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# Update

A PUBLICATION OF THE DEPARTMENTS OF SOIL AND CROP SCIENCES & HORTICULTURAL SCIENCES

VOLUME 2, NUMBER 4

MAY 1999

*Plant of the Month . . . April & May*

## Nicotiana, Flowering Tobacco

By Dr. William C. Welch, Landscape Horticulturist, Texas A&M University

Nicotianas are tender perennials that overwinter in mild parts of the state and reseed wherever planted. *Nicotiana glauca* n. *glauca* and certain other species are often planted for their fragrance, which is most apparent in the evening. Both the species forms have white flowers, but colored forms are also popular

Tubular-shaped flowers appear on branched stems during summer in white, rose, red, scarlet, lime green, and mauve. Recent years have seen a significant increase in the number of dwarf varieties that bloom on short stems. Although the more compact types are very useful for mass color displays, they usually lack the fragrance of the larger-growing, older types.

Foliage is large, somewhat coarse and sticky, and resembles commercial tobacco, to which it is related. New plants may be started easily from seed sown directly into the garden or as transplants. Cuttings will also root, but are rarely used since the seed grows so readily.

The fragrant types are sometimes planted near a window where the fragrance can move indoors. A

renewal of interest in fragrant plants has brought a new interest in the larger-growing, more fragrant types.

They are attractive in border plantings, and the soft colors mix well with other perennials and annuals. Some plants have been perennials even during severe winters in my College Station garden. They survive well during periods of low rainfall but flower best when moisture is more abundant. Insects and diseases have not been a problem.

The large leaves are sometimes made unsightly by grasshoppers or caterpillars, but the plants seem to persist. Cutting back old flower stalks, fertilizing, and watering the plants after the first flush of blooms can hasten re-bloom and make plantings much more attractive.

Nicotianas can be spectacular when in full bloom and deserve wider use.



# Caladium Cultivar Information

*This article by Bob Souvestre, East Baton Rouge Parish county agent, and Allen Owings, Extension horticulturist, appeared in "Home Ground/Commercial Nursery Crop Update," April 15, published by the Louisiana State University Agriculture Center, Baton Rouge.*

It is time for caladiums. Over the last few years, garden centers have had slightly reduced availability of this popular warm-season bedding plant. Hot, dry weather in Florida last year hurt the caladium crop, and wet years prior to that also reduced caladium corm production. These cultivars are now available in local garden centers: Aaron, Blaze, Candidium, Candidium Junior, Carolyn Wharton, Fannie Munson, Florida Elise, Florida Sweetheart, Gingerland, John Reed, Frieda Hemple, Kathleen, Lord Derby, Miss Muffet, Mrs. Arno Nehrling, Pink Beauty, Pink Cloud, Pink Symphony, Poecile Anglais, Postman Joyner, Red Flash, Red Frill, White Christmas, White Queen, and White Wings.

The most sun-tolerant caladium cultivars, according to observations in Texas and Florida, are Candidium, F. M. Joyner,

Fire Chief, Frieda Hemple, Galaxy, Gingerland, Gypsy Rose, Kathleen, Lord Derby, Pink Beauty, Postman Joyner, Red Flash, Rose Bud, Sea Gull, Scarlet Beauty, and White Queen.

The next most sun-tolerant cultivars are Aaron, Caloosahatchie, Candidium Junior, Carolyn Wharton, Clarice, Fannie Munson, Festiva, Irene Dark, Jackie Suthers, Jubilee, Holderman, June Bride, Lady of Fatima, Lance Wharton, Marie Moire, Miss Chicago, Pink Cloud, Pink Gem, Rosalie, Pink Symphony, Tom Tom, Tropicana, and White Wing.

Caladiums that tolerate the least amount of direct sun exposure are Blaze, John Reed, Miss Muffet, Mumbo, Mrs. Arno Nehrling, Poecile Anglais, Red Frill, and White Christmas.



## LANDSCAPE DESIGN STUDY COURSE II

The Landscape Design Study Courses are a series of four courses offered approximately six months apart in the Bryan-College Station area. They are accredited by the National Council of State Garden Clubs, and cosponsored in Texas by the Texas Agricultural Extension Service. Although the courses are a four-part series, participants may begin with any of the four. Master Gardeners are finding the courses a logical extension of their training and a good opportunity to receive in-depth information in the field of landscape design.

