Lilacs

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INTERNATIONAL LILAC SOCIETY is a non-profit corporation comprised of individuals who share a particular interest, appreciation and fondness for lilacs. Through exchange of knowledge, experience and facts gained by members it is helping to promote, educate and broaden public understanding and awareness.

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The First Ten Years In Brief

One Saturday in mid-May of 1971 fifteen lilac lovers, responding to an open invitation from Orville M. Stewart, Jr., gathered at the Bayard Cutting Arboretum, Great River, New York, to look into the desirability of forming a society for the study and promition of lilacs. Each of the founding members volunteered his talents and steps were authorized by the Board of Directors thus constituted to organize, to incorporate under the laws of New York State, and to apply to the U.S. Internal Revenue Service for tax-exempt status as an educational institution.

Eighty-seven members and guests attended the first Annual Meeting held at Highland Park, Rochester, New York, during the lilac season of 1972. It was an auspicious occasion for charter members arriving from Europe as well as remote parts of North America, but Rochester's spring-time weather proved fickle and only the early hybrid lilacs were in bloom. Subsequent annual meetings have been held in the vicinities of Boston, Hamilton, Chicago, Amherst, Philadelphia, Durham, NH, Cleveland and Des Moines, and, although peak bloom has seldom been in evidence, nevertheless each meeting was memorable for those who attended and progress made, thanks in large measure to the successive local chairpersons who gave of themselves freely.

Educational functions have been evidenced from the beginning with newsletters and proceedings issued by Fr. Fiala (for the first five

years) later by Isabel Zucker, Walter Eickhorst, Charles Holetich and Robert Clark. Herein lies the foundation of contemporary lilac literature whose framework is appended in several indices and which record the first nine years of I.L.S. proceedings published in the annals titled *Lilacs**. A manuscript exhibited in the Morton Arboretum library of a study of lilac flowers by Joseph Dvorak in the living collections of Morton Arboretum and Lilacia Park at Lombard, Illinois, was made available to the Society for publication in May 1976. This booklet, consisting of 78 pages of exceptional line drawings plus identifying notes by Joseph Dvorak, titled *Lilac Study*, is available through the I.L.S. archivist, Fr. John L. Fiala, at $5.00 U.S. postpaid. Address: 7359 Branch Road, Medina, Ohio 44256.

The Covers of the First Nine Issues are Printed as Follows:

* International Lilac Society Incorporated, Proceedings 1972, volume 1, number 5
* Proceedings volume 2, number 4, International Lilac Society Incorporated, May 1974, LILACS
* International Lilac Society, Inc. Volume 3, Number 1, LILACS, Convention Proceedings, 1974.
* Volume 4, 1975 International Lilac Society Incorporated, Convention Proceedings, LILACS
* LILACS AN AMERICAN HERITAGE, International Lilac Society Incorporated Fifth Annual Convention, Rochester, New York, May 21-23, 1976, volume 5, number 1, Convention Proceedings 1976
* International Lilac Society Incorporated, LILACS, volume 6, number 1, Proceedings of Sixth Annual Convention, Amherst, Massachusetts, May 20-22, 1977. From this date forward the legend has not varied aside from places and dates.

Lilac Growing at Margaretten Park

by Joel Margaretten, Leona Valley, California

Margaretten Park was originally settled by a gold miner named Kerr who homesteaded it in the mid-1880s. He built the house from native materials or whatever he could bring up through a winding canyon on horseback. For water he built a flume without pipe which follows the contour from a spring two miles away. Remnants of it can still be seen. He was buried in the mine when it caved in on him and his remains are still there. The second owners by the name of Talley bought the property from Kerr's heirs. They increased the size of the ranch to 360 acres, developing it for cattle raising. Mrs. Talley produced many beautiful stone mosaic pieces which are distributed over the terraces, gardens, and pools. Many years ago I purchased the ranch, renamed it Margaretten Park, and started in the cattle business. The drought of 1952, however, forced me to reduce the herd from 800 to 50 head. As a result of the drop in the cattle market, I gave up cattle raising altogether.

One of the first things I did at the Park was to plant three lilacs, but lost them all the first year for lack of water and through neglect. Three replacements the next year survived. As more water was developed more lilacs were planted, all common *Syringa vulgaris* varieties. Today there are 25 springs, 5 wells, 13 large storage tanks and miles of irrigation pipe plus a drip system of miles of plastic hose.

Semi-arid Climate

Raising lilacs in a semi-arid climate is simple provided you have perserverance. When I came to California experts told me that I could not grow lilacs in a Mediterranean climate. Well I tried, and I failed. I tried again. This time I succeeded, but first let me tell you what conditions are like at Margaretten Park. In southern California we have very low humidity in summer, from 2 to 10%, changing to 30 to 100% in the winter and spring. The yearly rainfall might vary from zero to 30 inches, all within two or three months. There is also a marked difference in the temperatures between day and night, from 60 to 80 degrees Fahrenheit in winter to 20 to 60 degrees Fahrenheit in summer. For instance, I have seen 16 degrees Fahrenheit jump to 100 degrees by noon; in summer it may vary from 40 degrees to 110 degrees Fahrenheit in the same day. How can you get the lilac to go dormant under such climatic conditions?

Inducing Dormancy

After much trial and error I found that the only sure way to induce dormancy in lilacs is to take water away from them over an extended period, from August 15th until it starts raining in November or December. During periods of extreme heat I might give them just enough water to keep some moisture around the roots without activating the buds. They never go completely dormant because I have observed branches elongate even in the wintertime. But continuous watering will make them evergreen and they'll never produce any flowers, or the few buds that do form will abort or develop into puny clusters.

Our soils vary but are generally well drained, rocky, sandy, decomposed granite with pockets of clay and are highly mineralized, varying in pH reaction. Alluvial layers vary from two to 500 feet in depth depending upon whether you are on top of the mountain or in the valley. Our water is very hard and highly mineralized. Lilacs do not tolerate "wet feet". They can easily be killed by drowning: too much water standing around for long periods.

Lilacs like to be free and in full sun, so do not crowd them or plant them under a tree. They should be pruned whenever necessary getting rid of dead, old or crossing branches. We are lucky in that our lilacs do not have the usual troubles such as borers or mildew.

Twenty years ago there were 50,000 lilac bushes in the Park. I estimate that today there are between 300 and 500 cultivars, all strong and healthy plants.

Lilacs have been my life. It has been a very exciting, interestiing and rewarding experience. I wish to thank all who have sent me scions, especially Don Egolf, Walter Eickhorst, Fr. John Fiala, Charlie Holetich, Walter Oakes and Marty Martin who have been most generous and cooperative. And I give particular thanks to Tita, my dear wife, who has ever remained at my side throughout all aspects of lilac culture and development over the years. To her belongs boundless credit for our every success at Margaretten Park.

Ewing Park's Lilac Collection

Just prior to the second World War the Des Moines Park Board set aside 35 acres of the newly created Ewing Park for a lilac arboretum. George Madsen was placed in charge of the project. He bought 350 plants of 116 varieties of the so-called French hybrids which by 1943 were ready for outplanting along a few turf paths. By 1947 the lilacs bloomed well and the public was invited to come see them. The next year's bloom attracted some 20,000 visitors on Lilac Sunday plus another 15,000 visitors during the period of bloom. Today the collection has doubled in number of cultivars to 203 and the number of lilacs to about 1800 plants, and the annual pilgrimage to Ewing Park is a must for Iowans.

John C. Wister was engaged as consultant in 1948 and he worked out the design of collections into color schemes which brought together both harmonious shades of lilac, blue and pink as well as contrasting purples, reds and white. These all were planted in groups of three or five sufficient to give eyefulls of color at season's peak. Such was the layout of the major display. Separately were planted lilacs of historical distinction, those which no longer were much planted in gardens but which had significance in the development of the common lilac into what it has become today.

Maintenance

Four year-round men take care of all planting and maintenance: grass cutting, pruning, spraying, etc. To eliminate fussy mowing around each lilac a straw mulch is used which controls weeds as well as protecting against "Jim injury" (barking stems with machinery). Twice a year suckers are eliminated and during wintertime one-third of the large stems are removed while the pruner can easily study which ones to cut. Of course, spent flowers of the single cultivars are removed as soon as possible after flowering. And, in late winter one day which is not too windy and the forecast predicts no frost that night a dormant oil spray is applied over the entire collection as a preventative for oyster-shell and euonymus scales.

