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- results from the first two years

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Introduction

The Royal Veterinary and Agricultural University (KVL) Arboretum in Hørsholm ($55^{\circ}52' N$, $12^{\circ}30' E$) has an extensive collection of woody plant species of known origin. There are approximately 2200 woody plant taxa in the collection, representing 295 genera and 101 plant families. This collection is used to study how plants from different parts of the world thrive in response to the Danish environment. A study of the potential of plants to escape from the arboretum to the surrounding area was made to understand how well the collection's plants were adapted to the Danish environment (Nielsen & Leverenz 2002). It was also made to check if there were any potential problem-species that needed to be studied in more detail, or if control programs were needed. In this study of the area within 2 km in all directions from the Arboretum, we found no plant species that were definitely escaping from the Arboretum collection. This was a surprising result, but it became clear that we needed to know if the plants were producing flowers (pollen) and fruit (seed) in order to have a clearer understanding of the negative results. As a first step we have begun to record if, and when, the taxa in the collection produce flowers (and thus pollen), and fruits (and thereby seed).

In this working paper we present and analyse the results from the first and second years of the project. The first year of this project was funded in part by the "Etatsråds Georg Bestle og Hustru's Mindelegat". The second year (2005) was funded by G. B. Hartmanns Forskningsfond.

Key words: flower production, fruit production, flowering date, fruit maturity date.

Methods

Although botanists would not call the sexual reproductive organs of gymnosperms "flowers", I use the term for both gymnosperms and angiosperms for ease of writing. Likewise we use the term fruit in a broad sense.

This project has utilized student helpers to carry out the bulk of the field work and was used to educate students at the Royal Veterinary and Agriculture University. For the students involved, contact with the Arboretum's living collection over an extended period greatly increased their knowledge and appreciation of the many different woody taxa and their variable responses to the seasons. In 2005 the following students carried out the bulk of the observations: Birgitte Jacobsen (winter to early spring), Christian Bach Knudsen (late spring), Anna Gudrun Worm (remainder of year). This work would not have been possible without their efforts.

As in the first year, each area of the arboretum was walked through about once every week. Often more than one calendar day within a week was used to go through the entire arboretum. Flowering and fruiting dates and abundance were recorded on a list of the plants sorted by their positions within the collection. To avoid an error that occurred in the first year, of recording the wrong month, a new list for writing records was made each month in this second year. The list was also used as a guide of what to look for, and was limited to those genera that should have flowered or fruited in that month, based on the first year's data. Other plants observed flowering or fruiting were recorded in the top and bottom margins of the lists.

Identification tags on the plants were marked in pencil when a record was made (“X” for flowering, “O” for fruiting). Because the tags were not always marked, double recordings occasionally occurred. In such cases, only the first date was entered into the database. Flowering week number was recorded along with the flowering date to add security in the records. Writing down the wrong week, or date was rare as the two were in agreement but for less than 10 exceptions. When the dates did not agree the record was not added to the database. The precision of the observations was plus or minus one week, (Leverenz *et al.* 2005) therefore week numbers are used in all data analyses.

Flowering dates were determined to occur for a plant when 50% or more of the flowers on a plant had opened. Occasionally it was judged that the flowers had opened the week before but were overlooked (on rarer occasions even several weeks before) and the observation was then backdated and a note made of the backdating. Forward dating was also done when plants were very close to flowering. However, forward dating was not done in the winter or early spring months, because a week of below zero weather could completely stop development of the plants. For plants with separate male and female flowers, flowering date was judged from the male flowers. For catkin producing plants this was done in most cases by tapping the catkins or shaking the branches and looking for pollen release. Tall trees were a problem and binoculars, or spotting scope (new for this year), were used to observe the flowers, however, the tall trees could not be observed with the same accuracy as the plants with flowers near eye level. The spotting scope was only used for problem trees as it took extra time to use.

Fruiting date was judged by when 50% or more the fruit had ripened based on colour. Opening of cones or woody capsules was not used as this can be delayed for a considerable time in some species. The timing of the opening of ripe cones is an adaptation to local environments and can vary from provenance to provenance for a given species (Frankis & Lauria 1992). Fleshy fruits and some conifer cones tended to be removed by birds and other animals before we would have judged them to be ripe. Because of this the students were asked to record fruit ripening dates a bit early, especially, if they noticed that the fruits were being consumed. Nevertheless some fruits were probably missed as all the fruit were observed to disappear over a period of a few days in some species like for example *Pinus pumila* and *Podocarpus nivalis*. We also can not rule out the possibility of harvesting by visitors. People collecting in the arboretum are supposed to ask permission first but this does not always occur. Errors caused by the loss of fruits by predation are probably at most only a few percent of the whole collection, but for individual taxa this error could be misleading. For some species like *Hamamelis* species, *Larix* species or some *Pinus* species cones are held on the tree for several years. This also made it difficult to judge the fruit production, especially in tall trees where it was difficult to see the age classes, and probably added some error in the numbers of fruits recorded.

Some taxa, for example *Sinocalycanthus chinensis* produced fruit with only empty seed. These were still counted. It would be impossible for a study of this type to determine the viability of the seed for all the species studied. Thus the observation of fruiting only indicates the potential for viable seed production and is not a guarantee that viable seeds were produced.

In January 2006 a list was made of all plants that had flowered in 2005 but were not registered as having produced fruit. These plants were individually checked by the author. This check indicated that many fruiting plants had been overlooked by the students. In part this was

because of the inexperience of the students, in part it was because of the limited time available for observations, and in part because the fruit on many plants can be hidden by the foliage. Unfortunately this re-check of the plants could only give whether the plants had produced fruits in 2005. It did not allow one to set a fruiting date and the fruiting records are thus do not contribute to the fruiting dates in the attached appendix. In many cases significant underestimation of the number of ripe fruit occurred during this check . In some cases all fruit were by the time the check was made, for example in the genus *Cornus*. Still the data were quite valuable for setting the lower limit to the number of fruit producing plants.

The abundance of both flowers and fruits was registered in the following four abundance classes: 0 to 9 flowers or fruits, gave a score of 1, 10 to 99 gave a score of 2, 100 to 999 gave a score of 3, and 1000 or more a score of 4. This abundance data is available from the author and like the rest of the data is incorporated into the Arboretum electronic database for easy access.

Results and Discussion

Flowering

In Table 1 we present the results for each year and for both years combined. For both years taken together 1193 taxa (or 53 % of all taxa in the collection) were recorded as flowering while 1345 taxa (60 % of all taxa) produced either flowers or fruits or both. The statistic fruiting and/or flowering (*FF*) is taken as a more accurately estimates the actual fraction of taxa flowering in the arboretum. It acknowledges that the students may have overlooked some of the flowering taxa, but detected and recorded their fruit. This is not surprising as some taxa have striking fruit but small insignificant flowers.

The use of *FF* to indicate the true number of flowering taxa is however, based on the assumption that fruiting in a given season could only have occurred after flowering in that season. However, some taxa for example in the genera: *Callitropis*, *Cupressus*, *Eucryphia*, *Hedera*, *Pinus*, and *Sequoiadendron*, take more than one season to produce mature fruit. This error is small however, as less than 5 % of the taxa in the collection are represented by these taxa.

In the first year of the study *FF* was 1144 (51 % of all taxa in the collection). In the second year, *FF* was nearly the same, 1096 (49 % of all taxa). Each taxon may be represented by several plants which increase the probability of registering a flowering event or fruiting event. For all individual plants the *FF* values are 39% for 2004 and 40% for 2005. As discussed more thoroughly in the first working paper one would not expect 100 % flowering, as some taxa are too young to flower, some taxa only flower periodically, and some taxa may be too maladapted to Danish conditions to flower. Because the students could have overlooked both flowering and fruiting in some taxa these statistics must be taken as the minimum number of taxa that flowered in the arboretum.

Table 1. Summary of the number of taxa flowering and/or fruiting in the Arboretum in the first two years of the study. The fraction column gives the fraction of all living taxa in the collection.

	number	fraction
Total number of living taxa	2241	1.00
flowering		
number taxa in either year	1197	0.53
number of taxa in first year	295	0.13
number of taxa in second year	189	0.08
number of taxa in both years	713	0.32
fruiting		
number taxa in either year	969	0.43
number of taxa in first year	142	0.06
number of taxa in second year	469	0.21
number of taxa in both years	358	0.16
flowering and/or fruiting		
number taxa in either year	1345	0.60
number of taxa in first year	249	0.11
number of taxa in second year	201	0.09
number of taxa in both years	895	0.40
fruiting but not flowering		
no taxa in either year	253	0.11
no taxa in first year	95	0.04
no taxa in second year	117	0.05
no taxa in both years	41	0.02

I expected that experience gained in the first year of this study might substantially increase the number of observations of flowering plants in the second year because I could better advise the students on what to look for. However, as noted above for flowering, the results from the two years were in general, remarkably similar. The number of taxa that were recorded as having fruit but not flowers divided by FF is an estimate of how many flowering taxa were overlooked. This statistic was 9 % in 2004 and 11% in 2005. That is in both the first two years we overlooked about 10 % of the flowering plants.

Of all taxa in the collection at least 40% appear to be regular flowerers in that they flowered and/or fruited in both years. Only 11 % flowered and/or fruited solely in the first year and only 9 % solely in the second year. Of the taxa that were assumed to flower ($FF = 1345$ taxa), at least 60% were regular flowerers. It will be especially interesting to see how many are still

regularly produce flowers after more years of study. Invasive plants are known for their ability to flower on a regular basis as well as to start flowering from an early age.

Fruiting

Based on the first year's experience, a much larger effort was made in the second year to check fruit production. As a result many more fruiting taxa were detected in the second year. In the second year 75% of the *FF* taxa were observed to produce fruit as opposed to only 43 % for the first year. The second year, 2005, had a notably warm autumn and this may have increased the fraction of ripe fruit production. Nevertheless, the difference between the two years is certainly largely because it is easy for the students to overlook fruiting. Especially the smaller, papery, and brownish fruits were overlooked. Furthermore many fruits are hidden by the leaves of the plants and are more easily detected after leaf fall. The problem with overlooked fruit can probably be reduced significantly in the upcomming years, if in mid- November or December, the students are asked to specifically check all plants on a list of those that had flowered that year but were not yet registered as fruiting. Furthermore it is important at the beginning of the fruiting season, like in the beginning of the flowering season to spend time showing the students the types of taxa that are easily overlooked. These data from the second year suggest that more than 75% of the flowering plants in the Arboretum produce fruit and thus have the potential to escape into the areas surrounding the collection.

Lack of pollination, frost damage to young growing fruits or predation may also contribute to reducing the number of fruiting records. Some of our taxa like *Campsis radicans* do not have proper pollinators. This taxon relies on humming birds for pollination. Such birds are not found in Europe. For other taxa the growing season could be too short or too cold such as for the late flowering *Heptacodium miconioides*. Some taxa may also flower too early in the year and spring frosts may prevent pollination or destroy flowers.

Flower, and fruit production of many if not all woody species occur at different times in different years and furthermore the abundance can vary considerably from year to year (Rehfeldt *et al.* 1971). Plants may not produce fruit abundantly every year, even though the weather is favourable. Cycling in flowering and fruiting may reflect the importance for plants to balance the need for vegetative growth with that for reproductive effort (Obesco 2002). Thus abundant fruit production may not necessarily indicate a well adapted plant. A misbalance may occur when plants are moved to a foreign environment where flower either too much or too little for optimum adaptation. For example, the abundant flowering and cone production of some provenances of *Abies koreana* in Denmark may be a major cause of the slow growth in these provenances. Special experiments where flowers are removed and the growth responses observed may indicate if the slow growth in such taxa is a result of the abundant flowering. It should be noted however, for garden use *Abies koreana* is highly prized because of its slow growth and abundant cone production.

The timing of fruiting and flowering

The average number of taxa recorded as flowering, or fruiting in given weeks is shown in Figure 1. The data are averages for the first two years of the study and are also presented in the Appendix for each taxon. It might be noted that astronomically, spring is defined to begin at spring equinox on March 21, or in week 12. Summer begins on June 21 (summer solstice), or in week 25. Autumn begins at autumn equinox on September 21, week 38. Winter begins at winter solstice, on December 21 or in week 51. It was interesting to find out that the flowering and fruiting data collected in these two years match the astronomical calendar surprisingly well, except for the start of winter. For example, one might suggest that in the Arboretum spring began in week 11 (instead of week 12) when flowering started to accelerate. Summer began in week 26 (instead of week 25) when fruits maturation started to accelerate. Autumn began in week 39 (instead of week 38) when fruit maturation reached a plateau. Finally winter started in week 46 (instead of week 51) when further visual developments in fruit maturation has almost stopped.

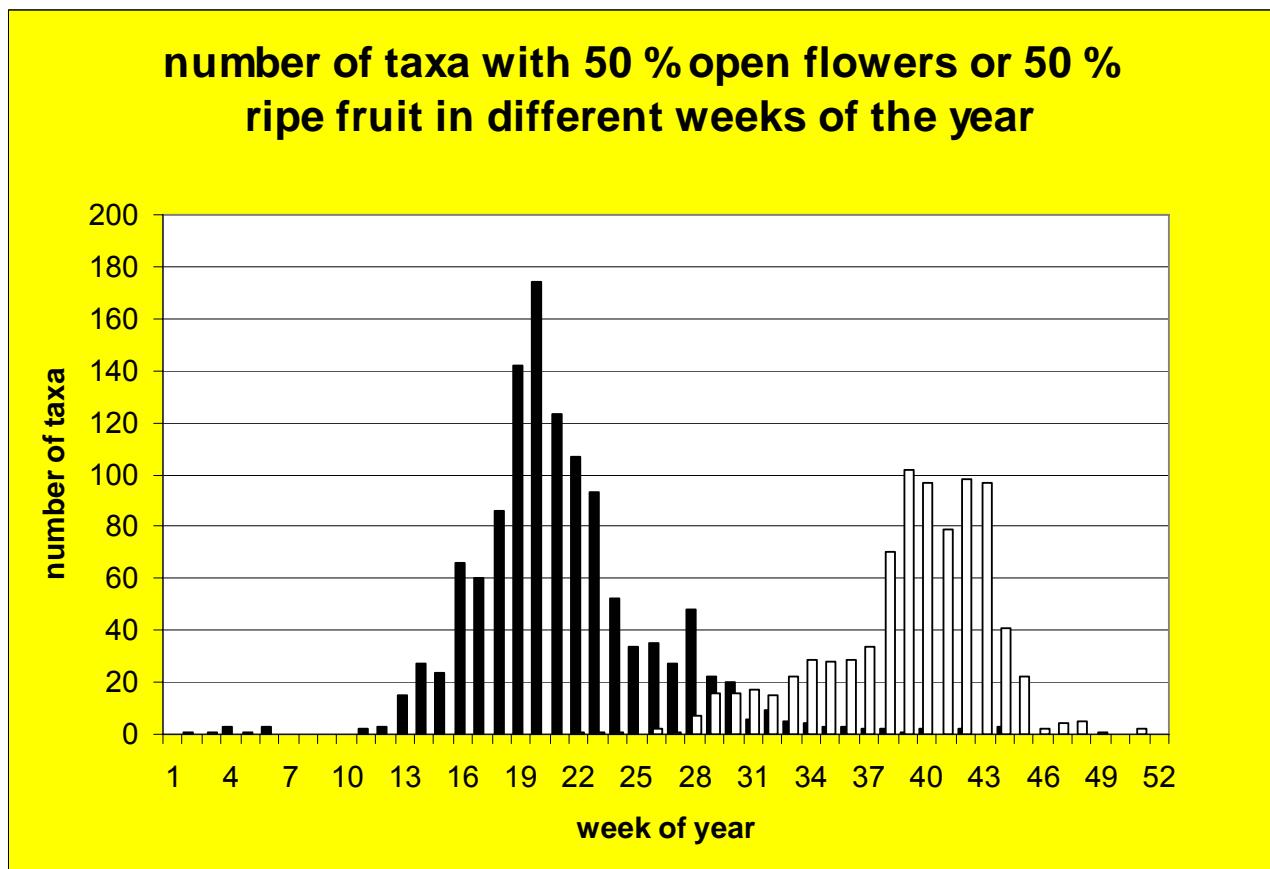


Figure 1. Total number of plants flowering or fruiting per week in the KVL Arboretum collection during the first two years of this study. Flowering is indicated by the filled columns while fruiting is indicated by the empty columns.

