THE REAL DIRT

The Garden Club of America's Horticulture Quarterly Publication

The Shirley Meneice Horticulture Conference
"Jewels of the Plains"
Omaha, Ne. Sept. 24-26, 2017

Lauritzen Gardens photo by Alice Thomas

Inside this Issue:

An Overview of Omaha's Jewels

This eastern shore bird was startled by the exquisitely chosen locations for the recent Shirley Meneice Horticultural Conference in Omaha, Nebraska. From world class Henry Doorly Zoo and Aquarium, to the art deco Union Pacific Railway Museum at the Durham Museum, the cultural aspect was impressively covered.

While walking past flocks of penguins at 7:00 PM the lights in their frozen enclosure went out, telling them it's bedtime! From seahorses to stingrays, the Doorly Aquarium is a must see (for all ages) in the mid-west, together with the Durham Railway Museum and its life-size bronze family and service figures.

At Glacier Creek Preserve scientists tag and document pollinators amidst the rolling grass-covered 424 acre plain, assisting 56 species of butterflies on their seasonal migration between Mexico and southern Canada. Lily, one of ten Working Dogs for Conservation in the US, is currently trained to sniff out crown vetch in the fields. In the herbarium 350 native plants are carefully documented and preserved, another Omaha jewel.

Incredibly established after only 20 years and, again, alive with pollinators, Lauritzen Gardens' 100 acre site houses an impressive international plant collection, educating all gardeners. Including but not limited to a Japanese Garden, a miniature train running hundreds of feet on varying levels and a wildflower field, to the magnificent conservatory where controlled environments allow succulents and tropical plants to flourish. These professionally designed gardens will occupy you for hours and also will educate gardeners on many levels.

All 240 attendees at the conference took home a deep appreciation for Omaha's cultural and educational Jewels of the Plains.

By Jocelyn Sherman
Zone II Horticulture Rep. Newport, RI. Newport Garden Club

Above: miniature train at Lauritzen Gardens
Right: jellyfish at Doorly Aquarium, Omaha

"Flyover Country: A Photographer's 20 Year Journey, Michael Forsberg, Conservation Photographer

This year's opening night of the Shirley Meneice Horticulture Conference in Omaha featured Award winning photographer Michael Forsberg, who spoke about his dedication to wildlife and conservation in North America's Great Plains, once the greatest grassland ecosystems on earth. Michael is a native Nebraskan and on the faculty of University of Nebraska, where he is a Fellow with the Center for Great Plains Study; he is also a senior Fellow with the International Art League of Conservation Photographers. His work is represented by the National Geographic. Most recently he was awarded the 2017 Ansel Adams Award for Conservation Photography.

The Plains' sprawling tableau, its diversity and grandeur, were documented in his photographic presentation. He showed photos of bison on the move and buffalo in the tall grass. He shared how modernization has altered the prairie, plants species, wildlife and small towns which have all but disappeared. There was the Ogallala Aquifer in decline, the thousands of migrating and breeding birds, including the sand hill cranes, black footed ferrets surviving their reintroduction to the prairie were thought to have been extinct. There were photos of Prairie Grass, Evening Primrose (*Oenothera albicaulis*), Sego Lily (*Calochortus nutalli*), Purple Prairie Coneflowers (*Echinacea angustifola*) and the federally endangered Blowout Penstemon (*Penstemon haydenii*).

This delightful evening ended with Michael selling and signing his most recent book, Great Plains.

By Liz Lavezzorio
Vice Chair for Partners for Plants, Lake Forest Garden Club, Zone XI, Lake Forest, Ill.

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From the Ground Up

Monday night's dinner was held in the beautiful Art Deco ballroom at the Durham Museum. Our speaker, Spencer E. Crews, is the Executive Director of Lauritzen Gardens and an honorary member of GCA. He gave a lighthearted overview of the trials and tribulations of building a new botanical garden in Omaha.

