Lilacs

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# QUARTERLY JOURNAL

of the International Lilac Society

IN THIS ISSUE: In Memoriam: Joan Speirs & NBG of Ukraine



Vespa crabro, the European Hornet, preparing to strip off bark Photo Credit Dr. Vasily Gorb



Damage to bark of twig caused by the European Hornet Photo Credit Dr. Vasily Gorb

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*Front Cover:* Overhead view of the NBG of Ukraine Photo Credit Dr. Vasily Gorb

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### President's Message

#### Dear Lilac Friends,

Spring is coming! Spring is Coming! I know, I know would say the Cat in the Hat of Dr. Seuss fame. I'm sure everyone in the northern hemisphere is saying that. After a mild winter in the state of Virginia USA old man winter woke up and just unleashed all his fury. The plants that had already budded found themselves pushed back into dormancy. Those with flowers already opened saw their blossoms shriveled. Ponds froze and snow fell all along the East coast of the USA setting new records. All gardeners in those zones are waiting to see how this wild shift in temperatures will affect the plants this spring. In my care I have twenty very special lilacs that I have been babysitting and like a mother with small children I have been concerned. These lilacs are in pots and buried in the ground. During December, because of the warm temperatures, they put out an abundance of buds. Then the extreme cold weather came and the buds all turned brown. To my surprise, a couple days ago green began appearing again. Brad Bittorf just posted on the ILS Robin that "Purple Haze" was blooming in his Arizona garden. That prompted a conversation waking up the Robin, which like the lilacs has been dormant. Exciting! Another member Darryl Green from Lavender Lilac Nursery in New Paltz, NY, USA has been forcing lilacs since February 1<sup>st</sup>. He is reporting that most of them have buds except for a couple. He is very excited about having lilacs blooming in early March. It sounds like we all have lilac fever!

We are only a few weeks from the ILS Convention in Pennsylvania, USA April 28-30, 2016. I hope for a great turnout. Karen McCauley, Convention Chair, sent to our editor the convention information early to give everyone time to clear their calendar and plan to attend. We are going to visit wonderful gardens. Longwood Gardens in Pennsylvania, USA was developed by Pierre S. Du Pont, who over the years acquired surrounding land to make it the large garden it is today. It has all the attributes of gardens developed in the late 1800s and early 1900s. It is large and magnificent. Pierre S. Du Pont died at 84. He had the foresight to make sure Longwood Gardens would be well funded ensuring its longevity. You will love the immense conservatory where at Christmas time the spectacular Poinsettia Show is the winter attraction. Chanticleer, Mount Cuba and Tyler Garden are also on the tour. I just learned that the staff of Chanticleer is made up of gardeners that are also artisans, who in the winter craft items that are sold to the visitors. Looking forward to see what they create. I hope some of you will have time before or after the convention, to visit Ladew Topiary Garden in Monkton, Maryland. It is a twenty two acre property, and the topiaries, something we don't see often, are worth the visit.

Elke Haase is the new RVP for Europe. She accepted to represent ILS and to work on building our membership in that part of the world. Elke owns and manages Piccoplant which means 'little plant', a lilac nursery in Oldenburg,

Germany specializing in micro propagation. She has generously supported lilac projects all over Europe and Russia by donating lilacs for planting in public areas in many cities. She has already started her duties as ILS RVP Europe. She participated in January in a big horticulture exhibition IPM ESSEN 2016 in Essen, Germany. Tatiana Poliakova who also attended, reported that Elke was promoting ILS to the visitors, who had never heard of our society. Tatiana knows Elke and highly recommended her. They will make a great team. They have already been involved in many projects together. Please welcome Elke Haase as ILS RVP Europe!

Tatiana Poliakova continues to recruit new members for ILS. She recently signed up Dr. Zykava Vera. She is the curator of the Lilac collection in Nikitsky Botanical garden (Yalta republic of Crimea). She comes from a long line of hybridizers. Her grandmother Vera Klimenko was well know in the USSR for hybridized roses and lilacs. Her mother Zinaida Klimenko hybridizes roses. Her grandfather hybridized rhododendrons and Camellias. Her father is also a hybridizer. Fantastic! It would be interesting to hear her talk about her family creations and the lilac collection at the Nikitsky Botanical garden.

I wonder how many of you have been able to sign up one new member this year. It is still time to do so. Tell them about our conventions, the ILS Robin, our Facebook page and all the lilacs experts we have to help them grow better and more beautiful lilacs. Please remember to vote for the board members. It's important to vote for the person(s) of your choice. I hope you have been sending articles and pictures to our editor. I think it is every editor challenge to have enough material to put an issue together. So just keep sending articles of interest to Kent Millham as they are much appreciated.

From my window I see that everything is brown outside but I know that in just a few weeks everything will wake up and turn 'Spring Green' and our lilacs will bloom. We will forget about winter and bask in their perfume. Probably when you receive this journal issue, for many of us the lilacs will have finished blooming. But we will have had our lilac fix to sustain us in the months ahead. And we can get a refill at the convention. One nice thing we all know is that our lilacs will rebloom in time...

So I hope to see you in Pennsylvania, USA. Hop in your car or catch a plane and plan on seeing lilacs, beautiful gardens and all your lilacs friends. We are going to have a good time we always do. I'll see you at the end of April in the Garden State as Pennsylvania is called for good reasons. See you at the convention on the lilac trail.

