

March, 2023

The VINE

“The Real Dirt from the Keyport Garden Club”

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March 1 -- Last day to sign up for April 22 Botanical Garden Trip,
www.keyportgardenclub.com

Events to catch:

(Please note: some events require fees and/or preregistration)

Keyport:

Wednesday, March 1

7:00 p.m.	KGC Meeting	3BR, Main Street
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Wednesday, March 22

7:00 p.m.	KGC Gardening Talk: Spring Has Sprung, Let's Get Gardening	Borough Hall, Front Street
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Saturday, March 25

11:00 a.m.	St. Patrick's Day Parade	TBA
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Elsewhere:

Wednesday, March 1

9:00 a.m. - 12:00 p.m.	Integrated Pest Management	Office of Government Services, Clayton or online
11:30 a.m. or 12:30 p.m.	Cream Tea	Reeves-Reed Arboretum, Summit
1:00 - 3:00 p.m.	Being a Good Bluebird Landlord	The Scott Arboretum of Swarthmore College, Swarthmore, Pennsylvania
2:00 - 3:30 p.m.	Hump-Day Afternoon Hike	Rancocas Nature Center, Westampton
4:00 - 5:00 p.m.	Skunk Cabbage Safari	Great Swamp Outdoor Education Center, Chatham
7:00 - 8:00 p.m.	Birding Seminar	Somerset County Environmental Education Center, online
7:00 - 9:00 p.m.	Dark Beauties -- Dark Beauties for Your Garden	Public Library, Wayne

Thursday, March 2

10:00 - 11:30 a.m.	Splendid Spring Stroll	Hartshorne Woods Park, Highlands
7:00 p.m.	Wild in the Garden State	Elementary School, Sea Girt

Friday, March 3

12:00 p.m.	Historical Trees of New Jersey	Public Library, Ridgewood
6:00 - 7:30 p.m.	Owl Prowl	Cloverdale Farm Park, Barnegat
7:00 - 9:00 p.m.	Wine School: A Taste of Tuscany	Reeves-Reed Arboretum, Summit

Saturday, March 4

7:00 a.m. - 12:00 p.m.	Winter Garden Photography Workshop	Chanticleer Garden, Wayne, Pennsylvania
8:00 - 9:00 a.m.	Birding for Beginners	Lorrimer Sanctuary, Franklin Lakes
8:00 - 9:00 a.m.	Morning Walk	Scherman Hoffman Wildlife Sanctuary, Bernardsville
8:00 - 10:00 a.m.	Birding	State Park, Cape May Point
9:00 - 11:00 a.m.	Bird Walk	Cloverdale Farm Park, Barnegat
9:00 a.m. - 4:00 p.m.	Community Garden Conference	Frelinghuysen Arboretum, Morristown or online
9:30 a.m. - 12:30 p.m.	Beginner Botanical Watercolor Workshop	The Scott Arboretum of Swarthmore College, Swarthmore, Pennsylvania
10:00 a.m. - 12:00 p.m.	Powerful Pollinator Plants	Jenkins Arboretum & Gardens, Devon, Pennsylvania
10:00 a.m. - 8:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
11:00 a.m. - 12:00 p.m., 12:30 - 1:30 p.m. or 1:30 - 2:30 p.m.	Maple Sugaring	Van Vleck House and Gardens, Montclair
1:00 - 2:00 p.m.	Maple Sugaring Demo	Great Swamp Outdoor Education Center, Chatham
1:00 - 4:00 p.m.	Knowing Native Plants: Trees in Winter	Bowman's Hill Wildflower Preserve, New Hope, Pennsylvania or online
2:00 - 3:00 p.m.	Backyard Birding	Cattus Island Park, Toms River
4:00 - 5:00 p.m.	Maple Sugaring	Lorrimer Sanctuary, Franklin

		Lakes
5:30 - 7:00 p.m.	Woodcock Watch	Somerset County Environmental Education Center, Basking Ridge

