

LILACS

A New Hampshire Perspective



*Cover photo courtesy of NH Governor's Lilac and Wildflower Commission,
photo by Tina Gagnon*

History

Most of us know what lilacs are, what they look like, and especially, what they smell like. The lilac holds a special place in the hearts and minds of the people of New Hampshire. It is closely interwoven with our state's identity, from the time when New Hampshire was still a colony of England to the present day. New Hampshire is home to one of the oldest lilac plantings in North America, at the Wentworth Coolidge Estate in Portsmouth. The State Flower is the purple lilac, and the University of New Hampshire in Durham was a lilac breeding center for over 60 years. There is even a Governor's Lilac and Wildflower Commission, dedicated to promoting the purple lilac in New Hampshire, something no other state has.



*Above: *S. x persica* growing with giant succulents in Jerusalem. Credit Boaz Greenfield, Jerusalem, Israel.*

Lilacs are not native to New Hampshire, or even to North America. There are 21 recognized species of lilacs, known to botanists by the name of the genus, *Syringa*, and all but two originate in Asia, mostly in China. However, two species are native to south-eastern Europe, and one, *Syringa vulgaris*, the common lilac, is the species that most people are familiar with in New Hampshire and New England. It is likely that your grandmother's favorite lilac, whether purple or white, was a *Syringa vulgaris*.



Above: Lilac growing in Istria, on the Adriatic coast of Croatia. Photo by Zelimir Borzan, Ph. D.

Lilacs are usually found in areas with cold winters. This includes much of North America, Europe, Russia, Siberian Asia, and Himalayan India. Parts of New Zealand and Australia, and more rarely, southern South America and the Falkland Islands, have lilacs growing and flowering for people to enjoy. What is not widely known is that lilacs also grow in warmer climates. Israel, Cyprus, Greece, Turkey, and the Adriatic coast of Croatia also support the growing of lilacs. The name originally comes from Arabic, lilak, which means blue, evidence that lilacs were growing in the Mid-East for centuries before they came to the West.

History of the Lilac in North America

It is difficult to determine where or when the first lilacs in North America were planted. Lilacs are not native to our continent, so any lilacs we find were planted by someone who admired them and brought them from somewhere else. Several locations are candidates for early introduction, including Mackinac Island in Michigan, the William Brewster site in Duxbury, Massachusetts, and the Wentworth Coolidge Estate in Portsmouth, New Hampshire. Legend suggests that the lilacs on Mackinac Island were planted by French Jesuit missionaries in the late 1600's, but no documentation has been discovered to support the claim. The town of Duxbury, Massachusetts, is home to the site of the abandoned homestead of Elder William Brewster, leader of the Pilgrims at Plymouth Plantation. The site north of Plymouth Plantation on which he built his new house in 1630 is covered with lilacs, and tradition tells us that he brought lilacs with him from Holland to plant at his new home, perhaps on the Mayflower voyage. The present lilacs are believed to be descended from the original planting. Ongoing research may produce documentation to support the traditional claim. The Wentworth Coolidge estate in Portsmouth, New Hampshire, is home to the Governor Wentworth lilacs, and date from 1750. The Wentworth Lilacs represent the oldest lilacs in New Hampshire and North America for which there is reasonable documentation.



*Left: Marker at roadside in Duxbury, MA.
Photo by John Bentley.*

*Right: Lilacs growing at site of William Brewster homestead, Duxbury, MA.
Photo by John Bentley October, 2012.*



We know that lilacs were grown all over the colonies by 1652, but few records exist, apparently because the lilac came in as a personal family possession, not part of the agricultural inventory. In 1753, Peter Collinson, English Quaker and wool merchant of London, sent lilacs to botanist John Bartram, of Philadelphia, sometimes called the “Father of American Botany”, who complained that lilacs “are already too numerous, as roots brought by the early settlers have spread enormously”. Thomas Jefferson wrote in 1767 that he planted lilacs at his estate Monticello, and George Washington, writing about his estate, Mount Vernon, recorded in his diary that he “removed two pretty large and full grown lilacs to the No. Garden gate – one on each side, taking up as much dirt with the roots as cd. be well obtained.”

These lilacs are long gone, but the Governor Wentworth lilacs and the Brewster lilacs are still there, making them the oldest recorded lilacs in North America, and the oldest that are still in the same location. There may well be other lilacs in New Hampshire, New England, and the Hudson River Valley in New York that are as old, or older, than the Wentworth and Brewster Lilacs, but discoveries have yet to be made and research and documentation have yet to be completed. If there are old lilacs in your town, look into their history and see what you can learn.

Lilacs in New Hampshire: Colonial Days and the Governor Wentworth Lilacs

The first time lilacs are mentioned in New Hampshire history is in 1750, when Royal Governor Benning Wentworth enlarged his house and the plantings around it. Since the only plant that has ever been planted near the house was a lilac, we believe it was there in 1750.



Left: Wentworth Coolidge Estate, Portsmouth, New Hampshire. Photo by John Bentley, May 2012.

In 1939, Helen Hussey Champlin, of Rochester, New Hampshire, celebrated the first Lilac Day (on Arbor Day) in New Hampshire by planting lilacs at the State House. Six lilac plants dug up from the Wentworth estate were donated by Mr. J. Templeman Coolidge, the owner of the property at the time. Governor Murphy issued a proclamation declaring Arbor Day to also be NH Lilac Day. This was the first official celebration of the Lilac since it was named the State Flower in 1919.

Recently, the Governor Wentworth lilacs have been diagnosed with a disease called Armillaria, also known as Shoestring Root Rot or Honey Fungus. This fungal disease results in a slow decline and the eventual death of the plant. (*See picture under Pests and Diseases, below.*)

Efforts began in the early 1970's to propagate and distribute them to ensure their survival. Dr. Owen Rogers of the University of New Hampshire propagated and distributed them as early as 1973, offering 2 to be auctioned at the International Lilac Society's plant auction, conducted at their Annual Convention, held in Portsmouth, NH that year. One went to Ohio, and one went to New York.



ILS members meeting at Wentworth Coolidge Estate in 1973. Dr. Owen Rogers at extreme left. Photo courtesy of Marie Rogers.

From the 1990's to the present, Evie King and Roger Coggeshall of Syringa Plus Nursery in West Newbury, Massachusetts, have worked closely with Dr. Rogers of UNH, the Governor's Lilac Commission, and with the Wentworth Coolidge Estate, to propagate and preserve the Governor Wentworth lilacs. The Wentworth Source lilacs have been listed in their catalog since 1994.

In 2010, a renewed interest in the preservation of the lilacs at the Wentworth Coolidge estate resulted in a propagation and planting effort that is still under way. The original plants were propagated in quantities sufficient to ensure the replacement and distribution of this historic lilac.



Ancient Lilac trunk at the Wentworth Coolidge Estate in Portsmouth, New Hampshire, May, 2012. Molly Bentley, age 7, with hand on trunk, photo by J. Bentley. Note the pronounced twisting of the trunk, a curious feature of very old lilac trunks.

French Hybrids

The popularity of the lilac grew during the late 1800's with the introduction of the French hybrids from the nursery of Victor Lemoine et Fils, in Nancy, France. Over the course of 71 years, through 3 wars (The Franco Prussian War, and World Wars I and II), from the work of three generations of the Lemoine family, 214 cultivars were introduced to the world. Many of these remain the most outstanding cultivars today, **including 'Mme. Lemoine' (1890), 'Charles Joly' (1896), 'Katherine Havemeyer' (1922), 'Monge' (1913), and 'Président Grévy' (1886).** At the Jardins de Botanique de Nancy, in Nancy, France, after many years of collecting and propagation, all of the Lemoine cultivars may be seen and enjoyed today. (www.cjbn.uhp-nancy.fr/Francais.index.php4)

Today there are hundreds of lilac cultivars available, the work of different hybridizers from all over the world. There are over 1800 named cultivars, many of which are extinct. The term "cultivar" is an acronym for cultivated variety, special selections made by gardeners. Around 300 kinds of lilacs are commonly available, with an additional 500 or so existing in collections and arboreta. These special plants are selected to be grown in our gardens because of new or different characteristics like large flowers, bright colors, or pleasant fragrances. Many times these are plants grown from seed after careful cross pollination, but sometimes they are "open pollinated", meaning that bees did the pollinating instead of a lilac breeder. Cultivars can be propagated (reproduced) in different ways, including grafting, tissue culture, and cuttings, and by transplanting offshoots (sometimes incorrectly called "suckers") of larger, older plants.



Above: 'Président Grévy', photo by Tatiana Poliakova, Moscow, Russian Federation.

