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of Wake Forest University

Gardener's

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JOURNAL

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2009: The Year for Learning to Grow Your Own Food

Judging from the number of articles that have recently appeared in newspapers and magazines, and from the increasing number of questions we have received over the past few months, it's clear that there has been a resurgence of interest in growing food. While many of our parents and grandparents grew their own food as a matter of course and passed their knowledge from generation to generation, somehow much of the knowledge and many of the skills that helped them provide good, healthy food have been lost in recent years. Many people now find themselves wanting to grow food but unsure of how to go about it.

When Reynolda was established in the early twentieth century, one of Mrs. Reynolds' goals was to help people in the area learn to grow food of all kinds, from the most basic farm crops to the finest fruits and vegetables. She accomplished this by inviting the public in for demonstrations and classes and opening the gardens and farms on a regular basis.

The tradition continues, with information now shared through publications, programs, and an open invitation to the public to visit the gardens at any time during daylight hours, year-round. Three articles in this issue focus on growing food, and several of the winter and spring programs at Reynolda



DAYLILY FLOWERS HAVE A SLIGHTLY SWEET TASTE.

Beautiful Foods— Edible Flowers

by **Michelle Hawks**, *RGWFU horticulturist*

The culinary use of flowers dates back thousands of years, with the first recorded mention in 140 B.C. Many cultures have incorporated flowers into their traditional foods. Asian dishes include daylily buds. Ancient Romans used mallow, rose, and violet flowers. Italian and Spanish cultures gave us stuffed squash blossoms. In India, rose petals are used in many recipes. Chartreuse, a classic green liqueur developed in France in the seventeenth century, includes carnation petals as one of its "secret" ingredients. And dandelion was one of the bitter herbs referred to in the Old Testament of the Bible.

Not so long ago, flowers were actually an essential ingredient in southern cooking.

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Beautiful Foods—Edible Flowers

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When I was growing up, one of the most memorable treats of early summer was my grandmother's fried squash blossoms with her coleslaw and sweet, iced tea. Dipped in egg and flour and fried in olive oil with onion and garlic, the blossoms have a sweet, nutty flavor that is completely unique.

Flowers as a garnish make any dish look special on your table. Be sure the flavor of the flower compliments the dish. Here are a few ideas to beautify your recipes and perk up your taste buds. You'll find more in the plant list below.

- ♥ Place a colorful gladiolus or hibiscus flower in a clear glass bowl and fill with your favorite dip.
- ♥ Sprinkle flowers in your green salads for a splash of color and taste.
- ♥ Freeze whole, small flowers in ice cube trays for a pretty addition to punches and other beverages.
- ♥ Add to flavored oils, vinaigrettes, and marinades shortly before using.
- ♥ Decorate cakes and fine candies with candied or crystallized flowers.



To prepare the flowers, pick them early in the morning, when their water content is at its highest. Bathe them gently in a saltwater bath and immediately drop them into ice water for one minute. Dry them on a paper towel. For best results, use your flower petals immediately, or store the whole flower in a glass of water in the refrigerator overnight.

Precautions

There are a few precautions one should consider before harvesting or using any flowers. First and foremost, be certain you know your flowers, as not all flowers are edible. Some can cause serious stomach problems, and some are quite poisonous. Examples of what not to eat: foxglove, bleeding heart, poison ivy, elderberry, mistletoe, and jas-

mine. If you are unsure if it is edible, then do not eat it. Never use a non-edible flower as a garnish. You must assume that if a guest finds a flower on a plate of food, s/he will think it's edible. Always remember to use flowers sparingly in your recipes. Digestive complications can occur with consumption of large quantities. Caution is always the best policy.

Do not eat flowers

- ♥ obtained from a general florist. With the widespread use of pesticides and fungicides by commercial growers, it's important to select flowers from a supplier who grows them specifically for consumption;
- ♥ that could have been exposed to animal excrement;
- ♥ that have had pesticides or fertilizers sprayed on them, unless these chemicals have been specified for food consumption;
- ♥ harvested from the side of the road, where they have been exposed to trash, fumes, and chemicals;
- ♥ even those that are generally considered edible, if you have any allergies, without consulting your physician;
- ♥ that show signs of disease or insect damage.

A Little of Reynolda for Your Home

Your best bet is to grow the flowers yourself, so you know they're safe to eat. Among the hundreds of varieties of flowers in the gardens at Reynolda, we grow a few that are considered edible. Many will be included in our Spring Plant Sale. These all grow well in our area.

Basil

Depending on the type, the flowers are either bright white, pale pink, or delicate lavender. The flavor of the flower is milder but similar to the leaves of the same plant. Basil also has different varieties that have different flavors, like lemon and mint. Sprinkle them over salad or pasta for a concentrated flavor and a splash of color that gives any dish a fresh, festive look.

Borage

Lovely cornflower blue, star-shaped flowers have a cool cucumber taste. They're wonderful in punch, lemonade, sorbet, dip, chilled soup, and gin and tonic.

Calendula

This is a wonderful flower to grow in the spring and fall, with pretty rays (petals) in golden orange hues. Flavors range from spicy to bitter, tangy to peppery. Sprinkle petals on soups, pasta or rice dishes, herb butters, and salads.

Chamomile

The flowers are small and daisylike, with a sweet apple flavor. I love them in my tea.

Chrysanthemums

Colors vary widely, from red, white, and yellow, to orange. Taste ranges from tangy to slightly bitter, faint peppery to mild cauliflower. Rays should be blanched first and then scattered on a salad. The leaves can also be used to flavor vinegar.

Cilantro

Like the leaves and seeds, the flowers have a strong herbal flavor. Use the leaves and flowers raw, as the flavor fades quickly when cooked. Sprinkle to taste on salads, bean dishes, and vegetable dishes.

Daylilies

Flowers are slightly sweet, with a mild vegetable flavor, like sweet lettuce or melon. Some people think different colored blossoms have different flavors.

Lavender

Sweet, floral flavor, with lemon and citrus notes. Flowers look beautiful and taste good in a glass of champagne, with chocolate cake, or as a garnish for sorbet or ice cream.

Lemon Verbena

Tiny, cream-colored, citrus-scented blossoms, leaves, and flowers are steeped as an herb tea and used to flavor custards.