> Mes amities, Nicole Jordan, ILS President Chester, VA, USA NJordan236@aol.com

### In Memoriam: Joan Speirs

#### Joan Isabel Speirs: December 28, 1929 - March 13, 2016

Daughter of the late George and Agnes Hanson, Ottawa, ON. Beloved wife of the late Harvey Speirs. Loving mother of Katherine (William Kearns) and David (Eileen). Wonderful grandmother to Robin (Jason Harrison), Tyler, Riley and Scott. Predeceased by her brother Alfred and her sister Aileen.

Joan graduated from Queen's University with a Bachelor of Science. She worked for 32 years as a Research Scientist with the Federal Government. In retirement, Joan spent many hours as a volunteer with the Friends of the Farm as a key member of the Lilac team. She loved playing cards (Euchre and Bridge)with her many friends.

At Joan's request a private family service will be held at a later date. In lieu of flowers, for those who wish, a donation can be made to the Friends of the Central Experimental Farm, the Heart and Stroke Foundation or a charity of choice.

The family would like to express their heartfelt thanks to the medical staff at the Ottawa Civic Hospital for their thoughtfulness and care.

Published in The Ottawa Citizen from Mar. 16 to Mar. 18, 2016

#### **ILS Member Condolences**

"In Ottawa, we are mourning the loss of Joan Speirs, who died on March 13. As coordinator of a volunteer lilac team, she did so much for the lilac collection at the Central Experimental Farm here in Ottawa...."-Richard Hinchcliff

"Richard, We join you in mourning the loss of Joan Speirs. Joan was tireless, reliable, modest, thoughtful, creative, and trustworthy. I consider her a friend as well as a colleague. Joan did an amazing amount of work to digitize historic content for the International Lilac Society. Several times during board meetings, Joan would offer perspectives that others had not considered, or propose simpler ways to accomplish things. We were honoured (Canadian spelling deliberate) to witness her accomplishments at the Central Experimental Farm in Ottawa at a past ILS convention that Joan hosted..." Brad Bittorf, Executive Vice President, International Lilac Society

"This is a great loss for our society and all the people who knew and loved Joan. My sincere condolences."-Connie Simonnet

"Joan was a lovely person. I'll miss her.-"-Dave Gressley

"Our Lilac family is saddened by the passing of Joan Speirs. She will be remembered for her contributions to ILS. Her big project digitalizing the journals and the wonderful convention she planned and hosted in Ottawa. She was a wonderful lady and a wonderful member of our society. We are sad, but glad to have known her.

Sincere condolences to her family and friends. "-Nicole Jordan, ILS President

"I was very sad to hear that Joan Speirs passed away. I enjoyed meeting her several times, and having her as a host at the Ottawa 2009 convention and at the Central Experimental Farm." -Kent Millham

"Very sad to hear that Joan has passed. I really enjoyed talking with her at the conventions, laughing, sharing lilac stories, and I admired her work she's accomplished for the ILS." -Kelly Applegate

Executive Vice President's Note: The following articles by, and about, Joan Speirs, were published in the Spring, 2016 edition of the Newsletter of the Central Experimental Farm. The International Lilac Society thanks CEF and Friends of the Farm for permission to reprint these articles.

Joan would have been embarrassed that so many of her and her coauthor's contributions are published here. They represent important news and report about lilacs, their care, and history, however. I am only saddened that there will not be more contributions from Joan in the future. –Brad Bittorf]

#### In Memory - Joan Speirs

Joan Speirs, who was the author or co-author of the three articles on lilacs in the [Spring, 2016] issue of the [Central Experimental Farm] newsletter, died on March 13 at the age of 86.



Joan obtained an Honours B.A. in Botany and Chemistry at Queen's University. For four years she worked in mycology at the Farm on a program identifying wood-destroying fungi found in Canada. She then moved to the field of human virology and cell culture, first with the Defence Research Board and later with Health and Welfare Canada in food microbiology research. About a year after she joined the Friends of the Farm.

In 1999, George Vorauer, then Activities Director at the Friends, offered Joan the new job of coordinating a volunteer lilac team. The lilacs at the Farm became her passion. Thanks to her, the expert team she put together, and staff at the Gardens with whom she closely collaborated, the collection was rejuvenated and became one of the best in North America. She received an Outstanding Volunteer award from the Friends of the Farm in 2003.

Joan was an active member of the International Lilac Society, serving on the board of directors for several years. She hosted a successful 2009 Society convention in Ottawa, at which she was recognized for contributing to a scientific study of phytoplasma bacteria in lilacs and for educating the public through her *Lilacs at the Central Experimental Farm* pages on the Friends of the Farm's website.

As lilac team coordinator she was always appreciative of each member's efforts, and ready to give credit to others. She shared her knowledge and love of lilacs, giving many public tours of the collection. With her "lively and inquisitive nature" (Sharon Saunders), her meticulous methods and her devotion to the plants, she was a true friend of the Farm's lilacs.

# Small Lilacs at the Experimental Farm

By Joan Speirs and Maura Giuliani

While the blooming lilacs in the Farm's Ornamental Gardens are an annual delight to the eye, many of us have small gardens, without room for a three-metre shrub. Botanists and nursery owners have responded to this reality with cultivars that make it possible to enjoy the pleasures of lilacs without giving up serious garden space. The information below details these developments and identifies examples in the Ornamental Gardens. Come take a look this spring. You may be inspired to include a lilac in your garden!

