



High on the Desert Cochise County Master Gardener Newsletter

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The University of Arizona and U.S. Department of Agriculture Cooperating

It's All in the Light

Plants use light to manufacture food and to grow. Photosynthesis, the process by which plants grow, is triggered by light. Plants vary in the amount of light they need and most perform satisfactorily in a wide range of intensities. For the indoor garden there are four basic light categories: Generally, blooming plants and plants that bear fruit require more light.

South windows:

This is the sunniest exposure getting full sun from late morning to mid-afternoon and bright light the rest of the day. This location will especially suit flowering plants and those from arid climates like cacti and some succulents. Plants can usually be placed quite a distance back from a south window and still get very good light.

East windows:

This location is often considered the best for growing plants. It receives full sun for a short period in the

morning and bright light the rest of the day. Cooler than a west window, it allows plants to get the bright light they need without the danger of overheating. Both foliage and flowering plants thrive here.

West windows:

Like the east window, the west window receives full sun for part of the day and bright light for the rest of the day. The main disadvantage is that many plants find such a spot a bit hot. Plants still have bright light up to two feet from a west window.

North windows:

Plants in north windows receive no direct sun, but depending on the season, can receive bright light for much of the day. Generally only foliage plants will thrive here.

Of course light intensities vary according to season. A south window, which may be too intense for many foliage plants in summer, is

(Continued on page 2)

Inside this issue:

Cuttings 'N' Clippings	2
Scholarship Offering	2
Conference Registration	insert
The Virtual Gardener	3
January Reminders	4
Conference Info	4

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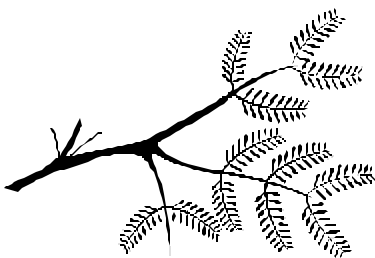
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the best location for most plants during the winter months. During summer, move plants back from hot south or west windows, or draw a sheer curtain between them and the glaring sun. A north window may not receive enough light for flowering plants during the winter, but almost every plant will thrive in its cool brightness during the summer month. Never hesitate to move plants from site to site according to season or when they don't seem to do well. I am notorious for that and even do it in my garden.

Improving natural light:

If your plants grow in insufficient light, they will grow leggy and refuse to flower. You can increase light by removing anything that blocks it out. For example, curtains, blinds, etc. Plants adapt perfectly well to artificial light. Fluorescent lights and halogen lamps produce a light close to sunlight.

Angel Rutherford, Master Gardener



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High on the Desert

The Cochise County Master Gardeners Association (CCMGA) is awarding up to five full scholarships to the 2003 High Desert Gardening & Landscaping Conference to be held at the Windemere Hotel & Conference Center February 20 & 21. Applicants are invited to submit an essay on one of the following topics:

- Gardening for food production
- Landscaping with native plants
- Environmental stewardship

Essays must meet the following criteria:

1. 750 to 1,000 words in length.
2. Double spaced and typed on plain bond paper.
3. Represent original scholarship and be suitable for publication. All references and authorities cited must be properly attributed.
4. Entries must be accompanied by an official cover sheet obtainable from the Cooperative Extension Office at the U of A South campus or on the web site.
5. Entries must be received at the Cooperative Extension Office at the U of A South campus not later than close of business on January 15, 2003.

Entries will be judged by the Cochise County Horticultural Extension Agent and a committee of Master Gardeners appointed by the President of CCMGA. Winners will be notified by the end of January and the names of awardees will be announced in the February 2003 Master Gardener newsletter.

Cuttings 'N' Clippings

* Cochise County Master Gardeners Association (CCMGA) next meeting will be January 8 at 5:00 at the Sierra Vista library

* The Saturday, January 4 *Water Wise* presentation will be *Don't Love Your Trees to Death: Care and Pruning of Landscape*

Trees" by "Brec" Brecheisen, Arborist. The workshop will be held at the University of Arizona South, 1140 S. Colombo, Sierra Vista, from 9:00—10:30 a.m.. All workshops are free and open to the public. Monthly workshops will be held at the same time and location on the first Saturday of the month.