Since arriving in 1996, he has overseen the development of the gardens into a 100-acre site with an infusion of $70 million of capital investment in less than 20 years. Yearly attendance averages 250,000. Despite a location on a former landfill and full of loess soil that does not retain water, the gardens display the beauty of the natural landscape by using mostly native plants of the Midwest and Great Plains. He describes the original Founder's Garden featuring specimens dug from supporters' gardens. Early challenges that were overcome include a display of 25,000 tulips that was ravaged by deer, starting a rose garden with challenging soil and no irrigation, and locating offices in the former "Rinky Dink" bar and a nursing clinic. They made do with what they had. This spirit carried the organization through the days after 9/11 and a 2010 setback when the Gardens had to close for an EPA mandated sewer update.

Recent installations include the 20,000 sq. ft. Conservatory that features tropical and temperate zones, a green parking garden that demonstrates storm water management techniques, and a Conservation Discovery Garden that educates the public on plant and water conservation practices.

By Lynn Kunau
Zone VII Horticulture Representative, Glenview Garden Club, Louisville, Ky.

Rose Garden Entrance Lauritzen Gardens

The Beauty and Complexity of the Prairie

This presentation by Chris Helzer of the Nature Conservancy of Nebraska was a convincing argument for taking the time to see and understand the beauty of small things in the prairie. His beautiful photographs were replete with upland sandpipers, hog-nosed snakes, lizards, early spring flowers, moths, butterflies, dragon flies, native bee species (there are 500 in Nebraska), crab spiders and a plethora of mice and other small vertebrates.

Although these beautiful and unusual small elements add to the complexity of the prairie, they are part of the whole ecosystem that create the prairie. Sunflowers, sages, Big Bluestem (*Andropogon gerardii*), Switchgrass (*Panicum virgatum)* and Indiangrass (*Sorghastrum nutans*) stabilize the environment in order to withstand the pressure of being replaced by a forest.

But the existence of the prairie is dependent on human intervention and scientific management. Chris Helzer made the case for individuals to visit the prairie, sit quietly, observe closely, and understand how the small things would be lost if we fail to save some of the historical expanses where they live.

By Betsy McCoy
Zone V Horticulture Representative,
Garden Club of Wilmington, Wilmington, Delaware

Monarch Butterfly on *Asclepias tuberosa* Native Milkweed

Andropogon gerardii Big Bluestem Grass

Luise Strauss enjoying the art of wreath making

Plants, Pollinators, and People: *How pollinators help us and how we can help them.*

Jennifer Hopwood, a Senior Pollinator Conservation Specialist at the Xerces Society for Invertebrate Conservation, is on a mission to protect a small but extremely important link in nature. These tiny creatures, some predators and some prey, exist in a miraculous balance. Their prey are the insect pests in our gardens.

Beneficial insect groups include predators such as Lacewings, Fireflies (which actually are beetles), Lady Bugs, Soldiers and Ground Beetles, and Predatory Wasps. They consume mass quantities of larvae, aphids, leafhoppers, snails, slugs, grasshoppers and caterpillars. Parasitoids such as Wasps and Flies lay eggs in or on a host which eventually consume that host. Some non-insects such as spiders and mites are also in this group. “If we provide habitat shelter like grass clumps, stumps and allow ‘messy areas’ in our gardens for them and their food sources, both predator and prey will find refuge and will even over winter in our gardens.”

Beneficial insects in different stages are also pollinators. Wildflowers provide pollen and nectar which increase insects’ reproduction and longevity, as well as offering egg-laying sites. “Gardens with high plant diversity can support more beneficial insects and have fewer pest outbreaks.”

Refuge from pesticides is paramount. Pesticides are indiscriminate; they kill both predator and prey and can cause a catastrophic imbalance with an overgrowth of pests. If you must treat, be selective. Only spot treat, don’t spray blooms, and minimize drift.

If we take care of invertebrate predators and their prey, they will take care of everything in our gardens for us. So please let them do their job!

