



# Green Industry News

Volume 6  
3

May 2000

Number

## CALENDAR OF EVENTS

**Procrastinator's Pesticide Recertification Conference** June 2, 2000

**CMREC Open House - Clarksville Maryland**  
June 10, 2000

**Greenhouse Short Course**  
June 21, 22, 26, 28, 29, 30, 2000

**Maryland Greenhouse Growers' Association Conference**  
June 27 2000

**Central Maryland Research and Education Center Field Day - Focus on Aquatics**  
July 25, 2000

**Association of Specialty Cut Flower Growers Regional Conference**  
August 7, 2000

**Maryland Cooperative Extension Cut Flower Tours**  
August 8, 2000

Details begin on page 6

## **Plants Poisonous to Horses**

Bryan Butler

More and more farmland in Maryland is being developed into estate lots of 2 – 10 acres. This is great for the industry because of all the installation, mowing, and maintenance required on these large properties. However, with the creation of the type landscape needed to compliment the estate home, some special challenges can arise. In Central Maryland, many of these properties are being setting up to keep horses. It is usually quite tight when all the parts are put in place, i.e. driveway, house, pool, garage, barn fences, patio, etc. In many cases, the grazing area for horses borders much of the ornamental landscape. This situation can be potentially dangerous since some of the plants that are commonly used in landscapes in this area can be poisonous to horses. Many landscape companies are already aware of the potential dangers to horses from

## **In This Issue**

Plants Poisonous to Horses	1
Good News - But what about the labor force?	2
Umbrella Palms	3
Water Quality	5
Calendar of Events	6

landscape plants but the homeowners often will not even consider this issue until after the horses are in the pasture and the yews (which are very dangerous for horses) are planted as a border to block the view of the manure pile.

To avoid this situation I would suggest taking time to ask your client about their plans for the property. This may create an opportunity for you to recommend plant material or at least better locations for certain types of plants that may be harmful to the horses. With established plantings, you can point out dangerous situations where horses are concerned and offer alternatives to the owner.

It is much easier to find a list of toxic plants than a list of safe plants. Once we know what to avoid, we can consider the placement of plants we feel are safe. Horses will get into almost anything given the chance especially if they are hungry enough. Worn pastures with poor growth do not provide much feed value and with little to graze on, horses will stretch out over fences to pick at surrounding vegetation. If they eat enough of a plant that is only mildly toxic it can cause problems for the horse. Tall fescue, which may be seeded in the lawn, causes problems for mares, which are bred or are to be used for breeding purposes. Be careful what seed you use if you are asked to renovate part of a pasture. Bluegrass, Orchard grass, Timothy, or Endophyte-free Tall fescue would be better choices. It is important to be aware of plant location and place plants away from fence lines. Keep older plants pruned back so the horses cannot get to them. Trees planted in pastures for shade usually do not make it to maturity. They can break, have their bark pulled off or the soil around them becomes heavily compacted from the congregating horses providing little shade in the end. Trees like Red Maple, Oak, Golden Chain, Black Locust and wild Cherries are potentially very toxic to horses and should be removed if in the pasture or around the fence line.

*Bryan Butler is a former Extension Educator with Maryland Cooperative Extension in Carroll County. Bryan is now with the Soil Conservation Service in Howard County.*

*A few resources Bryan has found useful regarding poisonous plants and horses are:*

Horse Owner's Guide to Toxic Plants  
Sandra Burger, Breakthrough Publications.

The Merck Veterinary Manual eighth edition.

*Internet sites:*

[www.io.com/neighbor/poisonous.html](http://www.io.com/neighbor/poisonous.html)  
[www.Ansci.cornell.edu/plants/anispecies.html](http://www.Ansci.cornell.edu/plants/anispecies.html)  
[www.Equi-sense.com/toxicplants.html](http://www.Equi-sense.com/toxicplants.html)

### **Good Times: But What About the Labor Force?** Stanton Gill

Business could not be better for most landscape managers, greenhouse owners, and nursery managers. Customers are practically begging for plants and landscape services. However, the number of unemployed have dropped from 6.48 million (1970) to a present figure of 5.69 millions.

Population demographics are also a factor. The primary source of new employees for the work force usually comes from the 20 - 29 age group. The overall size of this group decreased from 1986 through 1998. From 1966 - 1980 there was a noticeable decrease in the number of births in the United States.

Now the good news! There is a rebound under way with the size of the 20 to 29 age range increasing steadily through the next decade according to the National Census Bureau. If the economy stays strong there will be plenty of new jobs created to attract this work force away from the horticulture industry. In the greenhouse industry several businesses have been successful in attracting formerly employed (retired) people who are interested in working. This has potential for garden center employees and some

landscape service jobs. Since the number of people who reach retirement age will continue to increase over the next twenty years this is one of the most viable groups to try to attract to work in the industry.