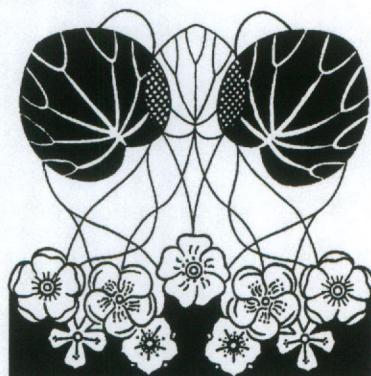
Course II is being offered September 27-29, 1999 at the Brazos Center in Bryan. Subjects to be addressed at Course II

include: History of Landscape Architecture, The Private Garden, Landscape Architecture Design Process, Plants in Composition, Site Design and Ground Forms, Art and

Nature Appreciation, Introduction to Urban Design, and a special-interest lecture on Making Organic Gardening Work for You. Faculty are selected from the Department of Landscape Architecture at Texas A&M University, horticulturists, planners, and professional landscape architects. Of special interest for Course II will be two lectures by Dr. Neil Odenwald, Professor Emeritus and former head of the Department of Landscape Architecture at Louisiana State University.

Registration information for the course may be obtained from Lenora Sebesta [(409) 845-7341 in the Extension Horticulture office] or Jacque Hand [(409)

845-7692 or (409) 845-8904 in the office of Conferences and Short Courses at Texas A&M University]. Rooms are being reserved at several local motels for participants.



**SEPTEMBER 27-29, 1999**

# Where Do Seedless Watermelons Come From?

*This article is excerpted from "Seedless Watermelon Production" by Jerry Parsons, Larry Stein, Tom Longbrake, Sam Cotner, and Jerral Johnson, published by the Texas Agricultural Extension Service.*

The seedless watermelon is now a reality. Seedless watermelons -- sweet inside but without the numerous seeds found in conventional watermelons -- are the ultimate in convenience food.

The obvious question asked about growing seedless watermelons is: 'How does one obtain seed of a seedless watermelon?' Obviously, you cannot save seed from a seedless watermelon. So, where do the seeds come from?

Simply stated, the chromosome number (threadlike bodies within cells that contain the inheritance units called genes) of a normal watermelon plant is doubled by the use of the chemical colchicine. Doubling a normal (diploid) watermelon results in a tetraploid (have four sets of chromosomes) plant. When the tetraploid plant is bred back or pollinated by a diploid or normal plant, the resulting seed produces a triploid plant that is basically a 'mule' of the plant kingdom, and produces seedless watermelons. Seeds of seedless varieties are available from most major seed companies.

Seedless watermelons are a warm-season crop, preferring relatively high temperatures for optimum growth. Daytime temperatures of 80 to 95 degrees F, and night temperatures of 60 to 70 degrees F are best. When temperatures are lower, plant growth is slowed considerably. With favorable weather, seeded fields can produce ripe fruit in 85 to 100 days.

## **Planting**

Poor seed germination is the main problem with growing seedless watermelon. When direct seeding, the soil temperature should be a minimum of 70 degrees F at a depth of 4 inches. Soil temperatures below 70 degrees F will reduce germination and emergence. Soak the planting medium thoroughly, and let drain 4 to 6 hours before sowing. Plant one or two seeds per cell or pellet. The greenhouse temperature should be 75 to 85 degrees F during the germination period. Do not allow the growing medium to become dry, but do not over-water during initial germination. Begin watering, as needed, after 10 to 15 percent of the seed-

lings have emerged. Plants should be ready for transplanting in 3 to 4 weeks. Transplants should have not more than three true leaves when set in the field. Use of older, larger transplants can cause slow, stunted growth and poor yields. In-row and between-row spacing generally is 48 X 80 inches.

## **Pollination**

The male and female flowers are born separately on the watermelon plant. Female flowers must be pollinated for fruit to set. Also, cross pollination must occur between a seedless and regular type watermelon for seedless fruit to be produced. This is best accomplished by planting a standard watermelon variety in the garden, along with the seedless variety. Approximately one-third of the plants in the garden should be of the standard of 'pollinator' variety. Honeybees are the principal insects that pollinate watermelons. Pollination is a must, and poor or partial pollination may result in misshapen fruit and no seedless melons.