Many of the varieties of common lilac (*Syringa vulgaris*) and Villosae Group hybrids (which include Prestons) can reach large sizes, but there are exceptions, such as 'Prairie Petite' and 'Minuet', mentioned below. In general, the species *S. meyeri* and several subspecies of *S. pubescens* are of small stature, have small leaves, single and delicate flowers, the ability to rebloom and may have fall colour. Hybridizers have been concentrating on crosses within these to develop varieties of small lilacs (hopefully less than two metres). We discuss several that can be seen in the Farm's collection.

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'Red Pixie' (photo by R. Hinchcliff)

#### At the South Entrance to Building 77

(The small building near the Explorer roses, south of the Cereal Barn) S. 'Red Pixie' resulted from a cross between S. pubescens subsp. julianae and perhaps S. meyeri. The abundant flowers are magenta fading to pale pink.

#### In the Rock Garden

*S. vulgaris* 'Prairie Petite' is a dwarf resulting from irradiated seed of unknown parentage. Bloom time is with the common lilac, starting mid-May. The purple-flowered panicles and leaves are normal in size for those of the common lilac varieties but the branch internodes are shorter, resulting in a compact globe. *(See photo.)* 

*S. meyeri* 'Palibin' (sometimes referred to as dwarf Korean lilac) has delicate pink flowers borne in profusion starting late May, a second smaller blooming may occur in late summer. The leaves generally turn reddish bronze in fall. It is widely used in city of Ottawa plantings in groups about buildings, where a low profile is desired, and as a low hedge. 'Palibin' is often grafted on a standard, a form popular as an accent garden plant; an example is in the Macoun Memorial Garden. A young 'Palibin' can be found in the lilac rows at WE 13b. (*This location code is explained below under the Lilac Rows.*)

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S. 'Bailbelle', marketed as TINKERBELLE<sup>TM</sup>, is a cross between S. meyeri 'Palibin' and S. pubescens subsp. microphylla 'Superba'. It is one of five cultivars in the FAIRYTALE® series established from this cross. Its colour is magnificent with magenta buds contrasting with pink flowers, starting late May. There are multi flexible branches spreading like a vase from the base. S. 'Penda', marketed as BLOOMERANG® PURPLE, is a cross between S. 'Josée' (a cross among S. pubescens subsp. microphylla, subsp. patula, and S. meyeri) and either S. 'Red Pixie' (itself a cross) or S. pubescens subsp. julianae 'George Eastman'. Flowers are purple and may have several summer bloomings starting in late May.



'Minuet' (photo by R. Hinchcliff)

#### In the Lilac Rows

(The location in a row is given to aid in locating the plant. Rows are named EE, EW, WE, WW, from east to west, and numbers start at the north end. A map of the rows, and a list of their members, can be found on the website under Collections/Lilacs/Where to Find Them.)

*S. pubescens* subsp. *julianae* 'George Eastman' (EW 62) was named for the American inventor and philanthropist, founder of the Eastman Kodak Co. and the Eastman School of Music in Rochester, N.Y. It has exquisite flowers of pink to magenta.

*S. pubescens* subsp. *patula* 'Miss Kim' (EW 25, WW 18) has violet flowers, starting late May. It was named for any or all beautiful Misses Kim of Korea (Kim is a common family name in Korea). These are dense round shrubs with purplish fall foliage.

*S. pubescens* subsp. *patula* 'Cinderella' (EE 47) has pink flowers starting late May and generally has a second blooming in late summer. It is a shrub of many flexible stems.

S. (Villosae Group) 'Minuet' (EE 3, WE 48), a late-blooming lilac (starting in early June), has three *Villosae* series species in its make-up. The purple flowers may be found for a second blooming in late summer.

S. oblata subsp. dilatata (EE 6a, WW 6) was described in 1918 from a discovery in Korea. This is a delightful small plant with lilac-pink flowers which open in early May. It will likely be difficult to obtain commercially but it has been crossed with common lilac varieties to produce cultivars of S.  $\times$  hyacinthiflorra which are available and of a compact nature, but will likely exceed 2 m in height.

The following two have remained small in the Ornamental Gardens:

S.  $\times$  hyacinthiflora 'Mount Baker' (EE 5, WE 28) was named for Mount Baker in Washington State. It has white flowers that open by mid-May and a pleasing round shape.

S.  $\times$  hyacinthiflora 'Maiden's Blush' (WW 79a) is an outstanding cultivar. The pink flowers are open by mid-May.

Maura Giuliani, a longtime member of the Friends' lilac team, is a frequent contributor to this newsletter, as was Joan Speirs, who died on March 13, 2016



'Maiden's Blush' (photo by R. Hinchcliff)



'Prairie Petite' (photo by R. Hinchcliff)

# Pruning Lilacs ... Do I Really Have To?

#### By Maura Giuliani and Joan Speirs

Lilacs are wonderfully resilient. We've all seen old farm properties with lilacs still in bloom near long-abandoned houses. But have you noticed how tall those lilacs can get?

If your lilac is a relatively new one, regular pruning each year will keep it healthy and at the desirable height and shape for your garden. Perhaps the most important element to keep in mind when pruning is the type of lilac you are dealing with. Most of the small hybrids – like 'Palibin', 'Miss Kim', the Fairytale series, etc. – require little or no pruning apart from removal of dead or damaged branches. Tree lilacs are also generally left to their own devices. Most other lilacs on the market fall into one of two categories:

• French hybrids, which are varieties of *S. vulgaris* (common lilac) and *S. xhya-cinthiflora*. Bloom is once a year; May in Ottawa.