All new lilacs that we enjoy today are called hybrids, or cross breeds. This means that the lilac pollen from the stamen of one flower is manually introduced to the pistil of another flower, resulting in a cross breeding of the genetic traits of the two different flowers. This is done under controlled conditions by scientists who study the art and the science of plant breeding, and is called hybridization. After several years, when the plant produces a flower, it is then evaluated by the scientist for the desirable qualities that make the new plant different. In this way are bigger flowers, different colors, and smaller or more vigorous specimens chosen, and a new cultivated variety, or cultivar, is introduced.

New Hampshire State Flower

With the universal appeal of the lilac, and the popularity of the “French Hybrids”, it is not surprising that someone should suggest that it be designated the New Hampshire state flower. The choice of the purple lilac, however, was not a shoo-in, and other flowers were proposed, as can be seen in the following excerpt from Leon Anderson’s *History: Colorful Sessions on Flowers from the Manual for the General Court*, Page 2, 1981.

The purple lilac became New Hampshire’s official State flower, in a most colorful manner, in the 1919 legislative session. It was opposed by nine other flowers, including the apple blossom, the purple aster, the wood lily, water lily, and gold-rod. The committee’s recommendation was approved by the House on February 20th and sent up to the Senate for concurrence.

The Senate developed considerable purple lilac sentiment and also considered the buttercup. Unable to muster majority support for any flower, the 24 members of the Senate turned to a novel solution. They placed the names of three flowers in a hat, blindfolded Senate Clerk Earle C. Gordon of Canaan, and ordered him to draw a name. The purple lilac, the mayflower and the purple aster went into the lottery, and the latter won the draw.

The Senate reported its unique decision to the House, which clung to the apple blossom, and the impasse was referred to a committee of conference.

The 10-man conference committee soon became stalemated on the flower fuss, and turned to another unique solution. It asked two botanists, Professor Arthur Houston Chivers of Dartmouth and Professor Ormond Butler of the state college to arbitrate the dilemma, and agreed to accept their decision.

Within a few days the two botanists informed the conference committee that they had also become stalemated. Faced with this deadlock added to its own deadlock, the conference committee voted eight-to-two for the purple lilac. Two members stuck to the apple blossom to the bitter end.

The House and Senate concurred with the committee compromise, without further argument, and Governor John H. Bartlett of Portsmouth signed the purple lilac into law on March 28, 1919.

University of New Hampshire

The University of New Hampshire in Durham was a center of lilac breeding for over 60 years, from the 1940's through the early 2000's. Seven of the ten cultivars produced by UNH are of the Villosae Group, a later blooming lilac than the traditional *Syringa vulgaris*. These cultivars were chosen for their late blooming habit, in the hope that the late bloom time would escape the early frosts so common in New Hampshire's variable spring weather.

Three principal scientists were engaged in this work, Elwyn Marshall Meader (1910 -1996), Albert Franklin Yeager, (1892 – 1961), and Owen Maurice Rogers, Ph.D. (contemporary). Dr. Rogers told the editor that he was the first agricultural school faculty member hired who had no experience driving a tractor.

Professor Yeager served as Chairman of the Horticulture Department at UNH, and introduced the New Hampshire Midget watermelon and the Buttercup squash. After his retirement from UNH in 1959, Professor Yeager continued his work developing plants with Henry A. Wallace, 33rd Vice President of the United States in the Franklin D. Roosevelt administration (1941-1945) and a former US Secretary of Agriculture (1933-1940) and Commerce (1945-1946).

Rochester, NH, native Elwyn Meader is without question one of the most famous plant breeders in world history, though his name is not well known outside of horticultural circles. He introduced the lilac 'Miss Kim', as well as many new cultivars of cold hardy vegetables and fruits, including the Reliance peach, the Royalty bean, cold hardy Chrysanthemums, and a type of self -pollinating cucumber that revolutionized the pickling industry. All commercial pickles that we consume today are the result of his breeding work.



Owen Rogers introduced 3 lilacs of the Villosae Group, in addition to teaching classes in plant genetics and breeding, judging flower shows, and serving in the United States Air Force Reserve for 20 years, retiring with the rank of Major. Dr. Rogers was the unofficial spokesman for lilacs in New Hampshire for many years, active well past his retirement in 1996, appearing in magazine articles and on television to promote lilacs.

*Above: Owen and Marie Rogers,
courtesy of Marie Rogers*

These New Hampshire scientists introduced 10 lilacs to the nursery trade and there are several others still being evaluated, which may be introduced in the future.

'Miss Kim' and 'James Macfarlane' are two of the most widely planted lilacs in the United States, but some of the UNH lilacs are very rare, even endangered, a twist of modern horticulture. Luckily, a renewed interest in the cultivars introduced by UNH has allowed for propagation of the rarest ones, hopefully ensuring their survival for the enjoyment of lilac lovers in New Hampshire and throughout the world.

All homeowners, businesses, schools, libraries, and municipal and state locations that have room for some lilacs are encouraged to plant the UNH introductions, cultivars especially well suited to the growing conditions found in New Hampshire, and testament to the scientific and cultural history of lilacs in the state.

Ten Lilac Cultivars introduced by the University of New Hampshire from 1945 through 2003

A word about the descriptions:

- *Syringa* is the genus name for lilac; genus names are always written in *italics*.
- Group names are always enclosed by brackets. For example, (Villosae Group) is the Group name to which this cultivar belongs.
- Cultivar names (short for cultivated variety) are always enclosed by single quotation marks. For example, 'Agnes Smith'.
- The originator is the plant breeder or hybridizer who raised this new cultivar.
- The letter S or D indicates a single or double flower; the Roman numeral indicates the color in the Wister Code.
- A brief biographical note on the person for whom the plant was named may follow the description.



'Agnes Smith' *Syringa* (Villosae Group)

Originated by Owen Rogers in 1970; florets single, white (Wister Code: S I).

Named for Agnes Greene Smith [1883-1969], of Portsmouth, NH, the 1st President of the New Hampshire Federation of Garden Clubs. Mrs. Smith was the wife of Harold M. Smith, Speaker of the NH House of Representatives 1931-1933.

Agnes Smith photo by Tatiana Poliakova.

'Anna Amhoff' *S.* (Villosae Group), *S.* × *josiflexa*

Originated by Albert Yeager in 1961; florets single, white (Wister Code: S I).

Named for Mrs. Anna Evans Amhoff [- 1951] active member and flower show judge of the Portsmouth Garden Club in Portsmouth, NH, where she served as president for 12 years.



'Anne Tighe' *S. vulgaris*

Introduced by Albert Yeager in 1945; florets double, purple. (Wister Code: D VII).

Named for Mrs. Anne F. Sullivan Tighe [1884-1945], a teacher and charter member of the Community Garden Club in Salmon Falls, New Hampshire, of which she served as president for 7 years. She was also a charter member of the New Hampshire Federation of Garden Clubs and served on its executive board. Mrs. Tighe is buried in the Rollinsford Cemetery, Rollinsford, NH.

Anne Tighe photo by Bruce Peart, Dundas, Ontario, Canada



'James Macfarlane' *S. (Villosae Group)*

Another Albert Yeager introduction from 1959; florets single, pink. (Wister Code: S V). Named for James Macfarlane [1864-1950], of Rochester, NH, horticulturist at the University of New Hampshire from 1915-1949. Mr. Macfarlane was born in London, England, and immigrated to the United States in 1893. He studied at Cornell, and in 1915, came to UNH, where he operated the greenhouses, giving tours and teaching classes in horticulture until the age of 85. He is known as the Father of the New Hampshire Federation of Garden Clubs. Mr. Macfarlane retired to Wolfeboro, NH, and is buried in the Lakeview Cemetery. *James Macfarlane photo by Tatiana Poliakova*



'Jesse Hepler' *S. (Villosae Group), S. xjosiflexa*

Introduced by Owen Rogers in 1978; florets single, purple. (Wister Code: S VII). Named for Jesse Raymond Hepler [1887 – 1962], professor of horticulture from 1917-1956, at the University of New Hampshire. From 1940 through 1980, UNH was home to the Jesse Hepler Lilac Arboretum, located behind Thompson Hall. It was taken out in 1980. For thirty years, Professor Hepler was known as the Granite State Gardener, writing a weekly column in the Portsmouth Herald, entitled Home Gardener. He was also the first in the UNH Extension office to use radio and television to reach his audience. Professor Hepler developed an eggplant that was widely planted in New Hampshire, as well as the Merrimack Wonder pepper and

the Flash shell bean. He had a collection of over 400 heirloom beans, displayed in glass jars, which was one of the largest in the United States at one time. The original plant introduced by Dr. Rogers is still alive in 2013 and can be seen at the Woodman Farm at UNH in Durham, NH. 'Jesse Hepler' is the latest blooming lilac of the UNH introductions, and the latest blooming lilac in the Villosae Group in the New England area. *Jesse Hepler photo by Bruce Peart.*



*Marie Rogers photo by
Jack Alexander.*

‘Marie Rogers’ *S.* (Villosae Group)

Introduced by Owen Rogers and Walter Oakes [1928 – 2005], of Dixfield, Maine in 2003; florets double, violet. (Wister Code: D II).

