	1	1	1
Acer platanoides 'Drummondii'	1	1	1	1	1
Acer platanoides 'Emerald Queen'	1	1			
Acer platanoides 'Globosum'	1	1	1	1	1
Acer platanoides 'Royal Red'	70	72	72	72	72
Acer pseudoplatanus	13	13	10	10	10
Acer rubrum	132	169	115	110	110
Acer rubrum 'Armstrong'		4	4	4	4
Acer rubrum 'Autumn Flame'	3	3	3	3	3
Acer rubrum 'Franksred'	4	1			
Acer rubrum 'Karpick'	8	8	7	7	7
Acer saccharinum	39	41	20	20	20
Acer saccharum	103	89	81	71	61
Acer saccharum 'Autumn Fest®' ('JFS-KW8')		2	2	2	2
Acer saccharum 'Endowment'	35	35	15	15	15
Acer saccharum 'Green Mountain'	157	157	94	94	94
Acer saccharum 'Legacy'	50	50	25	25	25
Acer truncatum x platanoides 'Warrenred'	2	1			
Acer x freemanii	12	12	12	12	12
Acer x freemanii 'Armstrong'	93	86	76	76	76
Acer x freemanii 'Autumn Blaze®' ('Jeffersred')	175	249	234	224	224

<b>Species</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Acer x freemanii 'Autumn Fantasy'		15	15	15	15
<b>Aesculus</b>	<b>254</b>	<b>137</b>	<b>146</b>	<b>151</b>	<b>161</b>
Aesculus flava	50	4	4	4	4
Aesculus glabra	103	29	36	36	36
Aesculus hippocastanum	1	3	5	10	20
Aesculus hippocastanum 'Baumannii'	66	66	66	66	66
Aesculus x carnea 'Fort McNair'	34	34	34	34	34
<b>Amelanchier</b>	<b>508</b>	<b>519</b>	<b>483</b>	<b>488</b>	<b>498</b>
Amelanchier arborea	290	290	290	290	290
Amelanchier canadensis	106	117	97	102	112
Amelanchier laevis	66	66	50	50	50
Amelanchier x grandiflora 'Ballerina'	23	23	23	23	23
Amelanchier x grandiflora 'Robin Hill'	23	23	23	23	23
<b>Betula</b>	<b>398</b>	<b>222</b>	<b>215</b>	<b>215</b>	<b>215</b>
Betula alleghaniensis	84	38	38	38	38
Betula lenta	75	7	7	7	7
Betula nigra	129	67	67	67	67
Betula nigra 'Heritage®' ('Cully')	93	93	93	93	93
Betula papyrifera	17	17	10	10	10
<b>Carpinus</b>	<b>421</b>	<b>266</b>	<b>260</b>	<b>260</b>	<b>260</b>
Carpinus betulus	200	23	23	23	23
Carpinus betulus 'Emerald Avenue®'		9	9	9	9
Carpinus betulus 'Fastigiata'	20	20	20	20	20
Carpinus betulus 'Frans Fontaine'	58	58	58	58	58
Carpinus caroliniana	143	156	150	150	150
<b>Carya</b>	<b>1</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>40</b>
Carya cordiformis	1	5	10	15	20
Carya ovata		5	10	15	20
<b>Castanea</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>
Castanea dentata	11	11	11	11	11
<b>Catalpa</b>	<b>45</b>	<b>11</b>	<b>11</b>	<b>16</b>	<b>16</b>
Catalpa speciosa	45	11	11	16	16
<b>Celtis</b>	<b>728</b>	<b>535</b>	<b>511</b>	<b>511</b>	<b>506</b>
Celtis laevigata	39	39	39	39	39
Celtis occidentalis	322	358	334	334	329
Celtis occidentalis 'Chicagoland'	100	9	9	9	9
Celtis occidentalis 'Prairie Sentinel'	267	130	130	130	130
<b>Cercidiphyllum</b>	<b>251</b>	<b>214</b>	<b>217</b>	<b>222</b>	<b>227</b>
Cercidiphyllum japonicum	251	214	217	222	227
<b>Cercis</b>	<b>290</b>	<b>267</b>	<b>267</b>	<b>267</b>	<b>267</b>