Nasturtiums

Plants come in varieties ranging from trailing to upright, flowering in a multitude of brilliant sunset colors. The flowers have a peppery flavor.

Pansies

The slightly sweet, grassy flavor and myriad colors make pansies useful as garnishes, in fruit and green salads, desserts, or soups.



Scented Geraniums

The flower flavor generally corresponds to the variety. For example, a lemon-scented geranium would have lemon-scented flowers. Sprinkle flowers over desserts and refreshing drinks, or freeze them in ice cubes.

Use your imagination. The more you open yourself to the possibilities of edible flowers, the more uses you will discover. Proceed with caution and use common sense. Please, don't waste another day or another delicious, edible flower. You might be surprised by the compliments you receive from even the dedicated meat-and-potatoes crowd, like me. 🍷

NEVER PUT A NON-EDIBLE FLOWER, LIKE FOXGLOVE, ON A PLATE, EVEN AS A GARNISH.



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Back to Basics: Growing Vegetable Plants from Seeds

by **John Kiger**, *RGWFWU assistant manager*

Today's economy has hit everyone hard. When gasoline reached four dollars per gallon, the cost of food also rose. Unfortunately, unlike gasoline, food prices still remain high. We can combat those higher food prices by growing our own vegetables. Recently, I received an e-mail from Burpee stating, "Ten dollars invested in seed will produce six hundred and fifty dollars worth of vegetables." They illustrated the claim with a grouping of six different vegetables—lettuce, peppers, peas, tomatoes, green beans, and carrots. Growing any or all of these is easier than you may think, but does require a little work.

Deciding Where to Grow Vegetables

Choosing the site is most important, since vegetable gardens require at least six hours of sunlight. The space does not have to be huge. Container growing has always been popular and works well for small areas, such as patios. I have even used flower beds around my house to grow green beans and other compact vegetables. Larger sites require breaking or tilling the ground. This can be strenuous but well worth your trouble if you want to produce large quantities. Another method is to create raised beds bordered with dry-stack stones and filled with amended soil. In the past, people have used treated lumber, but this is a practice that should be abandoned, due to the chemicals used to treat lumber. Don't make raised



A BOUNTIFUL GARDEN BEGINS WITH A FEW PACKETS OF SEEDS.

beds too wide—three feet is plenty. When it comes time to harvest, it is easier to reach plantings from either side.

Starting Seeds Inside

Some vegetable plants, like beans, do best when planted directly in the ground, but many vegetable plants can be started inside, giving them a headstart on their growing season. Starting your own vegetable seeds inside need not be complicated; actually, it is quite easy. First, make sure you can provide good growing conditions for seeds and seedlings. Find a sunny location inside your home. A window on the southern side will provide adequate light and warmth for the new seedlings. If a window is not an option, grow lights or a simple, cool white fluorescent fixture may be purchased at most hardware stores. Directions for using indoor light set-ups are readily available on the Internet.

Generally, I use seed starting trays for plants at Reynolda Gardens. When starting tomatoes, for example, I use four-inch by six-inch trays, since I wish to start an abundance at once; we grow several varieties for display at Reynolda Gardens and sell hundreds of tomato plants every spring. The seedlings require transplanting into individual containers after a few weeks. This process works well for us, but it may be too difficult for home growers. My recommendation for them is to start seeds in pots that may be planted directly in the garden, such as peat pots, or other, similar, biodegradable pots. Before adding soil, soak the pot in water, so it is thoroughly wet. One drawback to these pots is that they dry out quickly, so they must be checked often.

Plastic containers will work just as well for most people, and there is a large variety from which to choose. One good thing about plastic is that it can be used over and over, but, if you choose plastic, make sure pots are cleaned yearly and have proper drainage. Recently I visited a local hardware store and was amazed at the many products they had for starting seeds. One from Ferry-Morse would be perfect for home use. The Quick and Easy Triple Greenhouse is a tray



that comes equipped with 216 pop-out cells and is covered with a clear plastic top. You can grow a lot of vegetables with that many cells!

Don't skimp on soil. A good seed-starting soil is sterile, has nutrients, provides proper drainage, and is free of weed seed. There are many producers of soils. Garden centers and gardening catalogs are excellent resources to guide you in the right direction.

How to Plant

With fresh seed in hand, fill your pot. Leave the soil about one-quarter of an inch away from the top and water the soil thoroughly. After a few minutes, add soil if needed. Remember: Don't fill the pot all the way. If you fill it completely, water runs off; we are trying to create a holding area so water will seep into the pot gradually.

Check the directions on the back of the seed package. This is where you will learn when to start the seeds, how deep to plant them, and when to move the plants outside. A good rule I have heard through the years is to plant a seed no deeper than it is wide. There are exceptions to this rule, so it's important to read the directions. Some seeds, like lettuce, are sown on top of the soil and gently patted down, not covered, since they require sunlight to germinate.

With a pencil or your finger, create a hole in the soil, drop the seed in, and cover it. Place the pot in bright sunlight or artificial light. Once you have everything sown, make sure the soil stays moist, not wet. Within ten to twelve days, you should see signs of growth. Tiny cotyledons appear first. Often mistaken for the first leaves, they actually provide food storage for the plant. Soon afterward, true leaves appear. This is when

you want to fertilize for the first time, using a liquid fertilizer. Again, read the label for directions on amounts and intervals.

Watch your plants carefully. As spring approaches, you will want to acclimate them to the weather by moving them outside during the day and bringing them in at night to avoid frost. For warm season plants, like tomatoes and peppers, it's time to plant outside as soon as the threat of frost has diminished. Cool season plants, like cabbage and broccoli, go outside sooner.

A Project for the Entire Family

In the past, I have started my own seed at home in the very way I described above. I used small Dixie cups and had the help of my four-year-old granddaughter. This brings another topic to the table: Children love gardening. Not only is starting your vegetable garden from seed a great way to offset food costs, but everyone in the family can participate. It brings the whole family together for a common goal. Last year my granddaughter helped me sow radish seeds in my garden at home. I instructed her to sprinkle them lightly in the tiny furrows I had created. She only went about six inches before the packet was empty. She was so proud that I didn't have the heart to correct her at that time. I remember thinking, I'll thin them significantly as they come up. Once we had everything planted, I assumed, through the summer, she would lose interest, but every time she visited, she asked to walk down to the garden to see how the vegetables were progressing and, of course, to water everything, including me. 🌱

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Trends in Vegetable Gardening

by Preston Stockton, *RGWFWU manager*

What happens when you take a terrible economy, mix in the high gas prices of last summer, and add concerns over food safety? You have the makings of several new trends in American food production.