This lilac was named by Walter Oakes for Marie Rogers, wife of Owen M. Rogers, professor at UNH, and the plant’s originator. Mrs. Rogers met Owen while they were both in the United States Air Force. In 1951-52, working as a recruiter for the Air Force before she met Owen, she was stationed in Rochester, New York, home of the Rochester Parks Lilac Collection. Walter Oakes was a founding member of the International Lilac Society, and selected the plant from a batch of open-pollinated seedlings received from Owen Rogers in 1992.

‘Mary Blanchard’ *S. vulgaris*

Introduced by Albert Yeager in 1958; florets single, violet. (Wister Code: S II).

This cultivar is named for Mary Fisher Blanchard [1894-1953], amateur gardener and lilac grower, and an active member and president of the Milford Garden Club, Milford, NH. Mrs. Blanchard is buried in the Meeting House Hill cemetery in New Boston, NH. No specimens of this cultivar have been located.



‘Maybelle Farnum’, *S.* (Villosae Group), *S. xjosiflexa*

Originated by Albert Yeager in 1961; florets single, purple (Wister Code: S VII).

This lilac is named for Maybelle W. Farnum [1879-1953], an active member of garden clubs and promoter of lilacs in Rhode Island and New Hampshire. Mrs. Farnum was a member of the Barrington Garden Club in the early part of her life, and upon moving to Tamworth, NH, in 1938, became the first president of the Tamworth Garden Club, and planted a lilac hedge near the Congregational Church in Tamworth, NH, which is still there. Mrs. Farnum is buried in the Swan Point cemetery in

Providence, Rhode Island.

Maybelle Farnum photo by Bruce Peart.



'Miss Kim', *S. pubescens* subsp. *patula*

An introduction by Elwyn Meader & Albert Yeager in 1954; florets single, violet. (Wister Code: S II).

'Miss Kim' was grown from one of only 12 seeds collected by Professor Meader in the Pouk Han mountain area in Korea on Veteran's Day, November 11, 1947. Professor Meader was stationed in Seoul, (now South) Korea, where he served as a horticulturist with the U.S. Army Military Government. It was named for all of the beautiful Korean women, a generic and common name of Kim being chosen.

Miss Kim photo by Bruce Peart.



'Nellie Bean' *S. (Villosae Group), S. ×josiflexa*

Introduced by Albert Yeager in 1959; florets single, purple. (Wister Code: S VII).

Nellie Cunningham Bean [1869-1945], was a charter member, and in 1936, became the third president of the Franklin Garden Club, Franklin, NH. She loved wild-flowers and was a judge at area flower shows in the first part of the 20th century. Mr. Yeager honored Mrs. Bean by naming a lilac in her honor, 14 years after her death. Mrs. Bean is buried in the Proctor Cemetery in Andover, NH.

Nellie Bean photo by Richard Hinchcliff, Central Experimental Farm, Ottawa, Ontario, Canada.

If you have information about the lilacs noted above, or about the people associated with them that you would like to share, please contact **John Bentley** by email at katiebentleylilacproject@gmail.com, or **PO Box 269, Salisbury, NH, 03268, United States**, or by phone, **603-783-6779** or **603-648-2676**.

How the Lilac ‘Miss Kim’ Came to Be



Above: Photo by Dr. Zelimir Borzan, Zagreb, Croatia.

The story of how the lilac ‘Miss Kim’ was discovered by Professor Meader is interesting and bears repeating; here, in his own words, is the story of how he came to acquire the seed of ‘Miss Kim’.

“It was November, 11, Veteran’s Day, 1947, a holiday in Seoul, Korea, where I was stationed as a horticulturist for the US Army Military Government. That meant a day free for hiking in the

nearby Pouk Han Mountains. Early that morning, a companion and I set out through the old city’s North Gate with C-rations and canteens tied to our belts.

Up hill and down dale we followed well-trodden trails until we had scaled Paik Un Dae (White Cloud Peak), 892 meters in height. There stunted pines and shrubs grew in crevices where sufficient soil had clung to the craggy granite. On a cliff high above I spotted a lonesome, upright shrub, shoulder high, neatly ensconced in a wide crack of rock. Two inches of snow had collected under the plant despite bare ground at lower elevations. As I examined its twigs and seed pods, I knew it must be a lilac. Could the dried capsules still contain any seeds in such a windswept place? A diligent search rewarded me with a few; most had gone with the wind!

Back home in 1948, I planted my twelve precious seeds which I’d collected that previous Veteran’s day in Korea. Seven thrifty seeds sprouted. Five grew into tall upright plants like their parent in the Korean mountains. Two, however, although strong and vigorous enough, were rather dwarf by comparison. All seedlings proved hardy and in time bloomed late, a full week or so after ‘James Macfarlane’. The fragrant single flowers, purple in bud and when first open, fade to a blue-ice whiteness before falling.

One of the two low stature seedlings bore dark green leaves with wavy margins. The foliage remained free of mildew all summer and turned burgundy red in autumn for a delightful display. I named it ‘Miss Kim’, since ‘Kim’ is a most common family name in Korea. There are thousands of Misses Kim, many could easily win a beauty contest if such were ever held in that country.”

Miss Kim was released in 1954 by the New Hampshire Agricultural Experiment Station and became the first named cultivar of *Syringa patula*. It is one of the most widely planted lilacs in the United States today.

(From: Lilacs: The Genus Syringa, by John Fiala. Timber Press, 1988.)

Governor's Lilac and Wildflower Commission

New Hampshire is lucky to have the Governor's Lilac and Wildflower Commission. New Hampshire is the only state in the nation to have the purple lilac as the State Flower and the only state to have a Governor's commission dedicated to promoting the purple lilac. Formed in 1984 by Governor John H. Sununu, estimates are that over 100,000 lilacs have been planted throughout the state by the commission.

Renamed the New Hampshire Governor's Lilac and Wildflower Commission in 1994 by Governor Steve Merrill, the commission has assumed an added responsibility for planting wildflowers and many roadside areas of wildflowers have been planted. Funding for the planting of lilacs and wildflowers comes from the NH Legislature, and from money generated by the Moose Plate conservation fund. The promotion and planting of lilacs and wildflowers by the commission has helped to introduce many NH residents and tourists to the beauty of the state flower and other flowers beside our highways.



John Henry Sununu

75th Governor of New Hampshire **In office**

January 6, 1983 – January 4, 1989

Governor John Sununu created the New Hampshire Governor's Lilac Commission in 1984.

Photo credit: NH State Library.

Right: NH Governor's Lilac and Wildflower Commission members Guy Giunta (Chairman) and Paul Rushlow, NH Farm and Forest Expo, Feb. 2012.

Note the lilacs blooming in February.

Photo by J. Bentley.



About The Lilac and Wildflower Commission

The Governor's Lilac Commission was established by Governor John H. Sununu in 1984 to promote extensive planting of lilacs throughout the state. In an effort to help beautify New Hampshire's highways, the Commission has taken on the additional responsibility of purchasing and assisting in planting wildflowers. Because of these efforts, Governor Stephen Merrill renamed it the Governor's Lilac and Wildflower Commission on August 1, 1995.

The Governor's Lilac and Wildflower Commission was established to:

- Promote extensive plantings of lilacs and wildflowers throughout the state for the pleasure and use of residents and visitors.
- Involve agricultural, educational, and horticultural programs in planting and propagating lilacs and wildflowers for local community projects.
- Encourage the efforts of state garden clubs in lilac and wildflower programs.
- Coordinate garden clubs efforts with state, town, and city planting and maintenance programs.
- Solicit the help of service clubs and commercial groups or individuals to assist financially or by donations of plant materials to local schools' FFA Chapters, 4-H Clubs or other youth groups participating in local lilac and wildflower programs.
- Utilize the newer varieties of lilacs developed at the University of New Hampshire to extend the season of bloom and to make available information on good cultural practices for growing lilacs to insure the best possible results.
- Provide a memorable experience for tourists visiting the state.
- Develop information on the establishment, maintenance and rejuvenation of wildflowers along highways and in communities for public enjoyment.