• Villosae Group, which include Prestons and are also known as late lilacs. These bloom in June and often again to a lesser extent in late summer.

Deadheading of spent blossoms for either type is more cosmetic than necessary and will not affect the following season's bloom. But these plants have different growth patterns and require different pruning approaches.

French hybrids thrive in a well-drained light soil and are remarkably drought-resistant. Most grow into multi-stemmed shrubs. These are easily controlled by *pruning right after bloom* each season by removing any dead wood and stems larger than 2" in diameter, if there are smaller healthy branches to take their place. (Flower buds for next spring's bloom are formed during mid-summer.)

Where you have extra-long but healthy branches, trim them back to a side shoot or closest node. If a branch is sticking out at an awkward angle, trim it back. As the bush matures, you may need to thin out branches in the centre to ensure good air circulation. And old, overgrown French hybrids *can* be rehabilitated. It just requires more drastic measures.

One traditional approach is a three-year plan. In the first year, up to 1/3 of the plant can be removed at ground level, starting with the largest stems (especially those over 2") from the centre. All dead branches should come out first, and any that are diseased or misshapen. The second year you can remove half of the remaining old branches and thin new growth to allow ventilation in the centre. In the third year the remaining old wood can be taken out, and further thinning done, if necessary. The advantage in the three-year approach is that you will still have blooms every spring as the plant is renewed.

If an old plant is suckering well, some of these suckers may be encouraged to take over as old growth is removed. A truly drastic (but time-honoured) approach involves cutting all stems to a foot above ground in early spring. This may stimulate new shoot development. This potential cure does sacrifice bloom for several years but is often successful.

#### Villosae Group Lilacs

The late lilacs tolerate wetter, somewhat heavier soil and may appreciate extra water in dry seasons. If you were to prune immediately after the first bloom, you would be deprived of the pleasure of seeing them flower again! Unlike the French hybrids, these plants form flower buds on the new, spring growth, and pruning late in the season does not deter flower bud formation.

Late lilacs tend to form fewer, thicker stems, with new growth out of these frequently crossing and twisting. They often grow vigorously and do need regular pruning to keep under control (unless space is no problem). Because it is often difficult to remove single stems to the ground, pruning to reduce height usually requires cutting back individual branches to a suitable side shoot or node.



French hybrid growth pattern (photo by Joan Speirs)



Typical Villosae growth pattern (photo by Joan Speirs)

# Newly Named Lilacs From Franktown; Lilac Capital of Ontario

#### By Joan Speirs

Lilacs were carried to Franktown, Ontario, by settlers in the early 1800s and planted around many farm houses. In the intervening years, those lilacs spread readily by suckers and seeds, particularly where land was not cultivated. So remarkable was that lilac growth that a lilac festival has been held annually in Franktown since1995.

In 2007, several members of the Lilac Team, Friends of the Central Experimental Farm, examined the lilacs in Franktown on a 25-acre site (Park Lot -1), on the south side of Church St., between Lilac Lane and Highway 15. This area was thick with naturalized lilacs of many colour variations of Syringa vulgaris, the Common Lilac, native to the Balkan states in Europe. Suckering was so intense in many areas that other plant species were mostly excluded. Conditions here are obviously agreeable to S. vulgaris, with full sun and well-drained sandy loam on sandstone rock. Of great interest were a few young lilacs with double florets (rather than single with four petals, as in nature). These had started from seeds, probably the result of natural hybridization with a cultivated double-flowered lilac from a neighbouring park lot. (Double-flowered lilacs were not introduced until the mid 1800s with the discovery and use for propagation of a naturally mutated lilac.) With permission, over the next two years we moved four of the doubles, two with white flowers and two with pink-lilac to the nursery of the Central Experimental Farm. These were small, less than a metre in height and estimated to be about four years old. In addition, softwood cuttings were taken of a bluish-coloured double, too encased in rock to move. These plants have grown to attractive, relatively slow-growing, compact, hardy shrubs. In all cases florets are double and hose-in-hose, with two or three corollas in a floret giving up to 14 petals if the stamens are converted to petals. The preferred pink-lilac has been named 'Dixie' for Dixina (Pierce) McLellan. Dixina and her parents owned this property for many years. The name was chosen by Cora Nolan - she and her husband are the present owners. I have named one of the white lilacs 'Franktown' and the bluish-coloured lilac, obtained by a cutting, 'Beckwith' for the township.

Propagation of these three new cultivars is underway and registration is anticipated in the future. A 'Dixie' and a 'Franktown' have recently been planted in the Lilac Rows in the Ornamental Gardens. Franktown was designated 'Lilac Capital of Ontario' in 1998. The town issued a five-dollar Municipal Trade Token (featuring lilac florets and buds), which sold out within three days and is now a collector's item.

In 2009 the International Lilac Society, at an annual meeting in Ottawa, presented the President's Award to the Town of Franktown for "protecting the extraordinary collection of lilacs introduced by Scottish and English settlers."



"Beckwith" ;possible future registration(photo by R. Hinchcliff)



"Franktown"; possible future registration (photo by R. Hinchcliff)

# In Memoriam: Elsie Lenore Fiala Meile

Elsie Fiala Bogdan Kara Miele passed away on 1/25/16 at the age of 94. She was the sister of Father John Fiala, Louis (Pauline)Fiala, Mollie (Patrick) Pesata, and Mary (Ben) Chaykowski.