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Appendix

The Appendix lists in alphabetical order the flowering and fruiting weeks for different taxa growing in the Arboretum in Hørsholm. Values are averages from data collected in the first two years of observations. Mean week of flowering (or fruiting) is given for each taxa followed by; the first week for any individual within that taxa, the last week for any individual and finally the number of observations. Since the sampling was carried out during two seasons the sample size often includes double observations on a single plant. This list will be presented and updated on the Arboretum website: www.arboretet.dk.

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Abelia serrata</i>	22	20	23	3				0
<i>Abies alba</i>	21	20	21	2				0
<i>Abies amabilis</i>	20	19	20	2				0
<i>Abies balsamea</i>	20	20	20	1	36	36	36	2
<i>Abies concolor</i>	20	20	20	1				0
<i>Abies concolor</i> subsp. <i>lowiana</i>	19	19	19	1				0
<i>Abies fargesii</i> var. <i>faxoniana</i>	20	20	21	3				0
<i>Abies firma</i>	20	20	20	1				0
<i>Abies grandis</i>	20	19	21	4				0
<i>Abies holophylla</i>	20	20	20	2	41	41	41	1
<i>Abies homolepis</i>	20	20	21	11				0
<i>Abies koreana</i>	19	18	21	130	44	44	44	121
<i>Abies lasiocarpa</i>	20	20	20	3				0
<i>Abies mariesii</i>	20	20	20	1				0
<i>Abies nephrolepis</i>	20	20	20	2	45	45	45	1
<i>Abies nordmanniana</i>	21	20	21	2				0
<i>Abies nordmanniana</i> subsp. <i>equi-trojani</i>	20	20	21	3	31	31	31	1
<i>Abies pinsapo</i>	21	20	21	2				0
<i>Abies procera</i>	20	19	21	4	42	40	43	3
<i>Abies veitchii</i>	20	19	20	2				0
<i>Abies veitchii</i> var. <i>sikokiana</i>	20	20	21	8				0
<i>Acer argutum</i>	18	17	19	7	40	40	40	1
<i>Acer buergerianum</i>	18	18	18	1				0
<i>Acer campestre</i>	20	19	21	6				0
<i>Acer capillipes</i>	19	19	19	1	41	39	42	2
<i>Acer cappadocicum</i>	20	19	21	2				0
<i>Acer carpinifolium</i>	19	19	19	2	39	39	39	2
<i>Acer caudatum</i> subsp. <i>ukurunduense</i>	22	17	24	3	40	40	40	2
<i>Acer circinatum</i>	19	18	21	36	38	30	42	14
<i>Acer cissifolium</i>	19	18	19	2	40	39	40	2
<i>Acer X coriaceum</i> <i>Macrophyllum</i>	19	18	19	2	38	38	38	1
<i>Acer davidii</i>	21	20	21	3	42	42	42	1
<i>Acer glabrum</i>	19	18	19	9	42	42	42	1
<i>Acer glabrum</i> subsp. <i>douglasii</i>	18	16	19	2	39	39	39	1
<i>Acer griseum</i>	20	19	20	2	39	39	39	1
<i>Acer henryi</i>	20	18	21	2	41	39	42	2
<i>Acer japonicum</i>	18	17	19	4				0
<i>Acer japonicum</i> cv. 'Aconitifolium'	19	18	19	2				0
<i>Acer macrophyllum</i>	19	19	19	1	34	29	38	2

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Acer maximowiczianum</i>				0	42	42	42	1
<i>Acer micranthum</i>	22	21	22	4	38	31	41	3
<i>Acer mono</i>	18	16	21	6	41	39	42	2
<i>Acer mono</i> var. <i>mayrii</i>	17	17	17	1				0
<i>Acer monspessulanum</i>	19	18	19	3	40	38	42	2
<i>Acer negundo</i>	18	17	18	2				0
<i>Acer negundo</i> subsp. <i>interius</i>	17	16	18	4	41	38	43	5
<i>Acer negundo</i> cv. ' <i>Pseudo-Californicum</i> '	16	16	16	2	39	39	39	1
<i>Acer negundo</i> form <i>violaceum</i>	17	17	17	1	43	43	43	1
<i>Acer palmatum</i>	20	19	22	10	41	39	43	16
<i>Acer palmatum</i> var. <i>amoenum</i>				0	37	37	37	1
<i>Acer palmatum</i> cv. ' <i>Matsumurae</i> '	19	18	19	2	42	42	42	1
<i>Acer pectinatum</i> subsp. <i>maximowiczii</i>	17	17	17	1	38	38	38	1
<i>Acer pectinatum</i> subsp. <i>pectinatum</i>	19	19	19	1				0
<i>Acer pensylvanicum</i>	20	19	20	10	39	39	39	1
<i>Acer platanoides</i>	17	17	17	2				0
<i>Acer pseudosieboldianum</i>	19	18	20	14	39	38	41	11
<i>Acer rubrum</i>	16	15	16	8				0
<i>Acer rufinerve</i>	19	18	20	22	41	38	42	9
<i>Acer saccharinum</i>	14	13	16	8	39	39	39	1
<i>Acer saccharinum</i> cv. ' <i>Pyramidalis</i> '	14	14	14	1				0
<i>Acer saccharum</i> subsp. <i>nigrum</i>				0	39	39	39	1
<i>Acer shirasawanum</i>	21	21	21	2	39	38	39	2
<i>Acer sieboldianum</i>	19	19	19	1	38	38	38	1
<i>Acer spicatum</i>	23	23	23	7				0
<i>Acer stachyophyllum</i>	19	17	20	3				0
<i>Acer stachyophyllum</i> subsp. <i>betulifolium</i>	18	17	19	6	39	38	40	3
<i>Acer tataricum</i>	23	22	24	7	40	37	43	12
<i>Acer tataricum</i> subsp. <i>aidzunense</i>				0	39	39	40	8
<i>Acer tataricum</i> subsp. <i>ginnala</i>	21	18	23	4	40	38	42	7
<i>Acer tataricum</i> subsp. <i>semenovii</i>	19	19	19	1				0
<i>Acer tegmentosum</i>	17	17	18	17	39	38	42	7
<i>Acer triflorum</i>	18	18	18	4	39	38	42	5
<i>Acer tschonoskii</i>	20	18	21	3				0
<i>Acer tschonoskii</i> var. <i>rubripes</i>	18	16	19	13	41	40	43	5
<i>Acer ukurunduense</i>				0	41	39	42	2
<i>Actinidia arguta</i>	27	27	27	1				0
<i>Actinidia callosa</i>				0	42	42	42	3
<i>Actinidia cordifolia</i>	28	28	28	1	39	39	39	1
<i>Aesculus bushii</i>	21	21	21	1	40	39	40	2
<i>Aesculus californica</i>	27	27	27	2				0
<i>Aesculus X carnea</i>	22	21	22	2				0
<i>Aesculus flava</i>	22	22	22	1	40	40	40	1
<i>Aesculus glabra</i>	21	20	23	14	39	39	39	1
<i>Aesculus glabra</i> subsp. <i>arguta</i>	23	22	23	2				0
<i>Aesculus X mississipiensis</i>	23	23	23	2				0
<i>Aesculus parviflora</i>	32	30	34	6				0
<i>Aesculus pavia</i>	23	23	23	1				0
<i>Aesculus turbinata</i>	21	21	21	2	39	39	39	1
<i>Aesculus woerlitzensis</i>	24	24	24	1	40	39	40	2
<i>Ailanthus altissima</i>	29	28	31	3	36	36	36	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Alnus cordata</i>	15	13	19	28	42	42	42	6
<i>Alnus firma</i>	19	19	19	1	40	40	40	2
<i>Alnus glutinosa</i>	14	12	17	12	42	42	42	1
<i>Alnus hirsuta</i>	6.7	6	8	3	44	44	44	1
<i>Alnus hirsuta</i> var. <i>microphylla</i>	2	2	2	1	43	43	43	1
<i>Alnus hirsuta</i> var. <i>sibirica</i>	13	13	13	1	41	41	41	1
<i>Alnus incana</i>	12	6	18	4	42	41	42	4
<i>Alnus japonica</i>	17	17	17	1				0
<i>Alnus maximowiczii</i>	17	15	21	21	42	40	44	11
<i>Alnus pendula</i>	19	19	19	4	40	40	40	4
<i>Alnus rubra</i>	14	13	19	28	40	40	40	1
<i>Alnus subcordata</i>	13	12	14	8				0
<i>Alnus viridis</i> subsp. <i>crispa</i>	19	18	19	8	44	44	44	2
<i>Alnus viridis</i> subsp. <i>fruticosa</i>	18	16	20	2				0
<i>Alnus viridis</i> subsp. <i>viridis</i>				0	42	42	42	1
<i>Amelanchier alnifolia</i>	19	17	19	22	42	36	45	11
<i>Amelanchier alnifolia</i> var. <i>cusickii</i>	19	19	19	4				0
<i>Amelanchier amabilis</i>	21	20	21	10	33	33	33	5
<i>Amelanchier arborea</i>	18	18	18	1	31	31	31	1
<i>Amelanchier bartramiana</i>	19	19	19	2	30	30	30	1
<i>Amelanchier canadensis</i>	19	19	19	4	30	30	30	2
<i>Amelanchier fernaldii</i>	18	18	18	8	30	29	31	2
<i>Amelanchier florida</i>	20	19	21	11	30	29	31	7
<i>Amelanchier humilis</i>	19	19	20	6	29	29	29	2
<i>Amelanchier intermedia</i>	19	19	19	8	30	29	31	7
<i>Amelanchier laevis</i>	18	18	19	21	30	29	30	14
<i>Amelanchier ovalis</i>	20	19	21	9	32	30	32	4
<i>Amelanchier sanguinea</i>	19	19	19	1				0
<i>Amelanchier spicata</i>	19	19	20	10	36	30	41	8
<i>Amelanchier stolonifera</i>	19	19	20	6				0
<i>Amelanchier wiegandii</i>	18	18	18	2	30	30	30	1
<i>Amorpha canescens</i>	30	30	30	1	45	45	45	1
<i>Amorpha fruticosa</i>	27	25	29	2				0
<i>Amorpha fruticosa</i> var. <i>angustifolia</i>	29	29	30	3	45	45	45	1
<i>Amorpha fruticosa</i> var. <i>tennesseensis</i>	30	30	30	3				0
<i>Amorpha virgata</i>	29	29	29	1				0
<i>Aralia cf. chinensis</i>	29	29	29	1	40	39	40	2
<i>Aralia elata</i>	34	31	35	11	39	39	40	8
<i>Aristolochia mansuriensis</i>	21	20	21	2				0
<i>Aristolochia tomentosa</i>	28	28	28	2				0
<i>Aucuba japonica</i> cv. 'Variegata'	19	18	20	2				0
<i>Aucuba japonica</i> cv. 'Viridis'	19	18	19	2				0
<i>Berberis aitchisonii</i>	21	21	21	3				0
<i>Berberis amurensis</i>	21	19	24	7	38	32	40	9
<i>Berberis amurensis</i> var. <i>japonica</i>	20	20	21	23	37	32	42	34
<i>Berberis amurensis</i> var. <i>latifolia</i>	21	20	22	2	39	38	39	4
<i>Berberis asiatica</i>	25	25	25	1	43	43	43	3
<i>Berberis brachypoda</i>	23	23	23	1	41	40	42	2
<i>Berberis buxifolia</i>	20	19	21	6	34	29	38	7
<i>Berberis cerasina</i>				0	40	40	40	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
Berberis cuneata	19	18	19	6				0
Berberis darwinii	20	20	21	4	32	31	32	2
Berberis dictyophylla	22	20	22	9	38	35	40	17
Berberis empetrifolia	22	21	22	2	35	30	40	2
Berberis gagnepainii	17	16	18	2	41	41	41	1
Berberis georgii	22	22	22	1	39	39	39	1
Berberis jaeschkeana	24	24	24	1	44	44	44	3
Berberis julianae	19	18	19	4				0
Berberis X julianae x thunbergii	19	19	19	1				0
Berberis koreana	22	22	23	8	38	33	42	13
Berberis lempergiana	20	19	20	2				0
Berberis cf. mekongensis	23	23	23	1	39	39	39	1
Berberis oblonga	21	21	21	1	40	40	40	1
Berberis orientalis	22	21	22	5				0
Berberis parodii	22	21	22	2	32	32	32	1
Berberis poiretii	20	19	21	6	39	38	39	6
Berberis polyantha	30	30	30	1	42	42	42	1
Berberis pruinosa	21	21	21	2				0
Berberis sargentiana	21	21	21	1				0
Berberis sieboldii	20	20	20	2	39	39	39	1
Berberis thunbergii	20	20	20	1	38	36	43	4
Berberis thunbergii cv. 'Minor'				0	43	42	43	2
Berberis tischleri				0	40	40	40	1
Berberis vulgaris	22	20	24	15	33	27	35	12
Berberis zabeliana	21	21	21	1				0
Betula alleghaniensis	18	17	21	13	51	40	55	6
Betula chinensis	19	19	19	2	43	43	43	2
Betula corylifolia	19	19	19	2				0
Betula costata	19	18	19	15	42	38	43	9
Betula dahurica	21	21	21	4	43	43	43	5
Betula ermanii	19	16	20	29	46	31	55	24
Betula ermanii var. apoiensis	19	19	19	2				0
Betula glandulosa	17	17	18	3				0
Betula globispica	19	19	19	2	43	43	43	2
Betula grossa	19	18	19	2	41	41	41	1
Betula humilis	19	17	19	5	34	34	34	1
Betula kenaica	22	22	22	1	40	40	40	2
Betula kirghisorum	20	20	20	2	41	41	42	3
Betula lanata				0	40	40	40	1
Betula lenta	20	20	20	1	43	43	43	1
Betula litwinowii				0	43	43	43	1
Betula mandshurica var. japonica	19	18	19	2				0
Betula maximowicziana	18	18	18	1				0
Betula neoalaskana	17	17	17	1	43	43	43	1
Betula nigra	20	19	20	3				0
Betula occidentalis				0	41	41	41	4
Betula ovalifolia	18	18	18	2				0
Betula papyrifera	19	17	20	20	41	35	43	12
Betula papyrifera var. papyrifera				0	41	41	41	2
Betula pendula	17	17	19	8	40	31	41	7
Betula platyphylla	17	16	18	7	42	40	43	7