Today most of our vegetables are grown on megafarms. The average distance American food travels is 1,500 miles. With the cost of diesel fuel, no wonder we are paying so much for a cucumber! These farms are a problem when there are health concerns, such as the E. coli and spinach scare in 2006, when grocery stores and restaurants were scrambling to find spinach that was not affected by the recall. I was astounded to learn that three-quarters of all domestic spinach is grown in California. Many Americans are concerned about pesticide use, and we all know the higher cost of organic produce in the grocery stores. All of these issues have been factors in changing the way people think about buying and growing food.

Seed and Plant Sales for Home Gardens Increasing

For many, the most important considerations are taste and availability. Does a grocery store tomato ever match the taste of a Brandywine grown in our own back yard? No way. Vegetables are bred for shipping, not flavor. Finding certain varieties in the traditional commercial market can be challenging. Seed catalogs, such as Johnny's Select Seed, have an amazing listing of beans, peppers, tomatoes, and eggplants. No wonder Americans are sticking lettuce and peppers in the peony bed and digging up the back yard for those special tomatoes and squash.

The year 2008 saw booming vegetable seed and plant sales, as many Americans dug up their yards and got down and dirty. Not since the inflation of the 1970s have we seen such a boost in homegrown veggies.

Over the past forty years, vegetable seed sales had been slowly dropping, but it is estimated that in 2008 vegetable seed sales were up forty-five percent. In spring of 2008, Burpee Seed Company doubled its seed sales. Seed Savers Exchange sold 34,000 packets of seed in the first quarter of 2008, more than it sold in all of 2007. The company mailed out 10,000 pepper and tomato transplants in May 2008, double the usual amount for the year. The Garden Writers Association's past surveys have shown that the average homeowner's garden budget is spent on lawns, annuals, perennials, vegetables, trees, and shrubs, in that order. In 2008 vegetables had moved up to number two.

Front Yard Gardening

In the past, vegetable gardens were almost always relegated to the back yard. An interesting new trend has been moving the vegetable garden from the back to the front yard. Sometimes this is a better option because the back is too small or too shady. I have no problem with the concept, as long as you are conscientious and don't make your neighbors look at a weedy mess. Many years ago I rented a house in East Bend and was thrilled to see that a vegetable garden had been established in the back yard. That spring my roommate and I borrowed a tiller from the neighbor and prepared it for a summer garden. We planted and watered and couldn't wait for the harvest. That garden produced a great crop of vegetables and the healthiest and largest crabgrass I have ever



THIS CUCUMBER DIDN'T HAVE TO TRAVEL FAR—JOHN KIGER IS TASTE-TESTING.

seen! That was one garden I would not want to see in my neighbor's front yard. Many communities actually have codes or ordinances restricting front yard planting. In Sacramento, California, a complaint filed over a woman's front yard vegetable garden led to a fight by local gardeners against the city's landscaping code. There, gardens could not make up more than thirty percent of the front yard. To protest, she dressed her twin sons up as a tomato and a carrot and took them to the public hearing. Yes, the law was changed!

Supporting Local Farms and Growers

Another trend that is growing worldwide is supporting and encouraging local farms and growers. Many American families do not have the space or time for growing vegetables, but they still want to have fresh, safe, and cheap produce. Buying locally impacts our community in many ways.

The American family farmer is a vanishing breed. In 1900 forty percent of Americans farmed; by 1990 the number was reduced to only two percent. It has become very difficult for small farmers to compete with supersized farms and make a living. Family farmers get less than ten cents for every retail dollar. Buying locally cuts out the middleman and puts more money in the farmer's pocket.

Keeping small family farms productive and financially viable also preserves open space in our rural areas. I am astonished at the amount of agricultural landscape we have lost in Forsyth and surrounding counties over the last twenty years. Buying locally promotes energy conservation as well; it is a long ride for that spinach to get here from California.

One of the easiest ways to buy locally is to visit the local farmers' markets or vegetable stands. A family on my street has a stand every weekend in the summer, where they sell "kid grown" vegetables, straight from their back yard. A couple of miles away, a fellow sells Silver Queen corn and tomatoes out of his basement. What a great way to meet interesting folks and eat fresh, delicious vegetables!



SOME FOOD PLANTS, LIKE CARDOON (FOREGROUND), ARE DECORATIVE ENOUGH FOR THE FRONT YARD.

Preserving Local Food Traditions

It is also important in this country to maintain regional food traditions. What would the South be like if we didn't eat greens and Hoppin' John at New Year's? What would Old Salem be like without Moravian cookies? What about visiting Charleston without eating Frogmore stew? Regional foods are part of the fabric of our country. I recently read a food article in which Bobby Flay, the Food Channel celebrity and owner of the Mesa Grill in New York, said, "It drives me crazy when people think American food is only hamburgers, meat loaf, macaroni and cheese." More and more people are agreeing, and making efforts, independently and in groups, to preserve regional food heritage.

Banding Together

Slow Food is one of the organizations that promotes support of local growers and farmers and local food traditions. The Slow Food movement was founded in 1986 in Italy by Carlo Petrini to resist the opening of a McDonalds near the Spanish Steps in Rome. It has since expanded globally to over 85,000 members in 122 countries. Their focus is on the preservation, marketing, cooking, and eating of seasonal, local foods. Their aim is to honor food traditions, care for the land, and support the survival of small farmers. There are 12,000 members in the U.S.