One of Father Fiala's lilac cultivars, 'Elsie Lenore', was named after his sister. Elsie was a former regional vice-president of the International Lilac Society, and was proud of hosting the 1980 ILS convention in Medina and Kirtland, Ohio. She i s survived by sons John Bogdan, Lawrence Bogdan, and Mary Bogdan Holahan, and grandchildren.

A memorial service will be given for Elsie sometime in April.



Elsie L. Meile smelling the lilacs Photo provided by daughter Mary Bogdan Holahan

# In Memoriam: Donald Maxon

Donald Maxon was a long time member of the ILS. He lived in Louisville, NE and cultivated a large collection of lilacs on his 80 acres over the years. ILS met severa times at his farm to view the collection. Sadly, he passed away September 12, 2015 from advanced stages of melanoma. Sons Chris and Barry Maxon are going to keep the property and do their best to continue the legacy of his art and work. ILS members wishing to contact Chris may get his contact info from Exec. VP Brad Bittorf.

# 'Maréchal Foch'

*Syringa vulgaris L.* 'Maréchal Foch' is one of the worthiest forms prod#uced in Lemoine Nursery in Nancy in the first quarter of the 20<sup>th</sup> century. For the first time, it appeared in V. Lemoine & Fils Catalogue in 1924 as #198 on page 20 (Borzan, Holetich, 2015). Owing to its exceptional brightness and recognizability, it gained deserved popularity and received an RHS Award of Merit (1935). It was included in International Register of Lilacs in 1953 (Vrugtman, 2014).

I first saw the shrubs of 'Maréchal Foch' at the Institute of Dendrology, Polish Academy of Sciences, near Poznan. Together with a vast collection of French lilacs, it was delivered to Kornik from Nancy way back at the end of the 1930s by Director of the Institute Prof. Antoni Wroblewski. In the last ten days of April 2014, this early lilac started to open. The shrubs were entirely covered with the beads of purple buds that on a bright sunny day seemed clearly visible against not numerous large pale pink florets. The shrubs are rather tall (at the age of 10 years, they reach 3—3.5 m) with strong upright branches and large leaves that fall late. They look striking in loose plantings.

Magnificent fully open panicles of bouquet inflorescences of 'Maréchal Foch' I saw in Kornik only a year later during the first ten days of May, 2015. Here I cite description of the cultivar taken from the book Lilacs by Andrei Gromov (1963): "...the largest inflorescences and other decorative qualities show in this cultivar when a loose shrub with 5—6 main branches is formed. Spreading pyramidal inflorescences are lax. The majority of florets are clearly visible in the time of coming out; the length of the largest inflorescences reaches 26 cm with the width of 28 cm; they are usually produced from two pairs of apical buds. The number of florets in such inflorescences comes to 1000. Flower-bearing stem is strong, slightly drooping; panicle consists of 10—12 pairs of drooping twigs. Large purple-mauve bud is elongated and rounded; it opens quickly. The florets are single, 3—3.5 cm in size, lavender or rosy with sparkling purple satiation. Petals are roundish, 1.5—1.6 cm in length and 1.1—1.5 cm in width. Near Moscow, it comes out in the beginning of the 3<sup>rd</sup> ten days of May. Inflorescence remains decorative for 10 days. Annual flowering is abundant."

This description should be supplemented with my observation that along the petals there is a line that divides them in two. At the petal base, there are whitish strips. Corolla throat has a barely noticeable blue spot stretching to the tube and the anthers. The petals are slightly convex-concave (Rubanik, Mel'nik, Parshina, 1977).

This lilac produces numerous sound seeds that give strong seedlings (Rubtsov, Zhogoleva, Lyapunova, 1961). The seeds are well-filled (92%), with absolute weight of the seeds gathered from one inflorescence above 9,5 g. These circumstances spurred the researchers on breeding garden hybrids of future generations. In breeding practice supervised by Leonid Rubtsov, 'Maréchal Foch' gave

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the best posterity in respect of flower quality.

The cultivar was used in a number of European selection programs. In the 1950s—1960s, these programs were implemented in the Soviet Union, Poland, and Holland. As a rule, 'Maréchal Foch' was used as a maternal form. As a result of free pollination and subsequent selection of grown seedlings, two outstanding garden forms were produced:

'Bogdan <u>Kh</u>mel'ni<u>ts</u>kii' (Rubtsov, Zhogoleva, Lyapunova, Gorb, 1954). The cultivar earned a golden medal at the Flora-Olomouc International Exhibition (Czechoslovakia, 1975);

# 'Chmurka' (Karpow-Lipski, 1971). Phenomenal masterpiece of Polish selection.

The seeds produced by 'Maréchal Foch' gave rise to the seedlings from which a venerable Polish plant-breeder Prof. Wladislaw Bugala selected a group of the so-called Kornik hybrids. Selection was made in respect of two applied characters: reduced ability to form stool shoots and duration of bowl life of cut inflorescences (Elzbieta Konopinska, personal communication). However, the Polish expert did not pay special attention to these results and looked upon them as a pastime (Freek Vrugtman, personal communication). He was completely absorbed in breeding amazingly beautiful *Isabella Preston late hybrids* (second generation). As far as I know, these forms were never used in subsequent selection practice. Therefore, Bugala's hybrids were not officially registered and remained under the numbers given by the author. There are about twenty of them. In Kornik Collection, they are memorial plants and invariably attract attention in blooming time. Kornik hybrids are essentially unknown to experts or common amateurs.