<b>Species</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Cercis canadensis	190	167	167	167	167
Cercis canadensis 'Forest Pansy'	50	50	50	50	50
Cercis canadensis forma alba	50	50	50	50	50
<b>Cladrastis</b>	<b>82</b>	<b>84</b>	<b>79</b>	<b>79</b>	<b>79</b>
Cladrastis kentukea (or Cladastris lutea)	82	84	79	79	79
<b>Cornus</b>	<b>84</b>	<b>84</b>	<b>71</b>	<b>71</b>	<b>71</b>
Cornus alternifolia	18	18	5	5	5
Cornus florida	66	66	66	66	66
<b>Corylus</b>		<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
Corylus columna		4	4	4	4
<b>Crataegus</b>	<b>100</b>	<b>79</b>	<b>79</b>	<b>79</b>	<b>79</b>
Crataegus crus-galli	75	75	75	75	75
Crataegus crus-galli var. inermis	25	4	4	4	4
<b>Elaeagnus</b>	<b>25</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
Elaeagnus angustifolia	25	2	2	2	2
<b>Eucommia</b>	<b>327</b>	<b>61</b>	<b>61</b>	<b>61</b>	<b>61</b>
Eucommia ulmoides	327	61	61	61	61
<b>Fagus</b>	<b>675</b>	<b>463</b>	<b>461</b>	<b>461</b>	<b>461</b>
Fagus grandifolia	18	18	18	18	18
Fagus sylvatica	230	149	147	147	147
Fagus sylvatica 'Asplenifolia'	58	58	58	58	58
Fagus sylvatica 'Atropunicea' ('Purpurea')	75	11	11	11	11
Fagus sylvatica 'Dawyckii Gold'	25	4	4	4	4
Fagus sylvatica 'Dawyckii Purple'	125	104	104	104	104
Fagus sylvatica 'Purpurea Pendula'	56	56	56	56	56
Fagus sylvatica 'Riversii'	73	61	61	61	61
Fagus sylvatica 'Rosea-marginata'	15	3	3	3	3
<b>Ginkgo</b>	<b>450</b>	<b>151</b>	<b>151</b>	<b>151</b>	<b>151</b>
Ginkgo biloba	450	151	151	151	151
<b>Ginkgo</b>	<b>558</b>	<b>560</b>	<b>559</b>	<b>569</b>	<b>574</b>
Ginkgo biloba	326	328	332	342	347
Ginkgo biloba 'Autumn Gold'	59	59	55	55	55
Ginkgo biloba 'Princeton Sentry'	173	173	172	172	172
<b>Gleditsia</b>	<b>225</b>	<b>290</b>	<b>272</b>	<b>250</b>	<b>225</b>
Gleditsia triacanthos var. inermis	23	71	77	65	65
Gleditsia triacanthos var. inermis 'Shademaster'	136	153	135	125	100
Gleditsia triacanthos var. inermis 'Skyline®' ( 'Skycole' )	11	11	5	5	5
Gleditsia triacanthos var. inermis 'Sunburst®' ( 'Suncole' )	55	55	55	55	55
<b>Gymnocladus</b>	<b>370</b>	<b>458</b>	<b>457</b>	<b>457</b>	<b>457</b>