Alphabetical List of the Varieties

S-Single, D-Double
I. Common Lilac

Adelaide Dunbar	D-purple	Belle de Nancy	D-pinkish
Alphonse Lavalle	D-lilac	Boule Azuree	S-bluish
Ambassdeur	S-bluish	Boussingault	D-pinkish
Amethyst	S-pinkish	Capitaine Baltet	S-magenta
A.M. Brand	S-purple	Capitaine Perrault	D-pinkish
Anne Shiack	S-purple	Carmen	D-pinkish

Case's Frilled Pink ..... D-pink
Cavour ..... S-violet
Charles X ..... S-magenta
Charm ..... S-pinkish
City of Gresham ..... S-purple
Clara ..... S-pinkish
Clara Cochet ..... S-pinkish
Coerula Superba ..... S-bluish
Colbert ..... D-magenta
Comte de Choiseul ..... D-pink
Comte de Montebello ..... D-lilac
Condorcet ..... D-pinkish
Congo ..... S-magenta
Crepuscle ..... S-bluish
Dame Blanche ..... D-white
Decaisne ..... S-bluish
De Humboldt ..... D-bluish
De Miribel ..... S-violet
Diderot ..... S-purple
Diplomate ..... S-bluish
Doyen Keteleer ..... D-bluish
Dr. von Regel ..... S-pinkish
Duc de Massa ..... D-bluish
Edward J. Gardner ..... D-pinkish
Edith Cavell ..... D-white
Edmund About ..... D-magenta
Ellen Wilmott ..... D-white
Emil Lemoine ..... D-lilac
Esther Staley ..... S-magenta
Etna ..... S-purple
Firmament ..... S-bluish
Frau Bertha Dammann ..... S-white
Frau Wilhelm Pfitzer ..... S-pink
Fuerst Lichtenstein ..... S-pink
Gaudichaud ..... D-bluish
Gen. Kitchener ..... D-bluish
Gen. Pershing (Lemoine) ..... D-pink
Gen. Sherman ..... S-bluish
Georges Bellaire ..... D-magenta
Gilbert ..... S-lilac
Gloire de Moulins ..... S-lilac
Glory ..... S-magenta
Goliath ..... S-magenta
Grace Orthwaite ..... S-pinkish
Henri Martin ..... D-lilac
Henri Robert ..... D-violet
Henry Clay ..... S-white
Hippolyte Maringer ..... D-lilac
Hugo Koster ..... S-lilac
J. de Messemaeker ..... S-purple
Jacques Callot ..... S-lilac
Jan van Tol ..... S-white
Jean Bart ..... D-pinkish
Jean Mace ..... D-pinkish
Jeanne d'Arc ..... D-white
Jules Ferry ..... D-pinkish
Katherine Havemeyer ..... D-pink
Le Printemps ..... D-pinkish
Leon Gambetta ..... D-lilac
Leon Simon ..... D-magenta
Lilarosa ..... S-pinkish
Lucie Baltet ..... S-pinkish
Ludwig Spaeth ..... S-purple
Macrostachya ..... S-pinkish
Marc Michell ..... D-bluish
Marceau ..... S-magenta
Marechal Foch S-magenta
Marechal Lannes ..... D-violet
Marengo ..... S-lilac
Marie Finon ..... S-white
Marie Legraye ..... S-white
Massena ..... S-magenta
Maurice Barres ..... S-bluish
Maurice de Vilmorin ..... D-bluish
Michel Buchner ..... D-lilac
Mlle. Fernande Viger ..... S-white
Mme. Antoine Buchner ..... D-pink
Mme. F. Morel ..... S-magenta
Mme. Fallieres ..... S-lilac
Mme. Florent Stepman ..... S-white
Mme. Leon Simon ..... D-lilac
Monge ..... S-purple
Monique Lemoine ..... D-white
Mont Blanc ..... S-white
Montaigne ..... D-pinkish
Monument ..... S-white
Moonlight ..... S-bluish
Mrs. Edward Harding ..... D-magenta
Mrs. W.E. Marshall ..... S-purple
My Favorite ..... D-magenta
Naudin ..... D-lilac
Night ..... S-purple
Olivier de Serres ..... D-bluish
Paul Deschanel ..... D-magenta
Paul Thirion ..... D-magenta
Philemon ..... S-purple
Pink Cloud ..... S-magenta
Planchon ..... D-magenta
Pres. Fallieres ..... D-lilac
Pres. Grevy ..... D-bluish
Pres. Lincoln ..... S-blue
Pres. Roosevelt ..... S-purple
Pres. Viger ..... D-bluish
Priscilla ..... S-magenta
Prodige ..... S-purple
Purple Glory ..... S-purple
Pyramidal ..... D-lilac
Reaumur ..... S-magenta
Rene Jarry Desloges ..... D-bluish
Rochambeau ..... S-purple
Ronsard ..... S-bluish
Rosace ..... D-lilac
Ruhm von Horstenstein ..... S-magenta
Sarah Sands ..... S-purple
Saturnale ..... S-bluish
Schermerhorn ..... S-pinkish
Siebold ..... D-white
Souv. d'Alice Harding ..... D-white
Souv. de Simone ..... D-white
Stadtgartner Rothpletz ..... D-purple
Sunset ..... D-magenta
Thunberg ..... D-lilac

Toussaint l'Ouverture ..... S-purple
Triomphe d'Orleans ..... S-lilac
Vestale ..... S-white
Vivian Evans ..... S-lilac
Victor Lemoine ..... D-lilac
Violetta ..... D-violet
Virginite ..... D-pinkish
Volcan ..... D-purple
Wm. C. Barry ..... S-lilac

II. Early Hybrids *(including wild types)*

Assessippi ..... S-lilac
Berryer ..... D-pinkish
Catinat ..... S-pinkish
Excel ..... S-lilac
Lamartine ..... S-pinkish
Louvois ..... S-violet
Mirabeau ..... S-magenta
Montesquieu ..... S-magenta
Necker ..... S-pinkish
oblata dilatata ..... S-pinkish
Pocahontas ..... S-purple
Scotia ..... S-pinkish
Villers ..... S-lilac

III. Species, Types and Hybrids

Midseason

Common Lilac Types
vulgaris ..... S-lilac
vulgaris alba ..... S-white
vulgaris coerulea ..... S-lilac

Other Midseason Types
chinensis ..... S-lilac
chinensis saugeana ..... S-purple
Grace Mackenzie ..... S-pinkish
persica ..... S-lilac
pubescens ..... S-lilac

Late

Species
josikaea ..... S-lilac
reflexa ..... S-lilac
sweginzowi ..... S-lilac
villosa ..... S-lilac

Hybrids
Floreal ..... (x nanceiana) .. S-pinkish
Hiawatha ..... (xprestoniae) .. S-magenta
Isabella ..... (x prestoniae) .. S-lilac
Jessica ..... (x prestoniae) .. S-violet
Lutece ..... (x Henryi) .. S-violet
Miranda ..... (x prestoniae) .. S-pinkish
Nerissa ..... (x prestoniae) .. S-magenta
Royalty ..... (x josiflexa) .. S-purple
Rutilant ..... (x nanceiana) .. S-purple

IV. Historical Collection

Azures plena ..... 1843 .. D-bluish
Bleuatre ..... pre 1897 .. S-bluish
Charles Joly ..... 1896 .. D-magenta
Condorcet ..... 1888 .. D-pinkish
De Croncels ..... pre 1876 .. S-magenta
De Humboldt ..... 1892 .. D-bluish
De Louvian ..... pre 1859 .. S-lilac
Doyen Keteleer ..... 1895 .. D-bluish
Dr. von Regel ..... 1883 .. S-pinkish
Frau Bertha Dammann ... 1883 .. S-white
Gloire de Lorraine .... 1876 .. S-magenta
Gloire de Moulins ..... pre 1867 .. S-lilac
Hyacinthiflora ..... 1878 .. D-bluish
Lamarck ..... 1886 .. D-bluish
Lemoinei ..... 1878 .. D-lilac
Marc Micheli ..... 1898 .. D-bluish
Marlyensis ..... pre 1839 .. S-lilac
Michel Buchner ..... 1885 .. D-lilac
Mme. Fallieres ..... 1908 .. S-lilac
Mme. Lemoine ..... 1840 .. D-white
Philemon ..... pre 1846 .. S-purple
Prince Imperial ..... 1861 .. S-magenta
Pyramidal ..... 1886 .. D-lilac
Senateur Volland .... 1887 .. D-magenta
Triomphe d'Orleans ..... 1854 .. S-lilac

Des Moines Botanical Center

The sixty-foot high crystogon dome of the Des Moines Botanical Center rises above the east bank of the Des Moines River in a 14-acre site. The Center is operated and maintained by the Des Moines Park and Recreation Department. Beneath the dome in a controlled atmosphere grow a thousand species of exotic plants and pockets of colorful plants in flower according to season, plus the Ladany Bonsai collection. In the Garden Court entrance room recessed in a wall are some two dozen shadow boxes each containing three dimensional life-size wild flowers of the Iowa prairies created by Neil Deaton of

Newton, Iowa. So natural as to size and color were these prairie wild flowers that they appear fresh.

After a guided tour of the conservatory we adjourned to the Exhibit Hall for a delicious luncheon served by the ladies of the "Ding" Darling Chapter of the Isaac Walton League of America.

Lilac Clinic

The forenoon of Saturday, May 16, was given to panel discussions on lilac propagation and culture. Panelists were Mr. T.J. Cole, Curator of the Dominion Arboretum, Ottawa, Ontario, Dr. Donald R. Egolf of the National Arboretum, Washington, D.C., Fr. John L. Fiala of Medina, Ohio, Mr. William R. Heard of Heard Gardens, Ltd., Des Moines, Iowa, Dr. Joel Margaretten of Leona Valley, California, Mr. Winfried Martin of the Holden Arboretum, Mentor, Ohio, Mr. Max Peterson of Ogallala, Nebraska, and Mr. Donald Wedge of Wedge Nursery, Albert Lea, Minnesota.

Hardwood Propagation of Lilacs

Ralph Leonard, Jr., of Heard Gardens, demonstrated grafting techniques by means of an *Omega* grafting machine developed in Germany for grafting of grapes. Bill Heard narrated and answered questions.