The Governor's Commission may be reached at the website below.

<http://www.nh.gov/lilacs/>

Katie Bentley Lilac Project

The Katie Bentley Lilac Project was founded by John Bentley of Salisbury, NH, in memory of his daughter Katie Bentley, who died at age four from a lung ailment. This tax exempt, non-profit organization promotes the planting of lilacs at public locations, cemeteries, schools and public buildings. It is also in the planning stages of creating the Katie Bentley Lilac Collection, a unique collection of over 300 rare and collectible lilac cultivars for the public to enjoy and for scientists to study. The Katie Bentley Lilac Project received a special commendation from Governor John Lynch in 2010 for its work in promoting the State Flower. More information can be found at their website, www.katiebentleylilacproject.com.

Lilac Sunday

Every year during May, the Arnold Arboretum in Jamaica Plain, just outside of Boston, Massachusetts, has a lilac celebration known as Lilac Sunday. There are several hundred lilacs in the collection of the arboretum that offer an outstanding opportunity to view and enjoy lilacs.

There are other lilac collections located in New England, including the Lyle Littlefield Garden at the University of Maine at Orono, and at the Shelburne Museum in Shelburne, Vermont. www.arboretum.harvard.edu.

International Lilac Society

Founded in 1971, the International Lilac Society is an important networking group for lilac lovers. There are many people from New Hampshire and New England who belong to the ILS, and new members are welcome all the time. The reader is encouraged to visit their website, www.internationallilacsociety.org, and sign up as a member. One may learn about lilacs, receive the quarterly journal "Lilacs", meet interesting people, and attend regional meetings and the annual lilac convention, through membership in this society.

www.InternationalLilacSociety.org.

International Lilac Register



*Freek Vrugtman,
International Lilac Registrar*

The International Register and Checklist of Cultivar Names in the Genus *Syringa*, or International Lilac Register for short, is built on data compiled by Dr. Owen M. Rogers of the University of New Hampshire during a sabbatical leave in 1975. Dr. Rogers' work, and its subsequent updates by Mr. Freek Vrugtman, presents information that is gathered and used worldwide; it represents but another claim to the importance of lilacs in New Hampshire history.

The International Lilac Register is currently maintained by Mr. Freek Vrugtman, curator emeritus and International Lilac Registrar, Royal Botanical Gardens, Burlington, Ontario, Canada. Appointed by the International Society for Horticultural Science (ISHS), Commission Nomenclature and Cultivar Registration, Mr. Vrugtman has held this commission since 1975. An companion book edited by Mr. Vrugtman, titled "Lilacs: A Gardener's Encyclopedia", (ISBN 13:978-0-88192-795-5), is available for further reading and study.

The International Lilac Register is the central location for information on the naming of lilacs and related information. One may access the website at www.SyringaRegistry.info.

Choosing a Lilac

Lilac means the common lilac (*Syringa vulgaris*) to most people. It blooms in May and nothing will substitute for the great displays of massed bloom at that time of year. There are literally hundreds of named varieties that can be seen in an arboretum such as the Arnold Arboretum in Boston. A smaller number can be obtained from many commercial sources either as named cultivars ('President Lincoln', 'Miss Kim') or as a color class. The Wister Code is used to classify lilac colors.

The Wister Color Code

The late Dr. John C. Wister, of Swarthmore College, Pennsylvania, devised a Color Code as a simple classification tool for lilacs. It consists of seven basic color groups: I-White, II-Violet, III-Bluish, IV-Lilac, V-Pinkish, VI- Magenta, and VII-Purple. This classification was used in the 1941 and 1953 Lilac surveys, "Lilacs for America", chaired by Dr. Wister. Nurserymen and horticulturists use this classification which provides a point of reference for gardeners and landscapers.

Color is like beauty, in the eye of the beholder, but the Wister Code helps us to classify in a general way the color of the lilac we behold. The Wister Code is still used today.



I. White

'Agnes Smith' (UNH)

'Avalanche'

'Mme. Lemoine'

'Mount Baker'

Agnes Smith photo by Tatiana Poliakova.



II. Violet

'Agincourt Beauty'

'Flower City'

'Marie Rogers' (UNH)

'Miss Kim' (UNH)

'Sesquicentennial'

Sesquicentennial photo by Tatiana Poliakova.



III. Blue

‘Cheyenne’

‘Mechta’

‘Nadezhda’

‘Président Grévy’

‘President Lincoln’

‘Wedgewood Blue’

President Lincoln photo by Kent Millham, Rochester, NY



IV. Lilac

‘Excel’

‘Michel Buchner’

S. josikaea

Syringa x persica

Excel photo by Tatiana Poliakova.



V. Pink

‘Anabel’

‘James Macfarlane’ (UNH)

‘Katherine Havemeyer’

‘Miss Canada’

S. meyeri ‘Palibin’

Katherine Havemeyer photo by Tatiana Poliakova.



VI. Magenta

‘Arch McKean’

‘Maréchal Foch’

‘Paul Thirion’

Maréchal Foch photo by Tatiana Poliakova.



VII. Purple

‘Andenken an Ludwig
Späth’

‘Charles Joly’

‘Donald Wyman’

‘Jesse Hepler’ (UNH)

‘Margaret Fenicchia’

‘Monge’

‘Nellie Bean’ (UNH)

‘Purple Glory’

Monge photo by Tatiana Poliakova.

Special Cultivars



‘Albert F. Holden’

Photo by Tatiana Poliakova.



‘Atheline Wilbur’

Photo by Tatiana Poliakova.



‘Krasavitsa Moskvyy’

Most remarkable flower, pink in bud and turning white.

Photo by Bruce Peart.



‘Primrose’

A yellow tinged flower, the only yellow lilac.

Photo by Tatiana Poliakova.



‘Sensation’

A flower with white edges around a purple center. A natural mutation.

Photo by Tatiana Poliakova.

For those gardeners with limited space, there are some species with a habit smaller than the common lilac. The Rouen lilac (*Syringa chinensis*) with large clusters of violet blooms has smaller leaves and a more graceful habit than the common lilac, which tends to be upright and stiff. Also, the Persian lilac (*Syringa persica*), the littleleaf lilac (*Syringa microphylla*) and *Syringa meyeri* ‘Palibin’, all stay much smaller than the common lilac and work well in restricted spaces.



Above: S. meyeri 'Palibin' at UNH by John Bentley.

Lilacs as Cut Flowers

The abundance of bloom and the natural fragrance of the lilac make it a great cut flower. Cut lilacs will last well over a week if a few simple rules are followed. They are:

1. Cut the stems before the blossoms are completely opened, commonly referred to as the “popcorn stage”. This may help to keep the blossom blooming longer.
2. Cut stems when they are full of water. Early morning is best but late afternoon is okay if the stems are not stressed for water.
3. Put the stems into water immediately. Carry a bucket of water to the plants. A delay in getting the stems into water can cause quick wilting. If a stem does wilt within hours of being cut, re-cutting the stem under water can sometimes revive it.
4. Use a commercial flower preservative such as Floralife, Floreverb, or Chrysal in the water at all times. This is critical if blooms are to last more than a couple of days. The preservatives acidify the water, kill bacteria, and supply some food for the cut blooms. If no preservative is available, some people hammer the bottom two inches of the stems so that more water can be taken up. This should be combined with changing the water and washing the vase daily to keep the stem fouling bacteria count low.
5. Harden the blooms for several hours before arranging. Flowers placed in warm water (with a preservative) in a cool location will take up water and stand up much better in subsequent arrangements.
6. Remove stem foliage for extended life. Removing all the leaves on the stem will extend the life of the cut bloom by one or two days.

Lilacs - What to Buy

Different Kinds of Lilacs

Lilac plants are sold as named varieties ('Miss Kim', 'Lucie Baltet'), or as a color class (purple, white – see the Wister Code above). Whether to buy plants by color or name depends on the wishes of the purchaser. A named variety has specific characteristics that can be described and listed in catalogs. For specimen planting or specific characteristics such as resistance to mildew, this would be desirable. For a general group such as a screen or for background use, color classes alone may be enough. With either named varieties or color classes, the greatest flower color emphasis will be achieved by including two contrasting colors such as white and a dark shade.

Plants for sale are offered in many sizes and conditions. The best way to insure success is to buy a nursery grown plant in a container or with a ball of soil around the roots. Such a plant will have been prepared for transplanting and will establish quickly and produce a good floral display in approximately 2 to 3 years. Larger sizes, either balled and burlapped (a nursery term meaning a ball of roots wrapped in burlap), or in containers, can also be purchased if instant effect is needed.

