

# Successful Gardener

NC STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION

Helping  
Carolinians  
Increase Their  
Knowledge of  
Gardening,  
Manage Their  
Landscape  
Investment &  
Protect the  
Environment

## JC Raulston Arboretum Plant Focus

### Cosmos Brings Beauty to Your Universe

Cosmos is an easy-to-grow flower that can reseed itself and grow in hot, dry conditions, making it a good choice for North Carolina gardens. Homeowners can find the two most common species of cosmos by asking their local suppliers for *Cosmos sulphureus* which will have golden-yellow or orange flowers and *Cosmos bipinnatus* with a variety of maroon, pink, lavender and white flowers. Gardeners can take advantage of the naturally smaller growing *Cosmos bipinnatus* varieties such as 'Gloria' pink, 'Versailles Tetra' red, 'Candy Stripe' white with red veins, 'Day Dream' white with red halo around yellow stamens, 'Picotee' white petals with red margins, 'Sea Shells' and 'Dwarf Sensation Mix', both sold as mixed colors usually in pink pastels, and 'Psycho White'. Both cultivars may grow up to 6 feet depending on soil conditions and may need staking if subjected to high winds and frequent storms.

Plant cosmos in a location that receives at least a half day of direct sunlight. Sow the seeds outdoors after danger of frost is past and when the soil has warmed to at least 65 degrees. Rake seeds into a loose soil; planting seeds too deeply will hinder germination. Keep the soil moist for 5 to 10 days after seeding. Seeds will germinate in 7 to 21 days. Cosmos needs only basic care to provide an abundance of colorful blooms all summer.

When the spring-planted cosmos appears to have an abundance of dried seed, do not remove the plants. Encourage re-bloom by cutting the plants back to 12 to 18 inches high. They will be back in bloom in a month and the seed that is cut off will fall to the ground, germinate in the hot soil and increase the density of your plant population and the eventual bloom display.

Each year, the JC Raulston Arboretum evaluates at least one cultivar in its trials area for annual plants. The 'Cosmic' series is the latest entry into this arena and is both dwarf in stature and quick to go to seed. When you visit the trials, take a look at the adjacent Perennial Border for the original species of *Cosmos sulphureus* towering over most other plants with its cascading sprays of orange flowers. **David Barkley**

*Cosmos bipinnatus*  
Robert E. Lyons ©

inside

2

Wetland  
Plants

3

Enviro-Tip

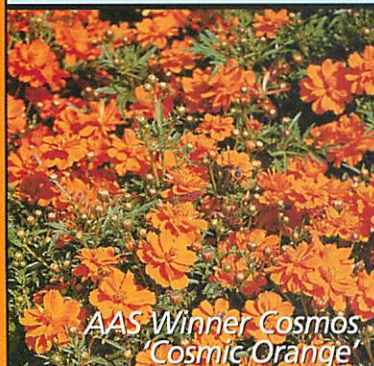
4

Garden  
Spot

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AAS Winner *Cosmos*  
'Cosmic Orange'



*Cosmos bipinnatus*  
Robert E. Lyons ©



*Cosmos bipinnatus*  
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Pickerel Weed



Arrowhead



'George T. Moore' Water Lily

## Wetland Plants

With the current popularity in do-it-yourself water gardens, it is no surprise that there is growing interest in wetland plants. Terms such as aquascaping and rain gardens are finding their way into mainstream horticultural publications.

Whether you need aquatic plants for a backyard water garden or an ornamental planting for wet Carolina soils, the choices are not limitless. Gardeners frequently encounter the same dozen or so plants in the garden center, especially for use in water gardens.

Woody plants suitable for landscaping in wet sites are commonly referred to as riparian plants. Cooperative Extension publication #646, "Qualifiers for Quagmires," offers a list of plants for riparian landscapes; ask for it at a county Extension Center. There are more than 60 species of woody plants that qualify for home landscaping purposes. Some choice selections include: sweetshrub, buttonbush, ninebark, summersweet clethra, inkberry holly, Virginia sweetspire, small anise-tree, waxmyrtle, bayberry, Florida leucothoe and redosier dogwood.

As with any design project, plants can enhance or detract from the effect you hope to achieve so it is imperative to follow solid design principles when using wetland plants for the aquascape. Consulting a garden designer or landscape architect is money well spent.

The popularity of water gardening has increased exponentially during the last decade, and rightly so, since water can satisfy our senses, delighting our eyes and ears. To be successful in creating an attractive water garden requires organization and

## Consider These Aquatic Plants

Water Lily – *Nymphaea*

Lotus – *Nelumbo*

Umbrella Palm – *Cyperus*

Arrowhead – *Sagittaria spp.*

Water Iris – *Iris pseudacorus*

Horsetail – *Equisetum hyemale*

Arrow Arum – *Peltandra virginica*

Pickerel Weed – *Pontederia cordata*

Variegated Rush – *Baumea rubiginosa*

planning. Subsequently, it is most important to address the engineering aspects of a water garden before the plants are selected and the pump is powered up.