Sunday, March 5

8:00 - 10:00 a.m.	Birding	Turkey Point, Port Norris
10:00 - 11:15 a.m.	Basket of Love and Kindness	Deep Cut Gardens, Middletowh
10:00 a.m. - 7:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
11:00 a.m. - 12:00 p.m.	Magical Moss Walk	Freneau Woods Park, Aberdeen
1:00 - 2:00 p.m.	Maple Sugaring Demo	Great Swamp Outdoor Education Center, Chatham
1:00 - 2:00 p.m.	Binocular Basics	Hawk Rise Sanctuary, Linden
1:00 - 4:00 p.m.	Maple Sugaring Fest	Reeves-Reed Arboretum, Summit
1:30 - 2:30 p.m.	Interpretative Trail Hike	Rancocas Nature Center, Westampton
2:00 - 2:30 p.m.	Discovery Nature Walk	Jakes Branch Park, Beachwood
2:00 - 3:00 p.m.	Backyard Birding	Cattus Island Park, Toms River
5:00 - 7:00 p.m.	Nightfall Birding	Jake's Landing, Woodbine

Monday, March 6

9:00 a.m. - 3:15 p.m.	Managing Diseases of Ornamental Landscape Plants	Cook College, New Brunswick
10:00 a.m. - 7:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania

6:30 p.m.	Wildlife Habitat Gardens	Hollowbrook Community Center, Ewing
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Tuesday, March 7

9:00 a.m. - 3:30 p.m.	Landscape and Horticulture	Cook College, New Brunswick
10:00 a.m. - 7:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
12:00 - 12:30 p.m.	Lunchtime Tour	The Scott Arboretum of Swarthmore College, online
1:00 - 2:00 p.m.	Rare Flora of the Sanctuaries	Native Plant Trust, online
3:00 - 4:00 or 7:30 - 8:30 p.m.	Attracting Birds to Your Jersey Yard	Wells Mills Park, Waretown
4:00 - 5:00 p.m.	The Well-Gardened Mind	New York Botanical Garden, Bronx, New York
5:00 - 7:00 p.m.	Sunset and Full Moon Walk	Cattus Island Park, Toms River
6:00 p.m.	Hanging Kokedama	Longwood Gardens, Kennett Square, Pennsylvania
6:00 - 7:30 p.m.	Moonlight Meander: Worm Moon	Somerset County Environmental Education Center, Basking Ridge
6:30 - 7:00 p.m.	Full Moon Hike	Reeves-Reed Arboretum, Summit

Wednesday, March 8

10:00 - 11:15 a.m.	Basket of Love and Kindness	Deep Cut Gardens, Middletown
10:00 a.m. - 7:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
11:30 a.m. or 12:30 p.m.	Cream Tea	Reeves-Reed Arboretum, Summit

2:00 - 3:30 p.m.	Hump-Day Afternoon Hike	Rancocas Nature Center, Westampton
7:30 - 9:30 p.m.	Growing Native Plants for Restoration Projects	Native Plant Society of New Jersey, online

Thursday, March 9

8:45 - 11:00 a.m.	Bird Walk	Weequahic Park, Newark
10:00 a.m. - 7:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
1:00 - 2:30 p.m.	Glass House Tour	Snug Harbor Cultural Center and Botanical Garden, Staten Island, New York
4:00 - 5:00 p.m.	Signs of Spring Stroll	Great Swamp Outdoor Education Center, Chatham
6:00 - 8:00 p.m.	St. Patrick's Day Centerpiece	Cattus Island Park, Toms River
7:00 - 8:00 p.m.	Designing a Backyard Farm Garden	Fosterfields Living Historical Farm, Morristown

Friday, March 10

10:00 a.m. - 8:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
1:00 - 2:00 p.m.	Spring Bluebird Presentation	Freneau Woods Park, Aberdeen
3:30 - 4:30 p.m.	Hot Chocolate Walk	Fosterfields Living Historical Farm, Morristown
5:00 - 7:00 p.m.	Woodcock Dance	Nature Center, Cape May
6:00 - 8:00 p.m.	Spring Dance of the Woodcock	Negri Nepote Native Grassland, Franklin Township
6:30 - 8:00 p.m.	Plants and Placemaking	Native Plant Trust, online