Smaller sizes will be less expensive and this may be desirable where many plants are to be purchased. Bare root plants must have extra establishment care. Frequently, plants ordered from catalogs and sent through the mail will arrive bare root (without soil around the roots). These can be very good plants but extra attention must be given to watering, weeding and feeding for the first two years to get them off to a good start.

Extending Lilac Bloom Time

Lilacs are prized for their beautiful and fragrant flowers. However, if a planting contains only forms of the common lilac, (*Syringa vulgaris*), that bloom may only last for a week or so, and unseasonable weather may reduce it even further. Date of bloom for a particular location will vary somewhat from year to year but all common lilac cultivars will, more or less, bloom together. If, however, other species and hybrids are added, the bloom season can be extended by as much as eight weeks in a normal year. Other species also provide considerable variation in plant size and shape, flower color, disease resistance, and fall foliage color. *Syringa persica*, at one extreme, is small and delicate, while *S. ×prestoniae* 'Agnes Smith' is big and bold. *S. patula* 'Miss Kim' is slow-growing and globular, while *S. reticulata* is a tree, and blooms well after the shrub varieties. Table 1 contains a sampling of the common cultivars. Many are old "French hybrids", but the list also includes some of the new improved cultivars from the United States and other countries.

Table 1.

Lilac Cultivars

- *Syringa × chinensis* ‘Lilac Sunday’ – Mid season, single, light purple
- *S. × c.* ‘Saugeana’ – Mid season, single, lilac/red
- *S. × hyacinthiflora* ‘Anabel’ – early, double pink
- *S. × h.* ‘Assissippi’ – early, single lavender
- *S. × h.* ‘Blanche Sweet’ – early, single whitish blue with a hint of pink
- *S. × h.* ‘Declaration’- early, single purple
- *S. × h.* ‘Evangeline’ – early, double magenta
- *S. × h.* ‘Excel’ – early, single lilac
- *S. × h.* ‘Maiden’s Blush’ – early, single pink
- *S. × h.* ‘Mount Baker’ – early, single white
- *S. × h.* ‘Old Glory’- early, single, blue/purple
- *S. × h.* ‘Pocahontas’ – early, single dark purple
- *S. × h.* ‘Royal Purple’ – early, double dark purple
- *S. × h.* ‘Sister Justina’ – early, single white
- *Syringa × josiflexa* ‘Agnes Smith’ – late, single white
- *S. × j.* ‘James Macfarlane’ – late, single pink
- *S. × julianae* ‘George Eastman’ – Mid season, single, reddish pink, small leaf
- *S. × laciniata* – Mid season, cut leaf lilac, single lavender
- *Syringa meyeri* ‘Palibin’ – Mid season, Dwarf Korean Lilac, single lilac
- *S. microphylla* ‘Superba’ – Mid season, Little Leaf Lilac, single pink
- *S. oblata* ‘Betsy Ross’ – early, single white
- *S. o. subsp. dilatata* ‘Cheyenne’ – early, single blue burgundy fall foliage
- *S. patula* ‘Miss Kim’ – late, single lavender burgundy fall foliage
- *S. × prestoniae* ‘Donald Wyman’ – late, single purple
- *S. reticulata* – Japanese Tree Lilac – Mid season, single white flowers in June
- *S. r.* ‘Ivory Silk’ – selected cultivar of Japanese Tree Lilac

Inter Specific Hybrids

- ‘Bailbelle’, *S. TINKERBELLE™* - wine buds, deep pink flower, small leaf, compact grower, fragrant
- ‘Bailina’, *S. THUMBELINA™* - pale pink blossoms, compact grower
- ‘Bailming’, *S. PRINCE CHARMING™* - deep wine red buds lavender pink flowers, compact grower, fragrant
- ‘Bailsugar’, *S. SUGAR PLUM FAIRY™* - very compact plant with rosy-lilac flowers
- JOSÉE™, *S.* - deep rose flowers, sporadic fall re-bloom
- *S.* ‘Minuet’ – late, single purple
- *S.* ‘Miss Canada’ – late, single deep pink
- *S.* ‘Red Pixie’ - single, deep pink, compact plant

Syringa vulgaris (Mid-season bloom)

- *Syringa vulgaris* - common purple, The New Hampshire State Flower
- *S. v. var. alba* - common white lilac
- *S. v.* 'Adelaide Dunbar' - double dark purple
- *S. v.* 'Albert F. Holden' - single purple, with a bi-color effect
- *S. v.* 'Alvan R. Grant' - single red-purple in bud opening to purple flowers, fragrant
- *S. v.* 'Andenken an Ludwig Späth' - single dark purple (sold in the US as Ludwig Spaeth)
- *S. v.* 'Arch McKean' - single dark purple, very large florets
- *S. v.* 'Atheline Wilbur' - semi-double orchid, rose, violet
- *S. v.* 'Avalanche' - single white
- *S. v.* 'Charles Joly' - double dark purple
- *S. v.* 'Charles Lindbergh' - single violet-blue
- *S. v.* 'Dappled Dawn' - single blue, variegated foliage
- *S. v.* 'Dwight D. Eisenhower' - single, multi-petaled blue
- *S. v.* 'Fiala Remembrance' - double white
- *S. v.* 'Flower City' - single violet/purple
- *S. v.* 'Frank's Fancy' - single purple
- *S. v.* 'Frederick Law Olmsted' - single white compact
- *S. v.* 'Katherine Havemeyer' - double pink
- *S. v.* 'Krasavitsa Moskvyy' - double white, pink buds. (Beauty of Moscow).
- *S. v.* 'Margaret Fenicchia' - single, buds red-purple opening to purple-violet, fragrant
- *S. v.* 'Marie Frances' - single multi-petaled pink
- *S. v.* 'Mechta' - single blue, lilac (Dream)
- *S. v.* 'Miss Ellen Willmott' - double white
- *S. v.* 'Mme. Lemoine' - double white
- *S. v.* 'Monge' - single dark purple
- *S. v.* 'Nadezhda' - double blue (Hope)
- *S. v.* 'Prairie Petite' - single purple, low compact grower
- *S. v.* 'Président Grévy' - double blue
- *S. v.* 'President Lincoln' - single blue
- *S. v.* 'Primrose' - single white, yellowish buds
- *S. v.* 'Sensation' - single lavender with a white edge
- *S. v.* 'Sesquicentennial' - very fragrant single violet
- *S. v.* 'Wedgwood Blue' - single blue
- *S. v.* 'Wonderblue' - single blue, compact grower
- *S. v.* 'Yankee Doodle' - single dark purple

More specific information on the individual named cultivars on this list, including the name of the hybridizer and the year of introduction, may be found in the Lilac Register, available at www.SyringaRegistry.info.

Planting and Propagation

Care of Lilacs

A Quick Overview of Lilac Care

To obtain the best results with lilacs, one needs to consider the following three important points:

1. Lilacs do best in FULL SUN.
2. Lilacs do not like wet feet. Plant in a well drained soil
3. Lilacs like a sweet soil, with a pH of 6.0 – 7.0.

Following these three guidelines will lead to spectacular blooms.



Planting Lilacs

Lilacs should not be planted too deep. The surface of the soil ball should be level with the surrounding ground. Dig a hole the same depth as the root ball, plus a little wider to allow for straightening the plant. This allows the soil to be back filled with no air pockets. Pack it in firmly and water well. Make sure the soil settles around the root system.

Left: Picture of Lilac root development in one half gallon nursery pot. Photo by Syringa Plus.

Watering Lilacs

All newly planted shrubs should receive a good watering 2 or 3 times per week for the first month. After the first month, they should be watered deeply once a week. Most trees and shrubs require 1" of water per week during the growing season, so be sure to water them during dry spells. The soil should be well watered before the ground freezes in the fall. Be careful not to over water your lilacs, the roots need to dry out between watering.

Fertilizing Lilacs

Do not fertilize the first year of planting. When a fertilizer is used, wood ash, composted cow manure, or a 5-10-5 type commercial fertilizer can be applied in early spring. Lilacs prefer a sweet soil, and a handful of lime spread around the base of the plant every year or two is recommended.

Mulching Lilacs

A few inches of mulch around the base of the plant helps to conserve moisture, control weeds, and keep the roots cooler. Always be sure to keep the mulch away from the trunk of the plant so that the air can circulate around the base of the stem. Wood chips, bark mulch, or sawdust make good mulch. This will eventually break down and make good soil for the lilac roots to grow in. More than a few inches of mulch will restrict the flow of water to lilac roots.