## **Harvesting.**

The lower side or 'ground spot' of the fruit should be cream or yellowish colored. Thump fruit to check for ripeness. Results will vary. Generally, a solid sound indicates ripeness, while a sharp echoing sound indicates a greener fruit. The tendril, or 'tail' which occurs in the axils (where the leaf attaches to the vine) of leaves along the stem, can be used as an indicator of ripeness. Experienced harvesters indicate that if the two tendrils nearest the fruit are dry, the seedless watermelon is ripe. It is important to note that the first few mature melons in the garden may frequently contain small seeds. This condition is most prevalent under stressed conditions, such as low soil moisture, insufficient fertilizer, temperature extremes, or disease pressure, which affect the normal plant development.

Each planting of seedless watermelons actually produces three different types of watermelons: the regular seeded watermelons (from pollinator plants), the true seedless melons, and a light-green tetraploid melon that produces a very limited number of seed from which next year's planting can be made.



## Ornamental Grasses Add Flair to Landscapes

There is a trouble zone in your landscape - a no-man's land between woods and yard, or between pond and garden. It is a transition area in need of plants that won't look out of place. They must be fast-growing, jumping from 2 to 6 feet in one season. You would like it to be disease- and drought-resistant too. It must be attractive, adding color and texture to your yard without costing a fortune. According to the American Nursery and Landscape Association (ANLA), ornamental grasses meet all these requirements.

The trend toward naturalized landscapes is driving the increased use of grasses. From coastal regions to prairies to woodlands, there are grasses indigenous to your area. Many hardy native and adapted grasses will thrive under a wide variety of conditions. Plant grasses responsibly, however, since a few varieties can become invasive in some areas. Confine invasive grasses to urban areas where seeds don't have as many opportunities to spread. Ask the professionals at your nearby garden center which ones they recommend.

Grasses are a natural choice to stabilize soil and control erosion. Many home owners use grasses as accents in the landscape, planting one or two as specimens. Achieve a stronger effect with mass planting. Try 20 grasses of one type rather than a few plants of different varieties. Plant grasses as a backdrop for perennials or to screen an unattractive view. In winter, while your garden sleeps, ornamental grasses add color, texture, and movement. Backlighting grasses is another way to wake up landscapes.

Ornamental grasses are easy to maintain, but a few pointers ensure their success. Grasses are susceptible to crown rot, especially in winter. The majority prefer well drained soils in sunny location. In many regions, grasses fare best if planted in spring, rather than fall. Springtime planting allows grasses time to get established before winter.

Nursery professionals can recommend planting schedules for your area. Cut back grasses to short clumps in early spring; consider dividing clumps every three years to benefit plant health. Maintenance is low, but the rewards are great when grasses grace your landscape.

*From Discover the Pleasure of Gardening, published by the American Nursery and Landscape Association*

## SEGREGATION:

### Which Plants Go Where for Landscape Water Conservation

*By Dr. Douglas F. Welsh, Extension Horticulturist,  
Texas A&M University*

As you place plants into the landscape, try to segregate them based on irrigation needs. This prevents you from over-watering one plant type to meet the needs of another. Every plant in the nursery or garden center truly has a place in a water-wise landscape. It's not which plant you use, but where you put it. Three different plant zones should be incorporated into a water-efficient landscape:

#### Regular Watering Zone

Plants in this zone would require watering once every week or more, *once established*, in the absence of rain.

#### Occasional Watering Zone

These plants would require watering once every two or three weeks, *once established*, in the absence of rain.

#### Natural Rainfall Zone

Plants in the Natural Rainfall Zone would require only natural rainfall, *once established*.

Every region of Texas has a palette of plants to choose from which are adapted to the soil, temperature extremes, and pest problems of the area. The challenge for the professional and amateur gardener is to categorize the plants based on expected water requirements. By using the categories of natural rainfall, occasional watering, and regular watering, most gardeners can place the plants from their region into the water-use zones. For example, in much of Texas (areas of 30-plus inches of rainfall), the following categorization is often used:

#### Regular Watering Zone

Turfgrass and annual flowers

#### Occasional Watering Zone

Perennial flowers and tender woody shrubs and vines

#### Natural Watering Zone

Tough woody shrubs and vine, and all trees.

