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Increase Their
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Protect the
Environment

NC STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION

COLLEGE OF AGRICULTURE & LIFE SCIENCES

JC Raulston Arboretum Plant Focus

Black-Eyed Susans Provide Native Sunshine

The prairies of Minnesota were the first places I seriously studied wildflowers. Using my camera to create a permanent record and Lawrence Newcomb's Wildflower Guide to identify my slides correctly, I soon discovered my favorites. I was drawn to them time and time again, evidenced by the number of pictures. Without a doubt, one favorite was *Rudbeckia hirta*, the black-eyed Susan, and it remains one of my most favored of wildflowers to this day.

The range of the black-eyed Susan stretches from the Rocky Mountains east to the Atlantic Coast states, north to Minnesota and south to Texas as a North American native. This rather grandiose residency has yielded some interesting variations to the normally golden, daisy-like flower. Wild forms may also possess a ring of maroon or rusty brown encircling the flower's central "cone," and entire flowers may also be found that lack gold completely, cloaked exclusively in that same deep maroon or brown color. Garden cultivars seem to have exploited all color possibilities, ranging from the absolutely magnificent 'Indian Summer', whose large, golden flowers and tall, erect stature are virtually without peer, to 'Sonora', possessing sturdy, multi-colored petals and an outstretched posture parallel to the ground.

Black-eyed Susans are short-lived perennials in the garden. They bloom easily their first year from seed and may be treated as annuals. Full sun is a must and wet soils are their nemesis. Powdery mildew often besieges them late in the season but late enough, in my opinion, to disregard it as any blemish to its reputation for cultivation.

The JC Raulston Arboretum at NC State University in Raleigh is scheduled to display black-eyed Susans within the JCRA Annual Trial Area this year. Come see them, and don't forget to visit our ever-evolving Web site at www.ncsu.edu/jcraulstonarboretum. **Robert E. Lyons**

Dr. Lyons is Director of the JC Raulston Arboretum and Professor of Horticultural Science at NC State University.



'Indian Summer'
Robert E. Lyons ©

inside

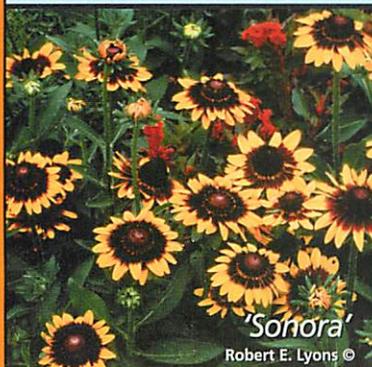
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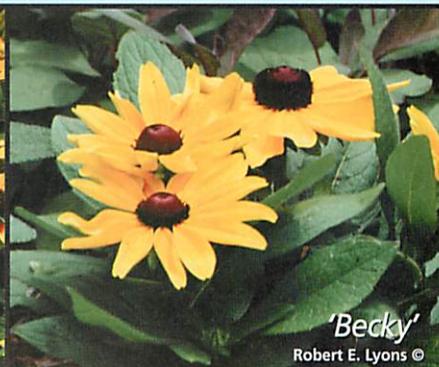
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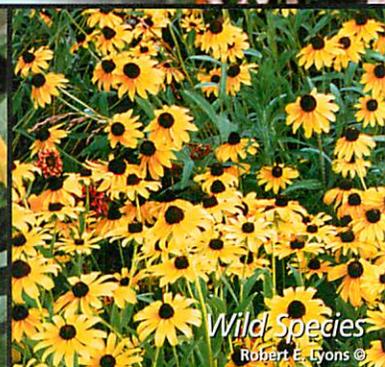
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'Sonora'
Robert E. Lyons ©



'Becky'
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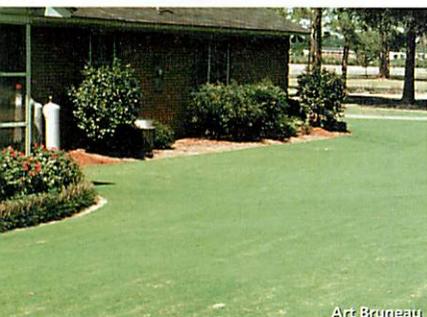
'Wild Species'
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Art. Bruneau
St. Augustinegrass



Art. Bruneau
Centipedegrass



Art. Bruneau
Bermudagrass

To determine the amount of product needed to apply 1 pound of nitrogen per thousand square feet, divide 100 by the first number in the fertilizer ratio. For example, for a 16-4-8 fertilizer, divide 100 by 16. The result is 6.25 pounds of product per thousand square feet.