S. Schenker: *What kind of lilac are you using?*
Heard: Edith Cavell.
Margaretten: *What is the rootstock?*
Heard: This is green ash, *fraxinus pensylvanica.* The stock and the scion must be the same thickness to match well. The ash stock acts as a nurse root. It feeds the scion until the scion puts out its own roots. After the scion develops its own roots, it rejects the ash root. When you dig the plant in two or three years, you find very few signs of the ash root (except occasionally with white lilac varieties.
Peterson: *Do you use tape for binding the union?*
Wedge: We bind ours together with grafting twine, because I feel that most roots are going to develop at the splice so we don't want to cover that area with tape. Then we put as many as 500 grafts into polyethylene bags, dust them with *Captan* and place them into refrigerated storage, 32-35 degrees F. We wait until corn planting time, when the soil becomes warm enough to promote root development.
Margaretten: I don't have too much luck with tapes. I use rubber bands.
Fiala: *Rubber bands do not last very long, do they?*
Margarettan: Long enough to hold the scion until it unites.
Egolf: I don't believe the rubber bands will disintegrate all that readily. We have to cut them every time.
S. Schneker: *Do you have to take the tapes off?*
Fiala: No, it just disintegrates, but that's nursery grafting tape, not electrical tape.

Lining Out Lilacs

Margarettan: *Do you have any trouble getting the grafted lilacs into the ground?*

Wedge: No, we used to plant the grafts by hand in machine dug trenches, but now we are using a mechanical transplanter that four people ride on and which sets the plants at the right depth. They should just barely stick above ground.

Margarettan: *How many buds above ground?*

Wedge: The buds should be close to the surface. We always cut our scions with buds within one-half inch of the top. We don't care how many buds are down below - just so there's a pair of buds near the top. We always use a six-inch length of scion, but not terminal buds because they are likely to be flower buds.

Baschnagel: *We have a very heavy soil so that we'd like to line out our grafts in a shallow hole. What would happen if we were to line them out on a slant instead of vertical?*

Heard: I've seen growers who've planted rows all on a slant. It's the old-fashioned way. I'm not sure if it's better or not.

Budding of Lilacs

Rogers: *Is anyone doing any budding? This question is based upon the English tradition. I was at Notcutt's Nursery a few years ago, and they would line out understocks. Then in August (the standard time for budding) they would bud all their cultivars onto* S. vulgaris *stock, wait through the winter, and then in the spring they would inspect them for* take. *Whenever the buds did not take, they grafted a new scion on top and wrap it in a little plastic bag.*

Fiala: The lilac propagations which Bob Forsythe did for I.L.S. in 1976 were budded on *S. persica* in mid-summer.

Rogers: And the *S. persica* is still coming up! I cut the tops back hard, but I didn't set the plants deep enough.

Fiala: You have to plant it well below the union, and of course you run the risk, if the *S. persica* is too deep and your drainage is not good, that the *S. persica* dies before the top makes any roots of its own. At Sheridan nurseries in Canada they bud on *SS. reticulata* and *villosa*.

Rogers: It's a good idea to use something different from the scion, so that, if anything does come up, you'll know it immediately.

Fiala: It generally does not come up though. Their experience, especially with *SS. reticulata* and *villosa*, has been that the stock does not sucker.

Rogers: I think that ash works the same way.

Wedge: Ash is much less expensive than any other understock.

Forcing Growth and Hardening Lilacs

Egolf: A procedure which has been most beneficial in forcing lilacs in containers to develop flower buds is the withholding of water in September and October. When the plants become dry their leaves will turn brown around the edges and look bedraggled. But we'll get twice the bloom on plants which were put under stress than those with routine watering.

H. Schenker: *When you have "stressed" lilacs and then get a bad winter, don't you stand a greater chance of losing those plants?*

Egolf: Under stress conditions lilacs will go into the winter better than if they were in lush growth.

H. Schenker: September and October are usually wet months in New England.

Egolf: I'm talking here of lilacs under cover. The only way you could control moisture is by using plastic underneath the plant. However, in plants with multiple stems you'd have a hard time to control water effectively.

Fertilizer for Lilacs

Rogers: *What do you use for fertilizer on lilacs?*

Margaretten: Just plain steer manure. One year I used chicken manure and almost lost them. I used to throw the steer manure right into the plant, if it's a large bush. I don't do that any more. I side-dress it.

Rogers: *What kind of fertilizer do others use?*

Martin: I can tell you what not to use. Don't use any high nitrogen ferfertilizer.

S. Schenker: *Suppose your lilac is lacking in growth and you want to get more vigor into it. You'd need nitrogen, wouldn't you?*

Martin: Yes, but you'd have to be extremely careful.

Rogers: *I'm a lazy gardener and I grow my lilacs near grass. I use the lawnmower to control the suckers. I fertilize the lawn with a high nitrogen feritlizer. As I go by the lilac I toss a handful of this high nitrogen fertilizer underneath it. Am I in trouble?*

Cole: No, because the lawn uses most of the fertilizer anyway.

Rogers: *What do you do, Don, about fertilizing lilacs at the National Arboretum?*

Egolf: What I'm doing is quite different from what most of you will be doing, because I'm interested in maximum growth and development as rapidly as possible. On seedling lilacs I'm using 20-20-20 fertilizer by means of an injection system every two weeks. Seedlings which would be germinating in mid-May, under such a fertilizer program, will be four feet tall by fall. Some of these will have initiated flower buds by the second year. In our field plantings we're using one fertilizer application, 10-10-10, broadcast over the entire field in January or February.

Wedge: *Do you want a slow-release fertilizer?*

Egolf: No, because lilacs put their growth on in early spring. I'd sooner have a quick-release early in the season so that I get an early flush of growth which will harden before fall frosts. Fertilizer formulation will also vary considerably according to soils. If you're on a light, sandy soil, you'll be using a different formula from what I use on heavy clayey soils.

Emerson: *We've put a lot of wood ashes around our lilacs. How much of it can we safely apply?*

Cole: Wood ashes are about 0-0-5. Almost any amount would be all right.

Margaretten: *Is seedling growth a continuous process or does it occur*

in flushes?

Egolf: In most cases you'll find intermittent flushes, but, if you get seedlings started early enough, you can keep them in continuous growth.

S. Schenker: *When your soil is rather poor, can you get away with a two-year fertilizer tablet?*

Egolf: It would depend upon the formula of the fertilizer tablet.

Sipp: *Is it in the fall that you apply fertilizer?*

Egolf: In North Carolina you can apply fertilizer any time from November onward. Time for fertilizer application depends upon geographic region. In the South you must get fertilizer on well before there is any leaf growth so that it is worked into the soil when you're having spring rains. Applying fertilizer after lilacs have come into vegetative growth does no good toward promoting growth for the succeeding year.

Cole: In regions with heavy snowfall it's no good putting fertilizer on in late fall because the fertilizer is mostly leached out as the snow melts.

pH and Lilacs

Margaretten: *What would be the best pH for lilacs?*

Cole: What have you got?

Margaretten: *My pH varies.*

Cole: From 3.5 to 8.0?

Clark: *Does anyone know how the lilac collection at the Montreal Botanical Garden is doing?*

Cole: Very good.

Clark: Their pH is 7.9 to 8.2.

Rogers: I've always believed that we talk about alkaline soils for lilacs because in England you find lilacs growing in pure chalk. The assumption is that lilacs require alkaline soil. But in New England I don't believe there is a pH of 7.0 anywhere in the region.

L. Ericson: *Will a lilac grow in any pH?*

Rogers: My response to the question of where shall I plant a lilac is in any good garden soil. In New England lilacs grow just great at pH 6.5. We've just heard that lilacs are doing just great in highly alkaline soils at pH 8.2. It evidently doesn't matter what the chemical reaction is.

Emerson: *I'd like to ask if you take plants from Dr. Margaretten's soils into another area with different mineral content, would the flower color be different?*

Egolf: It certainly would. I took two plants of *Olivier de Serres* and put them twenty feet apart in very high alkaline soil. One plant I added aluminum sulfate to make it acid. Flowers of the acid treated lilac were lighter in color, the blossoms thicker, the flower clusters longer and looser, while the untreated lilac's flowers were darker colored and very much tighter and shorter.

Cole: The only problem with aluminum sulfate is that the aluminum does build up in the soil and you get aluminum toxicity. I don't know if it applies to lilacs, it certainly does to rhododendrons.

Failure of Lilacs to Bloom

Holetich: I want to make a brief comment about lilacs not blooming. If the foliage is healthy and moisture is plentiful, I would say hold back on watering and, instead, apply a fertilizer high in phosphate, such as 6-8-12 fertilizer or straight superphosphate.

Margaretten: I have four shrubs on which I've not seen a single flower in 30 years. Two of them were planted when there were no trees around. I wanted a windbreak, so I planted some pine trees. These pines grew up above two of them, whereas those lilacs which were out in the field in full sunlight always bloom for me. The condition of not getting any flowers occurs very frequently in California, My experience has been that if I prepare the soil right, and put the plants in right and in the right place, that is, in full sunlight rather than under shade, I get flowering. If I don't do that, I don't get flowering. I have come to the conclusion that in California if lilacs do not flower, the gardener hasn't planted the lilac properly, that is, with care, or in the right location, that is, in full sun.

Flower Bud Initiation

Holetich: *Has anyone studied or determined the time of flower-bud set?*

Margaretten: Dr. Joseph Caprio of Montana State University, Bozeman, wrote a report on how lilacs and other plants time their blooming.

Egolf: For the lilac I think you'll find that the initiation of flower-buds takes place very early in the growing season. We did some sectioning last year on a number of cultivars. We found that the buds were very well developed by the first week of June. Some of the later blooming hybrids have their buds developed in July. The bud is initiated but it is not developed until later on in the growing season. Precisely what the factors are for development is not clearly understood yet.

Clark: On my way to Des Moines I visited the George Landis Arboretum at Esperance, New York, Fred Lape, its director, asked me about the possibility of flower-buds changing into vegetative buds after a winter such as we've had. The buds were in the proper position for flower buds.

Heard: We will be having some information on that condition in a study using the electron microscope.