Choose and plant your plants carefully to help insure wise water use in your landscape. Visit your nursery or garden center today, and get started on creating your own beautiful water-conserving landscape!

# Natural Pesticides for Your Garden

By Robert "Skip" Richter, CEA-Horticulture  
Texas Agricultural Extension Service, Montgomery County

Gardeners wanting to be 'organic' or garden more naturally are overwhelmed by the flood of confusing and conflicting claims in the marketplace. What works and what doesn't? I will try to cast a bit of light, logic, and reason on the subject, and hopefully help you garden with nature. Prior to this century, farmers and gardeners were organic primarily by necessity. Discovery of the efficacy of compounds such as lead arsenate and DDT for pest control led us into the 'chemical age' in farming and gardening. Our dependence on these broad-spectrum products fueled the search for new and better pesticides. But concerns over the direct and indirect effects of widespread, indiscriminate pesticide use soon gave birth to the organic movement. Now, most gardeners attending our programs are at least partially 'organic' in their approach to gardening.

**Pesticide Sprays: A Last Resort.** Organic gardening is far more than spraying with organic sprays. There are many cultural practices and techniques we must understand and employ if we want to be successful at organic gardening. However, when all else fails, or when pest populations reach unacceptable levels, chemical controls enter the picture.

**How Safe Is It?** In choosing a pesticide spray, the factor most often considered is toxicity. There is no totally safe product. It is grossly inaccurate to say that natural or organic controls are less toxic than synthetic or man-made ones. Many of the most toxic compounds are natural, while many of the least toxic are synthetic.

Products also vary in the *spectrum* of control. Some kill only a narrow range of insects. Others affect a wide range of insect orders. There are times when both are warranted, although for the most part, narrow-range products are the least disruptive to the ecosystem.

Another consideration is how long a product lasts in the environment. Some, such as soap, may become ineffective soon after they are applied. Others may last 10 days or more. There are times when you want a product to break down quickly, and times when lasting control helps avoid many repeat applications. Nicotine sulfate (an organic) is among the most acutely toxic products available over the counter; rotenone is very hazardous to fish; *Bacillus thuringiensis* (BT) kills butterfly larvae (caterpillars); and insecticidal soap is devastating to ladybug larvae and other soft-bodied beneficials. While organic controls tend to break down quickly in the environment, they must be selected carefully and used with caution.

## Some Top Weapons in the Organic Arsenal

**Insecticidal Soap** - Works great on soft-bodied pests, including mites, aphids, and lace bugs. Mix at label rates. Apply early to avoid the hot sun. Some plants are sensitive to repeated use of soap sprays. Spray must contact pests to work, so direct-spray upward from beneath the plant.

**Oil - Dormant oil** is fine for late winter just prior to bud-break, while **horticultural oils** are lightweight and can be used throughout the growing season. Spray must contact the pests to work.

**Neem** - Products from the neem tree have been used in India for centuries. Extracts of *azadirachtin* from neem trees are a very low-toxicity insecticide, and we now have *neem oil* which, in addition to being an insecticide, will also control several diseases.

**Pyrethrin and Rotenone Sprays** - Have good 'knock down' power and break down very rapidly in the environment.

**Water Wand** - A high-pressure mister which attaches to a hose, the wand cleans mites, aphids, and the like from roses and other garden plants.

**Newspaper and Bagged Leaves** - For season-long weed control, place 4 sheets of wet newspaper around plants, and cover with leaves. By season's end, the paper will be mostly decomposed and can be mixed into the soil.

**Spunbound Polyester Rowcover**™. This super lightweight fabric (.6 oz per square yard) excludes pests but allows light, air, and water to pass through. Great for covering a bed of pest-prone greens or a row of 'looper-friendly' cole crops.

While there are many other organic products that will control groups of pests, their toxicity varies, and many are tough on beneficials. Remember that your garden is also a zoo. Proper pest identification and informed pest-management decisions can help you get the most out of your landscape and garden while reducing risks to you and your environment. If you need help identifying an insect or disease, contact your local Extension office for a free diagnosis and recommended control options.