*Stanton Gill is a regional specialist at the Central Maryland Research and Education Center, Ellicott City, Maryland.*

---

### IPM Information On-line CMREC IPMnet

<http://www.agnr.umd.edu/users/ipmnet>

Updates Throughout the Growing  
Season \* Nutrient Management \*  
Conferences \* Fact Sheets \* Newsletters  
\* Cut Flowers \* Links

**NEW!**

Weekly  
Landscape  
and Nursery  
Pest and  
Disease  
Report



---

### Umbrella Palms Russell Balge

Given that we have just come through one of the worst droughts in recorded history, you might think that I have lost my senses to write an article on an aquatic group of plants. Not so, water gardening is

an increasingly popular segment of gardening. Actually Umbrella Palms are not palms, but sedges, moisture-loving members of the Cyperaceae family, which are close relatives of the Poaceae, or grass family.

### Character

The popularly cultivated umbrella palm species of the genus *Cyperus* take their common name from their shared general appearance. They are characterized by having a few to many arched, slender, thread-like to flattened, leaf-like bracts radiating out like the spokes of an umbrella from the top of a slightly to distinctly triangular, solid, jointless stem.

The leaf-like bracts are associated with and subtend the branches or rays of the inflorescence, which radiate outwards from the same common point as the bracts, somewhat like a bursting skyrocket, terminating in the dull brown to greenish flowers. The flowers are incomplete, having only scales or hairy tufts instead of colored sepals and petals. They are however, perfect, having a single pistil and one to three stamens. The true leaves may be found at the base of the plant, often reduced to sheaths clasping the stem.

### Culture

As a group, umbrella palms not only tolerate a moist if not wet soil, they demand it; a moist, spongy, organic soil being the best substrate to grow them in. The easiest way to satisfy their watering needs is to place potted plants in a saucer of water, but not so deep as to submerge the entire root system. Unpotted plants may be planted at the edge of a pond or bog. An exception is *Cyperus papyrus*, which grows best if submerged in at least three inches of water. Another exception, *C. albostratus*, should be kept moist but never wet.

The umbrella palms grow well in light shade to full sun, with the variegated cultivars and forms needing especially bright light due to their reduced photosynthetic capability. With the exception of *C. papyrus*, which needs an evening temperature no lower than 60 to 65F, the other cultivated members of

this genus tolerate evening temperatures as low as 50F.

The umbrella palms are excellent tender specimen plants in the home or used in the landscape in shallow ponds with fish swimming around them. Feed umbrella palms once a week with a half-strength water-soluble fertilizer from early spring to late summer when they are actively growing. Propagation is by seed, division, or from cuttings. To propagate umbrella palms from cuttings, take one of the sprays of pseudo foliage with a 1-to2-inch stem, cut the bracts back by one-half to reduce water loss, and then, place the cut end in a shallow tray of water or stick it in a container of moist sand. When the new “babies” that arise from the center of the inflorescence develop roots, pot them in 3-inch pots.

Pot newly germinated, recently divided, or rooted cuttings of umbrella palm in a mixture containing equal parts of: (1) sterilized fibrous potting soil; (2) medium grade peat moss, tree bark, of leaf mold; (3) coarse sand or perlite; and (4) dehydrated cow manure.

### Species

Among the umbrella palms found in greenhouses, garden centers, or aquatic nurseries are the following:

*C. albostriatus*—South Africa; 8 to 20 inches tall with 5/16- to 3/4-inch-wide, purple-sheathed, 3-nerved, basal leaves of shorter to similar length as the stems; 8 to 24 leafy bracts similar to the leaves, over topping 8 to 24, 1-to4-inch-long, slender floral rays of the compound umbel, each ray terminating in 2 to 4 spokes containing 8 to 24 pale brown flowers.

*C. alternifolius*—Tropical marshes of Madagascar, Reunion, Islands, Mauritius; 1-1/2 to 3 feet tall with a ribbed or triangular stem; basal leaves reduced to reddish brown sheaths; 12 to 20, 4- to 12-inch-long, 1/2- to 5/8-inch-wide, drooping leafy bracts in floral involucre; very slender floral rays of umbel, same in number, 3/4 to 4 inches long, rising from bract axils,

terminating in 3 to 12 spikes each, with dull brown flowers.

This is the umbrella plant, palm, or sedge of the trade. It has been used as a feature in tropical water gardens for over 200 years. The cultivar ‘Gracilis’ or dwarf umbrella plant is smaller, more slender, and rarely flowers. The cultivar ‘Variegata’ has bracts and stems striped with pale cream and green.