Pruning Lilacs

Pruning of lilacs is optional. Prune the flowers within 2 weeks following bloom to allow the plants enough time to set flower buds for next year. Dead heading of spent blooms can be done to improve the plant's appearance. When rejuvenating older plants, removal of up to 1/3 of the oldest stems each year is possible. The more new growth one can encourage, the more flowers he or she will have in the future. Lilacs may also be pruned to any desired height.

Enemies of Lilacs

Lawnmowers and string trimmers are the leading cause of injury and death to lilacs. Be especially careful with machinery around lilacs. Hand weeding is necessary to keep weeds down next to the stem for the first few years. A mulch bed around the lilac will help to keep weeds down and machinery away from the tender bark on newly planted lilacs.

Mice, voles, rabbits, and deer are all enemies of lilacs. In some cases a cage may be necessary to discourage foraging. Common rodent poison deposited near the lilac in the fall will help to control the mice and voles before they get to the stem.

Pests and diseases will be covered later in the booklet; generally, with a little attention and proper spacing, lilacs are resistant to most pests and diseases.

Site Selection

Lilac plantings increase in height and size, therefore consider the impact on traffic and buildings so the planting does not become a hazard.

The best site for a lilac is an open area with good soil drainage. Full sun is best for maximum bloom. Shade part of the day will not materially reduce flowering but the amount of bloom will lessen as the amount of shade increases. Good drainage is needed since lilacs do not like “wet feet” and will not grow well in poorly drained soil. In areas that are very wet, a soil berm can be constructed and the lilacs planted within the berm. Lilacs will stand a fair amount of drought although newly set plants will need water during the first year for successful establishment.

Mass planting is recommended for all public areas for best landscape effect and reduction of maintenance injury. A bed of lilacs with only a one to one and a half foot of open space between the foliage masses, planted five feet on center, will fill in quickly, crowding out any weeds and preventing injury from mowers, plows, or other equipment. If wider spacing is necessary, filler shrubs, to be removed later, can be added so long as there is a plan calling for their eventual removal. Safer plans include filling the initial space with annual flowers, covering it with textured mulch, such as bark, or use of a ground cover such as myrtle (*Vinca minor*) or pachysandra (*Pachysandra terminalis*).

Once established, lilacs will survive in a wide range of soils but newly set plants need a well-drained soil with pH between 6 and 7 or they will be very slow getting started. If the soil is less than ideal, organic matter will improve both drainage and moisture retention. If organic fertilizer is desired, bone meal works well although it must be applied ahead of the planting and worked into the soil because the nutrients are released very slowly.

Spring Planting

Spring planting is recommended in areas with severe winters or on sites that are exposed to harsh winds. Planting in the early spring, together with good care during the first growing season, will result in the strongest plant for survival through a hard winter. Fall planting (August 15 – October 15) can be considered in areas with mild winters. Lilac roots will grow until the ground is frozen so fall planting will give added root establishment to support growth in the top of the plant.

The amount of work required to plant a lilac will depend on the soil condition. A good rule is to have the soil tested and if it is low in pH or fertility, the whole area can be adjusted before planting. It is always better to treat the area than to try to modify only the planting hole. The latter can create a “pot” situation where roots will circle in the hole and eventually cause strangulation.

Drainage is also best handled on an area basis. A “pot hole” dug in pure clay will fill with water and drown the plant put in it. Lilacs are sensitive to wet soils so there must be good drainage if they are to survive. To do the actual planting, dig a hole big enough to accommodate the roots without bending or breaking them. If an organic fertilizer such as bone meal is used, it should be mixed with the planting soil since surface applications move down to the roots very slowly. Set the plant at the same level that it grew in its previous site and work the topsoil in around the roots.

However, if the roots are set more than 2 to 3 inches lower than their original setting the plant will be slow to establish and the roots may die from lack of oxygen. After working in the topsoil, fill the hole with water and let it drain away. This will settle the soil around the roots and collapse air pockets. Then add more topsoil to the final level. A small saucer dam can be set up around the root zone so that subsequent watering will stay in the root area. A mulch of straw, bark, or wood chips around the plant will help to reduce weeds, to retain moisture and to prevent frost heaving.

Keeping the area around the newly set plant free from other vegetation will dramatically speed its establishment. Weeds, tall grass, or even lawn grass close to the newly planted lilac will win the competition for water and food. The result will be a very weak plant that grows slowly for several years. There should be at least one foot of cleared space around the new lilac, but even more is desirable.

The soil moisture level in the first growing season is very important. Drought stress, even for a short time, will severely restrict new shoot growth and retard plant establishment. Lilacs are slow growers for the first year or two after planting and neglect during the first year will make this even more evident.

Fall Planting

Fall planting can be recommended in any area that does not have a severe winter. By August, the top of the plant has completed its growth and produced winter buds that are dormant. The roots, however, can continue to grow until the ground freezes. The biggest problem in the fall planting is the possibility of drought conditions. Summer moisture in New England comes mainly from showers that can fall late in summer or by-pass a particular location. Dry soil will delay root regeneration and, if severe enough, can kill the plant. A reliable watering so that it is not water stressed will prevent the problem and go a long way toward making a fall planting successful.

In northern New England the time from August 15th to September 30th is best because there is still a long period for root growth. Later plantings, thru October, can be considered but the later the planting, the greater the chance for winter kill if the winter is severe or has a thin snow cover. A mulch of wood chips or bark 3” thick will protect the plants in the winter and retain soil moisture in the summer. Mulch retards the growth of weeds and grass but still allows the lilac plant to sprout.

Whether one is moving a lilac from place to place or buying a new balled and burlapped or container grown plant, the procedure for planting is the same as for spring planting. Use top quality plants and dig a hole with surrounding soil so that the roots can grow out without hindrance. The only difference from spring planting is that real care must be taken to prevent drying during or after planting. A newly acquired plant left in a closed car in a parking lot can be cooked as quickly as the family pet. Also, a plant dug from one location and left unplanted in the hot sun can suffer severe root damage from dryness in a matter of hours. After planting, watering should be considered on a regular basis whenever natural rain is inadequate and should continue until a hard freeze occurs.

Many people like to plant in the early fall. They are not as busy as in the spring and frequently the weather is much nicer for outdoor activities. It is also a time when plants still have their leaves and the effect of a newly set plant can be seen immediately.

REMEMBER, WHENEVER POSSIBLE, LOCATE IN AN AREA WITH FULL SUN EXPOSURE, THE MORE SUN THE BETTER!

Trench Method Planting:

When space permits and a mass planting or hedgerow is desired, good results can be realized by using the trench method of planting (see diagram below). This method allows for ample enriched soil for vigorous plant growth and easy maintenance. Plants set 5' on center with a second alternate row results in good sprouting thus soon eliminating grass and weeds. A bed 4 feet wide, 2 feet deep and 25 feet long involves slightly less than 8 cubic yards of loam. This amount will accommodate 10 plants. The planting detail can be altered to use 3 rows by changing the width to 6 feet. Competition with grass is reduced by removing approximately 3 inches of sod depth and 1 foot wide around the perimeter of the bed and then filling this area with mulch.

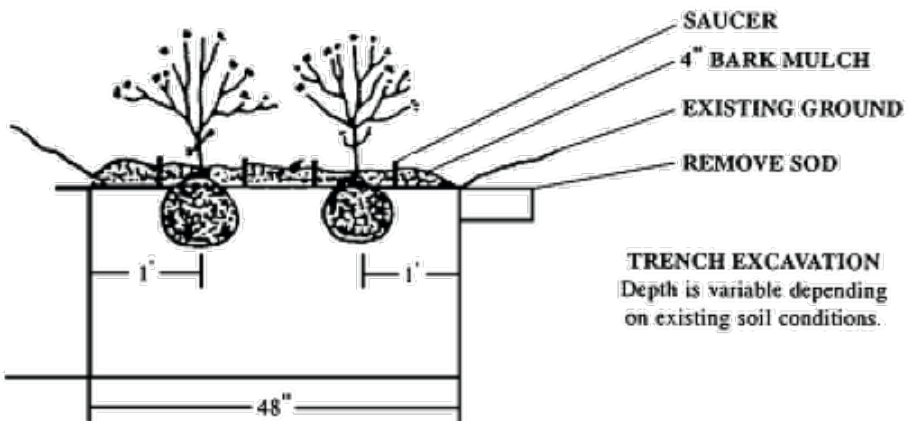


Figure 1 - Side View. Plant in two staggered rows. NOTE: Soil should be tested to determine what nutrients may or may not be necessary.