<b>Species</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Gymnocladus dioicus	139	201	200	200	200
Gymnocladus dioicus 'Espresso'	231	257	257	257	257
<b>Juglans</b>	<b>36</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>
Juglans cinerea	25	2	2	2	2
Juglans nigra	11	13	13	13	13
<b>Koelreuteria</b>	<b>37</b>	<b>37</b>	<b>37</b>	<b>37</b>	<b>37</b>
Koelreuteria paniculata	37	37	37	37	37
<b>Larix</b>	<b>13</b>	<b>19</b>	<b>11</b>	<b>16</b>	<b>16</b>
Larix decidua		4	4	4	4
Larix laricina	13	15	7	12	12
<b>Liquidambar</b>	<b>257</b>	<b>166</b>	<b>166</b>	<b>166</b>	<b>166</b>
Liquidambar styraciflua	103	12	12	12	12
Liquidambar styraciflua 'Moraine'	154	154	154	154	154
<b>Liriodendro</b>	<b>300</b>	<b>116</b>	<b>116</b>	<b>116</b>	<b>116</b>
Liriodendron tulipifera	300	65	65	65	65
Liriodendron tulipifera 'Aureomarginatum'		17	17	17	17
Liriodendron tulipifera 'Emerald City®'		9	9	9	9
Liriodendron tulipifera 'Fastigiatum'		26	26	26	26
<b>Liriodendron</b>	<b>338</b>	<b>338</b>	<b>300</b>	<b>300</b>	<b>300</b>
Liriodendron tulipifera	220	220	182	182	182
Liriodendron tulipifera 'Ardis'	84	84	84	84	84
Liriodendron tulipifera 'Aureomarginatum'	34	34	34	34	34
<b>Maackia</b>	<b>301</b>	<b>122</b>	<b>122</b>	<b>122</b>	<b>122</b>
Maackia amurensis	301	122	122	122	122
<b>Magnolia</b>	<b>357</b>	<b>155</b>	<b>155</b>	<b>155</b>	<b>155</b>
Magnolia acuminata	357	155	155	155	155
<b>Malus</b>	<b>108</b>	<b>112</b>	<b>112</b>	<b>112</b>	<b>112</b>
Malus 'Indian Summer'	2	2	2	2	2
Malus 'Profusion'		4	4	4	4
Malus 'Red Splendor'	2	2	2	2	2
Malus 'Spring Snow'	104	104	104	104	104
<b>Metasequoia</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>
Metasequoia glyptostroboides	34	34	34	34	34
<b>Morus</b>	<b>25</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
Morus rubra	25	2	2	2	2
<b>Nyssa</b>	<b>370</b>	<b>104</b>	<b>104</b>	<b>104</b>	<b>104</b>
Nyssa sylvatica	370	104	104	104	104
<b>Ostrya</b>	<b>149</b>	<b>68</b>	<b>65</b>	<b>65</b>	<b>65</b>
Ostrya virginiana	149	68	65	65	65
<b>Phellodendron</b>	<b>71</b>	<b>84</b>	<b>76</b>	<b>76</b>	<b>76</b>

<b>Species</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Phellodendron amurense	13	26	18	18	18
Phellodendron amurense 'Macho'	58	58	58	58	58
<b>Picea</b>	<b>343</b>	<b>313</b>	<b>318</b>	<b>323</b>	<b>328</b>
Picea abies	19	8	8	8	8
Picea glauca	238	240	245	250	255
Picea mariana	1	1	1	1	1
Picea omorika		2	2	2	2
Picea pungens	85	62	62	62	62
<b>Pinus</b>	<b>56</b>	<b>67</b>	<b>66</b>	<b>71</b>	<b>76</b>
Pinus nigra	1	5	5	5	5
Pinus ponderosa	1				
Pinus resinosa	17	17	17	17	17
Pinus strobus	36	45	44	49	54
Pinus sylvestris	1				
<b>Platanus</b>	<b>963</b>	<b>409</b>	<b>367</b>	<b>367</b>	<b>367</b>
Platanus occidentalis	84	47	54	54	54
Platanus x acerifolia	243	73	70	70	70
Platanus x acerifolia 'Bloodgood'	436	264	218	218	218
Platanus x acerifolia Exclamation!™ ('Morton Circle')	200	26	26	26	26
<b>Populus</b>	<b>42</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>
Populus deltoides	15	1	1	1	1
Populus grandidentata	1				
Populus tremuloides	1				
Populus x canadensis 'Eugenei'	25	2	2	2	2
<b>Prunus</b>	<b>124</b>	<b>150</b>	<b>143</b>	<b>143</b>	<b>143</b>
Prunus padus		2	2	2	2
Prunus sargentii 'Rancho'		4	4	4	4
Prunus serotina	21	40	40	40	40
Prunus serrulata 'Amanogawa'	1	1			
Prunus serrulata 'Kwanzan'	102	102	96	96	96
<b>Pseudotsuga</b>	<b>25</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
Pseudotsuga menziesii	25	4	4	4	4
<b>Pyrus</b>	<b>402</b>	<b>367</b>	<b>345</b>	<b>345</b>	<b>345</b>
Pyrus calleryana 'Chanticleer'	292	249	227	227	227
Pyrus calleryana 'Redspire'	110	110	110	110	110
Pyrus ussuriensis 'Prairie Gem®' ('MorDak')		9	9	9	9
<b>Quercus</b>	<b>1008</b>	<b>841</b>	<b>810</b>	<b>810</b>	<b>780</b>
Quercus alba	35	12	17	17	17
Quercus bicolor	150	21	21	21	21
Quercus coccinea	21	21	21	21	21