Meanwhile, as a result of 'Maréchal Foch' × 'Ambassadeur' directed hybridization, Holland specialists produced an exceptionally original cultivar 'Burgemeester Loggers'; dedicated to the Mayor of Aalsmeer (D. Eveleens Maarse, 1960). The shrubs are short and compact with very large single fragrant florets of unusual whitish-mauve color and petals folded along the whole length. For its rare properties, this cultivar received a special Certificate of Merit (KMTP) already in the year of registration.

When the same parental forms were crossed in opposite combination with 'Maréchal Foch' acting as a paternal component: 'Ambassadeur' × 'Maréchal Foch', a late cultivar 'Voorzitter Dix' was produced (D. Eveleens Maarse, 1950) with large single fragrant florets of deep purple color. In 1953, this lilac received the highest award – First Class Certificate of Merit (KMTP).

*Brief historical information about the character of this communication.* Ferdinand Foch (1851—1929) went down in military history as a prominent commander of the First World War and the greatest French military theorist in the beginning of the 20<sup>th</sup> century. At the very beginning of the First World War, Ferdinand Foch was in command of the 20<sup>th</sup> Corps of French Army, which covered ways down to the Meurthe River near Nancy and defended the town.

Later, he headed the 9<sup>th</sup> French Army, distinguished himself in action by the Marne River, and saved Nancy again!

#### From 1918-Marshal of France.

As an outstanding military authority, Marshal Foch became Commander-in-Chief of Entente Armies. On November 11, 1918, in his railroad car he signed the Armistice of Compiegne that put an end to the First World War. When Marshal Foch learnt about signing the Treaty of Versailles in 1919, he exclaimed: It is not Peace! It is just an armistice that will last 20 years! The Second World War broke out in exactly 20 years.

From 1919-Field-Marshal of the British Royal Army.

From 1923-Marshal of Poland.

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> Igor Semenov tranlated by Natalia Balakshina



'Maréchal Foch'; a Lemoine hybrid Photo Credit Igor Semenov



Mature specimen of 'Maréchal Foch' Photo Credit Igor Semenov



'<u>Ch</u>murka'; progeny of 'Maréchal Foch' Photo Credit Igor Semenov



KÓRNIK 8; unnamed hybrid of Bugala Photo Credit Igor Semenov

# Lilac Garden of the M.M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine

National Botanical Garden (NBG) is located at the border between the forest zone and steppe-forest zone of Ukraine. The climate in this region is temperate-continental. Absolute maximum of the air temperature according to the complete meteorological record in Kiev (1881 – 2015) represents +39.4°! (July of 1936), an absolute minimum represents –32.9°! (January of 1950). The annual sum of precipitatio is within the range 582 – 700 mm (spring – 22 %, summer – 35 %, autumn – 22 %, winter – 21%). NBG is located at the right elevated bank of the Dnipro River. Due to this reason, the garden territory has rather strong relief. The garden bears grey-forest and sod-podzol soils with pH 6.0–6.2.

The construction of NBG was initiated in 1944. The dendrarium area at that time amounted 34 ha. In 1948, a part of this area was used to establish a monocultural garden of lilacs (syringarium). 30 sorts (976 plants) of the French and German selections were initially planted. These plants were purchased in 1946 from Germany (companies *Münch* and *Haufe und Zigenbal*). The lilac garden with an initial area of about 1.5 ha was set in the regular style. This style mostly contributes to the optimal view of plants, makes easy to place the sorts according to the plan, and provides sufficient contrast with the neighboring dendrarium areas, which is constructed in the landscape style.

Syringarium was primarily established, in order to provide dendrarium with certain charm, in order to attract visitors to the botanical garden, and to help them to better explore the diverse world of plants, especially that of ornamental plants, among which lilacs are the most remarkable representatives. Another reason for such a design was to assign to lilacs an aesthetic function and the function of popularization. Additionally, syringarium became a center for lilac selection and for the study of the plant reaction to negative values of biotic and abiotic factors.

From the very beginning until now, there was no specific goal to extend our collection by more cultivars. The main goal was and remains until now to represent the best cultivars of all groups in certain harmony according to:

a) the petal colors: from strikingly white ones to the dark-red, dark-bordeaux and dark-violet;

b) the flower doubleness: from non-doubled to strongly doubled, i.e. from 4 petals to many petals ('Les<u>ya</u> Ukrainka');

c) the time of flowering: from the early-flowering ones ('Necker' – 2nd to 3rd week of April) to late-flowering ones ('Les<u>ya</u> Ukrainka' – 2nd to 3rd week of May);

d) the height of adult plant: from 1.0 - 1.5 ('Prairie Petite') to 5 - 6 m high

('Maréchal Foch', 'Bogdan Khmel'nitskii').

Nevertheless our collection regularly gets new cultivars. Since 1956, only 102 cultivars were introduced from USA, Germany, France, Denmark, Belarus, Latvia, and bred in Ukraine. Each new cultivar, prior to its introduction to the main collection of the syringarium, has passed 2–3 years long approbation outside the main collection. First of all, we studied their biological features, morphological characters and morphometric parameters. If the cultivar turns out to be strongly decorative and original, and its flowers are robust against fading under the sun, then it would be transferred to the main collection.