Access www.turffiles.ncsu.edu for more information.

Growing Warm-Season Grasses

Warm-season grasses are now growing “full steam ahead” on the Coast, and following a basic care guide will help you grow a beautiful lawn. The first step is to know what kind of grass you have. Warm-season grasses include Bermuda, centipede, St. Augustine and zoysia. They are used widely in Coastal areas and, unlike cool-season grasses, need to be fertilized through the summer.

Cool-season grasses include tall fescue, Kentucky bluegrass, fine fescue and perennial ryegrass. Cool-season grasses are more commonly grown in the Piedmont and Mountain regions of the state, but there are exceptions. Because the most important time to seed and fertilize cool-season grasses is during the fall, this article focuses on warm-season grasses, which need attention now. If you're unsure which type of grass you have in your lawn, contact your county Cooperative Extension Center.

Warm-season grass maintenance begins in May. If you haven't begun, now is the time to seed, sprig, plug or sod warm-season lawns since later plantings may not have enough time to establish properly before cold weather returns in the fall season. Begin other maintenance tasks such as fertilizing, watering and mowing according to the various plant needs. Follow the guidelines below.

Warm-Season Grass Care Guide

Bermudagrass

- Mow lawn at 3/4 to 1 inch.
- Apply 1 pound of nitrogen per thousand square feet every 4 to 6 weeks. In the absence of a soil test, apply a complete nitrogen, phosphorus and potassium (N-P-K), turf-grade fertilizer with a 3-1-2 or 4-1-2 ratio such as 12-4-8 or 16-4-8.
- Water to a soil depth of 4 to 6 inches. Apply about 1 to 1 1/4 inches of water weekly. Sandy soils will require more frequent watering, for example, 1/2 inch of water every third day.
- Check for white grubs and control if necessary.

Centipedegrass

- Mow at 1 inch.
- Apply 1/2 pound of fertilizer per 1,000 square feet in mid-June. Use a high potassium fertilizer such as a 5-5-15, 6-6-12 or 8-8-24.
- Water to prevent drought stress, about 1/2 inch of water every third day in sandy soils.
- Apply postemergence herbicides as needed to control summer annual and perennial broadleaf weeds.

St. Augustinegrass

- Mow lawn at 2 1/2 inches.
- Fertilize with 1/2 pound of nitrogen per square feet in June and August and 1 pound of nitrogen in July. In absence of a soil test, use a complete nitrogen, phosphorus, potassium (N-P-K) fertilizer with a 3-1-2 or 4-1-2 ratio, for example 12-4-8 or 16-4-8.
- Water to prevent drought stress. Sandy soils often require more frequent watering.
- Check for chinch bug activity in sunny locations when yellow to brownish spots or drought symptoms appear.

Zoysiagrass

- Mow lawn at 3/4 to 1 inch.
- Fertilize with 1/2 pound of nitrogen per thousand square feet in late June or early July and repeat in mid-August, using a complete N-P-K, turf-grade fertilizer with a 3-1-2 or 4-1-2 ratio.
- Water to a soil depth of 4 to 6 inches. Zoysiagrass needs a weekly application of 1 to 1 1/4 inches of water. On sandy soils, apply 1/2 inch of water every third day.
- Apply postemergence herbicides if needed. Control grubs in August when they are small and close to the soil surface.

Additional guidelines on both warm- and cool-season grasses are available at www.turffiles.ncsu.edu. This excellent resource is based on research at NC State University and also is available at your county Cooperative Extension Center.

Each grass has its own set of advantages and disadvantages. Try to select the grass you are most capable of dealing with, and redesign your lawn if necessary. With water restrictions becoming more common, consider enlarging flower beds, incorporating groundcovers and mulching the shady spots. A completely mulched area usually won't look right unless it is under tree canopy, with plenty of understory plantings and groundcovers.

Most landscape problems can be solved with a compromise. Turfgrasses can be used for erosion control, to create a cooling effect, for wear tolerance and, most importantly, for the unifying effect on the total landscape, making the house and the other construction hardscape fit together.