The local chapter, Slow Food Piedmont Triad, covers twelve counties. There are sev-

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Mr. Lawrence D. Smith
Mrs. Pat Stoerber

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Mrs. Virginia K. Stoelzel
Mr. and Mrs. Donald Teague
Larry and Wilma Tedder
Mrs. Georgie Thompson
Dr. and Mrs. William G. Thorpe
Marian F. Townsend
Mrs. Mary Kay Tucker
Claire and Randy Tuttle
Mr. and Mrs. Douglas D. Walker
Mr. and Mrs. James M. and Carolyn V. Walker
Jo Walker
Mr. Charles D. Ward
John and Laura Warren
Nancy S. Watkins
Ms. Suzanna Watkins and Mr. Jeffrey Wilson
Mr. and Mrs. Samuel A. Watkins III
Ms. Opal C. Weatherly
Dannie Weber
Victoria B. Wells
Ms. Margot Wharton
Ms. Becky Wheeler
Ms. Jule White
Mrs. Elizabeth Wilson
Mr. Thomas M. Wilson
Mr. and Mrs. Jim Yoran

Other

Anonymous
Ms. Billye Keith Jones
Ms. Alexis Lavine
Mr. and Mrs. Bill and Jean Merwin
Sarah Penry
Mr. and Mrs. James C. Ratcliffe
Ms. Nancy Schafer

Education Program

By Audubon Garden Club

Young Naturalists

Scholarships

By Book Club Anon
The Club of Twenty Gardens
JoAnn and Bryan Yates

Honoraria

David Bare
By Windsor Garden Club

Jim Nottke
By the First Graders, South Fork Elementary School

Garden Hazards, Part 2: The Sun

by Diane Wise, RGWFU head horticulturist

In the last *Gardener's Journal*, we agreed to spend some time talking about the hazards of gardening. We've discussed poison ivy and the problems it can cause to your health and comfort. In this issue, I'm going to move on to something that you probably don't ever think about when you head to your garden. It might not even make the top three on your list of things to avoid, as you go about your day-to-day activities, but it should. We're going to discuss the sun and exactly how harmful its rays can be to your skin and eyes.

First, let me say that the sun in short and controlled doses can be a good thing. It not only makes us feel and look healthy but *is* healthy, because sunlight helps our bodies make vitamin D, which is essential for strong bones and teeth. Without vitamin D, we would be unable to absorb calcium, which is why calcium supplements also contain the vitamin. There are two major types of vitamin D, neither one better than the other. The first type is found in foods like fortified milk; fatty fishes, such as mackerel, salmon, and sardines; egg yolks; beef liver; and fortified orange juice. The second type is produced when our skin is exposed to a certain wavelength of UVB light. (UV means ultraviolet.) This particular wavelength is present in sunlight whenever the UV Index is greater than three. (I'll explain the UV Index later in this article.) In our temperate climate, that occurs almost daily in spring, summer, and fall months and plenty often during the winter. In fact, adequate amounts of vitamin D can be generated with exposure of our hands and arms to sunlight for just ten to fifteen minutes, twice a week.

The Mechanics of Tanning, or Why the Sun is Harmful to Your Skin

How can the sun be a garden hazard if it helps our bodies produce vitamin D? Wouldn't the world be full of children with rickets and adults with osteomalacia, a disease that causes the bones to weaken, if we didn't go out in the sun? Well, not exactly, not in our climate at least. In areas where sunlight is limited, like the Arctic Circle, that might be a concern. But even then, one's diet or vitamin supplements can supply all of the vitamin D needed without exposing the skin and eyes to the hazards of the sun. Simply put, the sun does much more harm to our bodies than it does good. Unprotected exposure to the sun's ultraviolet rays can cause skin damage, resulting in premature aging and skin cancer; suppression of the immune system; and eye damage, such as cataracts.

According to the American Academy of Dermatology (AAD), ninety percent of skin cancers are a direct result of sun exposure. A tan, which, contrary to popular belief, does not serve as protection from the sun, is produced when ultraviolet rays are absorbed by a chemical in our skin called melanin. The more exposure to the sun, the more melanin is produced, so a tan is simply an indication that the skin has been exposed to sunlight. Melanin is found in different concentrations and colors in different people; the darker your skin is, the more melanin you have. If you are African-American, you have more melanin in your skin than, say, someone who is of Scotch-Irish descent, like me. Does that mean that the sun can't harm you? Absolutely not. You are simply a little safer than those of us who have less melanin. The AAD recommends that everyone should have an annual skin examination to check for precancerous lesions or actual skin cancers; I visit my dermatologist twice a year, due to my family history, which includes a family member's bout with melanoma. I know how much you love to garden. I do, too, and none of us want to give it up. But there are ways to protect oneself from the harmful rays of the sun.

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Some Basic Considerations

First, think for a minute. Do you have a fair complexion that freckles or burns easily, have blond or red hair, blue or green eyes, many moles, and/or a family history of skin cancer, particularly melanoma? If you meet any or all of these criteria, as I do, you need to be particularly careful about exposure to the sun's rays. If you are not familiar with melanoma, here are some basic facts.

Melanoma is the most serious type of skin cancer and can be life-threatening. Unlike other skin cancers, it can metastasize (spread) to other parts of the body, and, when it does, it is usually deadly. Even dark-skinned individuals can develop melanoma, often under the fingernails or toenails; on the palm of the hand or sole of the foot; or in the eye. Melanoma is difficult to treat, so your best protection is prevention.

Next, do you take certain medications, like ibuprofen or Feldene for arthritis; Sinequan for depression; Bactrim or Vibramycin for an infection; or Phenergan for allergies or rashes? All of these medications can make you sensitive to the sun and cause serious sunburns. Be sure to check with your pharmacist about all of your medicines and how they might affect your sun exposure.

Lastly, some chemicals contained in herbicides and pesticides, if splashed on your skin and then exposed to sunlight, can result in a burn or rash. In this case, it is not so much the presence of the chemical on your skin as it is the subsequent exposure to the sun that causes the problem. So, be sure to check the

Material Safety Data Sheet on your garden chemicals before you start spraying. You really should have a MSDS on anything you use in your garden. They are available online by going to the manufacturer's website, then to the product, and looking for the MSDS. You can download them, and then you'll have the information you need to use the product safely.

The UV Index, or How Will I Know When the Sun Is Most Intense?

When talking about limiting sun exposure, the first thing that always comes up is limiting activities during the hours of 10:00 a.m. to 3:00 p.m. Well, that really isn't an option for us, since most of us don't have lights in our gardens. But, at least, we can try to avoid certain UV Indexes. The UV Index was developed by the National Weather Service and the U.S. Environmental Protection Agency to provide a daily forecast of the expected risk of sun exposure, taking into account things like clouds, fog, and pollution. With an Index 1 indicating the least exposure and an Index 11+ indicating the most exposure, you can look at the Index and know how dangerous the sun is on a particular day. In addition, an Index Alert will be issued any time the Index reaches a 6 or higher. Just go to www.epa.gov/sunwise/uvindex.html and enter your zip code, city, and state, and you'll have a forecast for your area. If you've got ten hours of work to do in your garden, at least you will be able to avoid the days with dangerously intense sunlight.