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Betula platyphylla</i> x <i>maximowiczii</i>	18	17	18	3	41	41	41	1
<i>Betula populifolia</i>	19	18	19	6	31	31	31	1
<i>Betula pubescens</i>	18	17	19	3	43	42	43	3
<i>Betula pubescens</i> subsp. <i>czerepanovii</i>	19	19	19	1	41	41	42	4
<i>Betula pubescens</i> cv. 'Urticifolia'				0	43	43	43	1
<i>Betula raddeana</i>	19	19	19	1				0
<i>Betula utilis</i>	18	18	18	1	43	42	43	5
<i>Betula utilis</i> var. <i>utilis</i>	18	18	19	3	29	3	55	2
<i>Buddleja fallowiana</i>	30	30	30	1				0
<i>Buddleja globosa</i>	25	25	25	1	36	36	36	1
<i>Bupleurum fruticosum</i>	35	35	35	1				0
<i>Buxus microphylla</i>	18	17	18	2	41	41	41	2
<i>Buxus microphylla</i> <i>japonica</i>	16	16	16	4	41	41	41	3
<i>Buxus microphylla</i> var. <i>koreana</i>	16	16	16	1				0
<i>Buxus sempervirens</i>	16	16	17	12	38	38	38	1
<i>Buxus sempervirens</i> cv. 'Arborescens'	17	17	17	1				0
<i>Buxus sempervirens</i> cv. 'Aureo-variegata'	16	16	17	5				0
<i>Buxus sempervirens</i> cv. 'Macrophylla'	16	16	17	7				0
<i>Callicarpa dichotoma</i>	32	30	33	9	42	40	43	3
<i>Callicarpa japonica</i>	32	30	34	19	41	40	43	12
<i>Callicarpa japonica</i> var. <i>luxurians</i>	33	31	34	4	40	37	42	4
<i>Callicarpa mollis</i>	29	28	29	2	39	33	41	4
<i>Callitropsis nootkatensis</i>	16	14	18	9				0
<i>Calycanthus floridus</i>	25	22	27	4	42	42	42	1
<i>Campsis radicans</i>	38	37	38	3				0
<i>Caragana arborescens</i>	20	19	24	27	36	32	43	26
<i>Caragana arborescens</i> cv. 'Lorbergii'	21	20	22	2				0
<i>Caragana boisii</i>	20	20	20	1	37	37	37	1
<i>Caragana decorticans</i>	20	20	20	2	38	33	42	2
<i>Caragana frutex</i>	21	20	21	2	32	32	32	2
<i>Caragana fruticosa</i>	21	20	22	6	36	32	39	7
<i>Caragana fruticosa</i> x <i>arborescens</i>	21	20	22	3	36	34	37	2
<i>Caragana pygmaea</i>				0	45	45	45	1
<i>Caragana tragacanthoides</i>				0	41	33	45	9
<i>Caragana turkestanica</i>	21	20	21	2	32	29	34	2
<i>Carpinus betulus</i>	18	16	19	6	43	40	44	3
<i>Carpinus caroliniana</i> subsp. <i>virginiana</i>	19	19	19	2	40	40	40	3
<i>Carpinus caucasica</i>	18	18	18	3	44	44	44	1
<i>Carpinus cordata</i>	19	18	19	5	42	40	43	3
<i>Carpinus coreana</i>	19	19	19	2	40	38	41	2
<i>Carpinus japonica</i>	19	19	19	10	43	43	43	6
<i>Carpinus laxiflora</i>	19	19	19	2				0
<i>Carpinus turczaninowii</i>				0	39	39	39	1
<i>Carya ovata</i>				0	35	35	35	1
<i>Caryopteris incana</i>	41	39	42	9				0
<i>Castanea crenata</i>				0	40	40	40	1
<i>Castanea mollissima</i>	32	32	32	1	43	43	43	1
<i>Castanea pumila</i>	29	28	30	2	40	40	40	1
<i>Castanea sativa</i>	30	28	32	3	43	43	43	1
<i>Catalpa bignonioides</i>	31	29	33	2				0
<i>Catalpa ovata</i>	34	32	36	7	38	38	39	3

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Catalpa speciosa</i>	30	28	32	2				0
<i>Cedrus atlantica</i>	44	44	44	1				0
<i>Cedrus atlantica</i> cv. 'Glauca'	44	44	44	1				0
<i>Cedrus deodara</i>				0	40	40	40	1
<i>Cedrus libani</i>	44	43	46	6	44	43	49	5
<i>Celastrus angulata</i>				0	38	38	38	2
<i>Celastrus orbiculatus</i>	25	24	25	2	43	42	44	3
<i>Celastrus stephanotiiifolius</i>				0	42	42	42	1
<i>Celastrus strigulosus</i>	24	24	24	1	35	35	35	1
<i>Celtis jessoensis</i>				0	42	42	42	1
<i>Celtis occidentalis</i>	19	19	19	2	40	40	40	1
<i>Celtis reticulata</i>				0	43	43	43	1
<i>Cephalotaxus fortunei</i>	19	17	19	4				0
<i>Cephalotaxus harringtonii</i> var. Harringtonii	23	23	23	1	41	41	41	1
<i>Cephalotaxus harringtonii</i> var. <i>nana</i>	19	19	19	1				0
<i>Cephalotaxus koreana</i>	22	21	22	2				0
<i>Cercidiphyllum japonicum</i>	17	17	17	7				0
<i>Cercidiphyllum japonicum</i> var. <i>Magnificum</i>	17	17	18	6	42	41	42	2
<i>Chaenomeles cathayensis</i>	19	19	19	2				0
<i>Chaenomeles japonica</i>	20	20	20	2	42	42	42	1
<i>Chaenomeles lagenaria</i>	20	20	20	3	40	40	40	1
<i>Chaenomeles X superba</i>	20	20	21	3	39	39	39	1
<i>Chamaecyparis lawsoniana</i>	16	14	17	15	41	41	41	5
<i>Chamaecyparis lawsoniana</i> cv. 'Glauca'	16	16	16	2				0
<i>Chamaecyparis lawsoniana</i> cv. 'Wissellii'	16	16	16	2				0
<i>Chamaecyparis obtusa</i>	17	17	17	9	42	42	42	1
<i>Chamaecyparis pisifera</i>	17	17	17	1	39	39	39	1
<i>Chamaecyparis pisifera</i> form <i>filifera</i>	17	17	17	1				0
<i>Chamaecyparis pisifera</i> cv. 'Plumosa'	14	14	14	1				0
<i>Chamaecyparis thyoides</i>	16	16	16	4	40	40	40	2
<i>Chamaecyparis thyoides</i> cv. 'Atrovirens'	16	15	17	3				0
<i>Chiliotrichum diffusum</i>	25	24	26	3	34	34	34	1
<i>Chionanthus virginicus</i>	26	25	26	4	43	42	43	2
<i>Cistus laurifolius</i>	28	28	28	7	39	39	39	2
<i>Cladrastis lutea</i>	27	27	27	1	38	38	38	1
<i>Clematis chiisanensis</i>	28	27	28	2	41	39	43	2
<i>Clematis koreana</i>	27	27	27	1	39	39	39	1
<i>Clematis stans</i>	37	34	40	9				0
<i>Clematis trichotoma</i>	27	27	27	1				0
<i>Clerodendrum trichotomum</i>	35	34	35	4				0
<i>Clethra alnifolia</i> cv. 'Rosea'	38	38	38	3	43	43	43	2
<i>Clethra barbinervis</i>	35	35	36	9	43	43	43	1
<i>Clethra tomentosa</i>	39	39	39	1				0
<i>Colutea arborescens</i>	24	24	24	2	37	36	38	2
<i>Colutea cf. Cilicica</i>	38	38	38	1				0
<i>Cornus alba</i> cv. 'Sibirica'	18	15	20	2				0
<i>Cornus alternifolia</i>	24	23	25	16	35	32	38	17
<i>Cornus amomum</i>	29	22	33	18	40	33	43	12
<i>Cornus bretschneideri</i>				0	38	38	38	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Cornus controversa</i>	24	23	24	28	37	36	39	29
<i>Cornus florida</i>	22	22	22	1				0
<i>Cornus kousa</i>	27	24	30	38	38	36	42	23
<i>Cornus kousa</i> var. <i>chinensis</i>	27	25	28	5	38	38	38	2
<i>Cornus kousa</i> cv. 'Satomi'	27	26	28	2	38	38	38	1
<i>Cornus macrophylla</i>	28	25	33	6				0
<i>Cornus mas</i>	15	14	16	17	39	35	41	15
<i>Cornus nuttallii</i>	21	21	21	1				0
<i>Cornus officinalis</i>	16	15	16	5	39	38	41	3
<i>Cornus purpusi</i>	25	20	29	2				0
<i>Cornus racemosa</i>	30	30	30	1	40	40	40	1
<i>Cornus racemosa</i> var. <i>gracilis</i>	28	28	28	1				0
<i>Cornus rugosa</i>	26	25	26	5	35	35	35	2
<i>Cornus sanguinea</i>	24	22	26	2	39	38	39	3
<i>Cornus sanguinea</i> subsp. <i>australis</i>	30	30	30	1	40	38	42	2
<i>Cornus stolonifera</i>	23	22	25	4	37	33	44	4
<i>Cornus stolonifera</i> var. <i>occidentalis</i>	23	22	24	6	36	33	38	3
<i>Cornus walteri</i>	28	28	28	3				0
<i>Corylopsis coreana</i>	16	15	18	3				0
<i>Corylopsis glabrescens</i>	16	15	17	8				0
<i>Corylopsis pauciflora</i>	16	15	17	15	41	40	42	3
<i>Corylopsis platypetala</i>	16	16	16	2				0
<i>Corylopsis sinensis</i>	18	18	18	2				0
<i>Corylopsis sinensis</i> form <i>veitchiana</i>	17	15	21	8	42	42	42	1
<i>Corylopsis spicata</i>	16	16	16	1	42	42	42	1
<i>Corylus americana</i>	14	14	14	1	39	39	39	1
<i>Corylus avellana</i>	13	12	15	10				0
<i>Corylus avellana</i> cv. 'Contorta'	14	14	14	2				0
<i>Corylus avellana</i> cv. 'Fuscorubra'	14	14	14	1				0
<i>Corylus avellana</i> cv. 'Heterophylla'	13	13	14	3				0
<i>Corylus chinensis</i>	14	13	14	2	40	40	40	1
<i>Corylus colurna</i>	13	12	14	3	39	39	39	1
<i>Corylus colurnoides</i>	12	11	13	2				0
<i>Corylus cornuta</i>	15	13	19	10				0
<i>Corylus cornuta</i> var. <i>californica</i>	14	13	14	9	36	36	37	3
<i>Corylus sieboldiana</i>	14	12	14	7				0
<i>Corylus sieboldiana</i> var. <i>mandshurica</i>	14	12	15	2				0
<i>Cotinus coggygria</i>	25	25	25	6	31	31	31	1
<i>Cotoneaster acuminata</i>				0	42	42	42	1
<i>Cotoneaster adpressa</i>	21	21	21	1	40	38	42	2
<i>Cotoneaster affinis</i>				0	41	41	41	2
<i>Cotoneaster bullata</i>				0	38	35	41	3
<i>Cotoneaster dielsiana</i>				0	39	35	42	10
<i>Cotoneaster foveolata</i>	23	23	23	2	39	35	42	8
<i>Cotoneaster gamblei</i>				0	42	42	42	2
<i>Cotoneaster horizontalis</i>				0	40	40	40	4
<i>Cotoneaster hupehensis</i>	23	23	23	1	41	38	43	3
<i>Cotoneaster ignava</i>	24	24	24	3	37	35	42	9
<i>Cotoneaster integerrimus</i>	19	19	20	4	33	29	42	5
<i>Cotoneaster konishii</i>	24	24	24	2	37	33	42	11
<i>Cotoneaster kullensis</i>	22	20	25	3				0