Scanning Electron Microscope

Heard: During the past year I participated in an exploratory project using certain lilac cultivars to determine by means of the scanning electron microscope possible differences between authentic material of lilac cultivars. I leave it to Dr.. Rogers to explain.

Rogers: We must ever remember that we are amateurs. By our very nature we are obliged to ask naive questions. But specifically we must begin to investigate one of the most difficult problems that I.L.S. faces, namely, the identification of lilac cultivars. Let me illustrate with this true story. I went to the Arnold Arboretum with arms full of cut lilacs to get Peter Green's help in identifying them. Together we went out into the lilac collection, and matched them one by one. We held the cut bloom right into the middle of the known cultivar. We were certain there was no distinction between ours and the labeled variety. I rushed back to Durham and confidently tagged all our lilacs only to discover that one of them which we had planted in 1941 was one of the W.B. Clarke hybrids which had not been introduced until 1949!

So now the electron microscope technique becomes available. This scanning electron microscope reaches all the way from 10X to 150,000 diameters and differs from other microscopes in its three dimensional depth, so that you can visualize the object. Both cross and long sections of known cultivars are made. Certain minute characters are thus revealed which may be useful to distinguish one cultivar from another. We might be able to use the term *fingerprinting* thus answering the question: Is this cv. X or cv. Y? Or at least is it a true copy of cv. X. But the electron microscope is expensive and will not be mass-produced for the consumer market. We must begin to use new techniques as they become available to us. Let us stand always in awe of the artist who can pass his hand over a plant and it grows. Let us always remain childlike in the face of nature.

Heard: This report (just the tip of an iceberg) comes to us through the U.S.D.A. Forestry Station at Delaware, Ohio, which has been supported by funds from the Horticultural Research Institute.

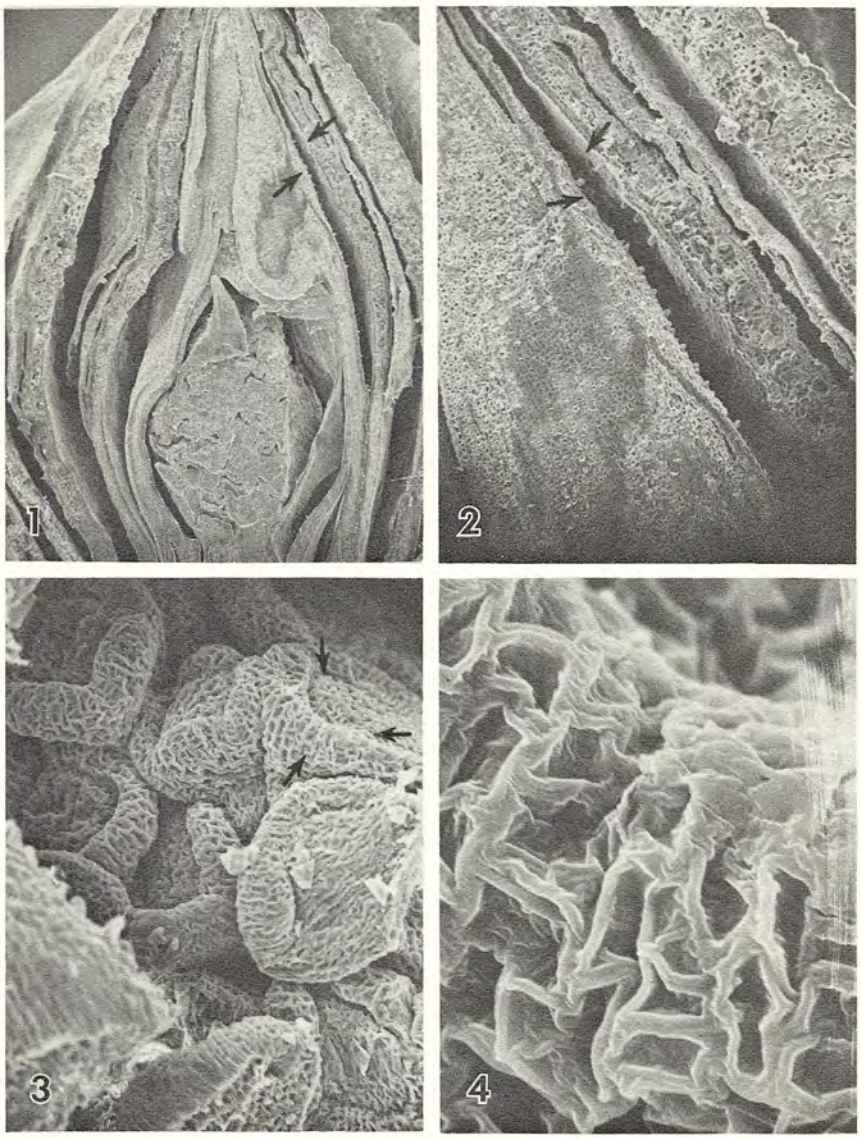
Removal of Spent Blossoms

Fiala: In setting of seeds in the spring I think that the amount of blossom that is pollinized has some influence on the bloom the following year. If you have a heavy bloom and seed is setting abundantly but is not removed almost immediately, I believe that it influences the bud set for the following year. I've found in many cultivars that a heavy bloom one year leads to a poor bloom the next.

Cole: I don't know if it actually affects the number of blooms, it certainly affects the size of them.

Sipp: *This is the first year that I've had bloom on my lilacs. How far down do I cut them after the blossoms fade?*

Cole: A pair of vigorous shoots arise just below the flower stalk. Next year's bloom develops from these shoots, so be careful not to



Figures #1 (X21) and #2 (X68) represent cross sections and views of a typical SEM preparation of a lilac bud. Arrows point to the area of interest, the surfaces of leaf primordia. Figure #3 (X290) represents developing pollen grains within the bud of Figure #1 Pollen exine textures in Figure #4 (X3000) could be used as key characteristics in addition to leaf primordia.

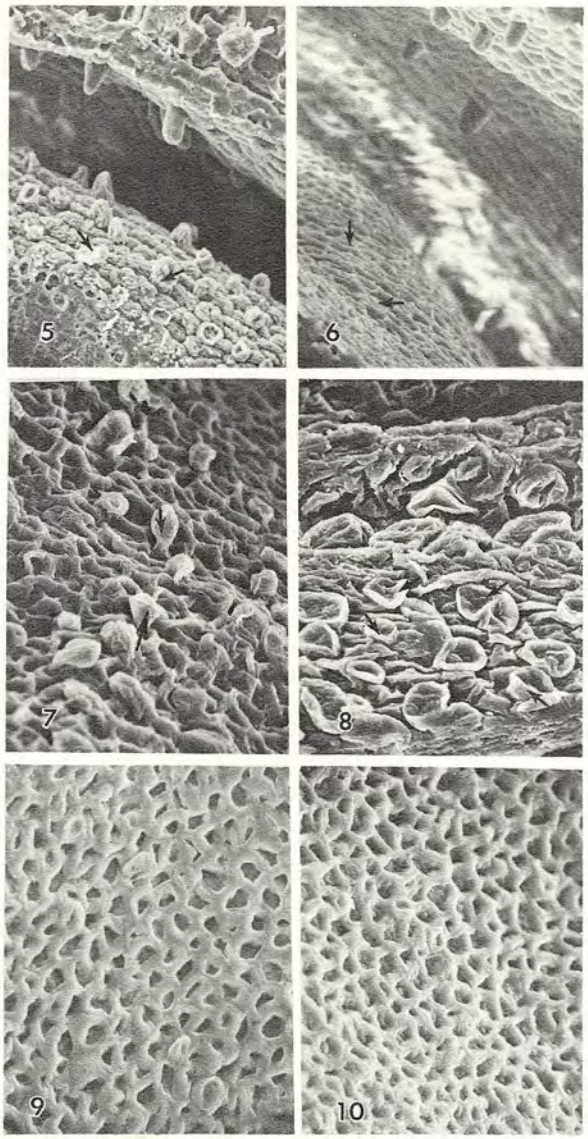


Figure #5 through #10 represent leaf primordial surfaces on various species and cultivars of *Syringa*. *S. prestoniae* 'Isabella' is in Figure #5 with arrows indicating a rough appearance of primordial trichomes. However, *S. prestoniae* 'Hiawatha' of Figure #6 does not appear to have trichomes while surfaces are smooth. In Figure #7 *S. hyacinthiflora* 'Annabel' has a primordial structure that is stalked (arrows) whereas *S. hyacinthiflora* 'Louvois' (Figure #8) has unstalked primordial structures (arrows). When *S. vulgaris* 'Vestale' and *S. vulgaris* 'Marie Finon' were compared in Figures #9 and #10 leaf primordial surfaces were similar and did *not* exhibit any differences. In conclusion similarities and differences apparently are detectable with SEM that could be used to classify or consolidate cultivars in the genus *Syringa*.

disturb these shoots when you cut the spent bloom just above them. And don't cut your finger either!

Planting Lilacs

H. Schenker: *Would you go into detail on the preparation of the soil prior to planting?*

Margaretten: You till the soil cleaning out the weeds. You do some fertilizing - not too heavy. One thing I used to do is to put some manure in the hole, cover it with a little soil and then set the plant in. I don't do that any more. I've lost some lilacs that way. I believe it's because of the manure too near the roots.

H. Schenker: *How about bonemeal?*

Margaretten: We've got so much mineral in our California soils that we don't need it.

S. Schenker: Al Lumley had a good way of planting and fertilizing his lilacs at Amherst, Massachusetts. He'd dig a big hole. Then he'd get all the neighbors to dump their garbage into it for a season. Afterwards he'd cover it up and plant his lilacs on it.