Due to the regular increase of the number of lilac cultivars, the garden area is extended to 2.35 ha. Simultaneously, its popularity among inhabitants and guests of Kyiv increased. For example, in 1964 (the year of the NBG opening), the flowering syringarium was daily visited by 8 - 10 thousand people. Later this number reached up to 90 - 120 thousand. During 1964 – 2015, more than 17 million visitors enjoyed our syringarium.

Such a huge interest is caused by the deep positive impression, which is obtained from the direct contact of visitors with various lilacs plants (over 1500), that are compactly distributed in one place perfectly built in the landscape of the city at a picturesque hill slope. This is the reason why it is good to start the tour from the upper overview area, where visitors can enjoy gorgeous colorful lilac pattern . Behind it, the gold-roofed Vidubetsky monastery (est. in early XIth century) is clearly visible, behind which one can see the panorama of the Dnipro River and its left bank.

Already from the very first sight at this lovely picture, the visitor moves into the magic world of lilacs. After this experience, the visitors wish to see similar plants at their private yards and/or in the vicinity of their office or company. Those, who keep such a wish until the autumn, approach us later and buy thousands of lilac seedlings, raised in our botanical garden during spring-summer season. However, it is going to happen later, and now, in the stream of people, who are just enjoying lilac, breathe their delicate fragrance, we can recognize painters, poets, movie makers, TV- and radio reporters, musicians, professional and hobby photographers. And so on until the end of the flowering time.

In the course of years, when the cultivars have reached their potential beauty, the selection work was started. From the very beginning until now we use spontaneous, and in the case of early- or late-flowering sorts, directed hybridization. We raised 7 sorts and 12 highly-decorative hybrids. The latter ones, according to the current rules of Ukrainian botanical ethics, can become cultivars only after their evaluation in the governmental breeding division. When these hybrids are considered to be highly-decorative, original, and resistant to the climatic and meteorological conditions of our region, they would become the standard of the cultivar and the name. In general, our selective work is not very active, since the main efforts of our small group of lilac breeders are focused on

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maintenance of the lilac garden in the best possible decorative and demonstrative condition. Recently, due to the sad war events, because of Russia occupied Crimea and territories on east of Ukraine, governmental financial support of NBG is decreased, and in turn, the support of our works on the plant care and sort testing of our hybrids is also strongly decreased. Due to this reason, the latter kind of our activity became less expressed because the entire practical and scientific work is recently fulfilled by the curator of syringarium together with two gardeners. About 80% of our working time, we spend to maintain the lilac garden at a high level. The most labor-consuming activity is the annual canopy forming in young plants in the spring, sanitary cuttings and rejuvenation of about 1000 old bushes, as well as spring-summer removal of all spent inflorescences. The rest of the time is currently invested into the soil care, collection enrichment, lilac propagation, and of course, in the selection.

However, due to several reasons, our main problem is an early ageing of the plants planted back to 1948. The first reason is too dense distribution of plants, where the distance between neighboring plants sometimes reached 0.9 - 1.5m. This made the nutritional area considerably smaller and in turn elicited too strong competition between plants for organic and mineral substances in the rhizospheric soil. Too dense plant distribution additionally caused unpleasant canopy deformations in groups: the inner plants (especially those having solitary stems) extended in height, whereas those from the periphery in height and sidewards. In the spring, some of them, having been overloaded by a heavy inflorescence, leaves and rain water, fall to the ground. In order to stop this phenomenon, all weak plants were removed. The remaining plants were cut off to the maximal height of the canopy of 1.5 - 3.0 m from the initial one of 5.0 - 6.0 m. The plants became more compact, but stems and skeletal branches had too many wounds from the cut off branches. Such plants, in spite of the re-established decorativeness, became condemned to the death. The reason for this is that wounds on the stems and branches of Syringa vulgaris and S. oblata Lindl. will never be able to completely recover. Through such open wounds, the spores of fungi easily access the tissue of the stem, which after 20 - 25 years will be turned by them into the dusty substance. This leads to the decrease of decorativeness, and later to the continuous dieback of the plants, especially of the grafter-plants. Plants, having their own roots, require much less efforts in the reestablishment, because such bushes can be re-established from the root branches or stolons (subterraneous branches) even if all ground branches are removed (1).

Other reason responsible for early ageing of plants and corresponding early worsening of their decorativeness is the soil starvation, which is well-known for all artificial monoculture groups of plants and is not characteristic for natural phytocenoses. It has been shown (2, 3) that after 65 – 70 years long non-stop cultivation of lilacs in one place, their rhizospheric soil lost the main proportion of humus and other nutritious substances (macro- and microelements). Instead, the soil has accumulated phytotoxic metabolites and pathogenic microflora. This

led to the weakening of the immune system of plants and, as a consequence, to the massive and intensive infections of their leaves by such fungi-based diseases as mildew (*Microsphaera syringae, M. penicillata f. syringae*). Due to the strong deceleration of the photosynthesis in such plants, it caused the worsening of the physiological and decorative condition of the plants.

In order to overcome all these negative phenomena, we use various nutritional formulae, and the composition is continually improving in our botanical garden. One of such compositions is silicon-based organic-inorganic mixture (patent #20558). It is known (4, 5, 6) that Si-based substances are directly involved in the formation of the organic substance of the soil. They activate the development of agronomically useful microflora, increase the mobility of both macro- and micronutrients, stimulate physiological and biochemical processes in plants and increase lilac plants' adaptability to various stress factors. Due to the use of such a formula, all plants of *Syringa vulgaris* and *S. oblata* completely healed of the fungi-based disease just after the first application of this mixture. As a result of this treatment, metrical values of young branches and inflorescence were re-established, and bushes became beautiful specimens. However, in order to keep lilac plants in their optimal physiological conditions, we preventively add this mixture into the rhizosphere early spring one time during each of three years.