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Cotoneaster lucida</i>				0	39	34	42	3
<i>Cotoneaster lucida</i> hybrid				0	35	34	35	2
<i>Cotoneaster melanocarpus</i>	20	20	20	1	33	28	42	4
<i>Cotoneaster microphylla cochleata</i>				0	39	34	43	2
<i>Cotoneaster multiflora</i>	21	19	22	4	36	35	38	4
<i>Cotoneaster nebrodensis</i>				0	38	30	43	4
<i>Cotoneaster nummularia</i>				0	38	38	38	1
<i>Cotoneaster nummularioides</i>				0	41	41	41	1
<i>Cotoneaster rotundifolia</i>				0	41	38	43	2
<i>Cotoneaster salicifolia</i>	28	28	28	1	42	41	42	2
<i>Cotoneaster splendens</i>	20	20	20	1	38	35	42	6
<i>Cotoneaster uniflorus</i>	20	20	20	1	33	29	42	3
<i>Crataegus azarolus</i>	23	23	23	1				0
<i>Crataegus calycina</i>	23	22	23	2	39	38	42	3
<i>Crataegus canadensis</i>				0	38	38	38	1
<i>Crataegus chrysocarpa</i>	21	21	21	5	35	35	35	2
<i>Crataegus columbiana</i>	21	21	21	1				0
<i>Crataegus douglasii</i>	21	21	22	5	34	33	35	4
<i>Crataegus flabellata</i>	21	21	21	1	34	30	38	2
<i>Crataegus X hafniensis</i>	22	21	22	2	35	35	35	1
<i>Crataegus intricata</i>				0	41	40	41	2
<i>Crataegus laevigata</i>				0	41	38	42	4
<i>Crataegus macracantha</i>	23	23	23	3	39	38	39	4
<i>Crataegus monogyna</i>	22	22	23	3	36	36	36	1
<i>Crataegus nigra</i>	20	20	21	6	35	34	38	5
<i>Crataegus nitida</i>				0	43	41	45	2
<i>Crataegus orientalis</i>	25	24	26	6	39	38	41	3
<i>Crataegus oxyacantha</i>	22	21	22	2	41	39	42	2
<i>Crataegus pentagyna</i>	24	23	24	2	41	39	42	2
<i>Crataegus pentagyna</i> subsp. <i>pentagyna</i>	25	25	25	1	38	38	38	1
<i>Crataegus pinnatifida</i> var. <i>major</i>	23	23	23	1	36	36	36	1
<i>Crataegus rhipidophylla</i>	22	22	23	11	40	38	42	7
<i>Crataegus X rubrinervis</i>	24	24	24	1				0
<i>Crataegus songarica</i>	23	22	23	2	41	38	42	3
<i>Crataegus transcaspica</i>	23	22	23	2	42	42	42	1
<i>Crataemespilus grandiflora</i>	23	23	23	1	43	41	44	2
<i>Cunninghamia lanceolata</i>				0	42	42	42	2
<i>Cupressocyparis leylandii</i>	29	20	37	2				0
<i>Cydonia oblonga lusitanica</i>	23	23	23	1	42	42	42	1
<i>Cytisus cantabricus</i>				0	36	34	38	2
<i>Cytisus ruthenicus</i>	20	20	20	1	41	41	41	1
<i>Cytisus sessilifolius</i>	23	20	24	8	36	33	39	7
<i>Cytisus supinus</i>	27	26	28	2	37	36	38	3
<i>Daphne mezereum</i>	13	12	15	9	28	27	29	5
<i>Davidia involucrata</i> var. <i>vilmoriniana</i>	22	21	22	4	40	40	40	1
<i>Decaisnea fargesii</i>				0	42	42	42	1
<i>Decaisnea insignis</i> hybrid	25	24	26	4	44	43	44	6
<i>Deutzia albida</i>	23	23	23	2	43	43	43	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Deutzia compacta</i>	23	23	23	1				0
<i>Deutzia glomeruliflora</i>	24	24	24	4				0
<i>Deutzia gracilis</i>	27	23	31	4				0
<i>Deutzia longifolia</i>	25	24	26	3	43	43	43	1
<i>Deutzia longifolia</i> cv. 'Veitchii'				0	44	44	44	1
<i>Deutzia longifolia</i> x <i>discolor</i> cv. 'Mont Rosa'	26	25	26	2	44	44	44	1
<i>Deutzia monbeigii</i>	24	24	24	1	40	40	40	1
<i>Deutzia parviflora</i>	25	24	26	4				0
<i>Deutzia pulchra</i>	27	26	28	2				0
<i>Deutzia purpurascens</i>	23	22	23	2				0
<i>Deutzia reflexa</i>	26	25	26	2	42	42	42	1
<i>Deutzia X rosea</i>	22	22	22	1	44	44	44	1
<i>Deutzia X rosea</i> cv. 'Floribunda'	23	22	23	2				0
<i>Deutzia scabra</i>	27	26	27	4	42	42	42	1
<i>Deutzia schneideriana</i>	28	26	31	5				0
<i>Deutzia staminea</i>	28	28	28	1	43	43	43	1
<i>Diervilla sessilifolia</i>	28	28	28	1				0
<i>Diervilla X splendens</i>	29	29	29	1	40	40	40	1
<i>Diospyros lotus</i>	29	27	31	6				0
<i>Diospyros virginiana</i>	28	28	28	1	45	45	45	1
<i>Dipelta floribunda</i>	22	21	23	4	36	32	42	3
<i>Dipteronia sinensis</i>	19	19	19	1				0
<i>Elaeagnus commutata</i>	30	30	30	1				0
<i>Elaeagnus montana</i>	27	25	30	3	33	32	34	4
<i>Elaeagnus umbellata</i>	22	21	24	7	41	38	43	11
<i>Eleutherococcus lasiogyne</i>				0	40	39	40	4
<i>Eleutherococcus sessiliflorus</i>	36	27	39	8	39	38	41	7
<i>Enkianthus campanulatus</i>	23	21	24	3	42	40	43	3
<i>Enkianthus cernuus</i> var. <i>rubens</i>	23	23	24	3				0
<i>Enkianthus deflexus</i>	22	22	22	1				0
<i>Erica carnea</i> cv. 'Winter Beauty'	14	14	14	4				0
<i>Escallonia virgata</i>	27	26	28	2				0
<i>Eucryphia glutinosa</i>	34	34	34	1				0
<i>Euodia danielii</i>	36	36	36	1	38	34	42	2
<i>Euonymus alatus</i>	22	20	24	21	40	38	43	14
<i>Euonymus alatus</i> aptera	23	22	24	4	41	39	42	3
<i>Euonymus europaeus</i>	23	21	24	10	40	38	43	12
<i>Euonymus hamiltonianus</i> var. <i>Sieboldianus</i>	22	19	27	11	39	38	42	8
<i>Euonymus hians</i>				0	38	38	38	1
<i>Euonymus latifolius</i>	21	20	22	4	37	32	39	8
<i>Euonymus maackii</i>	25	25	25	1	40	40	40	1
<i>Euonymus macropterus</i>	19	19	20	9	36	34	42	12
<i>Euonymus nikoensis</i>				0	41	38	43	2
<i>Euonymus oxyphyllus</i>	22	20	24	18	39	38	48	36
<i>Euonymus phellomana</i>	24	24	24	2	43	42	43	2
<i>Euonymus sachalinensis</i>	20	18	20	10	38	35	39	10
<i>Euonymus sanctus</i>	21	20	21	2	38	38	38	1
<i>Euonymus velutinus</i>	26	24	28	2	43	43	43	1
<i>Euonymus verrucosus</i>	23	21	23	6	37	35	38	12

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Euonymus yedoensis</i>	24	24	24	2	40	38	42	5
<i>Exochorda giraldii</i>	20	20	20	8	41	40	42	2
<i>Exochorda korolkowi</i>	20	20	20	1	44	44	44	1
<i>Exochorda racemosa</i>	20	20	21	7				0
<i>Exochorda serratifolia</i>	20	20	21	8	40	40	40	1
<i>Fagus crenata</i>	21	21	21	1	39	39	39	1
<i>Fagus japonica</i>				0	38	38	38	2
<i>Fagus orientalis</i>	19	19	19	1	38	38	38	1
<i>Fagus sylvatica</i>	21	20	21	2	39	38	40	3
<i>Fagus sylvatica</i> cv. 'Fastigiata'	21	21	21	1				0
<i>Forsythia</i> cv. 'Spring Glory'	16	15	17	5				0
<i>Forsythia europaea</i>	14	14	14	3				0
<i>Forsythia</i> X <i>intermedia</i> cv. 'Lynwood Gold'	17	16	17	2				0
<i>Forsythia</i> X <i>intermedia</i> cv. 'Vitellina'	17	16	17	5				0
<i>Forsythia mandshurica</i>	16	16	16	1				0
<i>Forsythia ovata</i>	15	14	22	13				0
<i>Forsythia suspensa</i>	16	16	16	1				0
<i>Forsythia suspensa</i> var. <i>sieboldii</i>	17	16	17	2				0
<i>Forsythia viridissima</i>	17	16	17	2				0
<i>Fothergilla major</i>	21	20	21	2				0
<i>Fraxinus angustifolia</i>				0	44	44	44	6
<i>Fraxinus biltmoreana</i>				0	43	43	43	1
<i>Fraxinus caroliniana</i>				0	42	40	43	2
<i>Fraxinus chinensis</i>	23	23	23	2				0
<i>Fraxinus mandshurica</i>	21	21	22	4	40	40	40	2
<i>Fraxinus ornus</i>	22	21	23	4	44	44	44	1
<i>Fraxinus paxiana</i>	25	23	31	4	43	43	43	1
<i>Fraxinus pennsylvanica</i> subintegerrima				0	43	43	43	1
<i>Fraxinus pubinervis</i>				0	39	39	39	1
<i>Fraxinus rhynchophylla</i>	21	21	21	1				0
<i>Fraxinus sieboldiana</i>	21	21	22	9	40	40	40	4
<i>Fuchsia magellanica</i>	23	19	30	3				0
<i>Gaultheria mucronata</i>	23	22	24	3	39	38	40	2
<i>Gaultheria shallon</i>	27	24	29	10				0
<i>Gleditsia japonica</i>				0	44	36	48	3
<i>Gleditsia triacanthos</i>				0	48	48	48	1
<i>Halesia carolina</i>	21	20	21	4	45	42	46	3
<i>Halesia monticola</i>	21	20	21	8	45	42	46	3
<i>Hamamelis</i> x <i>intermedia</i>	5.1	2	14	53	45	45	45	2
<i>Hamamelis</i> X <i>intermedia</i> cv. 'Diane'	4	4	4	1				0
<i>Hamamelis</i> x <i>intermedia</i> cv. 'Nina'	6.8	2	11	6				0
<i>Hamamelis japonica</i>	6.2	2	13	16	42	42	42	4
<i>Hamamelis japonica</i> var.	11	7	16	4	42	42	42	2
<i>Flavopurpurascens</i>								
<i>Hamamelis mollis</i>	4.8	2	7	24	42	42	42	1
<i>Hamamelis vernalis</i>	4.8	2	7	4				0
<i>Hamamelis vernalis</i> cv. 'Carnea'	11	11	11	2				0
<i>Hamamelis virginiana</i>	42	40	44	20	46	46	46	2
<i>Hebe odora</i>	26	25	26	3				0
<i>Hedera helix</i>	42	41	44	3	43	43	43	1
<i>Hemiptelea davidii</i>				0	42	42	42	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Heptacodium miconioides</i>	41	38	43	2				0
<i>Hibiscus syriacus</i>				0	44	44	44	1
<i>Hippophae rhamnoides</i>				0	38	35	45	9
<i>Holodiscus discolor</i>	29	27	30	18	37	35	38	4
<i>Hydrangea anomala</i> subsp. <i>petiolaris</i>	25	25	25	4	43	42	43	2
<i>Hydrangea bretschneiderii</i>	26	26	26	1				0
<i>Hydrangea dumicola</i>	26	25	26	6	42	42	42	3
<i>Hydrangea heteromalla</i>	26	25	27	6	42	42	42	2
<i>Hydrangea paniculata</i>	37	35	39	2				0
<i>Hydrangea sargentiana</i>	33	32	34	10				0
<i>Hydrangea serrata</i> cv. 'Intermedia'	30	29	31	2				0
<i>Hydrangea xanthoneura</i>	27	26	27	6	42	42	42	3
<i>Hydrangea xanthoneura</i> var. <i>Setchuenensis</i>	26	26	26	5				0
<i>Hypericum androsaemum</i>	30	30	30	1	40	38	41	3
<i>Hypericum densiflorum</i>	33	31	35	2	44	41	51	3
<i>Hypericum aff. kouytchense</i>	30	29	33	4				0
<i>Hypericum patulum</i>	31	30	31	5	41	41	41	2
<i>Idesia polycarpa</i>				0	42	42	42	1
<i>Ilex aquifolium</i>	21	21	22	12	41	40	43	21
<i>Ilex aquifolium</i> form <i>ferox</i>	21	21	21	1				0
<i>Ilex ciliostiplosis</i>	20	19	20	3				0
<i>Ilex colchica</i> cv. 'Pojark'				0	42	42	42	2
<i>Ilex geniculata</i>				0	41	38	43	3
<i>Ilex laevigata</i>	29	29	29	3	42	42	42	3
<i>Ilex pernyi</i>				0	42	38	44	3
<i>Ilex serrata</i>				0	42	42	42	1
<i>Ilex sugerokii</i> var. <i>longepedunculata</i>				0	41	41	41	1
<i>Ilex verticillata</i>	29	28	32	31	42	42	44	14
<i>Ilex yunnanensis</i>	21	21	21	1	40	38	42	2
<i>Iris setosa</i>	22	22	22	1	37	37	37	1
<i>Itea virginica</i>	31	29	32	2				0
<i>Jamesia americana</i>	23	22	23	3				0
<i>Jasminum fruticans</i>	23	22	23	6				0
<i>Juglans X bixbyi</i>				0	40	39	40	4
<i>Juglans cathayensis</i>				0	41	39	42	2
<i>Juglans cinerea</i>	21	21	22	4	40	40	40	1
<i>Juglans nigra</i>				0	45	45	45	1
<i>Juglans regia</i>				0	39	39	39	1
<i>Juglans rupestris</i>				0	42	42	42	2
<i>Juglans sieboldiana</i>	23	23	23	1				0
<i>Juglans sieboldiana</i> var. <i>cordiformis</i>	21	20	21	2				0
<i>Juniperus chinensis</i>	16	15	17	5	39	39	39	1
<i>Juniperus chinensis</i> cv. 'Pfitzeriana'	17	17	17	2	39	39	39	1
<i>Juniperus chinensis</i> var. <i>sargentii</i>	16	16	17	6	43	43	43	1
<i>Juniperus communis</i>	19	17	21	2	43	43	43	1
<i>Juniperus communis</i> var. <i>communis</i>				0	31	30	33	3
<i>Juniperus communis</i> var. <i>saxatilis</i>				0	43	43	43	1
<i>Juniperus recurva</i>	14	14	14	2				0
<i>Juniperus rigida</i>	21	21	21	1				0
<i>Juniperus squamata</i>	16	16	16	2				0