Fiala: That wouldn't work for us in Ohio. You dig a nice big hole - a $50 hole - and you've got a $50 crypt that is going to kill your lilac. You may fill it with the best soil possible and all you've got is a nice casket for your lilac. The hole fills with water and it won't drain out. We have to plant our lilacs above ground.

Margaretten: I bought an assortment of 30 lilacs. I was in a hurry to get them in, so I didn't prepare the site. Well, I nearly lost them all, until I found out that I had planted them in straight clay - no drainage. I had to dig them all up, make the hole much deeper, put good soil back and replant them. Out of thirty plants I lost only one.

Martin: Let me give you a figure. You folks who saw the new lilac display garden at the Holden Arboretum last year didn't see $120,000 worth of drainage tile in that little area.

Cole: The Central Experimental Farm at Ottawa is located on a very light sandy loam, but there are bands of clay across it. A few years ago we were putting in a new lilac collection of about 50 to 60 plants. The site selected was a hillside, and the hillside was clay soil. At the end of the first winter there were only five or six lilacs left.

Summer Transplanting of Lilacs

Sipp: *All the lilacs that I've brought back from our auctions are growing in a small plot and only three feet apart. Now I find they are too close to a sweetgum nearby. When is the best time to transplant my four foot lilacs?*

Egolf: If you want to move your lilacs, we at the National Arboretum are doing all of our lilac transplanting in the summer right in full leaf. We did this last year without any losses. After you've moved them, the leaves will burn somewhat on the edges, but if you'll water them well, the plants will soon be back into normal growth and they'll be flowering again the following spring.

L. Ericson: *Bare root or with soil ball?*

Egolf: They will have some soil, but not much.

The Arie F. Den Boer Crab Apple Arboretum

Diagonally opposite Holiday Inn South on Fleur Drive and within walking distance is situated the Des Moines water works 1200 acre park known as the Charles Sing Denman Woods. Much of the area south of the waterworks plant along Fleur Drive is developed and is known as the Arie F. Den Boer Crab Apple Arboretum. Denman was the plant manager in 1926 when Den Boer came to Des Moines to become superintendent of grounds. And it was Denman who encouraged Den Boer to specialize in collecting crab apples to decorate the extensive grounds. 'It was among these handsome trees, past flowering, where we were served a catered picnic lunch on Saturday. Crab apples are a fitting companion plant for lilacs even if they do not regularly bloom at the same time with lilacs. To be sure you do need spacious grounds to accomodate crab apple just as you do for proper display of lilacs, if you wish to grow more than merely a few. The more decorative crab apples are Asiatic in origin. They have been cultivated for centuries and they hybridize readily. Like the lilacs up until ten years ago, they have been without formal recognition by any society. It was a pity that we did not actually see any but the American crab apples in bloom.

Heard Gardens Ltd.

Saturday afternoon we visited the original Heard Nursery where our host was reared. We found remnants of many well-known historic lilacs, but these plants now are used only as a source of material for propagation. Heard Gardens Ltd., located at 5355 Merle Hay Road near the city limits is a contemporary nursery operation with a general stock of landscape plants grown in containers. Bill offers a goodly selection of first-rate lilacs.

Tenth Annual Meeting

The President's Dinner held on Friday evening prior to the tenth annual meeting was marked by tables decorated with gorgeous centerpieces of 'Madame Antoine Bucher'and 'Monge' brought from the University of Minnesota Arboretum by the Ernest Ericksons of Brainerd, and from the gardens of Max and Darlene Peterson of Ogallala, Nebraska. The effects were striking and tastefully arranged adding just the right note to a lilac convention.

The annual meeting was convened by President Rogers who asked that a moment of silence be observed in memory of two former Board members; Bernard Harkness and Albert Lumley. Committee reports were presented by the several committee chairmen. The Treasurer's report, the Awards Committee report and the Auctioneer's report are given in full herewith. The Election Committee

report announced the election to three-year terms to the Board of Directors: Mrs. John H. Alexander III of Middleboro MA., Mr. Thomas N. Chieppo of Woodbridge CT., Dr. Donald R. Egolf of Upper Marlboro MD., Mrs. Elsie Kara of Columbia Station OH., Mr. George Kidd of Nepean, Ontario, Mr. Maurice Lockwood of Ghent NY., Mr. Roger Luce of Hampden Highlands ME. ,and Mrs. Sarah Schenker of Freedom NH.

Trevor Cole of the Canadian Department of Agriculture and Chairman of the 1982 Convention announced that the eleventh Annual Meeting will be held at Ottawa on Thursday and Friday, May 27 and 28th. Miss Isabella Preston developed the late hybrid lilacs at the CDA Experiment Farm in Ottawa more than fifty years ago. Yo'all come.

Report of the Auction Committee

The 1981 Lilac Auction was dedicated in the memory of Bernard Harkness ,second president of the I.L.S. and to Albert Lumley, member of the Board of Directors. Two hundred eighty-five lilacs and articles were donated by the Arnold Arboretum, Royal Botanical Gardens, U.S. National Arboretum, Wedge Nursery and individual members of the Society. One hundredfive cultivars, some for the first time, were available, and these enriched our Society's treasury by $1,446.

The Committee wishes to thank all members who contributed their time and talents to the success of this enterprise, especially to Marie Chaykowski, Pauline Fiala and Elsie Kara for recording sales, to John Carvill, Walter Eickhorst, Bill Emerson and Max Peterson for organizing and delivering plants, to Bill Heard and his staff at Heard Gardens, Ltd., for warehousing donated lilacs, to Charles Holetich for showing colored slides of many cultivars as they were auctioned , and lastly to Sally Schenker for note-taking during the exciting evening which form the basis of this report.

The generous donation of plants and articles and the spirited bidding by members and guests made the 1981 Lilac Auction the most successful one to date. Society members who do not attend these annual meetings are missing a golden opportunities to obtain a variety of quality plants at reasonable prices with mutual benefit to the Society and to themselves.

Hanssen Schenker, Chairman

FINANCIAL REPORT — MAY 1981

Balance Brought Forward		$11,039.21

Receipts

Membership	$2,432.50	
Upton Scrap Book (Mr. Chiepo)	263.75	
Upton Scrap Book (Mr. Peterson)	263.75	
Upton Scrap Book (Ohio Chapter ILS)	211.00	
Upton Scrap Book (Maude Upton)	520.00	
Upton Scrap Book (Sales, Donations, Etc.)	2,135.61	
Lilac Auction In Medina	960.25	
Advance Return	200.00	
Interest	833.89	
Total Receipts	$7,820.75	7,820.75
Total Cash		$18,859.96

Expenditures

Nominating Committee (J.A.)	$ 87.84	
I.L.S. - E.C.R. Proceedings - Monthly Pub.	1,100.00	
Mailing Permit, Mailings, Envelopes (J.F.)	375.00	
Telephone Fees, Postage (W.E.)	69.09	
Wilprint Printing - Lilac Book	497.50	
Merka Jewelry (Trophies)	609.30	
Merka Jewelry (Engravings)	31.10	
Envelopes (W.O.)	35.21	
State Garden Club '79, '80, '81	30.00	
Flower Garden (Ad)	62.40	
Due Bills & Stamps (W.O.)	45.00	
Stamps & Envelopes	32.32	
500 Envelope Brochures & Letterhead	149.62	
Upton Scrap Book	6,049.78	
Total Expenses	$9,174.16	9,174.16
Total All Accounts		$9,685.80

Break Down

Life Membership	$1,800.00
Education, Research	2,241.28
Upton Scrap Book	2,003.46
Legal Fund	295.63
By-Laws	210.25
C.C. Clark Fund	100.00
Operating	3,035.18
Total	$9,685.80

Respectfully Submitted,
Marie F. Chaykowski
Treasurer I.L.S.

May 1981

THE PRESIDENT'S AWARD

OF THE

INTERNATIONAL LILAC SOCIETY

is presented to

WILLIAM HEARD and to HEARD GARDEN

DES MOINES, IOWA

For his outstanding work in promoting the lilac and the Society and making newer cultivars available.

For his outstanding landscape work featuring the lilac for garden and park beauty.

For his outstanding work as a Board of Directors member for the Society.

For the excellent promotion, sales and featuring of the lilac in an outstanding and nationally known Nursery and in an historical family collection of the Heard lilacs.

THE PRESIDENT'S AWARD

OF THE

INTERNATIONAL LILAC SOCIETY

is presented to

MAX PETERSON

NEBRASKA

For turning a portion of the Nebraska Prairie into an unbelievable Lilac Garden.

For his deep research into original cultivars and species to establish an outstanding lilac collection from many parts of the world.

For his study of lilac culture for his specific area of the country and for his vigorous support of the Society.

THE PRESIDENT'S AWARD

OF THE

INTERNATIONAL LILAC SOCIETY

is presented to

The Des Moines Park Board

DES MOINES, IOWA

For Ewing Park.

For its maintenance of the lilac arboretum at Ewing Park, designed by Dr. John Wister, since its inception in 1937 through continued support so as to keep it one of the foremost lilac collections in the Mid-West.

For educating through this outstanding lilac collection the public to the beauty and landscape value of the lilac.

THE AWARD OF MERIT

OF THE

INTERNATIONAL LILAC SOCIETY

is presented to

MARY SMITH

GARDEN EDITOR, BELLVUE, IOWA

For her special interest in lilacs as expressed in her magazine and newspaper articles on gardens.

For her strong support of lilac collections and lilac collectors in both Clinton and Dubuque, Iowa.