Saturday, March 11

8:00 - 9:00 a.m.	Birding for Beginners	Lorrimer Sanctuary, Franklin Lakes
8:00 - 9:00 a.m.	Morning Walk	Scherman Hoffman Wildlife Sanctuary, Bernardsville
8:00 - 10:00 a.m.	Birding	State Park, Cape May Point
8:00 a.m. - 4:30 p.m.	Gulls Simplified	State Park, Cape May Point
9:00 a.m. - 12:00 p.m.	Orchids 1	Longwood Gardens, Kennett Square, Pennsylvania
9:00 a.m. - 1:00 p.m.	Foliage Manipulation Studio	Longwood Gardens, Kennett Square, Pennsylvania
9:00 a.m. - 3:30 p.m.	Back to the Future -- A Garden Symposium	Stuart Country Day School, Princeton
9:00 a.m. - 3:45 p.m.	Pinelands Short Course	Stockton University, Galloway
10:00 - 11:00 a.m.	Arboretum Highlights Tour: Marching Toward Spring	The Scott Arboretum of Swarthmore College, Swarthmore, Pennsylvania
10:00 - 11:00 a.m.	Seed Starting for a Successful Vegetable Garden	Frelinghuysen Arboretum, Morris Township
10:00 a.m. - 3:00 p.m.	Gourmet Goods and Makers Market	Calgo Gardens, Freehold
10:00 a.m. - 8:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
10:30 a.m. - 12:30 p.m.	Introduction to Needle Felting -- Botanical Pin	Deep Cut Gardens, Middletown
11:00 a.m. - 12:00 p.m.	Hot Chocolate Walk	Fosterfields Living Historical Farm, Morristown
11:00 a.m. - 12:00	Witchhazels Tour	Morris Arboretum of the University of Pennsylvania,

p.m.		Philadelphia, Pennsylvania
1:00 - 2:00 p.m.	Maple Sugaring Demo	Great Swamp Outdoor Education Center, Chatham
1:00 - 2:30 p.m.	Glass House Tour	Snug Harbor Cultural Center and Botanical Garden, Staten Island, New York
1:30 - 2:00 p.m.	Tour of the Grounds	Cedar Bridge Park, Barnegat
2:00 - 3:00 p.m.	Signs of Spring	Cattus Island Park, Toms River
2:00 - 4:00 p.m.	Lichen Biology and Lichen Flora	Bowman's Hill Wildflower Preserve, New Hope, Pennsylvania
5:30 - 8:00 p.m.	Timber Doodle Walk	Big Brook Park, Marlboro

Sunday, March 12

8:00 - 10:00 a.m.	Birding	Turkey Point, Port Norris
9:00 - 11:00 a.m.	A Place for All Seasons	Sunset Beach, Lower Township
10:00 a.m. - 12:00 p.m.	Courses in Nature: Be Bear Aware	Great Swamp Outdoor Education Center, Chatham
10:00 a.m. - 6:00 p.m.	PHS Flower Show	Convention Center, Philadelphia, Pennsylvania
1:00 - 2:00 p.m.	Maple Sugaring Demo	Great Swamp Outdoor Education Center, Chatham
2:00 - 2:30 p.m.	Discovery Nature Walk	Jakes Branch Park, Beachwood
2:00 - 3:00 p.m.	Signs of Spring	Cattus Island Park, Toms River
5:00 - 7:00 p.m.	Nightfall Birding	Jake's Landing, Woodbine

Monday, March 13

1:00 - 3:00 p.m.	Riparian Communities	Native Plant Trust, online
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2:00 - 4:00 p.m.	Understanding Soil Compaction Workshop	Rutgers Cooperative Extension of Ocean County, Toms River
5:30 - 6:30 p.m.	Daylight Savings Stroll	Turkey Swamp Park, Freehold

Tuesday, March 14

9:00 a.m.	Casual Birder	Crosswicks Creek Park, Upper Freehold
12:00 - 1:00 p.m.	Lunchtime Tour	The Scott Arboretum of Swarthmore College, Swarthmore, Pennsylvania