Sunscreen, or Why Can't I Just Wear Long Sleeves and Long Pants?

There are a few things you should always do before you hit the garden. Most importantly—put on sunscreen. All sunscreens have a sun protection factor (SPF), ranging from ten to ninety, or even higher. The higher the SPF, the more the sunscreen will protect you from ultraviolet rays. Your sunscreen should have an SPF of at least thirty and should be applied thirty minutes before you go out-



VEGETABLE GARDEN VOLUNTEERS PAT STOEBER AND CHARLIE WILLIAMS.

Memorials

William G. Clark, Jr.
By Estella and John Surratt

Dr. A. Robert Cordell
By Estella and John Surratt

Susan H. Correll
By Estella and John Surratt

Elizabeth Fitzgerald
By Estella and John Surratt

Doris Kimel
By Estella and John Surratt

Douglas E. Leckie, Jr.
By Estella and John Surratt

Gregory D. Pritchard
By Mrs. Rupert W. Bagby

Pauline G. Robinson
By Sally and Steve Harper
Estella and John Surratt

Andrea L. Rogers
By Jane Logan Rogers

Lorraine Rudolph
By Mr. and Mrs. Charlie A. Marshall, Jr.

Michael Snell
By Mr. and Mrs. David P. Snell
Mrs. Shirley B. Snell

Carol Baker Tharp
By Mrs. Rupert W. Bagby

Herbert A. Vogler, Jr.
By Estella and John Surratt

Calder W. Womble
By Estella and John Surratt

CONTINUED ON PAGE 10

Volunteers 2007-08

Assisted with educational programs, gardening, and sales.

Sandra Belmont
 Kay Bergey
 Kimberly Brand
 Linda Bryant
 Barbara Bryant
 Dennis Burnette
 Bill Conner
 Aaron Corpening
 Phil Dickenson
 Jean Dixon
 Marc Farrow
 Tom Fredrickson
 Julia Fredrickson
 Janet Frekko
 Bart Ganzert
 Aidan Ganzert
 John Haire
 Janet Hano
 Michael Hastings
 Gloria Hoover
 Mary Ruth Howard
 Pat Jacques
 Billye Keith Jones
 Susan Jones
 Jeff Jones
 Janet Joyner
 Meaghan Kiernan
 Pat Lackey
 Skip LaLave
 Becky Lebsack
 Anne Long
 Tony Ma'luf
 Alice Martin
 Peg Martin
 Craig Mauney
 Kay McKight
 Ellen Mincer
 Judy Mitchell
 Jim Mitchell
 Nancy Moltman
 Mary Newman
 Dina Nieuwenhuis
 Jim Nottke
 Terry Ann Overton
 Susan Pfeffercorn
 Piedmont Outdoor Painting Society
 Vianne Piper
 Dylan Robertson
 Orlando Roche
 Katherine Schlosser
 Judy Scurry
 Marilyn Shuping
 Betty Sink
 Robert Smith
 Janet Snow
 Janice Snyder

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Garden Hazards, Part 2: The Sun

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side, so that it will have time to be absorbed. Use at least one ounce, which is about the size of a shot glass. If your eight-ounce bottle of sunscreen lasts longer than one month, you either aren't applying enough or your garden is full of weeds, because you're not out there enough. Re-apply every two hours. Be sure to use a broad-spectrum sunscreen, which blocks both UVA (think aging) and UVB (think burning, thus skin cancer) rays. Look for the words Parsol 1789, Mexoryl, or avobenzone on the label. Not to endorse any particular product, but here at the Gardens, Preston and I swear by Neutrogena Ultra Sheer Dry Touch Sunblock with Helioplex. Dr. Joseph Jorizzo, my dermatologist at Wake Forest University Medical Center, recommended it, and it really is excellent. It's oil free, not sticky or hot as so many sunscreens are, and the Helioplex is supposed to keep the active ingredients stable, so that you don't have to re-apply for four hours. All I know is that it is the only one I can stand to put on, which means I use it, and that's half the battle.

Oh, and don't think your clothes will protect you as well as sunscreen. They won't. The average white tee shirt has an SPF of three. However, Rit, a company known for its fabric dye, markets a product called Sun Guard. This is a powder that you add to your normal wash cycle, which renders the garments washed in it with an SPF of thirty. The protection will last through twenty washes, and then Sun Guard can be used again. It does not discolor the garment nor change its feel. And you can also use bleach, once the garment has been initially treated with the Sun Guard. But since you won't be covering your entire body with clothing, you still need to put sunscreen on any exposed skin.

Keeping Your Eyes Healthy

Follow these guidelines, and your skin will be fine. But what about your eyes? The sun's

rays can wreak havoc on your eyes and vision, causing photokeratitis or even cataracts. Photokeratitis is a reversible sunburn of the cornea. It's not only painful but can cause a temporary loss of vision. Cataracts are a clouding of the eye's lens and must be surgically removed. Farmers, construction workers, and gardeners are at the greatest risk for these easily preventable conditions. There is a simple solution—wear sunglasses, ones that clearly state that they offer ninety-nine to one hundred percent UV protection. UV protection has nothing to do with the color of your sunglass lenses but with a treatment that is applied to them. If they will protect your eyes, they will say so; look for that label. And while sunglasses are important, they can't completely block all ultraviolet rays from entering your eyes. What about the sides, those areas where the sun always manages to sneak in and make you squint? Wear a hat, one that has at least a three-inch, stiff brim. Not only will it protect your eyes but also your neck, ears, and the part in your hair. The hat must be solid; a ball cap will not do it. There have been instances where melanoma developed in the space under the grommets of ball caps. No open-weave straw hats, either. Again, no endorsement intended, but Camilla, Preston, and I love our hats from Sun Precautions. They are made of a lightweight nylon, have a four-inch, wired brim, a strap to hold them in place in high wind, and come in several colors. The best part is that they cast a perfect shadow over your neck, and even your shoulders, and are really comfortable to wear. When my hat gets dirty, I take it into the shower with me and scrub it with a brush and shampoo. By morning, it's dry and ready for use. It's called the Solumbra Sun Hat and retails for \$49.95. You can order it at www.sunprecautions.com. Sun Precautions also offers clothing with a high SPF. Camilla and I have a couple of their garments. They're not cheap, but they're good quality and do what they are supposed to.