THE AWARD OF MERIT

OF THE

INTERNATIONAL LILAC SOCIETY

is presented to

FLEETA BROWNELL WOODROFFE

Nationally Acclaimed Garden Writer and Former Garden Editor

NATIONALLY ACCLAIMED GARDEN WRITER AND FORMER GARDEN EDITOR

BETTER HOMES AND GARDENS

For long and dedicated support of the lilac as one of the most successful spring flowering shrubs in colder climates.

For her writings about and promoting the lilac for all types of gardens.

THE AWARD OF MERIT

OF THE

INTERNATIONAL LILAC SOCIETY

is presented to

WILSON STAMPE

OF THE DAVENPORT, IOWA, PARKS SYSTEM

For cherished efforts in developing a mini-lilac park within the larger Davenport Park System to enrich public appreciation and viewing of the lilac.

THE AWARD OF MERIT

OF THE

INTERNATIONAL LILAC SOCIETY

is presented to

BETTER HOMES & GARDENS MAGAZINE

For its many articles through the years extolling the merits of the lilac as an important plant in the landscaping of gardens and parks.

For publishing many excellent cultural tips to millions of readers regarding the lilac.

Frost Damage on Lilac Flowers in the Katie Osborne Collection*

Royal Botanical Gardens, Hamilton, Ontario, Canada

by Charles Holetich

Spring of 1981 was most unusual and damaging to many early flowering shrubs. Observing the blooming pattern of various flowering trees and shrubs during the past 20 years, I have seen sporadic damage from frost, low temperature and wind on the bloom of forsythias, magolias, rhododendrons, flowering cherries, lilacs and other genera, but never have I seen such intensity of damage on as large a scale as that of last spring.

In this paper I shall discuss the damage to lilacs only. Lilacs in the Katie Osborne collection at the Royal Botanical Gardens grow on rolling terrain of different exposure, some on open ground and some under a canopy of large native trees. Some areas are more exposed to N-W wind than others. The maximum difference in vertical elevation of the ground is 16 m (52.5 ft.).

The degree of flower damage often differed drastically on lilac cultivars growing side by side under any of the above-mentioned conditions, hence one may conclude that some cultivars are just more resistant to low temperature damage than others.

Special Observations

'Victor Lemoine' and 'Ellen Willmot' were protected by native dogwood growth from the west and by the crown of a black cherry.

'Vestale' growing on the open elevated ridge was damaged less than the specimen growing under an ash tree in a depressed site.

'Hugo Koster' is located under the canopy of a black cherry. The half of the shrub facing the tree trunk had normal-sized flower clusters, while the half facing outward had stunted clusters, developed to half the normal size. The cultivar 'Redbud' ,which grew under the same tree crown adjacent to 'Hugo Koster' ,had all its bloom killed in the bud stage.

The specimen of 'Jacques Callot' from the higher elevation suffered less damaged than the specimen planted 25 feet lower.

S. x ***hyacinthiflora*** 'Pink Spray' is located adjacent to 'Turgot' and 'Necker'. Compare the bloom-damage data.

Cultivar 'Sumierki' had 10% of its clusters measuring 20 x 15 cm, with no visible frost damage. About 50% of the clusters showed frost damage in the lower half, while 40% of the clusters were completely killed in the bud stage.

'James Stuart' is located between 'Carmine' and 'Clara'. Compare the data.

* *Contribution No. 47 from the Royal Botanical Gardens, Hamilton, Ontario, Canada.*

'Sensation' growing in an open area exposed to the wind had the same damage as the 'Sensation' specimen growing at the base of the slope under the canopy of a tree.

'Rochester' is located adjacent to 'Sensation' and 'Leon Mathieu'. Compare the data.

Some cultivars had no sign of any flowering buds, and others were planted in Fall 1980 or Spring 1981. None in these categories was considered in this survey.

The damage was prevalent on *Syringa vulgaris* cvs. and *Syringa* x *hyacinthiflora* cvs., hence no other groups were observed.

The peak of bloom was on May 28, when the florets on the majority of lilac cultivars were open and turgid.

Temperature data for months of April and May have been added, for those who wish to search further into the cause of damage. The general opinion is that the damage occurred on April 21, 1981.

Lilac cultivars are represented by one, two or three specimens each. If the degree of damage differed considerably among two or three specimens of the same cultivar, then the "degree-damage numbers" are shown separately.

Legend:

Examples:

70/30 = the first number indicates the estimated percentage of good bloom; the second number indicates the estimated percentage of the flower cluster that was stunted

0/100 = indicates flower cluster in bloom but reduced to half the usual size

0/100+ = indicates most flowering buds killed; only a few open florets at the tip of the cluster

0/100++ = indicates all bloom killed in the bud stage

(9x6) = first number indicates the height of the shrub in feet; the second number indicates the width of the shrub in feet

Syringa Vulgaris Cultivars

Abel Carriere	10/90 (8x5)	Amethyst	0/100+ (9x7)
Adam Mickiewicz	90/10 (5x4)	Ami Schott	60/40 (8x6)
Adelaide Dunbar	20/80 (9x8)	Amor	0/100++ (8x5)
Admiral Farragut	0/100+ (9x5)	Andenken an Ludwig Spaeth	0/100++ (10x9)
Agincourt Beauty	0/100+ (5x3)		
Alba Grandiflora	0/100++ (5x3)	Andre Csizik	10/90 (7x5)
Alba Virginalis	10/90 (9x9)	Anna Nickels	70/30 (6x4)
Alexander Hamilton	50/50 (9x6)	Anne Shiach	40/60 (10x6)
Alexey Maressyev	40/60 (6x5)	Anne Tighe	30/70 (9x6)
Alice Harding	30/70 (7x4)	Archeveque	80/20 (4x4)
Aline Mocqueris	0/100 (9x7)	Arthur William Paul	30/70 (7x6)
Allison Gray	20/80 (8x6)	Azurea Plena	0/100 (6x6)
Alphonse Lavallee	70/30 (8x6)	Banquise	80/20 (9x6)
Ambassadeur	50/50 (8x5)	Banquise	20/80 (7x4)
A.M Brand	0/100 (10x9)	Belle de Nancy	0/100 (9x8)
Ambroise Verschaffelt	0/100 (5x4)	Beranger	0/100+ (6x6)

Bertha Phair	70/30 (6x4)
Beth Turner	30/70 (5x4)
Bicolor	0/100 + (7x7)
Bleuatre	0/100" (11x6)
Blue Delight	50/50 (8x6)
Bogdan Khmelnitski	80/20 (8x6)
Bogdan Przyrzykowski	70/30 (4x4)
Boussingault	10/90 (7x5)
Bright Centennial	0/100 + (8x6)
Burgemeester Loggers	0/100 + + (9x7)
Burgemeester Voller	0/100 (7x4)
Calvin C. Laney	70/30 (9x7)
Capitaine Baltet	30/70 (6x4)
Capitaine Perrault	70/30 (9x8)
Carmine	0/100 + + (9x7)
C.B. Van Nes	0/100 (7x5)
Champlain	10/90 (7x7)
Charles Joly	55/45 (8x6)
Charles Sargent	20/80 (7x4)
Charles X	0/100 + (9x9)
Charlotte Morgan	30/70 (8x4)
Christophe Colomb	30/70 (8x6)
City of Gresham	0/100 + (10x10)
City of Longview	10/90 (8x6)
Clara	0/100 + (9x8)
Clara Cochet	0/100 (8x8)
Clarence D. Van Zandt	0/100 (8x6)
Claude De Lorrain	0/100 + (4x4)
Coerulea Superba	0/100 + (9x7)
Colbert	50/50 (8x6)
Colmariensis	0/100 + + (9x6)
Col. Wm. R. Plum	10/90 (9x7)
Comte Adrien De Montebello	80/20 (8x4)
Comte De Kerchove	20/80 (7x6)
Comte Horace De Choiseul	20/80 (9x8)
Condorcet	20/80 (10x10)
Congo	0/100 + (8x6)
Conquete	0/100 + (6x5)
Cora Lyden	10/90 (6x4)
Corinne	0/100 + (9x9)
Croix De Brahy	0/100 + + (8x6)
Dawn	80/20 (8x7)
De Humbolt	10/90 (8x6)
De Jussieu	20/80 (9x5)
De Miribel	10/90 (9x8)
De Saussure	10/90 (7x6)
Desfontaines	30/70 (9x8)
Diderot	0/100 + (11x9)
Dillia	40/60 (9x8)
Diplomate	30/70 (9x8)
Doctor Brethour	40/60 (10x7)
Downfield	20/80 (8x4)
Doyen Keteleer	50/50 (7x6)
Dr. Charles Jacobs	0/100 + (8x6)
Dr. Lindley	10/90 (9x8)
Dr. Maillot	80/20 (7x5)
Dr. Nobbe	0/100 (8x8)
Dr. Von Regel	20/80 (9x7)
Duc De Massa	40/60 (8x6)
Dusk	40/60 (4x2)
Dwight D. Eisenhower	60/40 (7x5)
Earliest Double White	90/10 (5x4)
Edith Cavell	40/60 (10x8)
Edmund About	60/40 (8x5)
Edmund Boisser	0/100 (9x6)
Edna Dunham	0/100 (6x5)
Edouard Andre	10/90 (8x5)
Edward J. Gardner	10/90 (8x5)
Ekenholm	0/100 + (8x6)
Ellen Willmott	80/20 (10x6)
Emile Lemoine	40/60 (9x9)
Emil Liebig	20/80 (5x3)
Erzherzog Johann	0/100 + (8x5)
Ethiopia	0/100 + (7x5)
Etna	10/90 (9x7)
Etoile De Mai	50/50 (8x6)
Excellent	60/40 (10x7)
Fale Baltyku	0/100 (6x4)
Firmament	40/60 (9x8)
Flora	10/90 (8x6)
Fraicheur	0/100 + (4x3)
Frank Klager	0/100 (7x5)
Frank Paterson	10/90 (10x8)
Frau Wilhelm Pfitzer	60/40 (9x8)
Fred Payne	10/90 (6x4)
Fritz	0/100 (8x5)
Fuerst Liechtenstein	20/80 (9x8)
Gastello	50/50 (5x5)
Geant Des Batailles	10/90 (9x7)
Geheimrat Heyder	0/100 (8x6)
General Grant	0/100 + (7x6)
General John Pershing	30/70 (7x6)
General Kitchener	20/80 (7x8)
General Elwell S. Otis	80/20 (8x6)
General Sherman	0/100 (6x4)
George W. Aldrige	0/100 + (9x8)
George Bellair	50/50 (10x9)
Gerrie Schoonenberg	30/70 (10x9)
Gigantea	0/100 + + (5x4)
Gilbert	0/100 + (8x5)
Gismonda	40/60 (9x6)
Gloire D'aalsmeer	0/100 + (10x8)
Gloire De Lorraine	10/90 (6x5)
Gloire De Moulins	20/80 (10x8)
Gloire De La Rochelle	0/100 (4x4)
Glory	90/10 (8x8)
Godron	50/50 (8x5)
Goliath	20/80 (8x6)
Grand Duc Constatin	10/90 (8x6)
Heather	60/40 (9x6)
Helen Schloen	0/100 + (9x7)
Helene Agathe Keesen	0/100 + + (9x6)
Henri Martin	60/40 (10x8)
Henri Robert	40/60 (8x6)
Henry Clay	20/80 (6x5)
Henry Wadsworth Longfellow	5/95 (8x6)
Henry Ward Beecher	50/50 (10x8)
Herman Eilers	0/100 + (6x4)
Hippolyte Maringer	60/40 (9x7)
Hiram H. Edgerton	70/30 (6x6)
Hortensia	0/100 (9x7)