By Kathy Palmer
Zone XI Horticulture Representative, Green Tree Garden Club, Milwaukee, Wisconsin

Buddleja alternifolia with butterfly at Lauritzen Gardens

Botanical Illustration

Aaron Sedivy graduated from the University of Nebraska with a BS in Horticulture Science. He is presently working on his master's degree and will be certified as a Doctor of Plant Health next year. As a post-graduate student, he worked for the Denver Botanic Gardens caring for their tropical plant collection while studying at the School of Botanical Art and Illustration.

His lecture began by explaining the origins of botanical art and how different it is from botanical illustration. The earliest botanical arts were wood blocks. Botanical Illustration was first seen during medieval times. Most illustrations were of herbs which were studied for medicinal use. The illustrations are crude due to the lack of proper measurement equipment.

Today Botanical Illustration media is pen and ink, graphite, watercolor, or colored pencil. The illustrator uses scalpels, forceps, proportional wheels and drafting tools like a proportional divider. Each illustration requires about forty hours of work to complete. It must be precise in color, size and texture. The plant must be identifiable without the plant.

The artist begins with loose sketches on tracing paper. He dissects his specimen carefully drawing each part of the plant on tracing paper. Once sketches are complete, he repositions all the pieces layer by layer on a light board which permits him to make certain each part of the plant is drawn correctly and is in the right spot,

Most illustrators will sketch and paint thumbnails before starting on the final plate.
The painting process is tedious as each color needs to dry before the illustrator adds another layer of color and finally **resist**[1]. Aaron remarked that he'll continue botanical illustration but only as a hobby. The salary isn't sufficient to support his family, and in addition he's had to quit drinking coffee in order to master these difficult skills without caffeine tremors.

By Priscilla Growney
Zone XII Horticulture Representative, Garden Club of Honolulu.

Botanical illustration technique of Peony

Botanical illustration of Magnolia

[1] Resist is a painting technique which fixes the watercolors or colored pencils allowing the images to show through. Many artists use wax or thin glue.

Working Dogs in Conservation

Lily 'on the job'

Each year the Meneice Conference is a delightful learning experience. This year one of the amazing highlights was the chance to meet Lily and her owner, Aimee Hurt, at the Glacier Creek Preserve. Lily is a mixed breed rescue dog who is learning to identify and find plants that are invasive. Aimee is the Founder/Director of Operations for Working Dogs in Conservation. She told us that over 100 dogs are observed in order to find one dog who will respond positively to the reward of a toy/ball so that he/she can be trained to identify a particular plant. Lily was energetic and totally attentive and responsive to Aimee. Aimee arranged four boxes, each with two holes, one for plant specimens and one for the ball. Lily went down the line sniffing all the plant specimen holes. She quickly went to the correct one and sat at attention waiting for her reward, a bouncing ball that sprung out of the hole for her to gleefully chase. The particular plant to identify was Crown Vetch. She did so in seconds, and was rewarded with the ball. JOY for her and for all of us watching in amazement and admiration. It was incredible to see Lily and Aimee in action, working so beautifully together. Lily was never distracted by the crowd around her, she only concentrated on Aimee and her task to find the correct plant in the box! Fantastic to observe in the gorgeous prairie surrounding us, and a memorable experience!

By Clare Stewart
Zone VI Horticulture Representative, Green Spring Valley Garden Club, Baltimore, Md.

Lily identifies Crown Vetch!

Lily listens to Aimee's commands

The Bee Keeper and his Bees

The honey bee, we all know, is industrious, crucial and threatened. Bob Cook, Omaha bee keeper, gave us a fascinating look (literally!) at the *Apis mellifera*, these most efficient pollinators.

Hive facts: A bee hive is a complex society, with roles well defined. Worker bees forage, feed all the bees in the hive, maintain the hive year round, and by flapping their wings keep the hive at a constant temperature of 93º. Worker bees literally die from overwork! Drones die once they mate. Extra drones live as long as the queen is fertile, but when egg laying stops, worker bees stop feeding them and push them out of the hive. The queen maintains her position through pheromones. Once hatched, the queen kills any other developing queens.