* It's time to recycle your phone book—place in any of the newspaper bins at the regular recycling drop-off locations. Containers are in place at the Mall of Sierra Vista for your Christmas trees.

The Virtual Gardener—On-Line Biology Texts

A few weeks ago I put together a lecture that included a short discussion of photosynthesis. In researching that topic (on the Web, of course) I came across an on-line biology textbook that I thought you might like to hear about. The site, Kimball's Biology Pages, can be found at <http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/>

The author, John Kimball, is a retired Harvard biology professor who is also the author of a standard college textbook on biology that has gone through six editions since it was first published in 1965. I have not seen the printed version of his textbook but cannot believe it can be any better than the hypertext book he has created on-line.

Although a college textbook may be a bit academic for many readers, I suspect that some of you have a need to refresh your memory from time to time on something you learned in school or perhaps, like me, would just like to extend your knowledge.

To use the on-line textbook, select a topic from an alphabetical listing. Once you have arrived at the topic page of your choice, you will find a discussion of that topic and links to other related topics. For example, suppose you were interested in learning more about flowering plants. Since those plants belong to a group called, *angiosperms*, look at the list of terms

beginning with *A* until you find *angiosperm*. Clicking on that word will take you to a page called *Sexual Reproduction in Angiosperms* that describes through text and illustrations the basic facts of life for flowering plants. Following the links on the page will take you to discussions of *meiosis* and *mitosis* (do those terms ring a dim bell in your memory?), the genetic control of flower formation, how plants avoid inbreeding, a comparison of apical and floral meristems, dicots and monocots, and the magical growth hormone for plants called *auxin*. Of course each of these topics are also linked to other topics, giving the you opportunity to waste a whole evening in serendipity.

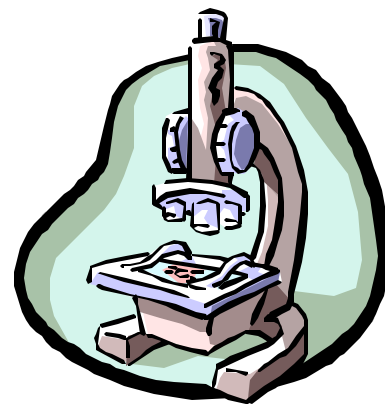
If you are into some heavier stuff, like biochemistry, you will also find great discussions of that too. The discussion of photosynthesis, for example, describes the miracle process that is the basis for all life on this planet in an easy but thorough manner illustrated with many diagrams. You will learn how plants make glucose from carbon dioxide and water to store the energy of sunlight and how they “burn” that glucose to recover the stored energy. A few clicks more of the mouse and you will learn how we too can burn the glucose from plants to use that stored energy of sunlight to run our bodies and

do useful things like gardening. A few more clicks and you will learn how consuming too many of those plants make us gain weight. Fascinating stuff!

If Dr. Kimball doesn't give you enough information on a topic, you can link to the on-line biology textbook used for an introductory biology course at the Massachusetts Institute of Technology at <http://web.mit.edu/esgbio/www/7001main.html> The fare here is a little more daunting. Finally you can check out the on-line biology text from Maricopa Community College in Phoenix at <http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookTOC.html> another site stuffed with valuable information.

Until next time, happy surfing.

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January Reminders

- ? Winter pruning
- ? Remove old mulch & replace
- ? Dig tree holes
- ? Prepare soil for spring
- ? Water periodically
- ? Stratify seeds
- ? Fertilize asparagus
- ? General garden clean-up

High on the Desert

The 10th annual High Desert Gardening & Landscaping Conference will be held at the Windemere Hotel & Conference Center on February 20 & 21, 2003. The conference will feature Mary Irish, author, Carl Olson, author, and many other speakers over the two days. These experts will be covering “everything you want to know and more” about high desert gardening. Registration forms are available in this newsletter, on-line on our web site, or at the Cooperative Extension office after January 1st. For more information call the Cooperative Extension at 458-8278, Ext. 2141.

Register early—pre-registration required!

We hope to see YOU there!