Hugo De Vries	0/100 + + (10x8)
Hugo Koster	50/50 (10x10)
Hugo Mayer	0/100 + (7x5)
I.V. Michurin	60/40 (7x5)
Jacques Callot	60/40 (9x7)
Jacques Callot	30/70 (10x6)
James Booth	0/100 (8x5)
James Stuart	70/30 (11x9)
Jan Van Tol	0/100 + (9x6)
J. De Messemaeker	0/100 + (7x7)
Jean Bart	10/90 (7x5)
Jean Mace	20/80 (9x4)
Jeanne D'arc	10/90 (8x6)
Jessie Gardner	50/50 (6x5)
Joan Dunbar	20/80 (6x5)
Johann Mensing	0/100 + (7x5)
Jonkheer G.P. Van Tets	0/100 + + (10x7)
Jules Ferry	60/40 (8x6)
Jules Simon	70/30 (10x9)
Julien Gerardin	20/80 (10x5)
K.A. Timiryazev	10/90 (8x5)
Kate Harlin	0/100 (9x6)
Katherine Havemeyer	20/80 (10x9)
Katherine Havemeyer	80/20 (9x7)
Kingsville	0/100 + (9x6)
Koenigin Luise	0/100 + (4x4)
Komsomolka	20/80 (9x6)
Kosmos	70/30 (9x7)
Krasavitsa Moskvy	80/20 (10x9)
Kremlevskie Kuranty	0/100 + (7x5)
Lady Linsay	0/100 + (8x5)
La Mauve	0/100 (9x8)
Languis	20/80 (9x6)
Laplace	80/20 (10x9)
La Tour D'auvergne	20/80 (9x5)
Lavaliensis	0/100 + (9x5)
Lemoinei	10/90 (8x5)
Le Notre	40/60 (8x5)
Leon Gambetta	80/20 (10x8)
Leon Mathieu	0/100 + (8x8)
Leonid Leonov	0/100 + + (5x3)
Leonie Lambert	0/100 + + (9x6)
Leopold II	10/90 (8x6)
Le Printemps	20/80 (9x5)
Lilarosa	0/100 (8x7)
Linne	10/90 (10x7)
L'Oncle Tom	0/100 + (9x6)
Louis Henry	15/85 (10x7)
Lucelle	0/100 + (8x7)
Lucie Baltet	50/50 (8x6)
Macrostachya	10/90 (8x8)
Marceau	20/80 (10x7)
Marc Micheli	50/50 (8x6)
Marechal De Bassompierre	30/70 (8x5)
Marechal Foch	10/90 (9x6)
Marechal Lannes	50/50 (9x7)
Marengo	50/50 (6x4)
Margot Grunwald	30/70 (8x5)
Marie Finon	20/80 (9x6)
Marie Legraye	0/100 (10x8)
Marie Marcelin	70/30 (5x3)
Marylensis Pallida	0/100 + (8x8)
Marshal Vasilevskii	40/60 (6x4)
Martha	50/50 (4x3)
Martha Kounze	90/10 (6x4)
Maud Notcutt	20/80 (8x5)
Maurice Barres	30/70 (9x9)
Maurice De Vilmorin	10/90 (7x6)
Mauve Mist	30/70 (8x5)
Maxime Cornu	70/30 (10x6)
Maximowicz	50/50 (8x6)
Michel Buchner	30/70 (10x9)
Midwest Gem	30/70 (7x7)
Mieczta	20/80 (10x7)
Mildred Luetta	60/40 (3x3)
Milton	0/100 + (6x5)
Mlle. Melide Laurent	10/90 (7x5)
Mme. Amelie Duprat	30/70 (5x5)
Mme. Anguste Gouchault	80/20 (6x4)
Mme. Briot	20/80 (7x6)
Mme. Casimir Perier	20/80 (10x9)
Mme. Charles Souchet	80/20 (4x4)
Mme. De Miller	60/40 (9x6)
Mme. Felix	10/90 (8x5)
Mme. Florent Stepman	0/100 + + (10x10)
Mme. F. Morel	50/50 (8x6)
Mme. Henri Guillaud	20/80 (6x6)
Mme. Lemoine	50/50 (9x7)
Mme. Moser	0/100 (10x6)
Monge	5/95 (9x7)
Mons. Lepage	0/100 + (8x4)
Montaigne	80/20 (11x9)
Mont Blanc	10/90 (10x7)
Monument	40/60 (8x6)
Mount Domogled	0/100 + + (6x5)
Mrs. Calvin Coolidge	10/90 (8x8)
Mrs. Edward Harding	80/20 (9x6)
Mrs. Fannie W. Heath	50/50 (4x2)
Mrs. Harry Bickle	20/80 (10x10)
Mrs. W.E. Marshall	10/90 (9x7)
Mrs. Watson Webb	60/40 (9x6)
My Favorite	30/70 (10x10)
Nadezhda	80/20 (8x7)
Nana	0/100 + + (5x4)
Nancy Frick	80/20 (8x7)
Negro	0/100 + (8x6)
Night	70/30 (5x5)
Oakes Double White	10/90 (9x7)
Obelisque	90/10 (6x4)
Ogni Dombassa	80/20 (8x6)
Olivier de Serres	80/20 (9x8)
Ostankino	0/100 + (6x5)
Ostrander	50/50 (10x6)
Othello	0/100 (7x5)
Pamiat S.M. Kirove	95/5 (6x4)
Pasteur	0/100 + (8x4)
Patrick Henry	50/50 (9x8)
Paul Hariot	20/80 (8x6)
Paul Thirion	70/30 (8x6)
Peerless Pink	0/100 (11x8)
Perle von Stuttgart	40/60 (10x6)