Insects, such as *Vespa crabro* L. and *Zeuzera pyrina* L., and other animals, such as mole (*Tolpa europea* L.), have negative effect on longevity and decorativeness of *Syringa vulgaris* and *S. oblata* plants.

*Vespa crabro* remove young succulent bark of 1–5 years old branches. The typical damage looks like as 1–8 cm wide and 2–3 mm deep (right to the wood layer) band. Its shape may vary (see image 5; 6). Strongest damages are observed in July – August. Damaged branches become dry in the successive spring, and we must remove them. The only method to protect plants from *Vespa crabro* is to find in the neighborhood the old trees of *Juglans regsa* L. and *Tilia cordata* Msll., in holes of which these insects build their nests and remove the latter from there. We do not insecticides, because *Vespa crabro* is very useful due to a number of other reasons. That is why we use insect repellents: we attach at the nest entrance the vials with such substances, and these insects leave their nest. The tree hole will be later sealed. Due to this simple method, in the course of last few years, we observed considerably less damage of lilac branches by *Vespa crabro*.

Zeuzera pyrina damages stems of preferably young plants. Presumably, this is due to the fact that its miniature caterpillar can much more easily enter through the bark of a 2-5 years old stem, rather than a 15-35 years old woody stem. Larval stage lasts for two years. In the course of this time, it builds a tunnel along the axis, or locally completely removes wood within 3-4 cm. This leads to the drying out of the plant, if it has just a single stem. A good preventive protection method against *Zauzera pyrina* is to cover stems of young plants with dense Bordeaux mixture, white oil color or water-emulsion color. The last one has to be enhanced by 30 - 40 g CuSO<sub>4</sub> or FeSO<sub>4</sub> per 1 l of solution. The fluid

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is applied in early June, when the stem growth is finished, and the activity of adult *Zausera pyrina* just begins. Similar treatment should be repeated after 2 - 3 years, depending on the dependence of the effectiveness of the coverage material (the oil color is the most effective one) and depending on the thickening rate of the stem. When the diameter reaches 10 cm, the application is not necessary anymore.

Both physiological and the appearance of plants can be strongly altered by *Tolpa europea*. If they build their tunnels in the area of the rhizosphere of the lilac plant, they cause mechanical damage of small physiologically most active roots, but even more important, they disturb the capillary transport of the moisture from the lower into the upper layers of soil. This disturbance in turn leads to the decrease of the photosynthetic and rhizosynthetic processes. Additionally, this causes the misbalance of the plant transpiration system. Molehills sometimes have such a high density that plants tend to hang over the lower layer of the soil. During rainy and windy weather, these plants, especially those with solitary stems, decline or even fall to the ground. In order to overcome this problem, we perform slow watering of the surrounding soil: this causes damage of the mole tunnels.

Strong activity of the *Tolpa europea*, especially in the root-surrounding region of lilac plants, is caused by strong concentration of nutrients and optimal moistening of the soil. These factors generate conditions for intense propagation of various insect larvae, which belong to the main portion of the mole diet. It is rather difficult to fight against them at the entire territory of the garden, especially because we only use methods, which do not alter lilac plants and environment. Now we are finalizing the development of one of the new methods, which seems to be more effective than the existing ones.

During several decades of experience with the care of lilac plants, we have developed several rules, which we try to keep in our lilac garden. a) On our grey forest and sod-podzol soils, we plant cultivars of the species *Syringa vulgaris* and *S. oblata*, in groups at the distance of 5 - 6 m one from another, whereas in the alley-like groups, depending on their function (soil-, wind-, dust-, noise-, gas-protective, barrier or decorative ones) – at the distance of 2 - 8 m. b) We establish and form the canopy until plants become 3 - 4 years old, in order not to apply excessive cuts of diameter larger than 1.5 cm. c) We try to maintain the soil pH ranging from 6.5 to 7.1. d) When required, we add organic-inorganic nutrients to the soil, in order to prevent soil fatigue. e) We monitor the abundance of pests, in order to be prepared to quickly apply appropriate pest control measures.

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Dr. V. Gorb, Curator of the lilac garden



Dr. Vasily Gorb in the lilac garden of NBG Photo Credit V. Grafova



Damage to lilac stem caused by the larva of *Zeuzera pyrina*, or Leopard Moth This insect is found primarily in Europe Photo Credit Vasily Gorb



Single-trunked lilac falls to ground due to mole tunneling and damage to roots Photo Credit Vasily Gorb



Large, mature specimens of lilacs growing at NBG Photo Credit Tatiana Poliakova

### **Cultivars Developed at NBG in Kiev**



'Bogdan <u>Kh</u>mel'ni<u>ts</u>kii' Photo Credit Tatiana Poliakova



'Les<u>ya</u> Ukrainka' Photo Credit Ta'Ttiana Poliakova



ʻOgni Donbassa' Photo Credit Tatiana Poliakova



'Poltava' Photo Credit Tatiana Poliakova



'Topaz' Photo Credit Tatiana Poliakova

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KÓRNIK 10;unnamed Bugala hybrid Photo Credit Dr. Vasily Gorb



"Dixie", a possible future lilac registration Photo Credit Richard Hinchcliff



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