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Juniperus squamata</i> cv. 'Meyeri'	16	16	16	1				0
<i>Juniperus virginiana</i>	16	16	16	2				0
<i>Juniperus virginiana</i> var. <i>crebra</i>	15	14	16	11	44	43	44	3
<i>Kalmia latifolia</i>	26	25	28	20	43	43	43	1
<i>Kalopanax pictus</i>	34	34	34	1				0
<i>Kerria japonica</i>	21	20	23	7	42	42	42	1
<i>Koelreuteria paniculata</i>	32	31	33	4	40	39	41	5
<i>Kolkwitzia amabilis</i>	25	24	25	15	42	42	42	1
<i>Laburnocytisus adami</i>	22	22	22	1				0
<i>Laburnum alpinum</i>	23	22	24	17	39	32	45	39
<i>Laburnum alpinum</i> cv. 'Lucidum'	22	22	22	1	40	40	40	1
<i>Laburnum anagyroides</i>	23	22	24	11	39	32	43	13
<i>Laburnum watereri</i>	22	22	22	4	38	32	43	6
<i>Larix</i> (decidua x kaempferi) x fri	16	16	16	1				0
<i>Larix</i> (gmelinii x kaempferi) x gmelinii	14	14	14	2	43	43	43	2
<i>Larix</i> (gmelinii x kaempferi) x kaempferi	15	15	15	2	43	43	43	1
<i>Larix decidua</i>	16	14	17	28	43	35	51	13
<i>Larix gmelinii</i>	16	15	16	4	42	38	51	5
<i>Larix gmelinii</i> var. <i>olgensis</i>	16	14	16	13	48	40	51	4
<i>Larix gmelinii</i> var. <i>principis-rupprechtii</i>	15	14	17	11	44	36	51	6
<i>Larix gmelinii</i> hybrid	16	16	16	2				0
<i>Larix griffithii</i>	17	17	17	1				0
<i>Larix kaempferi</i>	16	15	17	10	43	43	43	5
<i>Larix kaempferi</i> cv. 'Jakobsens Pyramide'				0				0
<i>Larix laricina</i>	17	16	19	6	42	36	43	6
<i>Larix laricina</i> x <i>decidua</i>	17	17	17	1	43	43	43	1
<i>Larix maritima</i>				0				0
<i>Larix X marschlinsii</i>	16	15	16	11	44	39	51	5
<i>Larix occidentalis</i>	16	16	17	4	39	28	43	4
<i>Larix potaninii</i>	17	17	17	4				0
<i>Larix sibirica</i>	16	15	16	7				0
<i>Larix sibirica</i> var. <i>sukaczewii</i>	16	16	16	2				0
<i>Lespedeza bicolor</i>	33	33	33	1				0
<i>Lespedeza maximowiczii</i>	28	27	29	2				0
<i>Leycesteria formosa</i>	36	30	41	2	40	39	41	2
<i>Ligustrum acuminatum</i>	29	29	29	1	44	44	44	1
<i>Ligustrum delavayanum</i>	29	28	29	2	41	41	41	1
<i>Ligustrum foliosum</i>	28	27	29	6	43	43	43	6
<i>Ligustrum ibolium</i>	30	28	31	2	43	43	43	2
<i>Ligustrum ibota</i>	28	28	29	3	42	40	43	2
<i>Ligustrum obtusifolium</i>	28	28	28	3	39	39	39	1
<i>Ligustrum obtusifolium regelianum</i>	27	25	29	2	43	43	43	1
<i>Ligustrum ovalifolium</i>	32	32	32	1				0
<i>Ligustrum sinense</i>	29	28	30	4	40	40	40	2
<i>Ligustrum vicaryi</i>	29	29	29	1	42	41	43	2
<i>Ligustrum vulgare</i>	28	27	30	14	42	40	44	7
<i>Ligustrum vulgare</i> cv. 'Atrovirens Select'	30	29	30	2				0
<i>Lindera benzoin</i>	17	16	17	2				0
<i>Liriodendron tulipifera</i>	24	21	27	2				0
<i>Lonicera alpigena</i>	22	20	23	3	32	32	32	3
<i>Lonicera caerulea</i>	20	17	24	12	29	29	29	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Lonicera caerulea</i> var. <i>edulis</i>	19	19	19	1				0
<i>Lonicera caucasica</i>	24	23	24	6	34	32	42	7
<i>Lonicera chamissoi</i>				0	34	34	34	4
<i>Lonicera chrysanthia</i>				0	35	30	42	5
<i>Lonicera chrysanthia</i> form <i>crassipes</i>	20	20	20	15	35	33	41	22
<i>Lonicera demissa</i>	20	20	21	4	35	33	43	10
<i>Lonicera ferdinandii</i>	23	23	23	2	34	34	34	2
<i>Lonicera X gibbiflora</i>	20	20	20	2	32	32	32	1
<i>Lonicera henryi</i>	28	28	28	1				0
<i>Lonicera hispida</i>				0	29	28	30	6
<i>Lonicera involucrata</i>	23	19	24	5	29	28	32	6
<i>Lonicera korolkowii</i>	24	24	24	1				0
<i>Lonicera lanceolata</i>				0	32	32	32	1
<i>Lonicera maackii</i> var. <i>podocarpa</i>	25	24	25	3	42	41	42	5
<i>Lonicera X minutiflora</i>	21	21	21	1				0
<i>Lonicera X muendeniensis</i> var. <i>xanthocarpa</i>				0	32	32	32	1
<i>Lonicera muscaviensis</i>	21	21	21	1	32	32	32	1
<i>Lonicera nigra</i>	22	20	28	10	28	19	32	20
<i>Lonicera X notha</i> cv. 'Alba'	20	20	20	2				0
<i>Lonicera periclymenum</i>	27	27	27	1				0
<i>Lonicera prolifera</i>	25	25	25	1				0
<i>Lonicera X purpusii</i>	16	15	16	2				0
<i>Lonicera ramosissima</i>	21	20	21	5	33	29	42	12
<i>Lonicera cf. serreana</i>	21	21	21	3	34	34	34	3
<i>Lonicera stenantha</i>	19	19	19	2	29	29	29	1
<i>Lonicera tangutica</i>				0	32	32	32	1
<i>Lonicera tatarica</i>	22	21	23	6	30	28	31	8
<i>Lonicera vesicaria</i>	25	25	25	2	40	40	40	2
<i>Lonicera xylosteum</i>	21	20	22	22	32	29	42	42
<i>Maackia amurensis</i>	30	30	30	2	48	48	48	1
<i>Maackia amurensis</i> var. <i>buergeri</i>	30	30	30	1	48	48	48	1
<i>Maackia fauriei</i>	32	31	34	6				0
<i>Magnolia kobus</i>	18	17	19	6				0
<i>Magnolia sieboldii</i>	23	23	24	10	40	39	43	4
<i>Magnolia sieboldii</i> subsp. <i>sinensis</i>	22	22	22	1	42	39	48	3
<i>Magnolia X soulangeana</i> cv. 'Lennei'	22	22	22	2				0
<i>Magnolia sprengeri</i> cv. 'Diva'	18	18	18	1				0
<i>Magnolia stellata</i>	18	18	19	4	43	43	43	1
<i>Magnolia tripetala</i>	24	23	24	2	43	43	43	2
<i>Mahonia aquifolium</i>	19	18	20	22	33	31	43	19
<i>Mahonia nervosa</i>	19	18	19	2				0
<i>Mahonia repens</i>	19	19	19	3	33	33	33	1
<i>Malus</i> cv. 'Arrow'	21	21	21	1	39	39	39	2
<i>Malus</i> cv. 'John Downie'	20	20	20	1	40	40	40	1
<i>Malus adstringens</i> cv. 'Queens Choice'				0	41	41	41	1
<i>Malus asiatica</i>	22	20	23	6	39	35	42	2
<i>Malus asiatica</i> var. <i>wrightii</i>	21	21	21	3	39	39	39	2
<i>Malus baccata</i>	20	19	22	15	39	33	42	18
<i>Malus floribunda</i>	21	20	21	6	43	39	50	4
<i>Malus fusca</i>				0	41	41	41	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Malus halliana</i>	21	21	21	1	37	33	42	4
<i>Malus hupehensis</i>	20	18	21	6	42	41	43	2
<i>Malus kansuensis</i> form calva	20	20	20	1	40	39	41	2
<i>Malus mandshurica</i>	21	20	22	2	37	34	42	3
<i>Malus micromalus</i>	20	19	20	3	42	42	42	1
<i>Malus prunifolia</i>	21	20	21	2	39	39	39	1
<i>Malus robusta</i>				0	42	41	42	2
<i>Malus rockii</i>	20	20	20	1	41	39	42	2
<i>Malus sargentii</i>	21	21	21	6	40	39	42	9
<i>Malus sargentii</i> cv. 'Rosea'	20	20	20	2	41	40	41	2
<i>Malus sikkimensis</i>	21	21	21	2				0
<i>Malus sylvestris</i>	20	20	20	1	42	42	42	1
<i>Malus toringo</i>	20	20	21	4	41	39	42	4
<i>Malus toringo</i> var. <i>aborescens</i>	20	20	20	2	40	39	41	3
<i>Malus toringoides</i>	22	22	22	2	40	39	42	8
<i>Malus yunnanensis</i>	22	22	22	1	39	39	39	1
<i>Malus yunnanensis</i> var. <i>veitchii</i>				0	42	42	42	1
<i>Meliosma flexuosa</i>				0	42	42	42	1
<i>Meliosma tenuis</i>	29	29	29	1	41	41	41	1
<i>Meliosma veitchiorum</i>	22	21	22	2				0
<i>Menziesia ferruginea</i>	22	22	22	2				0
<i>Menziesia pilosa</i>	23	23	23	1	46	41	50	2
<i>Mespilus germanica</i>	23	22	24	12	44	35	51	7
<i>Metasequoia glyptostroboides</i>	14	14	14	3	51	51	51	6
<i>Microbiota decussata</i>	13	13	14	12				0
<i>Myrica gale</i>	16	16	16	3				0
<i>Nandina domestica</i>	33	29	36	2				0
<i>Neillia longiracemosa</i>	24	23	25	2	38	38	38	1
<i>Neillia ribesioides</i>	25	24	25	4	42	38	45	6
<i>Nothofagus antarctica</i>	20	19	20	5	34	34	34	2
<i>Nothofagus obliqua</i>	19	19	19	1				0
<i>Nothofagus pumilio</i>	20	20	20	1				0
<i>Nyssa sylvatica</i>	26	26	26	1	42	42	42	1
<i>Oemleria cerasiformis</i>	16	15	17	12	39	39	39	1
<i>Oplopanax horridus</i>	23	22	23	2	29	28	31	7
<i>Oplopanax horridus</i> x <i>japonicus</i>				0	30	30	30	1
<i>Orixa japonica</i>	20	20	21	13				0
<i>Osmanthus delavayi</i>	18	18	18	1				0
<i>Ostrya carpinifolia</i>	19	18	19	4	40	39	43	3
<i>Ostrya japonica</i>	19	19	19	2	41	39	43	4
<i>Ostrya virginiana</i>	19	19	19	11	43	40	43	7
<i>Paeonia delavayi</i>	22	22	22	3	41	39	43	4
<i>Paeonia</i> X <i>suffruticosa</i>	22	21	23	21	39	38	41	27
<i>Paulownia tomentosa</i>	23	23	23	1	41	39	43	2
<i>Paxistima myrsinifolia</i>	24	14	33	2	2	2	2	1
<i>Pettetria ramentacea</i>	23	22	23	2	38	38	38	1
<i>Phellodendron amurense</i>	24	24	25	3	43	42	44	2
<i>Phellodendron amurense</i> x <i>japonicum</i>				0	42	42	43	5
<i>Phellodendron chinense</i>				0	44	44	44	2
<i>Phellodendron insulare</i>				0	43	43	43	2
<i>Phellodendron sachalinense</i>				0	41	39	42	3

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Philadelphus</i> cv. 'Virgina'	25	24	25	2	43	43	43	1
<i>Philadelphus X cymosus</i>	26	26	26	2				0
<i>Philadelphus delavayi</i> var. <i>calvescens</i>	24	23	24	7	43	43	43	5
<i>Philadelphus gordonianus</i>	26	26	26	1				0
<i>Philadelphus incanus</i>	26	26	26	1				0
<i>Philadelphus laxus</i>	27	26	28	2				0
<i>Philadelphus X lemoinei</i>	26	26	26	2				0
<i>Philadelphus magdalenae</i>	23	23	23	4				0
<i>Philadelphus pekinensis</i>	26	26	26	9				0
<i>Philadelphus purpurascens</i>	24	24	24	7	39	38	40	6
<i>Philadelphus satumanus</i>	25	25	25	1				0
<i>Philadelphus schrenkii</i>	24	23	26	31	43	38	45	4
<i>Philadelphus subcanus</i>	24	24	24	1	43	43	43	3
<i>Philadelphus tenuifolius</i>	24	23	24	6	43	43	43	5
<i>Philadelphus verrucosus</i>	29	28	29	2				0
<i>Philadelphus X virginialis</i>	29	29	29	1				0
<i>Photinia beauverdiana</i>	24	23	24	3	40	39	42	6
<i>Photinia davidiana</i>	27	26	27	2	43	43	43	1
<i>Photinia laevis</i>	23	22	23	4	39	39	39	4
<i>Photinia melanocarpa</i>	25	22	28	2	38	38	38	1
<i>Photinia parvifolia</i>	28	23	32	7	41	39	43	7
<i>Photinia villosa</i>	23	22	24	18	41	38	43	27
<i>Photinia villosa</i> form <i>maximowicziana</i>	25	24	25	5	40	39	42	6
<i>Photinia villosa</i> var. <i>sinica</i>	24	23	24	5	42	40	43	5
<i>Physocarpus capitatus</i>	25	24	26	22	42	38	45	13
<i>Physocarpus opulifolius</i>	26	25	27	27	40	38	45	24
<i>Picea</i> (<i>sitka</i> x <i>glauca</i>) x <i>glauca</i>	19	19	19	1				0
<i>Picea abies</i>	21	21	21	2				0
<i>Picea asperata</i>	20	19	20	7				0
<i>Picea crassifolia</i>	20	19	20	6				0
<i>Picea engelmannii</i>	21	20	21	3				0
<i>Picea engelmannii</i> subsp. <i>mexicana</i>	20	20	21	5	41	41	41	2
<i>Picea glauca</i>	20	19	21	12	37	36	42	6
<i>Picea glehnii</i>	20	20	20	2	39	39	39	1
<i>Picea jezoensis</i>	20	19	21	21	42	36	44	6
<i>Picea jezoensis</i> x <i>sitchensis</i>	20	20	20	1	41	41	41	1
<i>Picea koraiensis</i>	20	20	20	1				0
<i>Picea koyamae</i>	20	20	20	1				0
<i>Picea likiangensis</i>	20	19	21	11	44	44	44	1
<i>Picea X lutzii</i>	20	20	21	7				0
<i>Picea meyeri</i>	20	20	20	2				0
<i>Picea obovata</i>				0	38	38	38	1
<i>Picea omorica</i>	21	21	21	1				0
<i>Picea orientalis</i>	21	21	21	3	35	35	35	1
<i>Picea purpurea</i>	20	20	21	3				0
<i>Picea rubens</i>	21	21	21	1				0
<i>Picea sitchensis</i>	20	19	21	38	42	41	43	14
<i>Picea sitchensis</i> x <i>mariana</i>	20	20	20	1				0
<i>Picea wilsonii</i>	20	20	20	5				0
<i>Picrasma quassioides</i>	22	22	22	1				0
<i>Pieris floribunda</i>	17	17	17	1				0