Pierre Joigneaux	10/90 (10x8)
Pinkie	80/20 (8x7)
Pink Mist	30/70 (12x10)
Planchon	50/50 (9x7)
Pol Robson	0/100 + (6x4)
Pom	20/80 (8x7)
President Carnot	70/30 (9x6)
President Fallieres	80/20 (8x6
President Grevy	30/70 (10x6)
President Harding	0/100 (6x6)
President John Adams	10/90 (4x4)
President Lebrun	10/90 (11x8)
President Loubet	60/40 (9x6)
President Massart	0/100 (8x6)
President Monroe	20/80 (7x5)
President Poincare	60/40 (8x6)
President Roosevelt	0/100 + (9x5)
President Viger	60/40 (9x8)
Primrose	0/100 + (9x7)
Prince de Beauvau	50/50 (7x6)
Prince Imperial	0/100 + + (8x5)
Prince Notger	0/100 (5x5)
Prince of Wales	0/100 + (7x7)
Princess Alexandra	30/70 (10x6)
Princess Camille De Rohan	0/100 + (9x9)
Princess Clementine	20/80 (10x7)
Prinzessin Klotilde	0/100 + (9x5)
Priscilla	80/20 (9x8)
Prodige	1/10 + (10x9)
Prof. Sargent	10/90 (7x7)
Prof. Edmund Jankowsi	20/80 (8x5)
Prof. E.H. Wilson	70/30 (9x7)
Prof. Hoser	20/80 (9x6)
Prof. Josef Brzezinski	70/30 (8x5)
Purpurea	0/100 + (5x5)
Pyramidal	30/70 (10x8)
Pyramidalis Alba	0/100 + (9x8)
Quadricolor	0/100 + (6x6)
Reaumur	0/100 (10x10)
Redbud	0/100 + + (9x6)
Reine Elisabeth	0/100 + (5x4)
Reine Marguerite	50/50 (6x4)
Rene Jarry Desloges	70/30 (10x8)
Renoncule	0/100 (7x6)
Riet Bruidegom	10/90 (10x10)
Rochambeau	0/100 (7x6)
Rochester	80/20 (6x6)
Roi Albert	10/90 (8x7)
Romance	80/20 (7x5)
Ronsard	50/50 (9x7)
Rosace	50/50 (10x8)
Rouge de Trianon	20/80 (9x6)
Rubella Plena	0/100 (10x8)
Rubra Insignis	0/100 (9x7)
Ruhm von Horstenstein	0/100 (8x6)
Rustica	70/30 (6x5)
Saint Joan	70/30 (8x6)
Saint Margaret	80/20 (7x5)
Sarah Sands	0/100 + (7x6)
Scipion Cochet	0/100 + (6x5)
Sensation	0/100 + (8x6)
Serene	0/100 + + (10x6)
Sholokhov	0/100 + (5x4)
Silver King	0/100 + (9x8)
Sobra	30/70 (8x7)
Sorok Let Comsomola	30/70 (6x4)
Souv. de Gaspard Callot	10/90 (6x4)
Souv. de L. Thibault	10/90 (7x4)
Souv. de Mme. Edmond Kenis	10/90 (9x6)
Souv. de Mme. Louis Gielis	50/50 (8x6)
Souv. de Simone	0/100 (9x9)
Stadtgartner Rothpletz	70/30 (10x8)
Stefan Makowiecki	10/90 (6x4)
Sumierki	10/90 (8x5)
Susan B. Anthony	10/90 (7x7)
S.V. Lavrov	30/70 (8x6)
Sweetheart	50/50 (8x6)
Taglioni	40/60 (9x6)
Taras Bulba	0/100 (4x4)
Thomas A. Edison	0/100 + (6x5)
Thomas Jefferson	20/80 (9x7)
Thunberg	50/50 (9x7)
Tournefort	30/70 (9x9)
Toussaint-l' Ouverture	0/100 + + (9x7)
Triomphe de Moulins	20/80 (9x7)
Turenne	0/100 + (8x7)
Utro Moskvy	40/60 (8x5)
Valentina Grizodubova	0/100 (6x5)
Valentina Grizodubova	40/60 (6x6)
Van Aerschot	10/90 (8x8)
Versaliensis	0/100 + (7x7)
Verschaffeltii	0/100 (8x8)
Vestale	0/100 (9x7)
Vestale	20/80 (10x9)
Victor Lemoine	70/30 (10x8)
Ville de Troyes	0/100 + (5x4)
Violet Glory	30/70 (7x4)
Violetta	10/90 (9x6)
Virginia Becker	40/60 (9x7)
Virginite	0/100 (8x7)
Vivian Evans	0/100 + (10x7)
Viviand Morel	20/80 (9x7)
Volcan	10/90 (7x7)
Voorzitter Dix	0/100 + (6x4)
Waldeck-Rousseau	70/30 (6x4)
Weddle	20/80 (8x8)
White Surprise	20/80 (7x5)
White Swan	20/80 (7x5)
William C. Barry	10/90 (10x8)
William Robinson	40/60 (6x6)
William S. Riley	0/100 (6x6)
Woodland Blue	0/100 + (10x10)
W.T. Lee	70/30 (8x8)
Znamia Lenina	30/70 (8x4)

Syringa X Hyacinthiflora Cultivars

(D) = S. oblata dilatata X S. vulgaris
(G) = S. oblata giraldi X S. vulgaris

Alice Eastwood (G)	0/100 (11x8)
Anabel (D)	60/40 (10x10)
Assessippi (D)	0/100 + + (10x9)

Berryer (G)	20/80 (10x5)
Blue Hyacinth (G)	0/100 + (11x8)
Bountiful (G)	10/90 (9x8)
Buffon (G)	10/90 (8x8)
Campsie (D)	0/100 + + (4x3)
Catinat (G)	70/30 (10x9)
Charles Nordine (D)	0/100 + (10x9)
Clark's Giant	0/100 + (9x6)
Claude Bernard (G)	10/90 (11x9)
Daphne Pink (D)	0/100 + (10x8)
Descartes (G)	0/100 + (9x6)
Doctor Chadwick	0/100 + (6x5)
Esther Staley (G)	30/70 (9x9)
Evangeline (D)	0/100 + (10x8)
Excel (D)	0/100 + + (9x5)
Fantasy (G)	40/60 (9x5)
Gertrude Leslie (D)	0/100 (10x9)
Grace (G)	20/80 (10x9)
Hyacinthiflora Plena	0/100 + (6x5)
Kate Sessions	80/20 (5x4)
Lamartine (G)	0/100 + (10x8)
Laurentian (D)	0/100 + + (9x10)
Louvois (G)	40/60 (7x5)
Maureen (G)	30/70 (12x10)
Minnehaha (D)	0/100 + + (7x7)
Mirabeau (G)	0/100 (10x7)
Montesquieu (G)	30/70 (10x9)
Necker (G)	0/100 + + (10x10)
Nokomis (D)	0/100 + + (10x10)
Norah (G)	10/90 (10x10)
Pascal (G)	0/100 + (10x7)
Patricia (G)	30/70 (9x6)
Peggy (G)	0/100 + + (8x6)
Pink Cloud (G)	80/20 (9x7)
Pink Spray (G)	80/20 (9x7)
Pocahontas (D)	0/100 (10x10)
Purple Glory (G)	10/90 (8x6)
Rowancroft Pink (G)	60/40 (10x7)
Royal Purple (D)	10/90 (7x7)
Sister Justina (D)	0/100 + (9x10)
Summer Skies (G)	0/100 (6x6)
Sunset (G)	90/10 (8x8)
Swarthmore (D)	80/20 (10x14)
The Bride (D)	0/100 + (9x10)
Tom Taylor (D)	70/30 (10x7)
Turgot (G)	0/100 + + (10x10)
Villars (D)	0/100 + + (7x5)
White Hyacinth (G)	10/90 (8x8)

Maximum and minimum daily temperatures as recorded at the R.B.G. Weather Station

Temperatures

April 1981

Date	Max.	Min.	Max.	Min.
	Celsius		Farenheit	
1	19.3	4.0	66.7	39.2
2	16.2	5.0	61.2	41.0
3	23.2	6.8	73.8	44.2
4	24.2	14.8	75.6	58.6
5	6.6	2.0	43.9	35.6
6	9.5	—0.2	49.1	31.6
7	15.8	—0.6	60.4	30.9
8	22.1	8.1	71.8	46.6
9	15.6	10.2	60.1	50.4
10	19.2	5.5	66.6	41.9
11	20.2	10.5	68.4	50.9
12	5.2	3.1	41.4	37.6
13	10.4	3.9	50.7	39.0
14	13.1	6.2	55.6	43.2
15	8.5	—0.9	47.3	30.4
16	16.5	—0.1	61.7	31.8
17	19.8	7.5	67.6	45.5
18	9.6	5.5	49.3	41.9
19	10.6	—0.9	51.1	30.4
20	5.6	—0.3	42.1	31.5
21	5.4	—3.8	41.7	25.2
22	6.3	1.0	43.3	33.8
23	6.5	2.9	43.7	37.2
24	8.1	4.6	46.6	40.3
25	8.6	3.2	47.5	37.8
26	15.9	3.7	60.6	38.7
27	19.1	4.3	66.4	39.7
28	12.2	7.5	54.0	45.5
29	13.7	7.2	56.7	45.0
30	14.1	3.2	57.4	37.8

May 1981

Date		Min.	Max.	Min.
	Celsius		Farenheit	
1	12.2	3.8	54.0	38.8
2	12.9	4.6	55.2	40.3
3	12.8	1.8	55.0	35.2
4	13.9	2.5	57.0	36.5
5	20.2	6.5	68.4	43.7
6	12.9	4.9	55.2	40.8
7	14.3	3.7	57.7	38.7
8	17.1	2.4	62.8	36.3
9	17.3	5.8	63.1	42.4
10	12.8	8.7	55.0	47.7
11	15.3	7.4	59.5	45.3
12	10.1	7.3	50.2	45.1
13	16.2	3.1	61.2	37.6
14	16.1	3.9	61.0	39.0
15	11.8	7.5	53.3	45.5
16	20.2	9.6	68.4	49.3
17	12.5	4.4	54.5	39.9
18	16.5	2.7	61.7	36.9
19	18.8	2.8	65.8	37.0
20	24.2	6.0	75.6	42.8
21	28.1	11.1	82.6	52.0
22	26.2	14.1	79.2	57.4
23	25.2	8.5	77.4	47.3
24	25.1	10.9	77.2	51.6
25	24.6	15.0	76.3	59.0
26	27.3	13.9	81.1	57.0
27	17.0	13.7	62.6	56.7
28	18.2	13.1	64.8	55.6
29	26.1	14.1	79.0	57.4
30	20.7	16.5	69.3	61.7
31	22.1	7.6	71.8	45.7

Indices

Lilac Cultivars

Lists of lilac cultivars and species are found in the following citations: Susceptibility to mildew, 5: 24-25; resistance to leaf-roll necrosis and powdery mildew, 6: 39-47; resistance to bacterial blight, 6: 52-57; Arthur Hoyt Scott collection, 7: 21-23; Longwood Gardens collection, 7: 31-32; Highland Park collection, 7: 39-49; twenty best at Katie Osborne collection, 8: 4; Holden Arboretum collection, 9: 7-8.

Authors, Breeders, Commercialists, Devotees, Etc.

Subject Index

Lilac Species and Hybrids