<b>Species</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Quercus ellipsoidalis		4	4	4	4
Quercus imbricaria		1	1	1	1
Quercus macrocarpa	182	190	188	193	183
Quercus macrocarpa 'Urban Pinnacle®'	8	8	8	8	8
Quercus muehlenbergii	100	26	26	26	26
Quercus palustris	14	11	11	11	11
Quercus robur	40	50	50	50	35
Quercus robur 'Fastigiata'	32	38	38	38	38
Quercus rubra	406	425	391	386	381
Quercus velutina	20	29	29	29	29
Quercus x warei 'Regal Prince®' ('Long')		4	4	4	4
<b>Robinia</b>	<b>24</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>
Robinia pseudoacacia 'Purple Robe'	24	64	64	64	64
<b>Salix</b>	<b>22</b>	<b>23</b>	<b>25</b>	<b>25</b>	<b>25</b>
Salix discolor	19	19	15	15	15
Salix nigra	3	4	10	10	10
<b>Sambucus</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>
Sassafras albidum	20	20	20	20	20
<b>Sophora</b>	<b>22</b>	<b>39</b>	<b>38</b>	<b>38</b>	<b>48</b>
Sophora japonica	22	22	21	21	31
Sophora japonica 'Regent'		17	17	17	17
<b>Sorbus</b>	<b>71</b>	<b>77</b>	<b>77</b>	<b>77</b>	<b>77</b>
Sorbus americana	1	1	1	1	1
Sorbus thuringiaca	70	70	70	70	70
Sorbus thuringiaca 'Fastigiata'		6	6	6	6
<b>Syringa</b>	<b>582</b>	<b>562</b>	<b>562</b>	<b>567</b>	<b>567</b>
Syringa pekinesis 'SunDak'	132	132	132	132	132
Syringa reticulata	31	34	34	34	34
Syringa reticulata 'Ivory Silk'	419	396	396	401	401
<b>Thuja</b>	<b>29</b>	<b>46</b>	<b>41</b>	<b>41</b>	<b>41</b>
Thuja occidentalis	29	46	41	41	41
<b>Tilia</b>	<b>624</b>	<b>576</b>	<b>580</b>	<b>590</b>	<b>585</b>
Tilia americana	18	27	31	36	36
Tilia americana 'American Sentry®' ('McKSentry')	120	120	120	120	120
Tilia americana 'lincoln'		9	9	9	9
Tilia americana 'redmond'	112	32	32	32	32
Tilia cordata	162	157	157	157	152
Tilia cordata 'Corinthian®' ('Corzam')	7	7	4	4	4
Tilia cordata 'Glenleven' (can also be Tilia x flavescens)	3	5	5	5	5
Tilia cordata 'Greenspire'	70	79	82	87	87

<b>Species</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Tilia cordata 'Summer Sprite®' ('Halka')		9	9	9	9
Tilia tomentosa 'Sterling Silver'	132	132	132	132	132
<b>Tsuga</b>	<b>14</b>	<b>14</b>	<b>6</b>	<b>6</b>	<b>6</b>
Tsuga canadensis	14	14	6	6	6
<b>Ulmus</b>	<b>650</b>	<b>578</b>	<b>593</b>	<b>603</b>	<b>613</b>
Ulmus 'Accolade'	200	68	68	68	68
Ulmus americana	195	195	195	195	195
Ulmus americana 'Princeton'	50	75	80	80	85
Ulmus carpinifolia 'Homestead'		10	15	15	20
Ulmus carpinifolia 'Pioneer'	35	30	30	30	30
Ulmus 'Frontier'		15	15	15	15
Ulmus japonica x wilsoniana 'Morton'	38	53	58	68	68
Ulmus parvifolia	132	132	132	132	132
<b>Zelkova</b>	<b>102</b>	<b>19</b>	<b>21</b>	<b>21</b>	<b>21</b>
Zelkova serrata	100	13	13	13	13
Zelkova serrata 'green vase'	2	6	8	8	8
<b>Grand Total</b>	<b>14,494</b>	<b>11,208</b>	<b>10,759</b>	<b>10,775</b>	<b>10,775</b>