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Three Seasons in the Cottage Garden

by David Bare, RGWFU greenhouse manager

In 2008 we decided to use our interpretive beds as modern day cottage gardens. We change these beds annually to support an educational theme. They have been night flowering gardens, cut flower gardens, and a collection of old fashioned flowers derived from a seed list that Mrs. Reynolds once grew. Last season we intended to interpret the two plots as a mixture of vegetables, flowers, and herbs. We wanted the garden to be intensively planted, to change with the turn of the seasons, and, most of all, to be attractive at all times. The idea was to present a garden that would serve as an acceptable replacement for the typical suburban front lawn.

A confluence of ideas brought this about. We began to become aware of the environmental costs of maintaining a lawn. The local foods movement really began to take off. The economy was tanking, and the cost of food was continuing to rise. What better way to approach all these issues than to grow our own?

Highlights of the Garden Through the Year

So we set about designing a formal garden that would meet our criteria. The two plots were mirror images, containing nine symmetrically arranged beds backed by a central arbor. Two L-shaped, long beds bracketed the front of each garden and, in their center, we placed potted hibiscus plants trained to the standard lollipop form. The arbor and hibiscus topiaries lent structure and formality to the garden, as well as a sense of permanence to a garden whose one constant seemed to be change.

We decided to support the garden with organic fertilizers and amendments that we could buy bagged locally. We used Plantone, a slow-release organic fertilizer; soil conditioner; composted cow manure; and mushroom compost.

We tried to take best advantage of each season in the garden. To that end, we trans-



THE EAST COTTAGE GARDEN

planted as much as we could to the garden, getting a head start on each season by starting plants in pots indoors in the winter or outside on a patio area in the greenhouse complex in the summer. In the early spring we planted biennials, such as foxgloves, snapdragons, poppies, and an orange daisy flower known as osteospermum, that we had started in the fall of 2007. There were cool season herbs, dill and cilantro, mixed with orange-flowering calendulas and spinach.

As beautiful as any of our flowers were the lettuces in chartreuse and speckled bronze and sunset reds. A peppery flavored mustard called Garnet Giant was a deep maroon. Among these colorful and patterned leaves, we interplanted carrots and radishes, taking advantage of these plants' finer texture to serve as a contrast. The grassy leaves of chives served a similar purpose among spinach and foxgloves. Sugar snap peas occupied the arbors in spring. One of my favorite plants of the spring garden was finocchio, or bulb, fennel. The brilliant emerald foliage was beautiful against the snow white bulb, and each leaf was as fine as thread. I decided this plant was worthy of the garden, whether you intend to eat it or not.

Two other plants in this family, dill and cilantro, did double duty in the cottage garden. Both are used as leaf herbs while young and, after flowering, the seed is harvested and used. They also have a hidden benefit. When flowering, they are very attractive to beneficial insects. Wasps, small bees, and

Phyllis Stewart
Pat Stoerber
Katherine Sutton
Sid Teague II
Jim Toole
Triad Orchid Society
Shelby Turley
Candi Turner
Karl Urshel
Amy Verner
Jo Walker
Allison Watts
Becky Wheeler
Winston-Salem Rose Society
Bill Wise
JoAnn Yates
Ying Zhang



INTENSIVE PLANTINGS WERE BOTH PRODUCTIVE AND ORNAMENTAL.



RABBITS WERE A MAJOR CHALLENGE.

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The Water System at Reynolda, Part I: Pure Water

by Camilla Wilcox, RGWFU curator of education

The creation of the water system at Reynolda evolved over period of years, from about 1909 until about 1920. Various elements were added as needs arose, thereby creating a complicated network that included wells, streams, ponds, pipes, pumps, pump houses, cisterns, tunnels, dams, and a lake. A maze of seemingly conflicting documents, including maps and oral histories, has confounded many researchers, and the mysterious stone and block structures that were part of the system and remain near the trails have puzzled visitors for years. In tracing the sequence of construction events throughout the estate, I've tried to show why the system evolved as it did and to offer an explanation for each piece in this fascinating puzzle.

The most common conveniences of modern American life revolve around the ease with which we can obtain and use clean water: We can take a drink of water from a faucet; flush a toilet; call the fire department; water our gardens; take a shower; and even go swimming at the local pool. For the most part, the water we drink out of the tap will not make us sick, and the availability of water in a single location is not likely to impact our activities. In our time, most of us are not concerned about where water will come from, or even if it will come, except in times of drought or threats of disaster. But in the early twentieth century, even the wealthiest industrialist/farmer was dependent upon nature's placement of water and the inherent purity of the water itself; money could not buy what nature alone could provide.

As a farmer, Mr. Reynolds knew that farming—and living—at a large country estate would take much more water than could be provided by the kind of well that was typical of small Piedmont farms, including those that had been purchased to create the new country estate. These wells were generally fairly shallow, often hand-dug, and brick- or stone-lined, providing enough water, most of the time, for a family and some livestock, but little else. Because the property would be outside the city limits, tapping into the city water system or relying on the city for services, such as firefighting, were not options.

Artesian Water is Found at Reynolda

In September of 1910, Katharine Reynolds and the children were traveling while their Fifth Street home was under renovation, and Mr. Reynolds was watching over the newly purchased farms. The following excerpts from letters to his family hint at his personal involvement in the quest for water and the excitement he felt over an extraordinary discovery. The first two passages were taken from separate letters to his wife, written on the twenty-second.

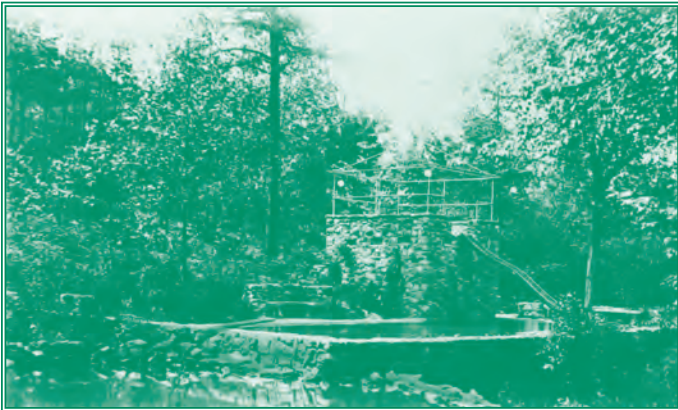
I am now looking for a new well digger to sink a new well at the Hodgins farm (today part of the Reynolda Woods neighborhood). The old well has caved in so bad that it can't be repaired. They have to get water from your old farm.