Wednesday, March 15

8:00 a.m. - 5:00 p.m.	Spring Birding Expedition	Thompson Park, Lincroft
9:00 a.m. - 12:00 p.m.	Weeds, Weeds, Weeds	Office of Government Services, Clayton or online
11:00 a.m. - 12:00 p.m.	First Signs of Spring	Grounds for Sculpture, Hamilton
11:30 a.m. or 12:30 p.m.	Cream Tea	Reeves-Reed Arboretum, Summit
11:30 a.m.	Flower Design Workshop	Community Center, Fair Haven
3:00 - 4:15 p.m.	"The Luck of the Irish"	Deep Cut Gardens, Middletown
5:30 - 7:00 p.m.	Hump-Day After-Work Hike	Rancocas Nature Center, Westampton
6:30 p.m.	Empowerment through the Art and Science of Horticultural Therapy	Reeves-Reed Arboretum, Summit or online
7:00 - 8:30 p.m.	Native Plants for Your Garden: Creating a Wildlife Habitat in Your Own	Native Plant Society of New Jersey, online

	Backyard	
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Thursday, March 16

8:30 - 11:00 a.m.	Bird Walk	Hilltop Reservation, North Caldwell
10:00 - 11:30 a.m.	Splendid Spring Stroll	Big Brook Park, Marlboro
11:30 a.m. - 12:30 p.m.	In Good Taste	Van Vleck House and Gardens, Montclair
1:00 - 2:30 p.m.	Signs of Spring Walk	Snug Harbor Cultural Center and Botanical Garden, Staten Island, New York
6:00 p.m.	Plantology on Tap: Creating the Ultimate Flower Garden	Longwood Gardens, Kennett Square, Pennsylvania
7:00 - 8:30 p.m.	Backyard Forestry in 90 Minutes	New Jersey Forestry Association, online
7:00 - 9:00 p.m.	Spring Ephemerals: They're Not Just Pretty Faces	Native Plant Society of New Jersey, online

Friday, March 17

6:00 - 8:00 p.m.	Spring Dance of the Woodcock	Negri Nepote Native Grassland, Franklin Township
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Saturday, March 18

8:00 - 9:00 a.m.	Birding for Beginners	Lorrimer Sanctuary, Franklin Lakes
8:00 - 9:00 a.m.	Morning Walk	Scherman Hoffman Wildlife Sanctuary, Bernardsville
8:00 - 10:00 a.m.	Birding	State Park, Cape May Point
8:00 a.m. - 4:00 p.m.	March into Spring 2023 -- A Symposium for Gardeners	West Chester University, West Chester, Pennsylvania

8:45 a.m. - 1:00 p.m.	Brigantine	Edwin B. Forsythe National Wildlife Refuge, Galloway
9:00 a.m. - 3:00 p.m.	Getting Started with Vegetable Gardening	Longwood Gardens, Kennett Square, Pennsylvania
9:45 a.m. - 12:45 p.m.	Creating a Vegetable Garden and Seed Starting Indoors	Somerset County Master Gardeners, Bridgewater
10:00 a.m. - 11:00 a.m.	End of Winter Tree Walk	New Jersey Botanical Garden, Ringwood
10:00 a.m. - 12:00 p.m.	Understanding Soil Compaction Workshop	Rutgers Cooperative Extension of Ocean County, Toms River
10:00 a.m. - 12:00 p.m.	Garden Maintenance: Tree & Shrub Pruning	Grounds for Sculpture, Hamilton
10:00 a.m. - 1:00 p.m.	Pruning 101: Small Flowering Trees	Longwood Gardens, Kennett Square, Pennsylvania
10:30 - 11:30 a.m.	Guided Hike	Rancocas Nature Center, Westampton
12:30 - 4:30 p.m.	Poor Man's Pelagic	Cape May Lewes Ferry, North Cape May
1:00 p.m.	Creating a Show Garden	Frelinghuysen Arboretum, Morris Township
1:00 p.m.	Science Saturday: Living Plant Collections, Clivia Spotlight	Longwood Gardens, Kennett Square, Pennsylvania
1:00 - 2:00 p.m.	First Signs of Spring	Grounds for Sculpture, Hamilton
1:00 - 2:30 p.m.	Signs of Spring Walk	Snug Harbor Cultural Center and Botanical Garden, Staten Island, New York
2:00 - 3:00 p.m.	Return of the Osprey	Cattus Island Park, Toms River
2:00 - 3:00 p.m.	Naturalist Walk	Winter Run Activity Center,