David Barkley

gardentalk

“If you could grab a handful of sunshine and roll it into a flower, a black-eyed Susan would surely emerge.”

– Ellen Riley



Q&A Why do large, irregular areas in my tall fescue lawn turn brown every June even though I water it?

While shallow soil could cause this, you likely have brown patch. Brown patch is the most common disease of tall fescue. This fungus also affects ryegrass, bluegrass, Bermudagrass and St. Augustinegrass. Brown patch is easier to avoid than to cure. Avoid brown patch next year by not having excessive nitrogen fertilizer available for the plant. Don't fertilize tall fescue after March 15. Adjust the soil pH to around 6.5. Avoid wet grass

by reducing shade and watering early in the day. Water deeply and infrequently. Since you already have a problem with brown patch in tall fescue, you have two choices. You can apply fungicides for the rest of the summer or wait until September and evaluate the lawn for reseeding. Often the grass comes back from the crown and roots which makes reseeding unnecessary.

David Goforth

Harvest Time

Vegetable gardening has many rewards, and few beat the pleasure of eating fresh-off-the-vine produce that you've nurtured the entire growing season. To reap the benefits of your hard work, make sure you harvest at the right time for optimum quality and flavor.

Different crops have their own specific harvesting time when their flavor and vitamin and mineral quality will be at their peak. Once it has peaked, the quality can only go down.

Harvesting vegetables at the right time also helps keep your plants producing more. Plants can only support so much at one time; by harvesting on a regular basis, you allow the plant to turn its attention to producing again.

The ripening process continues when you pick vegetables. At this point, you need to either use the produce immediately or store properly to help slow the ripening process. The process can be slowed by refrigerating vegetables that ripen quickly.

Refrigerate too long, and you still lose quality. The key is to eat the vegetables, or preserve them, soon after harvest.

If you have more produce than you can use, share with your neighbors or consider donating to a local soup kitchen or Plant a Row for the Hungry program.

For more information, contact your local Cooperative Extension Center or access www.ces.ncsu.edu/depts/hort/hil/hil-8108.html and www.ces.ncsu.edu/depts/fcs/food/canning/cantoc.html.

Ben Dungan

ENVIRO-TIP

Protect Vegetables from Pests

Controlling vegetable pests starts well before you plant the first seed. The key to success is to do all you can to prevent pests from becoming a problem. Here are some important steps:

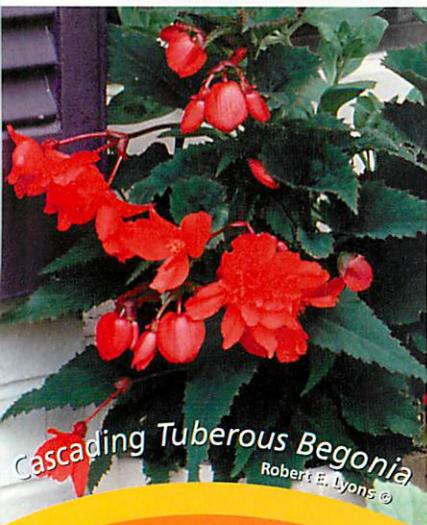
- Rotate your crops! Don't plant tomatoes in the same spot each year. Learn the vegetable families (for example, cucurbits, cole crops) and keep records of what was planted where.
- Take a soil sample to check the pH and fertility status of your garden soil. If your soil doesn't have what your plants need, they will be more susceptible to problems.
- Choose seeds and transplants carefully. Look for varieties that have some resistance to common disease problems. Make sure transplants are healthy and pest-free before taking them home.
- Plant as early as possible. Getting things in the ground in a timely manner often gives vegetables a head start against future pests.

- Inspect the garden frequently. Turn over leaves and look for insect eggs, nymphs and larvae. In a small garden, it's easy to hand pick and destroy them. In a larger garden, it will give you an indication of when you may need to treat with an insecticide.
- Use an insecticidal soap or a horticultural oil to control soft-bodied insects such as aphids, whiteflies and mealybugs. These products have very low toxicity and are quite effective.
- When using insecticides, be sure to get good coverage of the plants. Spray from above and below to get those pests that may be hiding under leaves.
- Always read the pesticide label. It will tell you how much and when to apply, and what pests are controlled.
- Clean up the garden at the end of the season. Dead plant material provides a habitat for pests to survive through the winter.