# TEXAS MAYHAW

By Marty Baker and George Ray McEachern, Extension Horticulturists, Texas A&M University

Mayhaws (*Crataegus aestivalis*, *C. rufula*, or *C. opaca*) are very common south of the 1,000-hour chill line. They grow under hardwood timber in wet floodplain soils along creeks and rivers. These small trees are of the Hawthorn family. The fruit is small and apple-like, and ripens during the late April and early May in East Texas. They have beautiful white blossoms in the spring, and are desirable as ornamentals as well as for wildlife cover and forage.

**Varieties.** Information and observations are very limited on some varieties. Most ripen over a 10 to 30 day harvest period, but some varieties may have 80 percent of the fruit ripe at one time. 'Super Spur' and 'Super Berry' seem to have the best yield and tree form. These varieties bloom early, so they are best grown in central East Texas and Southeast Texas. The 'Super Spur' has chilling problems during mild winters in the Beaumont area. 'Big Red', 'Winnie Yellow', 'Highway Red', 'Highway Yellow', 'T. O. Warren Superberry', Angelina, Harrison, Big Mama, and the #1 Big varieties usually bloom later, and are better adapted to Northeast Texas. A potential grower in Northeast Texas should still plant 'Super Spur' and 'Super Berry' mayhaws because of their potential, despite the possibility of crop damage during late freezes.

**Soil Requirements.** Mayhaws are found in swampy areas, and are tolerant of wet soils, but grow best in moist, well-drained soils. Soil should have a pH of 6.0 to 6.5 prior to planting.

**Propagation.** Mayhaws can be propagated by the seed of ripe fruits, by rooted cuttings, or by grafting the mayhaw onto a rootstock. Seed viability varies greatly among mayhaw trees. Many of the seedlings will be true to type. This is very unusual when propagating by seed. Cuttings may be rooted under mist systems or in a humidity chamber in the summer. A root-promoting hormone dip may help rooting. Of course, cuttings will produce fruit exactly like the fruit of the mother.

Deer and rabbits can destroy a containerized plot of nursery-grown mayhaws or an orchard in a short period of time. Quince rust is the most common disease of mayhaws, and was severe in East Texas in 1990. Cedar-apple rust and juniper rust also attack mayhaws. The best way to control rust is to make selections for rust-free plants in a heavy rust year. Several fungicides are used to control rust diseases in apple orchards. Registration is being sought under special-use laws for several chemicals that prevent rust disease on mayhaws.

Mayhaw fruit can be made into jams and jellies, and even wine. Traditional Southern rural families still make a big batch of mayhaw jelly every year.

## Raised Beds for Gardens

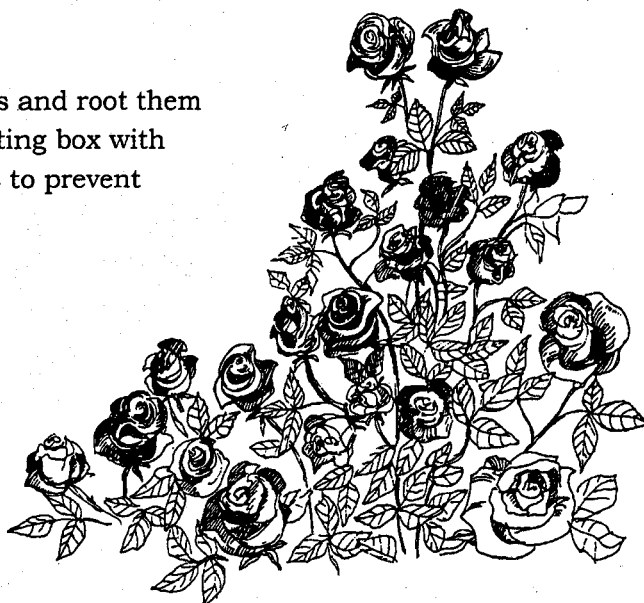
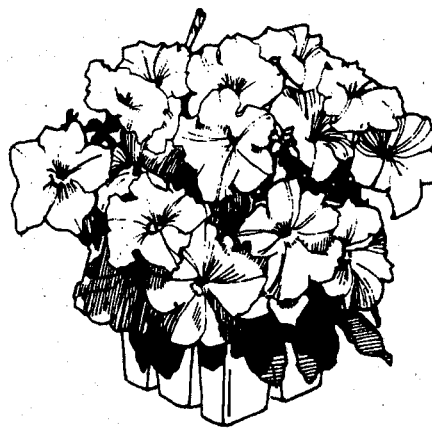
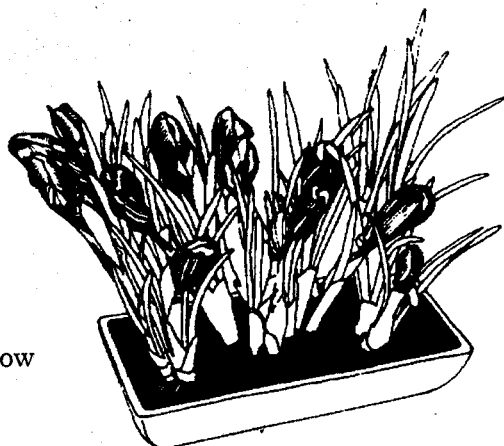
If you haven't had much luck with gardening efforts in the past, your soil may be the problem. Tight, heavy, poorly drained soils are common in many areas of Texas. With good management practices and the addition of liberal amounts of organic matter, many of these soils can be improved so that they grow satisfactory plants. But if you are interested in a quick, highly productive garden, consider constructing a raised garden. Raised gardens are often the simplest solution to a difficult soil problem. Advantages of raised gardens are: yields increase