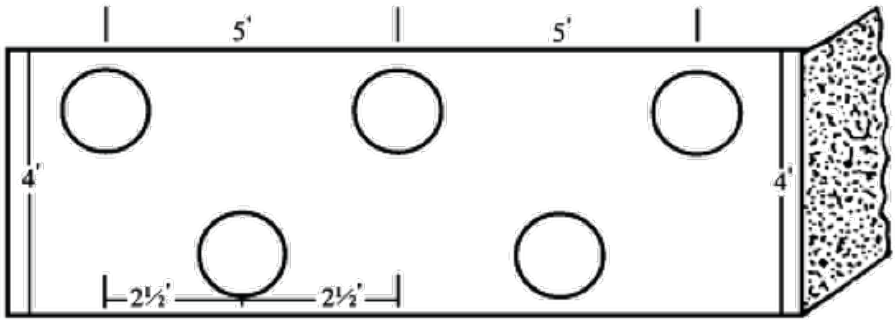


Figure 2 - Top View. Plant in two staggered rows. Note: A-50' long trench 4' wide with 5' spacing of 2-rows will accommodate 21 plants. A 30' long trench 6' wide, with 5' spacing of 3 rows accommodates 20 plants.

Propagation

Lilacs can be propagated from offshoots (commonly called suckers) and by cuttings, grafting, tissue culture, budding, layering, and seed. The choice will depend on the plant and the skill of the propagator.

The simplest way to obtain true-to-name lilacs is to dig up offshoots from the base of an established own-root plant. If the plant is a grafted one, this won't be true because the base (the roots) will be a different type from the top. It may not be easy to tell a grafted plant, but if offshoots have a different shaped leaf or if older offshoots produce different colored flowers, chances are that the plant is grafted. However, if the plant is on its own roots and does produce offshoots, this method is easy and has a good chance of success. The lilacs planted in the early days of New Hampshire were planted using this method.

The process is best done early in the spring before new growth or in late summer after all the season's growth has been completed. With a sharp shovel, cut the underground stem that joins the offshoot to the parent plant. Carefully lift the offshoot, trying to retain as many roots as possible, and transfer it to a place where it can receive good care for its first independent year. This could be in the permanent new location if the small size will not cause it to be overlooked or neglected, but the safer route is to put the newly separated offshoots in a nursery row, perhaps along the vegetable garden or at the back of the flower garden where they can be weeded and watered for the first critical year. Competition from grass or weeds and lack of regular water supply will dramatically slow down plant establishment. The most vigorous can be moved out the next spring and the others left in the nursery for a second year.



Tissue Culture

Tissue culture, or micropropagation, is done in a laboratory under sterile conditions. Small amounts of the plant to be propagated are placed in a growing medium and kept at constant temperatures until roots begin to form. They are then placed in a plug tray with very porous growing medium and encouraged to grow into larger plants, where they are hardened off and placed in containers.

Photo by Deb McKown, Ph.D, Knight Hollow Nursery

Cuttings

Softwood cuttings taken in June, dipped in a rooting hormone, and placed in plug trays with a coarse medium in a greenhouse can be developed into rooted plants. Greenhouse conditions with constant temperature and humidity are required for successful propagation.

Grafting

Lilacs can be propagated by grafting scion wood onto understock, or root stock, and encouraged to grow under greenhouse conditions. There is a danger in creating a plant that will have two different cultivars on the same plant, so care must be taken to ensure that the new graft develops its own roots, and the original rootstock is destroyed, before planting in a garden.

Budding

Budding is the insertion of a bud of a lilac onto the stem of another lilac. Eventually, the old growth of the original lilac is pruned away, allowing for the new growth from the bud to take over the rootstock.

Layering

Layering is the bending down and burying of a lilac branch in the dirt, allowing for roots to form on the buried section, after which it can be dug up and planted as its own lilac.

Seed

Seed propagation is the obvious work of planting seeds recovered from lilac flowers. New cultivars are developed this way, but without the practice of con-

trolled conditions regarding pollination, the lilac grown from seed may not be worthy of further propagation and introduction.

Some Lilac Facts

The oldest lilacs in New Hampshire date back to at least 1750. These are the purple lilacs (our state flower) located at the Wentworth-Coolidge Mansion in Portsmouth.

Did you know there are:

- 21 Lilac species
- Over 1800 named cultivars
- Lilacs have two centers of native origin, Southeastern Europe and the Far East.

Lilac Companion Plants

Lilacs possess a beauty both outstanding and unique. The masses of color, bloom, and their captivating fragrance are one of the focal points of springtime wherever they can be grown. For this reason they are ideal “focal” plants on their own. However, like a diamond in an exquisite setting, they are enhanced by many varieties of companion plants. Some plants are particularly suited either by their form, background color, their bloom or compatibility and harmony to be grown together with lilacs. We shall consider only a few of the most outstanding that form works of landscape artistry when grown together with lilacs. You may have your own special companions to your lilacs – by all means continue to grow them together as you consider some of the combinations others have used most successfully.

- Flowering Crab Apples
- Flowering Dogwood
- Flowering Cherries
- Peonies
- Showy Magnolias
- Hosta

Care and Maintenance

Lilacs require a minimum of care, once established. If weeds grow close to the base, they should be removed and the area mulched. Don't plan to cultivate close to the stem because the feeding roots are near the surface. During

drought periods, when the leaves wilt, lilacs will respond favorably to supplemental water; but established plants can stand a lot of dryness, especially later in the season, without permanent damage.

Lilacs respond vigorously to small amounts of fertilizer. One to two large handfuls (depending on the size of the bush) of a 5-10-5 granular fertilizer per year will enhance growth and flowering. Chemical fertilizers should be applied in early spring before growth has begun. Broadcast it directly on top of the soil, distributing it evenly around the root zone. If slow release or organic fertilizers are used, they may be applied at any season.

Dolomitic limestone is also beneficial in regions of high acidity (pH 3.5-5.5) but not needed if the pH is in the range suitable for general garden use (pH 6.0-6.5). In much of New Hampshire, a handful of limestone every second or third year will improve growth by keeping the soil from becoming too acidic.

Competition from trees and shrubs that have invaded a clump of lilacs will have an adverse effect on the bloom and vigor of the lilac plants. The unwanted trees and shrubs require diligent cutting back to ground level to discourage these invaders. By keeping the lilac clump in vigorous growth many tree seedlings can be discouraged from sprouting within the clump.

Competition can also come from nearby tall shrubs and low tree limbs that shut out sunlight. Reducing the height of the interfering shrubs and removing some tree limbs can make a greater amount of sunlight available to the lilac plants.

Pruning

Pruning is unnecessary for the first five years. After that, pruning one or more of the oldest stems clear to the ground each year will slowly and continually rejuvenate the bush and keep it from becoming excessively tall. Some sucker growth is good because it will provide new stems for rejuvenation, allowing the bush to spread out to the final desired size, and produce propagation material for additional lilac plants to use in other places. If there are too many offshoots, the ones furthest away can be removed either by hand (a sharp spade or an asparagus knife works well) or with a lawn mower if they come up in open ground. Leave several stems in the center of the clump. Then when a stem is removed because it is too tall or diseased, the flower display will not be affected.

REMEMBER: PRUNING OF LILACS SHOULD OCCUR AT THE BASE OF THE LILAC STEM AND AFTER BLOSSOM.

How to properly prune a lilac...

1. Count the largest stems in your lilac clump and divide by three. (*Figure 1*)
2. Remove one third of that number the first year, the second third the next year, and the Final Product remainder the third year.
3. Cut at the base. (*Figure 2*)
4. Let the sprouts remain.
5. Prune after blossom has past.
6. Mulch around lilac clump. (*Figure 3*)
7. Resume the pruning process when you feel the shrub has one again become too dense or too tall.

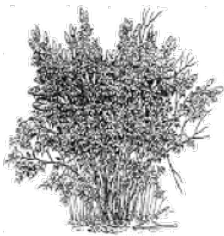


Figure 1.



Figure 2.



Figure 3.

Pests and Diseases

Diseases



Photo courtesy of James Schuster, University of Illinois

Armillaria (*Armillaria melea*)

Armillaria, sometimes called Honey Fungus, or Shoestring Root Rot, is a serious fungal infection of lilacs. At least 12 species of *Armillaria* have been shown to cause root rot, but since it is very difficult to distinguish between these fungi, and many of these disease situations have not been thoroughly investigated, they are commonly referred to only as *Armillaria melea*. These fungi cause rot on the roots of many different kinds of plants, including fir, oak,

pine, rhododendron, lilac, and dogwood. It is also found on raspberry and strawberry.