Aquatic plants for use in water gardens are often classified as floating leafed plants or free floating, and submerged. Submerged plants are the oxygenators of the pond, a must for pond health and to support fish. This category of plants includes anacharis, *Elodea*; cabomba, *Cabomba*; and dwarf sagittaria, *Sagittaria*. Waterlilies, both day- and night-blooming varieties, are the most popular floating plants.

Most of the aquatic and wetland plants sold by the industry never become problems. However, a few have proven to be highly invasive and have caused significant environmental problems.

see Wetland Plants on page 3 ▶

## A Test You'll Be Glad You Took

The easiest way to get satisfactory results when it comes to the landscape is to start with a soil test. A soil test will provide information on the existing fertility level and pH of your soil. It will help you make correct decisions on soil preparation, plant selection and the amount of fertilizer or lime to apply. It also will help to protect the environment by reducing excess nutrients. When you overfertilize, the plants cannot use the excess nutrients which may run off into streams and lakes, resulting in the pollution of our water supplies.

A soil test is a free service by the N.C. Dept. of Agriculture (NCDA). Stop by your local Cooperative Extension Center for the soil test boxes and instructions. For most accurate results, collect representative samples from different areas of your landscape. A soil analysis every three years is a valuable tool for the successful gardener.



provide lime and fertilizer recommendations for specific plants.

Remember, complete the soil test before you plant and prevent some potential problems, and possibly save some money. To learn more, visit [www.ncagr.com/agronomi/sthome.htm](http://www.ncagr.com/agronomi/sthome.htm). **Emily Revels**

Soil test kits that you purchase from your local hardware store or garden center generally are not reliable. The soil test from the NCDA will not only be accurate, it will also



## What causes dwarf Alberta spruce to die?

On the whole, spruces need well-drained, acidic soil with average moisture. They are not well adapted to heavy clay soil unless you have improved it with organic matter. Spruces are sun lovers that are never happy in the shade. Problems associated with spruces are often the result of avoidable stress. Taking steps to plant them in the right place and provide for their ongoing needs will minimize the stresses. Insects are less likely to attack a healthy plant. Spider mites, however, are often a problem for spruces in hot, dry growing conditions. Spider mite populations can build up quickly, causing plant damage.

Mites suck sap from the undersides of needles. As a result of their feeding,

chlorophyll disappears, causing the stippled appearance. Needles usually turn brown and fall off. To determine if a tree is infested with mites, hold a sheet of white paper underneath some stippled needles and tap the foliage sharply. Minute dark green to black specks about the size of pepper grains will drop to the paper and begin to crawl around.

Keep mite populations in check by periodically spraying mite-prone plants with a forceful spray of water. This not only kills the spider mites but also dislodges the webbing that collects dust and deters the natural predators. If this doesn't work, then pesticide sprays may be needed. Two options are insecticidal soaps and horticultural oils. Since mites aren't true insects, most garden insecticides are not effective. **Karen Neill**

## 'Black Gamecock' Iris



Robert E. Lyons ©

## Wetland Plants

*continued from page 2*

Among the plants to avoid when landscaping at home are flowering rush and yellow flag. Also beware of a few aquatic plants that appear on the noxious weed list, such as creeping primrose, *Ludwigia*; purple loosestrife, *Lythrum*; hydrilla, *Hydrilla*; and water fern, *Salvinia*. Though not currently regulated a couple others to avoid are water hyacinth, *Eichhornia*, and parrot feather, *Myriophyllum*. It may be helpful to check with your local Cooperative Extension Center before ordering riparian plants offered in a mail-order catalog to avoid a future maintenance headache. A helpful Web site to visit is [www.weedscience.ncsu.edu/aquaticweeds](http://www.weedscience.ncsu.edu/aquaticweeds). See sidebar on page 2 for plants to consider. **Toby Bost**

## ENVIRO-TIP

### Pest Control Tools

The concept called Integrated Pest Management (IPM) first originated in field crop production. During IPM's infancy, entomologists conducted research to determine a level of damage that could be tolerated without an economic loss of yield. Once this level was reached the grower knew it was necessary to implement some type of control measure or a financial loss would likely occur.

This concept is difficult to adapt to landscape situations since most ornamentals are grown for aesthetic purposes rather than to produce a certain yield. The tolerance or threshold level of an ornamental plant is much more difficult to define. It usually depends on a person's subjective assessment of the impact of insect damage on a plant's beauty rather than a quantitative measure of the plant's yield. For this reason, IPM in the landscape has evolved from the original concept and might better be described as "Intelligent Pest Management."