		Farmingdale
2:00 - 3:45 p.m.	Grandfather of the American Forest: The Story of the American Chestnut Tree	Rancocas Nature Center, Westampton

Sunday, March 19

8:00 - 10:00 a.m.	Birding	Turkey Point, Port Norris
11:30 a.m., 12:30 p.m. or 2:00 p.m.	Afternoon Tea	Reeves-Reed Arboretum, Summit
12:00 - 2:00 p.m.	Rose Revival	Avis Campbell Gardens, Montclair
1:00 - 3:00 p.m.	Garden Weed Identification	Jenkins Arboretum & Gardens, Devon, Pennsylvania
1:00 p.m.	Native Fungi	Island Beach State Park, Berkeley
2:00 - 2:30 p.m.	Discovery Nature Walk	Jakes Branch Park, Beachwood
2:00 - 3:00 p.m.	Return of the Osprey	Cattus Island Park, Toms River
2:00 - 3:30 p.m.	Flowerpot Fairy Garden	Rancocas Nature Center, Westampton

Monday, March 20

7:30 - 9:30 a.m.	Birding	South Cape May Meadows Preserve, Cape May
4:00 - 5:00 p.m.	Spring Equinox Walk	Freneau Woods Park, Aberdeen
6:00 - 8:00 p.m.	Sunset Stroll	Turkey Swamp Park, Freehold

Tuesday, March 21

9:00 a.m. - 3:30 p.m.	Diseases and Pests of Trees	Holly House, New Brunswick
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10:00 - 11:30 a.m.	Gentle Walk for Gentle Souls	Turkey Swamp Park, Freehold
6:00 p.m.	Hanging Kokedama	Longwood Gardens, Kennett Square, Pennsylvania
7:00 p.m.	Digging Deeper into Local Wildlife	Shrewsbury Historical Society, Shrewsbury

Wednesday, March 22

9:30 a.m. - 1:00 p.m.	Fragrant Flowers for the Garden	Fire Department, Lebanon Township
12:30 - 3:30 p.m.	Orchids of New England	Native Plant Trust, online
5:30 - 7:00 p.m.	Hump-Day After-Work Hike	Rancocas Nature Center, Westampton
6:00 p.m.	Sweet Floral Treats: Key Lime Pie	Longwood Gardens, Kennett Square, Pennsylvania

Friday, March 24

9:00 a.m. - 3:30 p.m.	Introduction to Pruning Techniques	Holly House, New Brunswick
10:00 - 11:30 a.m.	Pruning Workshop	Leonard J. Buck Garden, Far Hills

Saturday, March 25

7:30 - 9:30 a.m.	Birding over Breakfast	Somerset County Environmental Education Center, Basking Ridge
8:00 - 9:00 a.m.	Birding for Beginners	Lorrimer Sanctuary, Franklin Lakes
8:00 - 9:00 a.m.	Morning Walk	Scherman Hoffman Wildlife Sanctuary, Bernardsville
8:00 - 10:00 a.m.	Birding	State Park, Cape May Point

8:30 - 11:30 a.m.	Birding Walk	Troy Meadows, Parsippany
8:30 a.m. - 12:00 p.m.	Bird Walk	Raritan Bay Waterfront Park, South Amboy
10:00 a.m. - 1:00 p.m.	Spring Wreath Making	New Jersey Botanical Garden, Ringwood
10:00 - 11:15 a.m.	Grow Herbs for Cold and Flu Relief	Deep Cut Gardens, Middletown
10:00 - 11:30 a.m.	Houseplant Repotting Clinic	Jenkins Arboretum & Gardens, Devon, Pennsylvania
10:00 - 11:30 a.m.	Winter Tree Walk	Brookdale Park, Montclair
10:00 a.m. - 1:00 p.m.	Knowing Native Plants: Signs of Spring	Bowman's Hill Wildflower Preserve, New Hope, Pennsylvania or online
1:30 - 2:00 p.m.	Tour of the Grounds	Cedar Bridge Park, Barnegat
2:00 - 3:00 p.m.	Osprey Nests	Cattus Island Park, Toms River