Colony collapse disorder: The problem appears to have started with Russian bee keepers—their native bees are poor honey producers, so native bees were bred with southeast Asian bees. However, Asian bees harbor the varroa mite, so this interbreeding led to varroa mites in colonies throughout the world. Colony collapse is exacerbated by pesticides, which compromises the health of bees and makes them less able to resist the mites. Neonicotinoids have been found in bees DNA.

What can we do?? Bob's suggestions: (1) Eliminate any neonicotinoid use. (2) If a pesticide is necessary, use the least toxic available. (3) Apply only in the early morning or at night, and never when the plant is flowering. (4) Educate others. Inquire at your favorite nurseries, and tell them you won't buy plants treated with neonicotinoids.

By Alice StClaire-Long

Zone IV Horticulture Representative, Stony Brook Garden Club, Princeton, N.J.

Bee Colony

Beekeeping tools and products

Seed Saving, by Dr. Philip Kauth

Heirloom Tomatoes grown from seed

Top screen removes seed chaff

Seed Savers Exchange in Decora, Iowa is run by Diane Ott Whealy. It is a nonprofit organization dedicated to saving and sharing America's heirloom seeds since 1975. It is a Heritage Farm with 890 acres designed to maintain and display collections of historic garden varieties. And they all have a story!

Dr. Philip Kauth, Assistant Curator of Seed Savers Exchange, spoke to us about gathering and preserving garden seeds. What are the goals of Seed Savers in general? To connect, to preserve, to be self reliant and to contribute to a stronger food system. Only seeds from open pollination can be saved. If it is a hybrid, those seeds won't reproduce. The key to growing seeds is to know the variety of the plant, know the life cycle of the plant and know how they are pollinated.

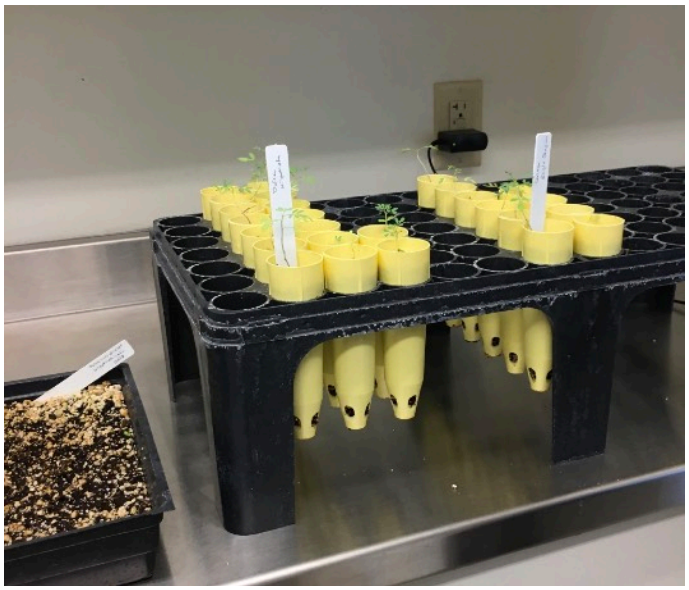
Seeds must be dry when they are harvested. If they are taken off the plant too soon, they will not germinate. Once they are dry, they need to be cleaned. This can be done with a fine screen, letting the seeds fall through, leaving the debris on the screen. Many seed savers have found that coffee filters work well for sifting of seed. Once they are ready to be stored, wrap with paper, cloth, plastic or put in glass jars. If they are to be replanted the following year, store in refrigerator. Keeping the process simple can be very rewarding.