I bargained with Mr. Knox, the same man Brother William (Reynolds) had to get water at his farm and he bored yesterday for water below your Gray spring (today the Golf Links Meadow) and says he has a running stream of 20,000 gallons per day. He has just sent for me to come out and see the result of his first boring where he evidently has struck something big in the way of a water supply.

Mr. Knox had selected a test site near a consistently productive spring and tapped into an aquifer containing artesian water. Coming from deep in the earth, artesian water was highly prized for its purity. Because it comes out of the ground under pressure, sometimes literally shooting out of the ground from a spring or well, it could be piped long distances under its own, natural pressure.* Soon after the discovery was made, Mr. Reynolds wrote to his son, who was then four years old and would hear the letter read by his mother, describing plans for using the water.

Your mother now has 40,000 gallons of running water per day at Gray springs. The water shoots out of a two-inch pipe ten feet above the level of the bank of the branch and can be piped to the dam of the lake and pumped two hundred feet high without any cost of operating the pump.

Once wells had been bored into the aquifer and the water contained in pipes, the spring disappeared, leaving no possibility of surface contamination; the purity of the drinking water supply would be guaranteed. Now, the farm and village buildings, recreational facil-



THE IRRIGATION BASIN WAS USED AS A SWIMMING POOL AFTER RENOVATIONS, HERE UNDERWAY, WERE COMPLETED IN 1918.

ities, and residence could be sited with confidence that clean water would be available, in abundance, wherever it was needed. Construction began on structures and systems that would join all parts of the estate together.

But the use of this water for drinking was still in the future. First, there was a lake to be filled and new plantings to be watered. In October, consulting engineer J. N. Ambler produced “A Map Showing Golf-links, Roads, and Water Works,” which showed the exact location of the original spring, three wells nearby, and water pipes. Although this map shows a pipe alongside an existing stream, notes indicate that water was instead piped a short distance to a small reservoir that emptied into this stream. An overflow and another well were located a short distance downstream. A little farther on, water could be diverted in one of two ways: First, it could go into a small, open structure, where it could be filtered and then collected in a larger, open cistern, called the Irrigation Basin. Pumps located in a small, stone building next to the cistern pumped it through pipes wherever it was needed. Second, if sufficient water had been collected in the cistern, water already in the stream could be allowed to flow around it and on to the lakebed.

Before the discovery of the artesian well, it had apparently been expected that Silas Creek, which flowed into the lakebed on the north side, along with three other small streams, one or two springs, and a natural wetland, would provide most of the water for the lake. As recently as July of that year, Mr. Ambler had been asked to gauge the flow of Silas Creek, and, in August, to take a “brook measurement” of another stream. Now, by routing water from the artesian well

through the existing stream, there would be more than enough water to fill the lake quickly. The dam was completed in 1912, and, by the winter of 1913, the lake was almost full.

Just think: This was the clearest, purest water imaginable, coming from deep in the earth, and it was rushing through a stream and pond system just to fill the lake and water a few trees and shrubs here and there. Water of this quality would soon be needed to provide pure water for the residence and the village. It was determined that there would be more than enough well water to serve both needs, but that the delivery methods would have to be separate. A pipe was laid from the well to a 30,000 gallon storage tank, located about a hundred feet from the homesite. From there, it would be piped into the residence and on to the village. This comprehensive artesian system was at or near completion by the fall of 1914, when it was listed in the assets for Reynolds Farms, which was being incorporated under the name Reynolda:

Artesian well and water system	2608.79
New water system	2364.01

The discovery of artesian water and the installation of a system to deliver it throughout the estate was the essential first step toward creating a progressive, safe, and healthy environment for a community of family and workers; prize farm animals; sanitary dairy; and other key operations, including canning on a large scale in support of the war effort, and ice-making for cold storage.



THE FRESHWATER SWIMMING POOL, C. 1920.

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The Water System at Reynolda, Part I: Pure Water

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The abundance of pure water was a source of great pride to Mrs. Reynolds, but this system could not support the burgeoning demands for water for landscaping and gardens that she and Thomas Sears were planning and for a new central steam system to serve the many new buildings planned for the village. For this, a means of drawing and delivering lake water would need to be developed. “The Water System at Reynolda, Part 2: Water From the Stream and Lake,” which will appear in the summer edition of *The Gardener's Journal*, will trace the development and function of the system that provided water for irrigation and the steam/power plant.

*The characteristic pressure that is created in artesian wells and springs is the result of a combination of the type and variations in depth of rock found above the aquifer.

Special thanks to Barbara B. Millhouse, Sherold Hollingsworth, Todd Crumley, and Richard Murdoch for their assistance with this research.

Reynolda was designed to be a fully functional community with its own electrical, telephone, firefighting, and sewage systems. Space does not permit a full discussion of all of the utilities, but here are few points of interest relating to the pure water system.