Symptoms appear as stunting, yellowing, or browning of the leaves, which may fall off the plant. Symptoms can last for many years, or the plant may suddenly die. The appearance of white fungal matter near the base of the plant, usually



Photo courtesy of the Royal Horticultural Society, Surrey, United Kingdom

visible under loose bark, and black, string like pieces, resembling shoestrings, may indicate the presence of *Armillaria*. There is no cure for *Armillaria*, and plants should be dug up and burned, including all roots. Avoid planting in the same area, as the fungus can live in the soil for many years.



Photo of Bacterial Blight by Laura Jull, Ph.D., University of Wisconsin, Madison

Bacterial Wilt or Bacterial Blight

(Pseudomonas syringae pv. syringae)

Bacterial wilt may appear in the spring if the weather is cool and wet or if the plant is in a site with poor air circulation. It shows up as dark brown or black edges on young leaves or as a sudden wilting of an entire branch just about bloom time. Normally, nothing needs to be done other than removal of the affected branches (although the pruning shears should be dipped in alcohol to prevent transfer of the disease to healthy wood). If a specific bush shows injury several years in a row, it might be useful to try moving it to a more open spot and substitute a different variety in the trouble spot since there are differences among lilac cultivars.



Photo by Laura Jull, Ph.D., UWM

Leaf Roll Necrosis

Leaf roll necrosis is a late season disease affecting the leaves of lilacs. It is believed to be caused by air pollution. Symptoms of Leaf Roll Necrosis are indicated by the edges of the leaves rolling upward and downward to create a wrinkled appearance. Symptoms appear in late summer and early fall.

Powdery Mildew (*Microsphaera syringae*)



Powdery mildew is the most common fungal disease of lilacs. It covers the leaves with whitish, felt-like patches of fungus although it is usually not visible until late in the season. It is a superficial disease that does not grow beyond the leaf surface layer. Also, since it does not occur in large amounts until late in the season it does not affect the development of next spring's buds nor the food storage necessary for good growth and bloom next year. Therefore the plants will survive very well with no treatment at all.

There are some cultural things that can be used to reduce the amount of mildew since it grows best in shady, damp situations. Placing lilacs in full sun locations where there is a good air circulation will reduce the growth of the fungus. Less mildew will appear in dry years than in seasons with a long damp fall. There are also varietal differences and some are affected much more than others. Among the late blooming lilacs, a number of those introduced by the University of New Hampshire, are very resistant and do not develop mildew at all in cool climate locations. Chemicals exist which will control mildew even on very susceptible varieties but treatment must be started at the very first sign of the disease and repeated at 10 day intervals through the rest of the season. This represents a considerable effort so it is recommended only for plants in a position where they will be observed up close or are very important.



*Photos by Kent Millham,
Rochester Parks, Rochester, NY*



Phytophthora (*Phytophthora ramorum*)

Phytophthora ramorum, sometimes called Sudden Oak Death, is an invasive oomycete plant pathogen that causes foliar symptoms or twig blight on many hosts, including larch, rhododendron, viburnum, mountain laurel, and lilac. It appears as dark blotches on the leaves late in the season, often resulting in leaf drop.



Above: *Phytophthora* by Melodie Putnam, Oregon State University.
Right: Nina Shiskoff, Foreign Disease Weed Science Research Unit, ARS/USDA, Frederick, MD

Verticillium Wilt (*Verticillium dahliae*)

Verticillium wilt is a soil borne fungus that attacks the sapwood, resulting in reduced sap flow to the plant. It seldom kills a lilac, but when infected, they look sick, especially in the late summer and fall. Usually one or two stems will be healthy and one or two will be diseased. Do not replant a lilac in the same hole, as it affects and is transmitted by the roots. Symptoms are yellow, stunted or wilted leaves, usually appearing in July and August.

Pests

European Hornets (*Vespa crabro*)

European Hornets are not yet a problem in New Hampshire, but in areas to the south where they are common, they can inflict damage to lilacs. The action of the hornet is to strip away the outer layer of tender bark, interrupting the flow of sap to the stem.

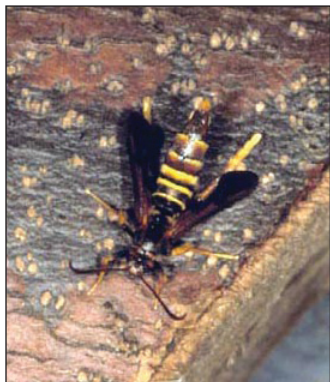


Above: European Hornet on a lilac.
Photo by Nancy Latimer, Emory, VA.



Grasshoppers are a late-season pest which does no permanent damage to lilacs.

Photo by John Bentley



Lilac borers (*Podsesia syringae*)

Lilac borers may become a problem, especially in large plantings. The action of borers is to interrupt water movement and frequently the first sign is a wilting of one or more branches. Confirmation of borer activity is often a little pile of “sawdust” at the base of the stem, usually within one or two feet of the ground. There are a variety of physical controls (e.g., a flexible wire inserted in the burrow) and chemical treatments but the best and easiest response is to develop a shrub with several stems so that if borers appear, the whole stem (and its borer) can be removed and destroyed.



Above, left: Adult lilac borer. Photo by University of Illinois Extension

Left: Lilac borer, larval stage. Photo by James Schuster, University of Illinois.



*Photo courtesy of
Oregon State University.*

Lilac Leaf Miner (*Caloptilia syringella*)

The Lilac Leaf Miner is the larval stage of a grayish moth, which hatches from eggs laid on the underside of the leaf in late May and early June. Upon hatching, the action of the larvae is to burrow into the leaf, where it feeds on moisture and juices. Symptoms are a brown, dead section near the tip of the leaf, and later, curled leaves, indicating the presence of Lilac Leaf Miner. The best treatment is to simply remove the leaves when it is noticed, and rake out leaf matter in the spring and fall from the base of the plant.



*Photo courtesy of Bruce Watt,
University of Maine at Orono.*

Oystershell Scale (*Lepidosaphes ulmi*)

San Jose Scale (*Quadraspidiotus perniciosus*)

Two scale insects that suck plant juices are the Oystershell scale and San Jose scale. Sometimes simply called scale, is a common armored scale insect found on many different woody-stem host plants. The insects resemble small oyster shells; a serious infection can weaken a lilac by sucking plant juices away from the stem. A dormant oil spray on a warm day (above 60 degrees) in May will kill all stages of the insect while most contact insecticides such as Malathion or Sevin applied in June will get the young insects as they crawl onto the new growth. Applications should be repeated as necessary. If there is a real serious problem with scale another spraying can occur in late August or early September. Small infestations can be scraped off the stem with a piece of rigid plastic or one's thumbnail.



*Photo by Crispin Wood,
Agriculture and Agri-Food
Canada.*

Witches Broom

Witches Broom is an uncommon malady of lilacs, and is caused by a phytoplasma, formerly called an MLO or mycoplasma-like organism.

It is frequently seen on the late flowering lilacs. Growth may be twiggy, most often near the base, and plants may bloom out of season (this alone is not a good symptom for diagnosis, but can be supplemental info for diagnosis.) Witches Broom is the same disease as Ash Yellows and leaf hopper insects may be able to transfer the disease from ash to lilac or lilac to ash. There is no cure; one must dig the plant and dispose of it. It is okay to replant a lilac in the same hole, as the disease cannot be transferred

from contact with the remains of the infected plant.

Horticultural Links

- Arnold Arboretum of Harvard University: www.arboretum.harvard.edu
- <http://www.governor.nh.gov/kids/index.htm>
- <http://www.insectimages.org>
- International Lilac Society: www.internationallilacsociety.org
- Katie Bentley Lilac Project: www.katiebentleylilacproject.com
- New England Wild Flower Society: www.newfs.org
- New Hampshire Department of Agriculture - Division of Pesticide Control: http://agriculture.nh.gov/divisions/pesticide_control/index.htm
- New Hampshire Department of Agriculture - Plant Industry: http://agriculture.nh.gov/divisions/plant_industry/index.htm
- New Hampshire Division of Forest and Lands: <http://www.nhdf.org/>
- <http://www.nh.gov/nhinfo/>
- New Hampshire Governors Lilac and Wildflower Commission: <http://www.nh.gov/lilacs/>
- New Hampshire Moose Plate Program - Supporting conservation and cultural heritage: <http://www.mooseplate.com/>
- Society for the Protection of New Hampshire Forests: www.forestsociety.org/
- Wentworth-Coolidge Mansion - Site of the oldest documented NH Lilacs: www.wentworthcoolidge.org/



*Unidentified lilac growing on Sierra Verde Ranch, near Seligman, Arizona.
Photo credit Dawn Pettiglio.*

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katiebentleylilacproject@gmail.com • 603-783-6779

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