## Appendix – B- Detailed 5-year demand forecast by species for urban municipalities

Species	Total 5 YR Demand	%
Ginkgo biloba	2,729	5.02%
Quercus rubra	1,927	3.55%
Syringa reticulata 'Ivory Silk'	1,813	3.34%
Celtis occidentalis	1,477	2.72%
Amelanchier arborea	1,450	2.67%
Liriodendron tulipifera	1,446	2.66%
Platanus x acerifolia 'Bloodgood'	1,353	2.49%
Gymnocladus dioicus 'Espresso'	1,257	2.31%
Picea glauca	1,179	2.17%
Pyrus calleryana 'Chanticleer'	1,171	2.16%
Cercidiphyllum japonicum	1,054	1.94%
Magnolia acuminata	979	1.80%
Ulmus americana	975	1.79%
Quercus macrocarpa	938	1.73%
Ginkgo biloba 'Princeton Sentry'	862	1.59%
Cercis canadensis	859	1.58%
Fagus sylvatica	821	1.51%
Nyssa sylvatica	786	1.45%
Celtis occidentalis 'Prairie Sentinel'	786	1.45%
Liquidambar styraciflua 'Moraine'	770	1.42%
Carpinus caroliniana	748	1.38%
Gymnocladus dioicus	741	1.36%
Maackia amurensis	740	1.36%
Acer x freemanii 'Autumn Blaze®' ('Jeffersred')	705	1.30%
Syringa pekinesis 'SunDak'	660	1.21%
Ulmus parvifolia	660	1.21%
Tilia tomentosa 'Sterling Silver'	660	1.21%
Gleditsia triacanthos var. inermis 'Shademaster'	648	1.19%
Acer rubrum	636	1.17%
Tilia americana 'American Sentry®' ('McKSentry')	600	1.10%
Acer saccharum 'Green Mountain'	594	1.09%
Tilia cordata	585	1.08%
Eucommia ulmoides	571	1.05%

Species	Total 5 YR Demand	%
<i>Pyrus calleryana</i> 'Redspire'	550	1.01%
<i>Fagus sylvatica</i> 'Dawyckii Purple'	542	1.00%
<i>Malus</i> 'Spring Snow'	520	0.96%
<i>Prunus serrulata</i> 'Kwanzan'	492	0.91%
<i>Ulmus</i> 'Accolade'	473	0.87%
<i>Betula nigra</i> 'Heritage®' ('Cully')	465	0.86%
<i>Liriodendron tulipifera</i> 'Ardis'	420	0.77%
<i>Ostrya virginiana</i>	413	0.76%
<i>Acer x freemanii</i> 'Armstrong'	407	0.75%
<i>Acer saccharum</i>	405	0.75%
<i>Cladrastis kentukea</i> (or <i>Cladastris lutea</i> )	404	0.74%
<i>Tilia cordata</i> 'Greenspire'	403	0.74%
<i>Amelanchier canadensis</i>	383	0.70%
<i>Crataegus crus-galli</i>	375	0.69%
<i>Ulmus americana</i> 'Princeton'	370	0.68%
<i>Aesculus hippocastanum</i> 'Baumannii'	330	0.61%
<i>Cornus florida</i>	330	0.61%
<i>Platanus x acerifolia</i>	325	0.60%
<i>Betula nigra</i>	321	0.59%
<i>Fagus sylvatica</i> 'Riversii'	315	0.58%
<i>Platanus x acerifolia</i> Exclamation!™ ('Morton Circle')	302	0.56%
<i>Sorbus thuringiaca</i>	300	0.55%
<i>Carpinus betulus</i>	294	0.54%
<i>Carpinus betulus</i> 'Frans Fontaine'	290	0.53%
<i>Fagus sylvatica</i> 'Asplenifolia'	290	0.53%
<i>Phellodendron amurense</i> 'Macho'	290	0.53%
<i>Picea pungens</i>	282	0.52%
<i>Robinia pseudoacacia</i> 'Purple Robe'	282	0.52%
<i>Fagus sylvatica</i> 'Purpurea Pendula'	280	0.52%
<i>Gleditsia triacanthos</i> var. <i>inermis</i> 'Sunburst®' ('Suncole')	275	0.51%
<i>Cercis canadensis</i> 'Forest Pansy'	250	0.46%
<i>Cercis canadensis</i> forma <i>alba</i>	250	0.46%
<i>Tilia americana</i> 'redmond'	242	0.44%
<i>Aesculus glabra</i>	241	0.44%
<i>Acer griseum</i>	238	0.44%
<i>Liriodendron tulipifera</i> 'Aureomarginatum'	238	0.44%
<i>Betula alleghaniensis</i>	237	0.44%
<i>Quercus bicolor</i>	235	0.43%
<i>Gleditsia triacanthos</i> var. <i>inermis</i>	230	0.42%
<i>Quercus robur</i>	224	0.41%