- ❖ Wells, and even some municipal systems, of the day were easily contaminated, and unsafe drinking water was always a concern. As a college student, Mrs. Reynolds had to leave her studies at NC State Normal School (now UNC-G) due to a typhoid outbreak and complete her education elsewhere. Even though artesian water is highly prized for its purity, it was still checked regularly, according to the article “Reynolda Farm,” which appeared in the *Twin-City Sentinel* on July 7, 1917. “Since the system was installed, there is yet to be made a report that does not show that the water is as pure as can be found . . . Reynolda is healthy, there having never been a case of typhoid fever on the estate among the hundreds of persons that have been employed since the development was started.”
- ❖ Fire was a constant concern at any farm, and no one was immune from its dangers; a fire at Mr. Reynolds’ farm, Skyland, in 1909 had caused a great deal of damage. Because the newly purchased property would be outside the city limits, the municipal fire department could not be called to help in case of an emergency. Firefighting readiness on the scale that would be necessary for a large farm with many structures required a reliable and abundant water source. For this reason, artesian water was piped to all of the fire hydrants, including those in the part of the village on the west side of Reynolda Road. A firefighting system, complete with built-in firehoses, was installed in the residence, which was considered “fireproof.”
- ❖ Elevated, wooden water tanks were often used at farms of the period to conserve every drop of precious water and to pipe it effectively where it was needed, using the force of gravity. According to early conceptual drawings, a tank was to have been placed near the estate entrance, but there is no evidence that it was actually installed. On the 1910 Ambler plan, a pipe was to have run from the well to this tank. A tank was used for a brief time at the barn complex in the village, but it was removed around the time the artesian system was installed.
- ❖ When Reynolda became part of the city of Winston-Salem in 1935, most of the vestiges of the early, self-sufficient community became redundant. Firefighting readiness became the city’s responsibility. The clean water system was not connected to city water until the early 1970s. The underground clean water storage tank near the residence was removed in 2003 to make way for construction of the Mary and Charlie Babcock Wing of Reynolda House Museum of American Art.

Three Seasons in the Cottage Garden

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syrrhid flies were in constant motion above the flowers. Because they are cool season crops, we were able to then harvest the seed and replant in the fall garden.

Challenges and Solutions

As the spring garden began to mature, we prepared for the oncoming heat. We also began to experience an epidemic of rabbits. Young plants disappeared within a day of planting them. Peas were pulled from their perch on the trellis and stripped of their leaves, leaving a tangle of shredded vines, just as they came into fruit.

While we expected some loss to pests, it was rapidly becoming obvious that the number of rabbits would make the losses intolerable. We began to regularly spray repellent. Our first efforts, a repellent with active ingredients that were a combination of garlic and egg solids, were not terribly successful. It takes great discipline and religious regularity for repellents to be effective, and the very nature of this product did not inspire us to use it regularly. We switched to a botanically based repellent that proved much more effective. We applied it two times a week to begin with and sprayed any new additions when they were planted. Seeds were tricky. We had to plan carefully and hope that they would germinate on days we were working, because otherwise they would seem to never appear. We were gradually able to reduce spraying to once a week and finally to every two weeks to a month. Things calmed down considerably. The autumn appearance of a Red-tailed hawk also contributed.

Another challenge of the summer garden was that the large size of so many of these crops was inappropriate to the space we had allotted for the beds. The pattern of our formal beds was quickly lost beneath the cover of summer squash. Our two trellises supported cucumbers of two varieties and two kinds of tomatoes, including our favorite Sungold.

Our long, bracketing border beds supported Prairie Sun flowers, rudbeckias, zinnias, and elegant ponytail grass. The two flowers were also a bit large for their space, though they supplied cut flowers that are often requested from the university for special events. There were also cosmos and salvias flowering in the summer garden. Basil was another summer staple. Peppers, carrots, and radishes rounded out the summer garden. We grew the ornamental

Black Pearl pepper, as well as Habenero, Jalapeno, Poblano, and Anaheim and some unsuccessful bell peppers.

The peppers, which were planted a bit late, were still coming in when the fall harvest of spinach, carrots, mustards, and Chinese cabbages and greens were ready. Scallions were another tasty addition that we interspersed among the lettuce, tatsoi, radishes, and calendulas. They added a new plant form to the design, as well as a flavorful addition to autumn meals.

We again planted sugar snap peas on the arbors that held the tomatoes and cucumbers, and we again failed. This time the cold, not the rabbits, snatched them away too early. A highlight of the autumn garden was the blooming white ginger we bookended into the borders. This is one of the few perennials we put in the garden, and, though we had to wait all season for it to bloom, its scent was well worth it.

The Future of the Cottage Garden

We learned a few lessons along the way in planting this garden. We have to work on size and spacing. Timing has to be further refined to assure the optimum harvest period. We want to experiment with some organic control methods for pests and diseases. We will continue our cottage gardens at least another year. That gives us two more shots at the ever-elusive sugar snap pea. 🌱

Trends in Vegetable Gardening

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eral hundred members. Local initiatives include providing food education, promoting the sustainable use of land, and supporting slow food style restaurants and small farmers. Margaret Norfleet Neff, the leader of SFPT, says that they try to “keep the mission clean and simple.” They are a varied and active group and invite all interested people to join. One of the projects that they hope to complete this year is a system that will recognize restaurants in the area that buy from local growers, as well as the small growers themselves. It will be like a SFPT “seal of approval” that consumers can look for. The SFPT website is www.slowfoodpiedmont.org.

So whether you plant an acre of vegetables or one patio tomato, or buy from the farmer’s market at the fairgrounds, the times they are a’changing. Americans are taking a hard look at exactly where their food is coming from, and it is about time. 🌱

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Communications about Gardens development should be addressed to Preston Stockton, manager. Correspondence concerning *The Gardener's Journal* should be addressed to Camilla Wilcox, editor.

A calendar of events is published separately in January and September.

Historical photographs courtesy of Reynolda House Museum of American Art archives.

For a list of sources for plants mentioned in The Gardener's Journal, please send a SASE to Reynolda Gardens, 100 Reynolda Village, Winston-Salem, NC 27106.

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Garden Hazards, Part 2: The Sun

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That should do it. You now have the very basics of staying safe in the sun. My best advice, though, is to visit your dermatologist regularly—s/he really can be a life saver. Hopefully, you've learned something here that will help make the garden a safer, and, consequently, more enjoyable place. I think there is enough to worry about in life that we can't control, that we may as well control the things we can, and sun exposure is one of them. 🌿

2009: The Year for Learning to Grow Your Own Food

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Gardens, including an all-day workshop, are centered on learning to growing food. The display gardens, which Mrs. Reynolds called The Fruit, Cut Flower, and Nicer Vegetable Gardens, continue to be a resource for information and inspiration. Plants are labeled, and staff and volunteers are happy to answer questions and discuss plants and techniques with visitors.

Gifts from Friends of Reynolda Gardens help make these efforts possible. Thanks to their generosity, many people in our community will be able to regain confidence in their ability to grow food that is safe, healthy, inexpensive, and delicious. Reynolda Gardens is still a vital resource for the public, just as Mrs. Reynolds envisioned almost a century ago. 🌿



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