Sunday, March 26

8:00 - 10:00 a.m.	Birding	Turkey Point, Port Norris
10:00 - 11:30 a.m.	Audubon: Spring Bird Walk	New Jersey Botanical Garden, Ringwood
2:00 - 2:30 p.m.	Discovery Nature Walk	Jakes Branch Park, Beachwood
2:00 - 3:00 p.m.	Osprey Nests	Cattus Island Park, Toms River

Monday, March 27

7:30 - 9:30 a.m.	Birding	South Cape May Meadows Preserve, Cape May
6:30 - 8:00 p.m.	Native Plants and Their Cultivars: Don't Get Lost in the Weeds	Public Library, Middletown

Tuesday, March 28

9:00 a.m.	Casual Birder	Big Brook Park, Marlboro
9:00 a.m. - 3:30 p.m.	Advanced Pruning Techniques	Holly House, New Brunswick
2:00 - 3:00 p.m.	Edible Invasives	Native Plant Trust, online
3:30 - 5:00 p.m.	Spring Bird Walk	Rancocas Nature Center, Westampton
7:00 p.m.	The Buffalo Style Garden: Adding Your Personality to Your Garden	Frelinghuysen Arboretum, online

Wednesday, March 29

9:00 a.m. - 12:00 p.m.	What's Wrong with My Plant	Office of Government Services, Clayton or online
11:30 a.m. or 12:30 p.m.	Cream Tea	Reeves-Reed Arboretum, Summit
5:30 - 7:00 p.m.	Hump-Day After-Work Hike	Rancocas Nature Center, Westampton
6:30 p.m.	Making More Houseplants: Basics of Propagation	Davidson's Mill Pond Park, South Brunswick

Thursday, March 30

10:00 - 11:30 a.m.	Splendid Spring Stroll	Thompson Park, Lincroft
1:00 - 8:00 p.m.	West Jersey Birding	Somerset County Environmental Education Center, Basking Ridge
4:00 - 6:00 p.m.	Mobsters and Mayhem	Deep Cut Gardens, Middletown
5:30 - 7:00 p.m.	After Work Bird Walk	Big Brook Park, Marlboro
6:00 - 8:00 p.m.	Sunset Stroll	Turkey Swamp Park, Freehold

6:30 p.m.	Square Foot Gardening 101: Grow Your Own Groceries	Reeves-Reed Arboretum, online
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Friday, March 31

9:00 a.m. - 12:00 p.m.	Bird Walk	Raritan Bay Waterfront Park, South Amboy
12:00 - 6:00 p.m.	SEPOS International Orchid Show and Sale	Expo Center, Oaks, Pennsylvania
6:00 - 8:00 p.m.	An Evening with Uli Lorimer and Rebecca McMackin	Native Plant Trust, online

(Lots of!) Stuff to do in the garden this month (courtesy of the New York Botanical Garden):

Take advantage of every day of good weather to work outdoors.

Many leggy houseplants may still be propagated through air-layering, while earlier air-layered plants whose roots are showing outside the moss ball may be severed from lower stems and potted. This is also a good time to propagate houseplants from cuttings, which, except for succulents, root best in a terrarium.

Move houseplants that do best in low light away from windows where they would receive full midday sun.

Repot houseplants as needed or replace top of soil with fresh medium while using care not to damage the roots, make sure drainage is adequate and begin lightly fertilizing when new growth appears.

Keep gift plants in a cool room to prolong the bloom. If forced plants are to be planted outdoors, keep them growing without drying off.

This is the month for planting a great many seeds and deciduous plants when the soil "can be worked" -- i.e., it has dried sufficiently not to form a mud-ball when a clod is squeezed in a fist and does not stick to tools or shoes. Follow directions on seed packets. If the ground was not prepared in the fall, do so without delay, as soon as the ground can be worked.

Light winter coverings can remain on plants, while heavy ones can begin to be removed gradually.