Intelligent Pest Management does

not rely wholly on pesticide use nor is it strictly an organic approach. Rather, it is a holistic approach to pest control where gardeners utilize a toolbox of cultural and pest control options. An IPM toolbox might include cultural practices such as soil building, mulching, proper plant selection and sanitation. It might also include the use of beneficial organisms such as lady beetles and lacewings, and even pesticides as a last resort. Through careful examination and understanding of the factors influencing plant growth, gardeners practicing IPM strive to manage pests and diseases at acceptable levels rather than attempting to eliminate them. Use pesticides only after careful consideration and when use of the available nonchemical control measures doesn't bring needed results. The "spray and pray" shotgun approach where broad-spectrum pesticides are applied at the first signs of an insect pest is no longer an acceptable practice.

**N. Fred Miller**



Robert E. Lyons ©

## gardentalk



"Soil... scoop up a handful of the magic stuff. Look at it closely. What wonders it holds as it lies there in your palm."

Stuart Maddox Masters



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**Successful Gardener<sup>SM</sup> Editor**

Department of Communication Services  
Box 7603, NC State University  
Raleigh, NC 27695-7603

Editor and Team Leader: **Leah Chester-Davis**  
Extension Communication Specialist

Account Coordinator: **Rhonda Thrower**  
Department of Communication Services

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

Compilations Editor: **Amy-Lynn Albertson**  
Consumer Horticulture Agent, Davidson County

**Contributors:**

County	Name	Phone
Brunswick	David Barkley	(910)253-2610
Burke	Donna Teasley	(828)439-4460
Cabarrus	David Goforth	(704)920-3310
Catawba	Fred Miller	(828)465-8240
Cumberland	Emily Revels	(910)321-6860
Davidson	Amy-Lynn Albertson	(336)242-2091
Durham	Paul McKenzie	(919)560-0525
Forsyth	Toby Bost	(336)767-8213
	J. Stephen Greer	(336)767-8213
Gaston		(704)922-0301
Guilford	Karen Neill	(336)375-5000
Henderson	Diane Ashburn	(828)697-5000
Iredell	Donald Breedlove	(704)873-0507
Lincoln	Kevin Starr	(704)736-8452
Mecklenburg	Jim Monroe	(704)336-2561
Nash	Mike Wilder	(252)459-9810
Orange	Royce Hardin	(919)245-2050
Randolph	Mark Danieleley	(336)318-6003
Rowan	Darrell Blackwelder	(704)633-0571
Union	Willie Earl Wilson	(704)283-3741
Wake	Carl Matyac	(919)250-1100

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## Gardening in June and July

### Lawns

- Calibrate your irrigation system to deliver no more than 1 inch of water per week.
- Let clippings fall for nutrient recycling. Set mower height to recommended settings.
- Fertilize warm-season turf. Fertilize centipede turf only in June.
- Don't fertilize cool-season turf at this time. Watch for development of turf diseases. Many insects are active. Distinguish beneficials from pests with help from your Cooperative Extension agent.
- Refer to lawn maintenance calendars at [www.ncstate-plants.net](http://www.ncstate-plants.net). See "lawn care" for details.

### Ornamentals

- Keep mowers and string trimmers away from trunks of trees and shrubs. Use mulch instead.
- Prune spring-flowering shrubs when flowers fade. Prune broadleaf evergreens before the end of July.
- Feed roses and other ornamentals. Continue fungicide applications to roses.
- Keep chrysanthemums pinched to a height of 6 inches for fuller plants in the fall.
- Look for bagworms on evergreens while they are small and easier to remove.
- Continue to care for spring-planted trees and shrubs with adequate mulch and irrigation.
- Check plants often for disease and insect damage.
- Use this time to plan for landscape improvements. Plant in the fall.

### Edibles

- Remove suckers from the base of fruit and ornamental trees.
- Continue fertilizing vegetable plants.
- Cover fig and blueberry bushes with netting to protect fruit from birds.

*Mike Wilder*

### Landscape Color Trials

Robert E. Lyons ©

### When you visit the JC Raulston Arboretum

at N.C. State University in Raleigh, it's easy to get lost in a fascinating world of woody ornamental plants. But don't forget to visit the colorful area where the Landscape Color Trials are held. While there's something to see virtually year-round, the peak of color is from June to August when the summer annuals are at their best.

This area serves as a test site for All-America Selections of bedding plants, one of only 21 such locations in the country. The area will typically contain over 700 varieties of flowers each year. It's a great place for inspiration and ideas for your garden. For more information, visit [www.ncsu.edu/jcraulstonarboretum](http://www.ncsu.edu/jcraulstonarboretum).

Summaries of previous year's trials also are available at this site.

*Kevin D. Starr*



Blanket Flower  
Robert E. Lyons ©

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- ▶ International Association of Business Communicators
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