because the depth of top soil is increased; raised gardens, filled with a good soil or soil mix, drain rapidly and warm up quickly; water usually soaks in rather than running off; soil compaction is eliminated or reduced; and weeds, soil insects, and soil-borne diseases are more easily controlled since recommended treatments are effective in raised gardens. Raised gardens do not have to be expensive. Construct frames of railroad ties, bricks, flagstones, or other materials. Small raised gardens might be constructed with 2 X 8s or 2 X 10s.

# ✓ GARDEN CHECKLIST FOR MAY

*By Dr. William C. Welch, Landscape Horticulturist, Texas A&M University*

- ✓ Cut off old blossoms on spring-flowering annuals such as pansies, snapdragons, stock, and calendulas to prolong the flowering season.
- ✓ Continue to fertilize roses every four to six weeks with small amounts of a balanced fertilizer.
- ✓ Allow foliage of spring-flowering bulbs to mature and yellow before removing.
- ✓ Set out plants of portulaca and purslane in sunny areas. Root cuttings of your favorite colors by placing 3- to 4-inch stems in moist, sandy soils.
- ✓ It is not too late to sow directly into the soil seeds of sunflower, zinnia, morning glory, portulaca, marigold, cosmos, periwinkles, and gourds. Achimenes, cannas, dahlias, and other summer-flowering bulbs can also be planted in May.
- ✓ Pinch back the terminal growth on newly planted annual and perennial plants. This will result in shorter, more compact, well branched plants with more flowers.
- ✓ Time to plant caladium tubers, impatiens, coleus, begonias, and pentas in shady areas.
- ✓ Make cuttings of your favorite chrysanthemums and root them in a mixture of sand and peat moss. Cover cutting box with plastic and place in shaded area for 5 or 6 days to prevent wilting.
- ✓ Replace or replenish mulch materials in flower beds and shrub borders to conserve moisture and reduce weed growth.
- ✓ Prune climbing roses as they complete their spring bloom season. Remove dead or weak wood as needed.



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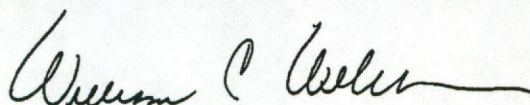
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*May 1999 - In this issue . . .*

<i>Plant of the Month: Nicotiana</i> .....	<i>Page 1</i>
<i>Caladium Cultivar Information</i> .....	<i>Page 2</i>
<i>Landscape Design Study Course II</i> .....	<i>Page 2</i>
<i>Where Do Seedless Watermelons Come From?</i> .....	<i>Page 3</i>
<i>Ornamental Grasses Add Flair to Landscapes</i> .....	<i>Page 4</i>
<i>Segregation: Which Plants Go Where</i> .....	<i>Page 4</i>
<i>Natural Pesticides for Your Garden</i> .....	<i>Page 5</i>
<i>Texas Mayhaws</i> .....	<i>Page 6</i>
<i>Raised Beds for Gardens</i> .....	<i>Page 6</i>
<i>Garden Checklist for May</i> .....	<i>Page 7</i>

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William C. Welch, Editor for May 1999