*C. isocladius*—(*C. papyrus* ‘Nanus’)—Zanzibar, Mozambique, South to Southwest Africa; 12 to 28 inches tall with leaves reduced to basal sheaths; leafy involucre bracts up to 1 inch long; rays of umbelliferous inflorescence 50 to 100, 1 to 4 inches long, slender, terminating in 1 to 5 spikes each of dusky brown flowers.

This is the dwarf or miniature papyrus used in the making of paper by the Egyptians, Greeks, and Romans since 2750 BC. The paper was made by soaking thin strips of the pith or central stem tissue in water and pressing them together while they were still wet.

*C. papyrus*—Banks and shores of quietly flowing water up to 3 feet deep in North and tropical Africa; usually 4 to 8, but sometimes up to 15 feet tall; 4 to 10, 3-1/2- to 8-inch-long, 1/2-inch-wide involucre bracts; floral rays over 100, 4 to 12 inches long, each enclosed in a 1- inch-long basal sheath and terminating in 3 to 5 thread-like branches with 3 to 5 spikes, each containing 20 to 30 spikelets with 6 to 16 brown flowers apiece.

This cyperus was also supposedly used in papermaking, but was more commonly used in thatching roofs, making rafts, and distilling for alcohol.

*C. esculentus*—The villain of this group, native to the damp soils of Asia and Africa; called chufa, earth almond, zula nut, rush nut, or tiger nut. This cyperus, particularly the var. *sativus*, is cultivated for its edible, nutty-flavored sugar-, starch-, and fat-rich tubers used cooked, roasted, or made into flour. It has become a

weedy nuisance in lawns, flower and vegetable gardens, and landscapes.

The plant has a 3-angled 6- to 24-inch-tall stem with many 3/8- to 5/16-inch-wide leaves as long as the stem. The inflorescence has 2 to 6 involucral bracts and 5 to 10 rays in the floral umbel, each terminating in 5 to 24 spikelets bearing pale brown flowers.

*Russell Balge is a regional specialist at the Western Maryland Research and Education Center in Keedysville, Maryland.*

### **Water Quality**

Thomas M. Blessington, David L. Clement,  
Rondalyn M. Reeser, and Sarah E. Tater

#### **Introduction**

- Water quality effects the selection of the nursery/greenhouse site, crop selection, irrigation systems and fertilizer treatments
- Testing water is the first step in determining a production program

#### **Evaluating Water Quality**

- Check quality of water supplied from a municipality, pond, or well
- Check that water quality is consistently within desired limits
- Many municipal suppliers blend their water from several different sources
- Government mandate requires that suppliers maintain analytical test result records that can be obtained by growers
- Results from a water test will provide elemental content and reference will be made to normal, high, and low values
- Have test results reviewed by a knowledgeable individual or agency and obtain recommendations
- Many plants can tolerate irrigation water of a wide range of chemical compositions
- Some plants may be very sensitive to water composition so the grower needs to:
  - Avoid certain irrigation systems
  - Pretreat water with chemicals

- Dilute water
- Select specific fertigation programs

#### **Fertigation Programs Based on Water Test Analysis**

- Water high in calcium, magnesium, manganese, iron or bicarbonate may leave mineral deposits on foliage by overhead irrigation so apply water directly to media
- Water with sodium or chloride toxicity can damage foliage when applied in an overhead irrigation system so water directly to media surface
- Water low in minerals may not supply plants with enough sulfur, sulfate or boron so plants will require supplemental minerals
- Water high in metallic ions such as copper, zinc, manganese, and iron may lose these ions when exposed to air and making then unavailable to plants

#### **Water Sampling**

- Samples must be taken carefully to ensure test results will be representative of overall water quality
- Taking samples from well water:
  - Operate well at normal flow
  - Take sample close to well head after upstream piping has been purged of standing water
  - Use portable hand-held conductivity meter to ensure conductivity is stable when sampling
- Take samples in the following containers:
  - If testing for horticultural quality (plant use) use polyethylene or polypropylene since glass can contaminate sample with boron
  - If testing for organic materials such as herbicides and pesticides don't use plastic since some plastics absorb organic compounds- use glass
- If testing for potability (drinking water) refrigerate sample during shipment
- Usually one pint or 500 ml is required from a

- larger sample size to homogenize the sample
- Fill containers to the brim

**In-House Testing**

- Test for electrical conductivity (EC) with a hand held conductivity meter
- Test pH when using acidification to reduce carbonate and bicarbonates
- If injecting acid in-line measure pH in-line and also be able to measure alkalinity
  - Alkalinity can be measured by titration since it is primarily due to concentrations of carbonate and bicarbonate
  - Purchase kits of specialized laboratory grade glassware and supplies
- To ensure accurate results of testing use proper equipment and calibrate them with standards
  - Standards for pH and EC are available from equipment suppliers
  - Use only fresh standards that have been stored properly
- For comprehensive data obtain water analysis from a testing laboratory
- Testing laboratories include some vendors of horticultural supplies and private agencies

*Thomas M. Blessington and David L. Clement are regional specialists and Rondalyn M. Reeser, and Sarah Tatar are technicians with the Central Maryland Research and Education Center in Ellicott City, Maryland.*

---

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by the Maryland Cooperative Extension Service is implied.