By Ellen Goodwin
Vice Chair Awards, GCA Horticulture Committee; Garden Club of Philadelphia, Zone V

Water Conservation in the Garden at Lauritzen Gardens

Jim Locklear, the Director of Conservation, led attendees on a tour of the gardens which featured a visit to the recently installed Conservation Discovery Garden. Visitors can experience demonstrations of conservation practices as they walk through educational plantings and exhibits. A bur oak savannah, reminiscent of original prairie planting, was planted with bur oak seeds collected by members of the Loveland Garden Club. A display of storm water management techniques, including bio-retention ponds and a rainwater storage silo, demonstrate how to slow, gather, conserve, and filter storm water runoff in urban areas. The gathered rainwater irrigates garden plantings instead of ending up in the sewer system. Educational messaging shows how we can implement these practices at home with rain gardens and rain barrels. We are also encouraged to conserve water by growing plants native to the area, which are adapted to the local climate and rainfall. These plants are also important to local pollinators. Lauritzen Gardens are researching native plants such as oak sedge, which is drought tolerant and resistant to deer and rabbit. Jim also noted that Lauritzen Gardens are the ultimate restoration project, as they are located on a former landfill. Even the parking lot is geared to conservation. Its plantings feature native prairie grasses, wildflowers and shrubs. It is designed to collect rainwater from the pavement and move it through retention ponds filled with aquatic plants that filter and aerate the water. Each of these initiatives beautifully illustrates the conservation mission of Lauritzen Gardens.

By Lynn Kunau
Zone VII Horticulture Representative, Glenview Garden Club, Louisville, Ky.



Dalea cylindriceps Sandsage Prairie Clover in planting tubes

Jim Locklear holds *Chamaecrista fasciculata*, partridge pea

Wintering Over Agapanthus in New England

While this beloved plant grows wild in California, in New England it requires hard work. My favorite flowering plant lives all year in large 16” nursery pots which are dug out of their reserved garden spaces in late October. Placed under the protection of old arborvitae on the driveway, they spend two or three weeks while bugs and grubs find new homes. As temperatures drop into the 40F, killing remaining bugs and some foliage, they will be moved to our garage until early December when they finally find their winter spot, a shallow basement close to a west window. Their winter hibernation maintains a 50F temp., with a little monthly water. There they sit until April when the process is reversed; garage, arborvitae then same reserved holes in a special garden, close for viewing. By mid-May they are back in the garden. Flower spikes appear in June when my six potted plants get a little extra attention, regarding watering and fertilizing. Throughout July and August, my three white and three blue Agapanthus bloom profusely, attracting hummingbirds and butterflies. Approximately every five years they are divided and divisions given away. Then I repot with half-and-half potting mix and home-grown compost. Compost is also stirred into the top soil each summer before mulching the bed, which covers the pot rims. It’s well worth the effort!

By Jocelyn Sherman

Zone II Horticulture Representative; Newport Garden Club, Newport, RI.

Soil Samples; Understanding the Components of the Soil, "*DOWN IN THE DIRT*"

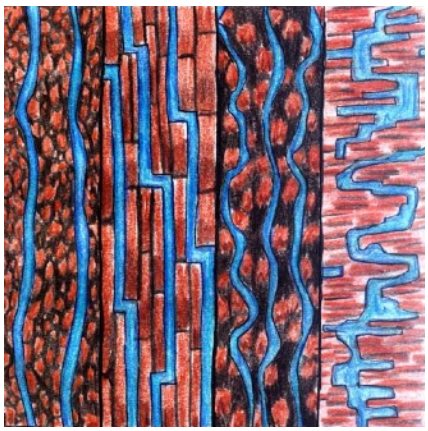
An article by Ben Faber in the June 1994 issue of *Fine Gardening* changed my gardening habits forever. Many plant failures are the result of a poor understanding of how water moves through the soil. Once we understand the mechanics of water movement, we can avoid those problems.

Water moves through the spaces (pores) between soil particles quickly or slowly depending upon the number and size of the pores. An attraction to the electrically charged soil particles holds water in the soil. Heavy clay soils have many more pores and those pores are small. This causes water to move more slowly through clay than it would through sandy soils. Additionally, the very fine particles of clay provide many surfaces to catch and hold the water. Hence, water stands in clay soils, while it runs through sandy soils that have larger pores and fewer surfaces to attract the water.