Species	Total 5 YR Demand	%
Amelanchier laevis	222	0.41%
Pinus strobus	219	0.40%
Quercus muehlenbergii	205	0.38%
Thuja occidentalis	198	0.36%
Celtis laevigata	195	0.36%
Quercus robur 'Fastigiata'	185	0.34%
Koelreuteria paniculata	185	0.34%
Prunus serotina	182	0.33%
Acer saccharum 'Legacy'	175	0.32%
Acer platanoides 'Crimson King'	171	0.31%
Aesculus x carnea 'Fort McNair'	170	0.31%
Metasequoia glyptostroboides	170	0.31%
Ulmus carpinifolia 'Pioneer'	155	0.29%
Zelkova serrata	151	0.28%
Liquidambar styraciflua	149	0.27%
Tilia americana	148	0.27%
Acer campestre	147	0.27%
Acer nigrum 'Greencolumn'	145	0.27%
Platanus occidentalis	142	0.26%
Acer saccharinum	140	0.26%
Ulmus japonica x wilsoniana 'Morton'	135	0.25%
Celtis occidentalis 'Chicagoland'	134	0.25%
Quercus velutina	134	0.25%
Fagus sylvatica 'Atropunicea' ('Purpurea')	118	0.22%
Sophora japonica	117	0.22%
Acer saccharum 'Endowment'	115	0.21%
Amelanchier x grandiflora 'Ballerina'	115	0.21%
Amelanchier x grandiflora 'Robin Hill'	115	0.21%
Quercus coccinea	105	0.19%
Betula lenta	104	0.19%
Liriodendron tulipifera 'Fastigiatum'	102	0.19%
Sassafras albidum	100	0.18%
Catalpa speciosa	99	0.18%
Quercus alba	99	0.18%
Acer nigrum	96	0.18%
Phellodendron amurense	92	0.17%
Fagus grandifolia	90	0.17%
Pinus resinosa	85	0.16%
Salix discolor	83	0.15%
Ginkgo biloba 'Autumn Gold'	83	0.15%

Species	Total 5 YR Demand	%
Acer platanoides	83	0.15%
Sophora japonica 'Regent'	68	0.13%
Aesculus flava	67	0.12%
Betula papyrifera	64	0.12%
Acer x freemanii 'Autumn Fantasy'	61	0.11%
Ulmus carpinifolia 'Homestead'	60	0.11%
Ulmus 'Frontier'	60	0.11%
Larix laricina	60	0.11%
Acer platanoides 'Columnarbroad' ('Parkway')	55	0.10%
Castanea dentata	55	0.10%
Carya cordiformis	51	0.09%
Cornus alternifolia	51	0.09%
Carya ovata	50	0.09%
Carpinus betulus 'Fastigiata'	50	0.09%
Picea abies	50	0.09%
Tsuga canadensis	46	0.08%
Pseudotsuga menziesii	42	0.08%
Fagus sylvatica 'Dawyckii Gold'	42	0.08%
Crateagus crus-galli var. inermis	42	0.08%
Quercus macrocarpa 'Urban Pinnacle®'	40	0.07%
Aesculus hippocastanum	39	0.07%
Acer rubrum 'Karpick'	37	0.07%
Salix nigra	37	0.07%
Gleditsia triacanthos var. inermis 'Skyline®' ('Skycole')	37	0.07%
Liriodendron tulipifera 'Emerald City®'	34	0.06%
Tilia cordata 'Summer Sprite®' ('Halka')	34	0.06%
Carpinus betulus 'Emerald Avenue®'	34	0.06%
Tilia americana 'lincoln'	34	0.06%
Pyrus ussuriensis 'Prairie Gem®' ('MorDak')	34	0.06%
Morus rubra	34	0.06%
Juglans cinerea	34	0.06%
Populus x canadensis 'Eugenei'	34	0.06%
Elaeagnus angustifolia	34	0.06%
Zelkova serrata 'green vase'	33	0.06%
Abies balsamea	28	0.05%
Tilia cordata 'Corinthian®' ('Corzam')	26	0.05%
Fagus sylvatica 'Rosea-marginata'	25	0.05%
Tilia cordata 'Glenleven' (can also be Tilia x flavescens)	23	0.04%
Sorbus thuringiaca 'Fastigiata'	22	0.04%
Pinus nigra	21	0.04%