---



---

**CALENDAR OF EVENTS**

---

**Procrastinator’s Pesticide Recertification Conference**

June 2, 2000

Location: Montgomery College, Germantown

Contact: Steve Dubik, 301-353-7803

**Topics:**

- Tough Soft Scales: Indian wax scale and Taxus scale
- Slime Molds, Puffballs and other Funky Fungi
- Imidacloprid: Best applications methods update
- Non-selective Herbicides
- Diseases on Dogwoods
- Small Flowering Trees with an Emphasis on Crabapple
- Advances on Managing Crabgrass
- Update on Nutrient Management

**CMREC Open House**

*‘A Healthy Environment-A Healthy Me’*

June 10, 2000 from 10 a.m. to 3 p.m.

Location: Research Farm on Folly Quarter Road, Ellicott City, Maryland

Educational and fun activities for both kids and adults. There will be hands-on educational exhibits, wagon tours of the dairy barn, wetlands project and composting area, home and garden equipment booths, a plant clinic, feeding and care of horses (includes a dressage and drill demonstration), a petting zoo and food and drinks for sale. For more information, call 800-342-2507.



**Greenhouse Short Course**

June 21, 22, 26, 28, 29, 30, 2000

Location: Maryland Department of Agriculture, Annapolis, Maryland

Tour: On June 26 there will be a tour of three area greenhouses. The tour will cover greenhouses structures and equipment.

**Topics include:**

Marketing, Insect, Disease and Weed Control,  
Business Management, Scheduling

Contact: Suzanne Klick, 301-596-9413 or  
sk85@uemail.umd.edu

**Maryland Greenhouse Growers' Association  
Conference**

June 27, 2000

Location: Carroll Community College

Contact: Hank Doong, 301-249-1700

**Topics:**

Petunias, Snapdragons and Other Plants for Fall Sales  
Belgian Mums: Changing the Fall Mum Market  
Avoid Dis-Asters in Aster Production  
Dazzling Dahlias for All-Weather Profits  
Nutrient Management for Greenhouse Growers: Will  
you be lawfully compliant or illegally complacent?  
Sizzling Perennials for Hot Dry Market Sales  
Choice Annuals for Drought Market Conditions

**Association of Specialty Cut Flower Growers  
Regional Conference**

August 7, 2000

Location: Virginia, exact site TBA

Contact: Bob Wollam, 540-937-3222

**Maryland Cooperative Extension Cut Flower  
Tours**

August 8, 2000

Location: Tour will begin at CMREC in Ellicott City  
and travel to north and central Maryland.

Contact: Suzanne Klick, 301-596-9413 or  
[sk85@uemail.umd.edu](mailto:sk85@uemail.umd.edu)

**Green Industry News Contributors:**

Robert Stewart  
Area Agent - Commercial Horticulture  
Maryland Cooperative Extension, P.G. County  
University of Maryland  
301-868-8781  
[rs72@uemail.umd.edu](mailto:rs72@uemail.umd.edu)

Ginny Rosenkranz  
Extension Educator, Commercial Horticulture  
Maryland Cooperative Extension, Wicomico County  
University of Maryland  
410-749-6141  
[vr20@uemail.umd.edu](mailto:vr20@uemail.umd.edu)

Russell Balge  
Regional Specialist - Commercial Horticulture  
Maryland Cooperative Extension  
Western Maryland Research & Education Center  
University of Maryland  
301-432-2767 ext 311  
[rb4@uemail.umd.edu](mailto:rb4@uemail.umd.edu)

Bryan Butler  
Former Extension Educator  
Maryland Cooperative Extension, Carroll County  
Bryan is now with the Soil Conservation Service in Howard  
County

Thomas Blessington  
Professor and Regional Floriculture Specialist  
Maryland Cooperative Extension  
Central Maryland Research & Education Center  
University of Maryland  
410-531-6947  
[tb41@uemail.umd.edu](mailto:tb41@uemail.umd.edu)

Stanton Gill  
Regional Specialist, IPM and Nursery and Greenhouse  
Management  
Maryland Cooperative Extension  
Central Maryland Research & Education Center  
University of Maryland  
301-596-9413  
[sg10@uemail.umd.edu](mailto:sg10@uemail.umd.edu)