What happens when one kind of soil overlays another? The water tends to stay in the top layer. For example, if the top layer is clay and the bottom is sand, the water will stay in the clay which has more surface area to trap the water molecules. If you reverse the layers and put the sand on top, the water still stays in the upper layer because it flows horizontally in the sand that provides less resistance than the smaller-pored clay. Water will only pass through to the bottom layer when the top layer is saturated. Saturating the top layer will drown your plants because all the air in the soil has been replaced with water. A better solution than saturation is to eliminate the barrier altogether by having homogeneous soil throughout the root zone, and preferably even a little larger area.

If your soil is primarily clay, you must be careful not to create barriers in your efforts to make secure homes for your new plants. While tempting to think that the soil your new plant comes in from the nursery is "good stuff", it can be deadly to your newly transplanted treasure. Many pot-grown plants are planted in a medium designed to drain quickly, so that nursery plants will not rot when they are watered every day. Like many commercial potting soils, this medium once dry will be hard to wet again. When you dig a hole in your clay soil, set your plant into it and cover it with this barkdust or peat moss medium. Now you have created an almost impenetrable barrier between the soil around the roots and the clay soil.

by Sara Mauritz Portland Garden Club, Zone XII



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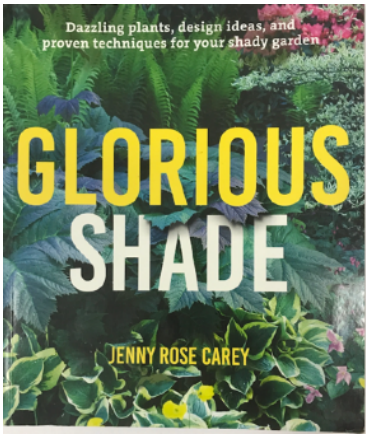
Conceptual Illustration Soil Permeability
By Danika Mosher

1. **Granular - very rapid water flow**
2. **Prismatic - rapid water flow**
3. **Blocky - moderate water flow**
4. **Platy - very slow water flow**

BOOK REVIEW

GLORIOUS SHADE by Jenny Rose Carey



I had the pleasure to interview one of our GCA members, Jenny Rose Carey, the author of Glorious Shade, and a member of the Garden Club of Philadelphia. It was just published by Timber Press. Every time I open this book I see a new idea! I give it a total green thumbs up!

Jenny Rose is an insatiable gardener and currently the Senior Director of the Pennsylvania Horticulture Society at Meadowbrook Farm. One day Timber Press called to ask if she would be interested in writing a book on shade gardens. For years there were limited resources on shade gardens. One of the many reasons why I recommend this book is that it is filled with new plants that currently are available through growers. Many of these native plants were in existence, just not in the nurseries.

The book is divided into two sections. The first part addresses plant material that looks attractive in every season. It is full of ideas and inspiration and “how to” tips. There are 200 genera in this book, which makes one realize how many plants will grow in shade.

The second part of the book is an in-depth look at many shade plants available in the trade. It is full of information and again ideas for plants that thrive in shade.

I asked Jenny Rose what she might want to say to GCA members that she thought was important no matter where they live. Her response was: “Go visit your garden club members’ shade gardens and beg for something from their garden. Not only is it something personal from a friend, but it might also begin your love of shade gardening. See what grows well in your area and what your conditions are. Then use those plants knowing that they will be happy in your garden.”

Shade occurs in three places: forests, woodlands, and jungles. All shade plants grow in these understories and it is a natural process for the leaves and needles from above to cover the woodland floor. Too many landscape companies remove this natural mulch when they should be preserving it. Wood chips do not replace leaf mulch. Don’t be too quick to remove the natural debris. And do not use any pesticides or herbicides in your shade garden.

When my husband and I first moved into our home eight years ago, I began to create a woodland shade garden. Jenny Rose visited our garden and made some suggestions. She said to build a path so that you are able to walk into and enjoy the garden. Shade gardens are cool. They are private and peaceful. Create one for yourself and make time to go sit and enjoy nature in its surroundings. There is nothing like it.

Reviewed by Ellen L Goodwin,

Vice Chair Awards Horticulture Committee, Garden Club of Philadelphia, Zone V