Complete spring pruning of roses, raspberries, grapes and fruit trees before new growth begins. Overgrown shrubs that renew themselves from the ground may be pruned back severely, mulched with old manure or compost and kept well watered.

Shrubs, except those with shallow roots, may be fertilized by forking in compost or other organic matter.

A top dressing of fertilizer may be forked into perennial beds when the plants are several inches tall. Except for spring-blooming plants, overgrown clumps may be lifted and divided.

Set out overwintered biennials grown from seed and young, early-flowering perennials. Perennials and hardy annuals grown from seed sown early indoors should not be planted out until the soil is warm and only after hardening off.

Plant lily bulbs as soon as possible.

Rake lawn, top dress with a mixture of organic matter, soil and fertilizer, and renovate by patching bare areas. If a seedbed for a proposed new lawn was not properly prepared last fall, sow with rye grass now and turn it under in the fall. Test the soil and lime if necessary.

They're Everywhere!

Cockroaches, fleas, gnats, even squirrels -- animal pests are ubiquitous. But, they are scarce to the point of rarity when compared to nematodes, of which there are approximately one million species. They are found in virtually every habitat, from the poles to the equator, from the tops of mountains to subterranean mines and from fresh water to deserts. In the oceans, they constitute ninety percent of the fauna. On earth as a whole, they constitute eighty percent of the fauna, and in the far north, in the tundra and the boreal forests, there are approximately one million individuals per square meter.

Nematodes are generally small, slender roundworms, some of which are microscopic, but some free-living species can reach two inches long and some parasites can reach one meter. Their bodies often bear ridges or bristles and are bilaterally symmetrical while their heads are radially symmetrical with sensory bristles and a mouth lined with cuticle, often with three to six lips and ridges bearing teeth. Many include a stylet used to hook prey and, if hollow, to extract fluids. The epidermis is made up of multi-nucleated cells or a single layer of cells covered by a cuticle. Under the epidermis is a layer of longitudinal muscle cells, with projections from the inner surface toward the ventral nerve cord, the invertebrate version of a spinal cord. Ammonia is excreted through the body wall and salt through a pore on the underside in marine species. Most are dioecious, although a few species are androdioecious.

Possibly the most familiar are the vertebrate parasites, among which are those that affect humans. Helminths, those intestinal parasites transmitted through feces-contaminated soil, include ascarids and whipworms, which are usually ingested, and hookworms, which

penetrate the skin, generally from walking barefooted on contaminated soil. *Trichinella*, the smallest human nematode parasite, is ingested after adult nematodes in the intestine of a host animal -- usually, but not always, a pig -- reproduces and the larvae migrate into the bloodstream and from there into muscle tissue. Pinworms, the most common and easily spread human parasitic nematode, is spread by ingestion of eggs that are emitted by a female as she emerges from the anus of her human host. Pinworms cause intense anal itching and scratching spreads the eggs.

From a horticultural point of view, nematodes can be beneficial or harmful. *Phasmarhabditis hermaphrodita* feeds on bacteria and thus reproduces in bacteria-rich environments, such as cadavers of small pests, leaf litter and compost. The larva has four stages, the first before it leaves its shell. During the second stage it continues to feed on the bacteria of its environment, but when they become thin, the larva enters its third, non-feeding, dauer stage. At that point, it seeks a new host, likely a slug, which it enters through a dorsal pouch underneath the mantle. It then develops into a mature hermaphrodite and not only begins to reproduce, but emits a chemical that alters the slug's behavior. The slug then is attracted to additional *P. hermaphrodita* and, when moribund, seeks out a place to die that will protect its cadaver from drying out and from scavengers, all for the benefit of its parasites.

Steinernema spp. in their dauer stages enter insects through their natural openings -- mouth, anus and spiracles -- and regurgitate intestinal bacteria into the hosts. These bacteria emit toxins that kill the insects. The nematode larvae then mature into dioecious adults. These nematodes, along with *P. hermaphrodita*, can be effective in pest control. Other nematodes, however, are not quite so benign.