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Pieris japonica</i>	16	14	17	15	59	48	65	3
<i>Pinus armandii</i>				0	41	41	41	2
<i>Pinus attenuata</i>	21	20	22	13	41	41	41	4
<i>Pinus banksiana</i>	21	20	23	10	43	43	43	3
<i>Pinus contorta</i>	21	20	22	153	41	41	41	70
<i>Pinus contorta</i> var. <i>latifolia</i>	21	20	21	7	43	43	43	3
<i>Pinus densata</i>	21	21	22	5				0
<i>Pinus densiflora</i>	22	22	23	8	42	29	44	11
<i>Pinus densiflora</i> form <i>erecta</i>				0	44	44	44	1
<i>Pinus flexilis</i> var. <i>reflexa</i>				0	43	43	43	1
<i>Pinus heldreichii</i>	23	23	23	1				0
<i>Pinus jeffreyi</i>	21	21	21	1	46	46	46	1
<i>Pinus koraiensis</i>	24	24	24	3	45	44	49	6
<i>Pinus mugo</i>	23	23	24	3	44	44	44	1
<i>Pinus mugo</i> subsp. <i>uncinata</i>	23	22	24	14	42	35	46	7
<i>Pinus X mugo</i> x <i>sylvestris</i>	23	23	23	1				0
<i>Pinus nigra</i>	23	23	23	6				0
<i>Pinus nigra</i> subsp. <i>nigra</i>	23	23	24	7	43	43	43	1
<i>Pinus nigra</i> subsp. <i>pallasiana</i>	23	23	23	1				0
<i>Pinus nigra</i> subsp. <i>salzmannii</i>				0	44	44	44	1
<i>Pinus X nigra</i> x <i>sylvestris</i>	22	21	23	2	31	31	31	1
<i>Pinus peuce</i>	23	23	24	6	40	38	43	9
<i>Pinus pinaster</i> subsp. <i>escarena</i>	23	22	23	8				0
<i>Pinus ponderosa</i>	21	20	22	12	39	28	43	5
<i>Pinus ponderosa</i> var. <i>ponderosa</i>	20	20	20	1	41	40	41	4
<i>Pinus ponderosa</i> var. <i>scopulorum</i>	21	21	21	1				0
<i>Pinus pumila</i>	21	20	22	8	43	43	43	3
<i>Pinus pungens</i>	21	20	21	2	43	43	43	1
<i>Pinus resinosa</i>	21	21	21	4	43	43	43	2
<i>Pinus rigida</i>	20	20	20	3	42	41	43	6
<i>Pinus strobus</i>				0	40	40	40	1
<i>Pinus sylvestris</i>	21	15	23	88	44	38	46	32
<i>Pinus sylvestris</i> var. <i>mongolica</i>	20	20	22	15	44	43	44	10
<i>Pinus X sylvestris</i> x <i>free</i>	22	21	23	2				0
<i>Pinus tabuliformis</i>	23	23	23	2	44	44	44	1
<i>Pinus thunbergii</i>	22	22	22	1				0
<i>Pinus wallichiana</i>	24	24	24	2				0
<i>Platycladus orientalis</i>	14	13	16	8	51	51	51	1
<i>Podocarpus nivalis</i>				0	27	23	30	3
<i>Poncirus trifoliata</i>	23	23	23	1				0
<i>Populus x canadensis</i> cv. 'Eugenei'	16	16	16	1				0
<i>Populus X canadensis</i> cv. 'Henryana'	15	15	15	1				0
<i>Populus X canadensis</i> cv. 'Robusta'	16	16	16	1				0
<i>Populus deltoides</i> x <i>trichocarpa</i>	17	16	17	2				0
<i>Populus purdomii</i>	19	19	19	1				0
<i>Populus tremula</i>	16	16	16	1				0
<i>Populus wilsonii</i>	21	20	21	2				0
<i>Populus wilsonii</i> (♀) <i>lasiocarpa</i> (♂)	19	18	19	2	26	26	26	1
<i>Potentilla fruticosa</i>	28	22	35	21	39	39	41	6
<i>Prunus</i> cv. 'Hally Jollivette'	18	18	18	2				0
<i>Prunus avium</i>	18	18	19	11	30	28	32	6

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Prunus cerasifera</i>	17	17	17	2	37	37	37	1
<i>Prunus cerasifera</i> subsp. <i>divaricata</i>	18	18	18	1	39	39	39	1
<i>Prunus cornuta</i>	22	22	22	1				0
<i>Prunus cyclamina</i>	18	17	18	2				0
<i>Prunus domestica</i> subsp. <i>insititia</i>	19	19	19	4	39	39	39	3
<i>Prunus emarginata</i>				0	34	34	34	1
<i>Prunus grayana</i>	21	21	22	12	37	35	40	12
<i>Prunus incisa</i>	16	16	16	1				0
<i>Prunus laurocerasus</i>	19	17	20	3	42	42	42	1
<i>Prunus laurocerasus</i> cv. 'Zabeliana'	20	20	20	1				0
<i>Prunus lusitanica</i>	25	19	28	3				0
<i>Prunus maackii</i>	20	19	21	12	34	29	35	4
<i>Prunus mahaleb</i>	20	19	21	10	34	33	36	5
<i>Prunus maximowiczii</i>	21	20	21	2				0
<i>Prunus nipponica</i>	16	16	17	4				0
<i>Prunus nipponica</i> var. <i>kurilensis</i>	17	17	17	2				0
<i>Prunus padus</i>	19	19	21	36	33	29	41	11
<i>Prunus padus</i> var. <i>glauca</i>	19	18	19	7	30	30	32	7
<i>Prunus padus</i> subsp. <i>padus</i>	19	19	19	6	31	27	32	4
<i>Prunus pensylvanica</i>	19	19	20	8	32	29	34	2
<i>Prunus pilosiuscula</i>	19	18	19	2				0
<i>Prunus quelpaertensis</i>	16	16	16	1				0
<i>Prunus sargentii</i>	16	16	17	3	34	34	34	1
<i>Prunus scopulorum</i>	16	16	16	1				0
<i>Prunus serotina</i>	23	22	24	15	41	41	41	1
<i>Prunus serrula</i> var. <i>thibetica</i>	19	19	19	2	33	33	33	1
<i>Prunus serrulata</i> cv. 'Chosuihizakura'	19	19	19	1	34	34	34	1
<i>Prunus serrulata</i> cv. 'Fudan-Zakura'	17	17	17	1				0
<i>Prunus serrulata</i> cv. 'Hokusai'	19	19	19	1				0
<i>Prunus serrulata</i> cv. 'Hosokawa-Odora'	20	19	20	2	34	34	34	1
<i>Prunus serrulata</i> cv. 'Ouchii-Zakura'	19	19	19	5				0
<i>Prunus serrulata</i> cv. 'Sakon'	19	19	19	1	34	34	34	1
<i>Prunus serrulata</i> cv. 'Shujaku'	21	21	21	2				0
<i>Prunus serrulata</i> var. <i>spontanea</i>	19	19	19	2				0
<i>Prunus X sieboldii</i>	20	19	20	6	34	34	34	1
<i>Prunus spinosa</i>	20	19	21	4				0
<i>Prunus ssiori</i>	22	22	22	4	35	35	35	1
<i>Prunus subcordata</i>	18	18	18	2				0
<i>Prunus subhirtella</i> cv. 'Pendula'	18	16	19	2				0
<i>Prunus subhirtella</i> x <i>yedoensis</i>	18	17	18	2				0
<i>Prunus susquehanae</i>	20	19	21	2	34	34	34	1
<i>Prunus tomentosa</i>	17	17	17	1				0
<i>Prunus virginiana</i>	22	21	22	9	35	33	39	5
<i>Prunus virginiana</i> subsp. <i>melanocarpa</i>	19	19	19	1				0
<i>Prunus X yedoensis</i>	19	18	19	4				0
<i>Pseudotsuga menziesii</i>	20	19	21	6	42	40	43	3
<i>Pseudotsuga menziesii</i> var. <i>glauca</i>	20	20	20	1	43	43	43	1
<i>Ptelea trifoliata</i>				0	41	41	41	2
<i>Ptelea trifoliata</i> var. <i>mollis</i>	24	22	25	4				0
<i>Pterocarya fraxinifolia</i>	20	19	20	2	42	42	42	1
<i>Pterocarya macroptera</i>				0	40	40	40	2

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
Pterocarya rhoifolia	21	19	23	3	41	40	42	5
Pterocarya stenoptera				0	42	42	42	1
Pterostyrax corymbosa	24	23	24	2	44	42	46	2
Pterostyrax hispida	26	25	26	4	42	42	42	2
Pyracantha angustifolia				0	38	35	41	3
Pyracantha coccinea	24	24	24	1	43	43	43	1
Pyracantha crenato-serrata	26	26	26	3	40	39	41	3
Pyrus amygdaliformis var. persica	20	19	20	2	39	39	39	2
Pyrus calleryana	21	20	21	4	44	44	44	2
Pyrus calleryana var. faurei	19	19	19	1	39	39	39	1
Pyrus X canescens	19	19	19	1				0
Pyrus communis	19	19	20	3	40	38	42	2
Pyrus lindleyi	19	19	20	3	42	42	42	1
Pyrus pyraster	19	19	19	9	38	38	38	3
Pyrus salicifolia				0	41	39	42	2
Pyrus salicifolia cv. 'Pendula'	19	19	19	2	42	42	42	2
Pyrus ussuriensis	19	18	19	2				0
Pyrus ussuriensis hondoensis	19	19	19	2	40	39	41	3
Quercus alba				0	31	31	31	1
Quercus cerris	21	20	21	2				0
Quercus coccinea	20	20	20	1	31	31	31	1
Quercus frainetto	21	21	21	1				0
Quercus ilex	22	22	22	1				0
Quercus macranthera	20	19	21	5				0
Quercus petraea	20	20	21	6	40	40	40	3
Quercus petraea Høgholteegen	20	20	20	1				0
Quercus petraea subsp. ibirica	20	19	21	2				0
Quercus petraea x robur	20	20	20	1				0
Quercus pontica	21	21	21	1				0
Quercus robur	20	20	20	12	41	39	43	6
Quercus robur Generalens Eg	20	20	20	2	43	43	43	1
Quercus robur subsp. imeretina	19	19	19	2				0
Quercus robur Prins Bernhards Eg	20	20	20	1	43	43	43	1
Quercus robur Prins Carls Eg	20	20	20	2	43	43	43	1
Quercus robur Skodsbøleegen	20	20	20	1	43	43	43	1
Quercus robur Skovfogedegen	20	20	20	1				0
Quercus robur cv. 'Tardissima'	20	20	20	1	43	43	43	1
Quercus rubra	21	21	21	1	40	40	40	1
Quercus X schochiana				0	31	31	31	1
Quercus texana				0	29	29	29	1
Quercus velutina	21	21	21	1				0
Rhamnus alpina	21	20	21	4				0
Rhamnus cathartica	23	19	23	8	37	35	42	23
Rhamnus frangula	28	24	33	9	37	31	42	14
Rhamnus globosa	23	23	23	2	38	38	38	5
Rhamnus libanotica				0	39	39	39	2
Rhamnus purshiana				0	36	35	38	3
Rhamnus saxatilis subsp. tinctorius				0	38	38	38	4
Rhamnus ussuriensis	23	23	24	3	43	41	44	7
Rhinanthus angustifolius	28	28	28	1	38	38	38	1
Rhododendron cv. 'Fireball' (Exbury)	28	24	31	2				0

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
Rhododendron adenogynum	17	16	18	3	45	45	45	3
Rhododendron adenosum	24	24	24	1				0
Rhododendron albrechtii	19	18	19	12	43	42	45	11
Rhododendron alutaceum	18	18	18	2	45	45	45	1
Rhododendron cf. ambiguum	21	20	21	2	43	43	43	1
Rhododendron arborescens	26	25	27	4				0
Rhododendron argyrophyllum	19	19	19	1				0
Rhododendron atlanticum	23	22	24	10	45	45	45	8
Rhododendron augustinii hybrid	20	19	21	10	43	43	43	6
Rhododendron aureum	17	17	17	1				0
Rhododendron auriculatum	31	31	31	1				0
Rhododendron brachycarpum	23	22	24	9	43	40	45	24
Rhododendron brachycarpum subsp. Fauriei	23	22	26	47	42	39	45	37
Rhododendron brachycarpum subsp. Tigerstedtii	24	23	25	3	44	40	45	11
Rhododendron bureavii	30	30	30	1				0
Rhododendron calendulaceum	24	23	24	13	45	45	45	5
Rhododendron calophytum	17	17	17	1				0
Rhododendron campanulatum	18	18	19	4				0
Rhododendron campanulatum var. Wallichii	18	18	18	1				0
Rhododendron campanulatum hybrid	19	18	20	4				0
Rhododendron campylocarpum	20	19	21	4				0
Rhododendron canadense	19	19	19	21				0
Rhododendron canescens	21	21	21	1				0
Rhododendron catawbiense	24	22	24	16	43	43	43	2
Rhododendron catawbiense var. insularis	23	22	23	2				0
Rhododendron catawbiense x ponticum cv. 'Morelianum'	22	22	22	4				0
Rhododendron caucasicum	18	18	18	1				0
Rhododendron caucasicum hybrid				0	43	43	43	3
Rhododendron caucasicum hybrid cv. 'Rosamundi'	19	18	19	6	42	42	42	1
Rhododendron caucasicum x ponticum 'Album' cv. 'Cunningham's White'	20	19	21	11	38	37	41	13
Rhododendron cerasinum	33	29	36	2	45	45	45	1
Rhododendron cinnabarinum	21	20	21	2				0
Rhododendron clementinae	19	19	19	1				0
Rhododendron coeloneurum	18	18	18	1				0
Rhododendron concinnum	20	19	21	6				0
Rhododendron cumberlandense	28	28	28	2				0
Rhododendron dauricum	15	13	16	8				0
Rhododendron dauricum var. album	16	15	17	2				0
Rhododendron davsonianum	20	20	20	2				0
Rhododendron decorum	23	23	23	1				0
Rhododendron degronianum subsp. Degronianum	18	18	18	1	43	43	43	2
Rhododendron degronianum subsp. Heptamerum	20	18	22	8				0
Rhododendron denudatum	17	16	18	2				0
Rhododendron 'Dr. V.H. Rütgers' x	20	20	20	10				0