Paul G. McKenzie



Robert E. Lyons ©



Cascading Tuberous Begonia
Robert E. Lyons ©

Garden Spot

The Legacy

Demonstration Garden

in Greensboro serves as an outdoor classroom for Cooperative Extension and Extension's Master GardenerSM volunteers in Guilford County. The garden itself is only one acre, but is packed with plant material to demonstrate just about everything homeowners may incorporate into their lawns. There is a shade garden, a butterfly garden, bog plants, small fruits, turf plots, hortitherapy beds, intense vegetable production and a composting site. All tied together with hardscapes, plant material is chosen based on its hardiness, drought tolerance and pest resistance, all of which makes this garden not only attractive but educational. The garden is free and open to the public 7 days a week from sunup to sundown and is located at 3309 Burlington Road in Greensboro. Call (336) 375-5876 for more details.

Karen Neill

Gardening in June and July

Lawns

- Replace any warm-season turf that has suffered disease or cold damage. Sod can be purchased in rolls or square pieces.
- Fertilize warm-season turf with about 1/2 to 1 pound of nitrogen per 1,000 square feet; do not fertilize cool-season grasses at this time.
- Chinch bug activity on St. Augustinegrass typically starts around the first of June with damage occurring around the middle of June. If yellow or brown spots appear in your lawn, contact your county Cooperative Extension Center for treatment recommendations.

Ornamentals

- Snap off growing tips of your chrysanthemum plants when they're about 6 inches tall. They'll branch and bloom more profusely.
- Stake dahlias when you plant them so they'll have support later; staking plants after they are large increases chances for damage.
- Improve appearance of shrubs with a general pruning to shape new growth.
- July is a good time to trim the "bleeders" in the landscape. Maples, birches and dogwoods can be lightly pruned and reshaped.

Edibles

- Prune water sprouts from all fruit trees.
- Take care of Japanese beetle problems immediately. Use appropriate insecticides such as Sevin to control.
- Harvest beans, cucumbers, okra and squash daily to keep the plants producing.
- Sidedress eggplants, peppers and tomatoes with a nitrogen fertilizer after they have set their first fruit.
- Stop cutting asparagus when the spears become thin.
- Watch for blossom-end rot on tomatoes.

David Barkley



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Making It Grow! ▪ Year-round
On WTVI-42, Charlotte, Saturdays, noon

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Successful GardenerSM Editor
Mecklenburg County Extension Center
700 N. Tryon St. • Charlotte, NC 28202

Editor and Project Coordinator: **Leah Chester-Davis**
Extension Communication Specialist –
Urban Programs

Project Coordinator: **Emily Revels**
Consumer Horticulture Agent, Mecklenburg County

Assistant Editor: **Karen Neill**
Consumer Horticulture Agent, Guilford County

Compilations Editor: **Ben Dungan**
Consumer Horticulture Agent, Gaston County

Contributors:

County	Name	Phone
Buncombe	Linda Blue	(828)255-5522
Cabarrus	David Goforth	(704)792-0430
Catawba	Fred Miller	(828)465-8240
Currituck	Tim Clune	(252)232-2261
Durham	Paul McKenzie	(919)560-0525
Forsyth	Craig Mauney	(336)767-8213
Gaston	Ben Dungan	(704)922-4...
Guilford	Karen Neill	(336)375-...
Henderson	Bill Skelton	(828)697-4374
Lincoln	Kevin Starr	(704)736-8452
Mecklenburg	John MacNair	(704)336-2561
	Emily Revels	(704)336-2561
Nash	Mike Wilder	(252)459-9810
New Hanover	David Barkley	(910)452-6393
Northampton	Heather Lifsey	(252)534-2711
Orange	Royce Hardin	(919)245-2050
Pitt	Danny Lauderdale	(252)757-2801
Polk	John Vining	(828)894-8218
Randolph		(336)318-6005
Rowan	Darrell Blackwelder	(704)633-0571
Union	Willie Earl Wilson	(704)283-3741
Wake	Carl Matyac	(919)250-1100
Wilson	Cyndi Lauderdale	(252)237-0113

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For a list of garden centers where you can find *Successful GardenerSM*, please call (704)336-2561 or visit Cooperative Extension on the web at <http://www.ces.ncsu.edu>

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