Foliar nematodes live within leaves, which they decimate. *Aphelenchoides fragaria* travels in films of water and enters into the leaf tissue through its stomata. The female can lay 25 eggs at a time, which can hatch and reach maturity within as few as ten days, can continue to reproduce throughout the season and can overwinter in a dormant state in dry leaf litter. The over 250 potential hosts include flowers, ferns, herbs and vegetables. There is no cure for this affliction. Control is by removing and destroying infested plants; prevention is through careful irrigation, especially by avoiding splashing.

Root-knot nematodes, *Meloidogyne spp.*, are one of the most damaging genera of plant parasitic nematodes. Obligate parasites, over ninety species infect all kinds of plants, which then suffer stunted growth, reduced yield and low stress tolerance. Upon hatching, the second stage larva lives for a short time on lipids stored in its gut and then enters the root of a host

plant. At that point, it emits a chemical that signals the host plant to generate giant feeding cells to maintain the nematode as it draws off nutrients.

Just as nematodes can act as a biological control of slugs and insect pests, however, there exist biological controls of nematodes. One of the most surprising classes of nematophages is not comprised of more complex animals, but of carnivorous plants -- specifically, fungi.

Nematophagous fungi tend to live in nitrogen-poor environments and so derive that element from the nematodes upon which they prey. *Coprinus comatus*, the shaggy mane mushroom, bears spiny balls on its vegetative filaments. These cause severe injury to the cuticles of the free-living nematodes, *Panagrellus redivivus*, which the mushroom then digests. The garden giant mushroom, *Stropharia rugosoannulata*, similarly produces spiny cells that immobilize and digest the same nematode.

The most common nematophore in nature, *Arthrobotrys oligospora*, responds to the pheromones given off by nematodes to construct a net and then to send out its own pheromones to attract the nematode. *A. dactyloides* uses a loop of hyphae. When a nematode tries to pass through, the loop contracts to trap it.

Purpureocillium lilacinum is a filamentous fungus that attacks the nematode by flattening itself against an egg. It then produces specialized piercing cells at the end of the filament, which penetrates the egg, injects enzymes to kill the larva and then grows out of the shell to produce conidiophores. These in turn produce non-motile, asexual spores and the fungus grows toward the adjacent eggs.

Pleurotus spp., including *P. ostreatus*, the oyster mushroom, are all nematophageous. Small toxocysts on the fungal hyphae contain a volatile ketone that causes a nematode that touches the fungus to disintegrate.

If the world of nematodes is an entire universe hiding in plain sight, their interrelation with fungi is a microcosm of the ecosystem of which we humans are an inescapable part. Understanding that is one more step along the long march toward a sustainable future.

Season's Eatings:

Winter Fruit Mini-Cakes
(4 dozen)

Cakes:

1/2 cup white whole wheat flour
1/2 cup + 2 tbsp. all-purpose flour
1/2 tsp. baking powder
1/4 tsp. salt, scant
1 tsp. ginger
1/2 tsp. cinnamon
1/4 tsp. cloves
1/4 tsp. allspice
3/4 cup apple sauce
3/4 cup roasted delicata squash
1 cup sugar
1/3 cup brown sugar
1 tbsp. molasses
2 tsp. grated orange rind
1/2 tsp. vanilla
1 egg
1/4 cup chopped, candied citrus peel

Frosting:

8 oz. Neufchatel cheese
1/2 cup marshmallow fluff
1 tsp. vanilla
1/2 - 1 cup confectioners' sugar, sifted
1/2 cup toasted pecans

Cake: Sift flours, baking powder, salt, ginger, cinnamon, cloves and allspice together into large bowl. In medium, beat apple sauce, squash, sugar, brown sugar, molasses, orange rind, vanilla and egg together, stir in flour mixture to mix well, but do not overbeat, stir in candied citrus peel, spoon into mini-muffin tins sprayed with cooking spray and bake at 375° about 15 min. until knife inserted in center comes out clean, turn out onto large platter and cool.

Frosting: Cream cheese with marshmallow fluff and vanilla, beat in confectioners' sugar to desired frosting consistency, and spread on cooled mini-cakes. Chop pecans and sprinkle onto cakes, pressing in slightly.