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
williamsianum								
Rhododendron elegantulum	18	18	18	2				0
Rhododendron ellottii hybrid cv. 'Gibraltar'	23	23	23	1				0
Rhododendron fastigiatum	21	20	21	2				0
Rhododendron ferrugineum	24	21	33	9	36	36	38	11
Rhododendron ferrugineum x minus	24	24	24	9	43	43	43	7
Rhododendron fortunei	21	19	22	6	49	42	55	12
Rhododendron fortunei x williamsianum cv. 'Oldenburg'	21	20	22	6	42	42	42	3
Rhododendron groenlandicum	22	22	22	4				0
Rhododendron haematodes	20	19	20	2				0
Rhododendron hippophaeoides	19	18	20	6				0
Rhododendron hippophaeoides hybrid	20	19	20	2				0
Rhododendron hirsutum	25	24	25	5	36	36	37	7
Rhododendron houlstonii	20	20	20	3				0
Rhododendron hybrid h 'Aberconway' hybrid	17	17	17	1				0
Rhododendron hybrid cv. 'Cheerful Giant'	23	23	24	7				0
Rhododendron hybrid cv. 'Klondyke'	22	22	22	8				0
Rhododendron hybrid cv. 'Mount St. Helens'	22	22	22	5				0
Rhododendron hybrid cv. 'Persil'	22	22	22	6				0
Rhododendron hybrid cv. 'Pink Pearl'	21	19	22	2				0
Rhododendron hybrid cv. 'Snowbird'	22	22	22	2				0
Rhododendron hyperythrum	21	19	23	2				0
Rhododendron japonicum	21	20	22	41				0
Rhododendron kaempferi	22	21	22	6				0
Rhododendron kaempferi form latisepalum	22	21	22	6				0
Rhododendron keiskei	19	19	19	2				0
Rhododendron X kesselringii	23	23	24	3	47	47	47	1
Rhododendron kiusianum	22	19	23	7	51	51	51	4
Rhododendron kiusianum cv. 'Mt.Fuji'	23	22	23	6	50	48	51	3
Rhododendron kiusianum cv. 'Zuiko'	22	21	24	10				0
Rhododendron lapponicum	17	16	18	2				0
Rhododendron lutescens	16	16	17	5				0
Rhododendron luteum	21	20	24	79	44	43	45	34
Rhododendron macrosepalum cv. 'Linearifolium'	21	21	21	1				0
Rhododendron maculiferum subsp. anhweiense	20	20	20	2				0
Rhododendron maximum	27	26	28	3				0
Rhododendron micranthum	22	22	22	9	36	36	36	1
Rhododendron microgynum				0	45	45	45	1
Rhododendron minus var. minus	21	20	21	6				0
Rhododendron molle	22	22	22	8				0
Rhododendron molle subsp. japonicum	22	21	22	9	43	43	43	4
Rhododendron molle x ?luteum				0	43	43	43	4
Rhododendron mucronatum form album	22	22	22	10	47	47	47	2
Rhododendron mucronulatum	16	11	19	54	40	40	40	31

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
Rhododendron nakaharae hybrid cv. 'Wombat'	23	23	23	2				0
Rhododendron X nikomontanum				0	45	45	45	1
Rhododendron occidentale	22	16	29	33	45	45	45	66
Rhododendron oreodoxa	17	16	17	2	47	47	47	1
Rhododendron oreodoxa var. fargesii	17	17	17	1				0
Rhododendron oreotropes	20	20	20	1				0
Rhododendron pachytrichum	17	16	17	2	43	43	43	1
Rhododendron pachytrichum var. monosematum	16	16	16	2				0
Rhododendron periclymenoides	21	20	22	6				0
Rhododendron phaeochrysum	18	18	18	1				0
Rhododendron phaeochrysum var. agglutinatum	19	19	19	3				0
Rhododendron phaeochrysum var. levistratum	19	19	20	7	43	43	43	8
Rhododendron phaeochrysum var. phaeochrysum	17	16	17	2				0
Rhododendron polylepis	18	18	18	2				0
Rhododendron ponticum	21	20	22	3	44	43	45	3
Rhododendron aff. ponticum	22	21	24	11	45	45	45	8
Rhododendron ponticum hybrid	23	19	25	11				0
Rhododendron prinophyllum	21	21	21	2				0
Rhododendron racemosum	19	17	19	13				0
Rhododendron rubiginosum	18	17	18	11				0
Rhododendron rupicola	21	20	21	8				0
Rhododendron rupicola var. chrysanthemum	20	19	20	3				0
Rhododendron russatum	19	19	19	2				0
Rhododendron saluenense subsp. chameuneum	26	26	26	1				0
Rhododendron schlippenbachii	19	18	21	114	44	40	47	79
Rhododendron selense	18	18	18	1				0
Rhododendron smirnowii	23	22	23	5	45	45	45	1
Rhododendron smirnowii hybrid	22	21	22	3	43	43	43	2
Rhododendron sutchuenense	17	15	22	25	43	41	45	10
Rhododendron thomsonii	17	16	17	2	45	45	45	7
Rhododendron tomentosum	23	23	23	1				0
Rhododendron trichostomum	23	22	24	3				0
Rhododendron tsariense	16	16	16	1				0
Rhododendron uncinatum	18	18	18	2				0
Rhododendron vaseyi	20	19	21	15	44	43	45	15
Rhododendron viscosum	28	27	30	5				0
Rhododendron viscosum hybrid cv. 'Rosata'	23	22	24	3				0
Rhododendron viscosum x mollis cv. 'Irene Koster'	22	22	22	5				0
Rhododendron wallichii	18	17	18	11	45	45	45	8
Rhododendron wardii	20	18	22	5	45	45	45	5
Rhododendron wardii cv. 'Hobbies Form'	21	20	21	3				0
Rhododendron wardii hybrid	21	19	26	21	42	42	45	10
Rhododendron weyrichii	23	23	23	1				0
Rhododendron wightii	19	19	19	2				0

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Rhododendron williamsianum</i>	20	19	20	7	43	43	43	5
<i>Rhododendron williamsianum</i> hybrid	20	20	20	2				0
<i>Rhododendron williamsianum</i> hybrid cv. 'Wega'	21	20	22	9	43	43	43	3
<i>Rhododendron yedoense</i> var. <i>poukhanense</i>	21	18	22	13				0
<i>Rhododendron yedoense</i> hybrid	22	22	22	2				0
<i>Rhododendron yunnanense</i>	20	19	22	3				0
<i>Rhodotypos scandens</i>	21	20	21	2	39	38	42	9
<i>Rhus ambigua</i>	20	20	20	2				0
<i>Rhus aromatica</i>	20	20	20	1				0
<i>Rhus potanini</i>				0	37	37	37	2
<i>Rhus punjabensis</i> var. <i>sinica</i>	27	27	27	1				0
<i>Rhus radicans</i> var. <i>rydbergii</i>	28	28	28	2	49	49	49	4
<i>Rhus trilobata</i>	19	19	19	1				0
<i>Rhus typhina</i>				0	39	39	39	1
<i>Rhus verniciflua</i>	27	26	29	4	43	43	43	1
<i>Ribes alpinum</i>	18	15	20	29	30	29	32	21
<i>Ribes americanum</i>	19	18	19	2	29	29	29	1
<i>Ribes atropurpureum</i>	18	18	18	2	29	28	29	4
<i>Ribes bracteosum</i>	20	19	21	3	35	33	39	5
<i>Ribes cynosbati</i>	20	19	20	2	38	38	38	1
<i>Ribes diacanthum</i>	17	17	17	1	29	29	29	1
<i>Ribes fasciculatum</i> var. <i>chinense</i>	19	19	19	2				0
<i>Ribes formosanum</i>	19	19	19	2	39	39	39	1
<i>Ribes glaciale</i>	18	17	19	3				0
<i>Ribes hispidulum</i>	19	19	19	2	33	33	33	1
<i>Ribes hudsonianum</i>	18	18	18	1	30	30	30	1
<i>Ribes irriguum</i>	16	16	16	3	31	29	39	6
<i>Ribes lacustre</i>	19	18	19	3	29	28	29	4
<i>Ribes latifolium</i>	25	19	28	3				0
<i>Ribes laxiflorum</i>	18	17	19	9				0
<i>Ribes leptanthum</i>	19	18	19	2	30	29	31	4
<i>Ribes lobbii</i>	19	19	19	1				0
<i>Ribes petraeum</i>	19	19	19	1				0
<i>Ribes pinetorum</i>	17	17	17	3	30	30	30	1
<i>Ribes sanguineum</i>	18	16	20	6	30	29	31	3
<i>Ribes spicatum</i>	17	16	19	9	30	30	30	2
<i>Ribes stenocarpum</i>	18	17	19	2				0
<i>Ribes ussuriensis</i>	18	17	19	7	35	29	43	3
<i>Ribes uva-crispa</i>	17	17	17	5				0
<i>Ribes warscewiczii</i>	19	19	19	2	29	28	30	5
<i>Robinia luxurians</i>	22	22	22	1				0
<i>Robinia pseudoacacia</i>	25	25	25	2				0
<i>Robinia viscosa</i>	28	27	28	2				0
<i>Rosa acicularis</i>				0	38	37	38	2
<i>Rosa amblyotis</i>	22	20	23	4	34	33	36	6
<i>Rosa cinnamomea</i>				0	38	38	38	1
<i>Rosa heleneae</i> cv. 'Lykkefund'	28	27	28	2				0
<i>Rosa jacutica</i>	24	23	24	2	33	33	33	1
<i>Rosa luciae fujisanensis</i>				0	44	44	44	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Rosa maximowicziana</i>	25	25	25	1				0
<i>Rosa moyesii</i>	25	24	25	2	38	35	41	3
<i>Rosa multiflora</i>	28	27	29	3	36	36	36	1
<i>Rosa nutkana</i>	23	23	23	1	34	34	34	1
<i>Rosa omeiensis</i>	24	23	26	5	34	28	41	5
<i>Rosa palustris</i>				0	44	44	44	3
<i>Rosa pendulina</i>	25	24	25	2	36	32	38	3
<i>Rosa pimpinellifolia</i> cv. 'Rofolo'	23	22	23	2	38	38	38	1
<i>Rosa pimpinellifolia</i> x <i>villosa</i> cv. 'Ripollo'	24	23	25	2	36	33	41	3
<i>Rosa pisocarpa</i>	27	27	27	1	38	38	38	1
<i>Rosa rugosa</i>	22	15	26	5	37	34	41	9
<i>Rosa setipoda</i>	27	26	27	2	40	38	41	2
<i>Rosa sweginzowii</i>				0	37	37	37	1
<i>Rosa tomentosa</i>	25	24	25	2	39	35	42	3
<i>Rosa villosa</i>				0	37	37	37	1
<i>Rosa virginiana</i>	28	27	29	2	40	38	41	2
<i>Rosa woodsi</i>				0	38	38	38	1
<i>Rubus odoratus</i>	24	24	24	1				0
<i>Rubus parviflorus</i>	24	23	24	5	32	31	32	2
<i>Rubus spectabilis</i>	20	19	20	3	30	30	30	2
<i>Salix alaxensis</i>	17	16	18	4	24	23	24	3
<i>Salix alba</i>	19	19	19	3				0
<i>Salix alba</i> cv. 'Chermesina'	21	20	21	2				0
<i>Salix alba</i> × <i>fragilis</i> var. <i>coerulea</i>	19	19	19	1	34	34	34	1
<i>Salix arbutifolia</i>	19	19	19	1				0
<i>Salix borealis</i>	17	16	18	3				0
<i>Salix caprea</i> hybrid cv. 'Silbergantz'	14	14	14	1				0
<i>Salix cinerea</i> subsp. <i>cinerea</i>	18	18	18	1				0
<i>Salix fragilis</i> var. <i>decipiens</i>	19	19	19	1				0
<i>Salix glauca</i> cv. 'Sericea'	20	20	20	1				0
<i>Salix helvetica</i>	17	16	17	2				0
<i>Salix hookeriana</i>	16	15	16	6				0
<i>Salix koriyanagi</i>	15	14	15	3				0
<i>Salix myrsinifolia</i>	16	16	17	7				0
<i>Salix phylicifolia</i>	20	20	20	1				0
<i>Salix phylicifolia</i> cv. 'Glibidir'	19	19	19	2				0
<i>Salix sachalinensis</i> cv. 'Secca'	16	15	17	2				0
<i>Salix urbaniana</i>	20	20	21	3				0
<i>Salix viminalis</i>	17	16	17	2				0
<i>Sambucus caerulea</i>	25	25	26	5	32	32	32	1
<i>Sambucus callicarpa</i>	20	20	20	4	29	27	30	4
<i>Sambucus callicarpa</i> var. <i>arborescens</i>	19	19	20	11				0
<i>Sambucus canadensis</i>	27	27	27	2	38	38	38	1
<i>Sambucus miquelii</i>				0	31	30	32	2
<i>Sambucus nigra</i> form <i>laciniata</i>	26	25	28	5	40	40	40	3
<i>Sambucus pubens</i>	20	19	20	8	29	27	30	7
<i>Sambucus pubens</i> form <i>aurantiacus</i>	20	20	20	1				0
<i>Sambucus sieboldiana</i>				0	29	29	29	1
<i>Sarcococca humilis</i>	13	12	13	3				0
<i>Sarcococca saligna</i>	13	13	13	2				0
<i>Schizandra chinensis</i>	20	20	20	1				0