Species	Total 5 YR Demand	%
Abies concolor	21	0.04%
Populus deltoides	20	0.04%
Syringa reticulata	18	0.03%
Quercus x warei 'Regal Prince®' ('Long')	17	0.03%
Malus 'Profusion'	17	0.03%
Corylus colurna	17	0.03%
Prunus sargentii 'Rancho'	17	0.03%
Quercus ellipsoidalis	17	0.03%
Larix decidua	17	0.03%
Acer rubrum 'Armstrong'	17	0.03%
Acer rubrum 'Autumn Flame'	15	0.03%
Juglans nigra	14	0.02%
Malus 'Indian Summer'	10	0.02%
Malus 'Red Splendor'	10	0.02%
Acer saccharum 'Autumn Fest®' ('JFS-KW8')	9	0.02%
Acer platanoides 'Royal Red'	9	0.02%
Prunus padus	9	0.02%
Quercus palustris	8	0.01%
Picea omorika	7	0.01%
Acer platanoides 'Deborah'	6	0.01%
Acer pseudoplatanus	6	0.01%
Acer platanoides 'Columnare'	6	0.01%
Abies fraseri	5	0.01%
Acer platanoides 'Globosum'	5	0.01%
Picea mariana	5	0.01%
Sorbus americana	5	0.01%
Acer rubrum 'Franksred'	5	0.01%
Acer platanoides 'Drummondii'	5	0.01%
Quercus imbricaria	3	0.01%
Acer truncatum x platanoides 'Warrenred'	3	0.01%
Acer platanoides 'Autumn Blaze'	2	0.00%
Prunus serrulata 'Amanogawa'	2	0.00%
Acer platanoides 'Emerald Queen'	2	0.00%
Acer ginnala	1	0.00%
Pinus sylvestris	1	0.00%
Populus grandidentata	1	0.00%
Acer ginnala 'Flame'	1	0.00%
Pinus ponderosa	1	0.00%
Populus tremuloides	1	0.00%
<b>Grand Total</b>	<b>54,326</b>	<b>100.00%</b>

## Appendix – B- Detailed 5-year demand forecast by species for rural municipalities

Species	Total 5 YR Demand	%
Acer x freemanii 'Autumn Blaze®' ('Jeffersred')	400	10.85%
Acer platanoides 'Royal Red'	350	9.50%
Ginkgo biloba 'Autumn Gold'	200	5.43%
Platanus x acerifolia	200	5.43%
Syringa reticulata 'Ivory Silk'	200	5.43%
Tilia cordata	200	5.43%
Celtis occidentalis	200	5.43%
Gymnocladus dioicus	200	5.43%
Amelanchier canadensis	150	4.07%
Platanus occidentalis	150	4.07%
Ulmus japonica x wilsoniana 'Morton'	150	4.07%
Syringa reticulata	150	4.07%
Liriodendron tulipifera	100	2.71%
Acer campestre	100	2.71%
Cercidiphyllum japonicum	75	2.04%
Betula nigra	75	2.04%
Acer platanoides 'Autumn Blaze'	72	1.95%
Gleditsia triacanthos var. inermis	72	1.95%
Quercus rubra	60	1.63%
Acer x freemanii	60	1.63%
Amelanchier laevis	60	1.63%
Picea pungens	50	1.36%
Carpinus betulus 'Fastigiata'	50	1.36%
Sorbus thuringiaca	50	1.36%
Pyrus calleryana 'Chanticleer'	50	1.36%
Acer pseudoplatanus	50	1.36%
Quercus palustris	50	1.36%
Maackia amurensis	50	1.36%
Picea glauca	50	1.36%
Juglans nigra	50	1.36%
Pinus strobus	10	0.27%
Picea abies	1	0.03%
<b>Grand Total</b>	<b>3,685</b>	<b>100.00%</b>

## Appendix – C - Mortality Rates for 2015

Species	Planted	Replaced	Mortality %
Quercus alba	9	6	67%
Catalpa speciosa	62	27	44%
Platanus occidentalis	85	31	36%
Platanus x acerifolia	9	3	33%
Quercus robur 'FASTIGIATA'	55	14	25%
Nyssa sylvatica	32	8	25%
Platanus x acerifolia 'Bloodgood'	68	16	24%
Liriodendron tulipifera 'Emerald City®'	56	13	23%
Zelkova serrata 'GREEN VASE'	41	9	22%
Quercus muehlenbergii	84	16	19%
Pyrus calleryana 'CHANTICLEER'	22	4	18%
Liriodendron tulipifera	173	31	18%
Liriodendron tulipifera 'AUREOMARGINATUM'	62	11	18%
Quercus ellipsoidalis	41	7	17%
Platanus x acerifolia Exclamation!™ ('Morton Circle')	47	7	15%
Phellodendron amurense	63	9	14%
Syringa reticulata	86	12	14%
Gleditsia triacanthos var. inermis	459	64	14%
Liriodendron tulipifera 'Fastigiatum'	95	12	13%
Ulmus americana 'PRINCETON'	185	22	12%
Syringa reticulata 'IVORY SILK'	137	16	12%
Fagus sylvatica	35	4	11%
Cercidiphyllum japonicum	46	5	11%
Quercus rubra	178	19	11%
Carpinus caroliniana	38	4	11%
Quercus macrocarpa	358	34	9%
Robinia pseudoacacia 'PURPLE ROBE'	217	16	7%
Carpinus betulus	68	5	7%
Maackia amurensis	14	1	7%
Ulmus 'Frontier'	183	13	7%
Carpinus betulus 'Emerald Avenue®'	29	2	7%
Fagus sylvatica 'Atropunicea' ('Purpurea')	16	1	6%
Quercus velutina	90	5	6%
Ostrya virginiana	58	3	5%
Quercus x warei 'Regal Prince®' ('Long')	39	2	5%

Species	Planted	Replaced	Mortality %
Quercus robur	47	2	4%
Tilia americana 'LINCOLN'	139	5	4%
Pyrus ussuriensis 'Prairie Gem®' ('MorDak')	102	3	3%
Sorbus thuringiaca 'Fastigiata'	41	1	2%
Amelanchier canadensis	42	1	2%
Gymnocladus dioicus	424	10	2%
Ginkgo biloba	467	10	2%
Acer platanoides 'Drummondii'	48	1	2%
Celtis occidentalis	52	1	2%
Gleditsia triacanthos var. inermis 'Halka™' ('Christie')	122	2	2%
Magnolia acuminata	65	1	2%
Ulmus japonica x wilsoniana 'Morton'	183	2	1%
Acer x freemanii 'Autumn Blaze®' ('Jeffersred')	94	1	1%
Gymnocladus dioicus 'ESPRESSO'	97	1	1%
Tilia cordata 'GREENSPIRE'	102	1	1%
Acer x freemanii 'AUTUMN FANTASY'	155	1	1%
Acer saccharum 'GREEN MOUNTAIN'	170	1	1%
Zelkova serrata	2	-	0%
Acer saccharum 'Fall Fiesta®' ('Bailsta')	18	-	0%
Acer platanoides 'CRIMSON KING'	1	-	0%
Aesculus glabra	59	-	0%
Acer platanoides 'ROYAL RED'	33	-	0%
Acer tataricum 'Rugged Charm®'	23	-	0%
Acer rubrum 'RED POINT'	19	-	0%
Malus 'Profusion'	10	-	0%
Acer campestre	7	-	0%
Cladrastis kentukea (or Cladastris lutea)	8	-	0%
Prunus virginiana	24	-	0%
Acer saccharum 'Autumn Fest®' ('JFS-KW8')	24	-	0%
<b>Grand Total</b>	<b>5,819</b>	<b>498</b>	<b>7</b>