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Schizandra grandiflora</i> var. <i>rubriflora</i>	23	22	23	4				0
<i>Sciadopitys verticillata</i>				0	51	42	65	5
<i>Securinega suffruticosa</i>	33	28	38	25	42	40	43	5
<i>Sequoiadendron giganteum</i>	14	14	14	9				0
<i>Shepherdia canadensis</i>	16	16	16	2				0
<i>Sinocalycanthus chinensis</i>	28	28	28	1				0
<i>Skimmia japonica</i>	18	17	19	11	39	38	41	8
<i>Sorbaria kirilowii</i>	31	28	33	9				0
<i>Sorbaria sorbifolia</i>	28	28	29	4	43	43	43	1
<i>Sorbaria stellipila</i> var. <i>stellipila</i>	28	28	28	1				0
<i>Sorbaria tomentosa</i> var. <i>angustifolia</i>	31	29	32	4				0
<i>Sorbus</i> cv. 'Joseph Rock'				0	40	39	41	3
<i>Sorbus</i> cv. 'Kirstens Pink'	22	22	22	1	38	36	40	3
<i>Sorbus albovii</i>	21	20	21	5	38	35	43	7
<i>Sorbus alnifolia</i>	21	20	22	19	41	38	44	20
<i>Sorbus alnifolia</i> x <i>aria</i>	21	21	22	3	42	42	42	1
<i>Sorbus americana</i>	22	21	22	3	33	31	34	5
<i>Sorbus aria</i>	22	21	22	2	44	44	44	1
<i>Sorbus aucuparia</i>	22	21	22	5	33	29	38	10
<i>Sorbus chamaemespilus</i>				0	35	33	38	3
<i>Sorbus commixta</i>	22	20	25	28	38	33	44	43
<i>Sorbus X danubialis</i>				0	39	34	44	2
<i>Sorbus decora</i>				0	34	33	34	2
<i>Sorbus decora</i> cv. 'Fastigiata'	22	22	22	1	34	34	34	2
<i>Sorbus domestica</i>	22	22	22	3	40	32	44	5
<i>Sorbus dumosa</i>	22	22	22	1	35	33	37	2
<i>Sorbus federovii</i>	22	22	22	2	43	43	43	2
<i>Sorbus folgneri</i>	23	23	23	3	43	43	43	1
<i>Sorbus forrestii</i>	23	22	23	2	40	39	41	2
<i>Sorbus graeca</i>	23	22	23	2	41	41	41	1
<i>Sorbus groenlandica</i>				0	34	33	34	2
<i>Sorbus X hostii</i>	21	20	21	2	33	33	33	2
<i>Sorbus hupehensis</i>	23	22	24	5	44	44	44	2
<i>Sorbus intermedia</i>	26	26	26	1				0
<i>Sorbus japonica</i>	22	22	22	1				0
<i>Sorbus koehneana</i>	22	22	22	1	38	34	42	3
<i>Sorbus matsumurana</i>	20	19	21	5	35	33	42	10
<i>Sorbus megalocarpa</i>	19	19	19	4				0
<i>Sorbus aff. meliosmifolia</i>	21	20	21	2				0
<i>Sorbus microphylla</i>	23	22	24	2	40	38	43	4
<i>Sorbus mougeotii</i>	22	22	22	14	38	35	43	12
<i>Sorbus occidentalis</i>	22	21	22	5	34	32	34	6
<i>Sorbus pohuashanensis</i>	21	21	21	1	33	33	33	1
<i>Sorbus poteriifolia</i> h 'McLaren 84' hybrid	22	21	22	2	43	42	44	2
<i>Sorbus prattii</i>	23	23	23	1	39	35	42	2
<i>Sorbus pseudovertesensis</i>	22	22	22	1				0
<i>Sorbus rehderana</i>	23	23	23	1	34	31	36	2
<i>Sorbus rhamnoides</i>	20	20	20	1				0
<i>Sorbus rufoferruginea</i>	23	22	23	10	38	35	39	6
<i>Sorbus rupicola</i>				0	42	42	42	1
<i>Sorbus sambucifolia</i>	20	19	20	8	32	29	42	12

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Sorbus sargentiana</i>				0	38	38	38	1
<i>Sorbus scopulina</i>	21	21	21	2	34	34	34	1
<i>Sorbus subsimilis</i>	22	22	22	1	41	38	43	2
<i>Sorbus tamamschjanae</i>	22	22	22	4	36	32	43	3
<i>Sorbus torminalis</i>	22	22	23	3	39	31	42	4
<i>Sorbus ursina</i>				0	37	34	42	3
<i>Sorbus vilmorini</i>	24	24	24	1	37	29	42	3
<i>Sorbus xanthoneura</i>	20	20	20	2				0
<i>Spiraea alba</i>	28	28	28	5	41	41	41	1
<i>Spiraea cf. arcuata</i>	22	21	22	2				0
<i>Spiraea betulifolia</i>	23	23	23	2				0
<i>Spiraea blumei</i> var. <i>latifolia</i>	23	18	25	7				0
<i>Spiraea chamaedryfolia</i>	21	19	25	8	41	41	41	1
<i>Spiraea douglasii</i>	33	33	33	1				0
<i>Spiraea douglasii</i> var. <i>menziesii</i>	30	30	30	3				0
<i>Spiraea flexuosa</i>	19	19	20	7				0
<i>Spiraea formosana</i>	31	31	31	5				0
<i>Spiraea fritschiana</i>	27	26	28	7	45	45	45	1
<i>Spiraea henryi</i>	23	23	23	1				0
<i>Spiraea humilis</i>	25	24	26	5				0
<i>Spiraea japonica</i>	26	20	30	8	37	36	38	2
<i>Spiraea japonica</i> var. <i>fortunei</i>	29	28	29	2	42	42	42	1
<i>Spiraea japonica</i> var. <i>incisa</i>	22	21	22	2	35	35	35	1
<i>Spiraea latifolia</i>	27	27	27	2	35	35	35	6
<i>Spiraea media</i>	20	20	21	7	39	39	39	3
<i>Spiraea media</i> var. <i>sericea</i>	19	19	19	6	35	35	35	2
<i>Spiraea miyabei</i>	27	26	29	11	45	45	45	3
<i>Spiraea pubescens</i>	21	21	21	1				0
<i>Spiraea pumila</i> (<i>japonica</i> x <i>albiflora</i>)	28	28	28	1				0
<i>Spiraea rosthornii</i>	23	23	23	8	36	35	39	7
<i>Spiraea salicifolia</i>	24	23	24	4				0
<i>Spiraea sericea</i>	19	19	22	13				0
<i>Spiraea stevenii</i>	21	21	21	1				0
<i>Spiraea trilobata</i>	19	19	19	3				0
<i>Spiraea veitchii</i>	28	28	28	1				0
<i>Spiraea virgata</i>	23	22	23	4				0
<i>Stachyurus chinensis</i>	17	17	17	2				0
<i>Stachyurus praecox</i>	16	15	17	10				0
<i>Staphylea pinnata</i>	21	20	24	10	41	37	42	7
<i>Staphylea trifolia</i>	21	21	21	1	44	44	44	1
<i>Stephanandra chinensis</i>	25	25	25	6				0
<i>Stephanandra incisa</i>	26	25	29	13				0
<i>Stewartia koreana</i>	29	28	29	2	39	39	39	1
<i>Stewartia monadelpha</i>	28	27	29	2				0
<i>Stewartia rostrata</i>	27	26	27	2	30	29	31	3
<i>Stewartia serrata</i>	26	26	26	2	41	39	42	2
<i>Styrax japonica</i>	26	26	26	1	44	42	45	3
<i>Styrax obassia</i>	24	24	25	4	44	42	45	2
<i>Sycopsis sinensis</i>	17	17	17	1	50	50	50	1
<i>Symporicarpos albus</i>	28	28	28	3	38	35	42	7
<i>Symporicarpos albus</i> var. <i>laevigatus</i>				0	37	29	42	3

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Symphoricarpos hesperius</i>	28	28	28	1	35	35	35	1
<i>Symphoricarpos microphyllus</i>				0	37	35	39	7
<i>Symphoricarpos mollis</i>				0	35	28	42	3
<i>Symphoricarpos occidentalis</i>				0	37	35	42	7
<i>Symplocos prunifolia</i>	23	23	23	1	38	38	38	1
<i>Syringa amurensis</i>	30	27	38	4				0
<i>Syringa amurensis</i> var. <i>japonica</i>	26	26	26	1	40	40	40	1
<i>Syringa X diversifolia</i>	20	20	20	1				0
<i>Syringa emodi</i>	23	22	23	3				0
<i>Syringa X josiflexa</i>	23	23	23	1				0
<i>Syringa josikaea</i>	22	22	22	2	44	44	44	1
<i>Syringa komarovii</i>	23	22	23	7	44	44	44	1
<i>Syringa komarovii</i> subsp. <i>reflexa</i>	23	23	23	2	40	40	40	1
<i>Syringa meyeri</i>	23	22	23	2	40	40	40	1
<i>Syringa oblata</i> var. <i>dilatata</i>	19	19	19	1				0
<i>Syringa pinetorum</i>	23	23	23	1				0
<i>Syringa reticulata</i> subsp. <i>amurensis</i>	26	26	26	2				0
<i>Syringa sweginzowii</i>	23	22	24	10	40	40	40	1
<i>Syringa tigerstedtii</i>	23	23	24	13	40	40	40	4
<i>Syringa tomentella</i>	23	22	23	4	40	40	40	4
<i>Syringa cf. tomentella</i>	23	23	23	2	41	38	43	2
<i>Syringa velutina</i>	24	22	24	13	40	40	40	3
<i>Syringa villosa</i>	21	21	21	1	42	39	44	2
<i>Syringa vulgaris</i>	22	20	22	11	44	44	44	4
<i>Syringa wolffii</i>	21	18	23	8	39	38	40	3
<i>Syringa yunnanensis</i>	23	22	23	5	40	38	40	5
<i>Taxus baccata</i>	14	13	16	41	40	34	44	33
<i>Taxus baccata</i> cv. 'Fastigiata'	14	14	14	1	41	38	43	2
<i>Taxus baccata</i> cv. 'Lutea'				0	43	43	43	1
<i>Taxus baccata</i> cv. 'Stricta'	14	14	14	2	39	39	39	1
<i>Taxus brevifolia</i>				0	39	39	39	1
<i>Taxus canadensis</i>	18	17	18	6				0
<i>Taxus cuspidata</i>	14	13	16	9	41	39	42	7
<i>Taxus cuspidata</i> form <i>nana</i>	16	15	17	2				0
<i>Thuja koraiensis</i>	14	14	14	1	40	39	42	3
<i>Thuja occidentalis</i>	16	14	18	40	38	38	41	28
<i>Thuja occidentalis</i> cv. 'Rosenthalii'	17	17	17	1				0
<i>Thuja plicata</i>	16	16	16	1	41	41	41	3
<i>Thuja standishii</i> x <i>plicata</i>	14	14	14	1				0
<i>Thujopsis dolabrata</i>	14	14	14	1				0
<i>Tilia americana</i>	31	31	31	1	43	42	44	3
<i>Tilia amurensis</i>	29	27	31	4	42	42	42	2
<i>Tilia caucasica</i>	29	26	32	5	39	33	42	4
<i>Tilia cordata</i>	30	28	31	4	42	42	42	2
<i>Tilia dasystyla</i>				0	42	42	42	1
<i>Tilia X euchlora</i>	26	26	26	1	42	42	42	1
<i>Tilia X europaea</i>	28	27	29	2	42	42	42	1
<i>Tilia insularis</i>	29	26	31	4	42	42	42	2
<i>Tilia japonica</i>	30	27	32	6	42	42	42	4
<i>Tilia koreana</i>				0	42	42	42	1
<i>Tilia maximowiczii</i>	29	27	31	2	42	42	42	4

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
<i>Tilia X moltkei</i>	26	26	26	1				0
<i>Tilia petiolaris</i>	30	26	33	2				0
<i>Tilia platyphyllos</i>	28	27	29	2	42	42	42	1
<i>Tilia platyphyllos</i> cv. 'Laciniata'	28	27	29	2				0
<i>Torreya californica</i>	22	21	23	3				0
<i>Tripterygium regelii</i>	28	27	30	7	39	39	39	1
<i>Tripterygium wilfordii</i>	28	28	28	1				0
<i>Trochodendron aralioides</i>	23	23	23	1	43	43	43	2
<i>Tsuga canadensis</i>	21	21	21	2				0
<i>Tsuga diversifolia</i>				0	47	47	47	1
<i>Tsuga heterophylla</i>	20	20	20	3	41	38	43	3
<i>Tsuga mertensiana</i>	21	21	21	1				0
<i>Ulmus pumila</i>	17	14	32	7				0
<i>Vaccinium corymbosum</i>	19	18	19	2	40	35	43	14
<i>Vaccinium corymbosum</i> cv. 'Adams'	24	24	24	1	42	40	43	4
<i>Vaccinium ovalifolium</i>	17	15	18	5	35	35	35	5
<i>Vaccinium parvifolium</i>				0	33	32	37	6
<i>Viburnum alnifolium</i>	20	19	20	2				0
<i>Viburnum betulifolium</i>	23	23	24	3	39	38	42	6
<i>Viburnum buddleifolium</i>	19	19	19	1				0
<i>Viburnum burejaeticum</i>	20	20	20	1				0
<i>Viburnum X burkwoodii</i>	19	19	19	2	43	43	43	1
<i>Viburnum carlesii</i>	21	20	21	2	38	38	38	1
<i>Viburnum carlesii</i> x <i>macrocephalum</i>	21	20	21	2	44	44	44	1
<i>Viburnum cotinifolium</i>	22	22	22	6	39	39	39	3
<i>Viburnum dentatum</i>	25	25	25	1				0
<i>Viburnum dilatatum</i>	26	26	26	3	39	37	43	9
<i>Viburnum erosum</i>	26	25	26	2	40	39	42	3
<i>Viburnum fragrans</i>	20	20	20	1				0
<i>Viburnum furcatum</i>	18	17	18	14	33	29	37	10
<i>Viburnum lantana</i>	21	20	22	15	38	33	43	13
<i>Viburnum lantana</i> var. <i>discolor</i>	20	20	20	1				0
<i>Viburnum lentago</i>	24	24	24	1				0
<i>Viburnum lobophyllum</i>				0	40	38	42	6
<i>Viburnum opulus</i>	24	24	25	11	39	35	44	29
<i>Viburnum opulus</i> var. <i>calvescens</i>	23	23	23	1	44	44	44	1
<i>Viburnum opulus</i> form <i>hydrangeoides</i>	24	23	25	6	41	32	44	9
<i>Viburnum opulus</i> var. <i>sargentii</i>	24	24	25	5	40	38	44	13
<i>Viburnum ovatifolium</i>				0	38	38	38	1
<i>Viburnum rafinesquianum</i>	20	20	20	2				0
<i>Viburnum rhytidophyllum</i>	20	20	20	1	36	33	38	2
<i>Viburnum sieboldii</i>	23	23	23	2	38	38	38	1
<i>Viburnum tomentosum</i>	23	21	23	5				0
<i>Viburnum tomentosum</i> cv. 'Mariesii'	23	22	23	2				0
<i>Viburnum tomentosum</i> form <i>sterile</i>	23	21	23	7				0
<i>Viburnum urceolatum</i>				0	33	31	35	2
<i>Viburnum wilsonii</i>	20	20	20	1	39	39	39	1
<i>Viburnum wrightii</i>	22	22	23	5	37	33	38	7
<i>Viburnum wrightii</i> cv. 'Hessei'				0	35	32	37	2
<i>Viscum album</i>	14	14	14	3	48	48	48	1
<i>Vitis piasezkii</i> var. <i>pagnuccii</i>				0	41	41	41	1

Taxon	mean flower week	first flower week	last flower week	sample size flower	mean fruit week	first fruit week	last fruit week	sample size fruit
Weigela cv. 'Andida'	24	24	24	2				0
Weigela decora				0	43	43	43	14
Weigela aff. hortensis	24	24	24	5	43	43	43	8
Weigela japonica	25	25	25	19	43	43	43	10
Weigela middendorffiana	21	19	24	30	42	40	43	16
Weigela subsessilis	22	20	23	19	42	42	42	3
Xanthorhiza simplicissima	19	19	19	1	42	42	42	1
Yucca filamentosa	18	18	18	1				0

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