

SCIENCE NEWS®

The Weekly Newsmagazine of Science

Science Service Publication
Volume 148, No. 7, August 12, 1995

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SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for \$49.50 for 1 year or \$88.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, D.C. 20036. Second-class postage paid at Washington, D.C., and additional mailing office. **POSTMASTER:** Send address changes to SCIENCE NEWS, P.O. Box 1925, Marion, Ohio 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided. Copyright © 1995 by Science Service, Inc. Title registered as trademark U.S. and Canadian Patent Offices. Printed in U.S.A. on recycled paper. ♻️
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Cover: Parts of this fruit fly glow because its DNA includes the *luciferase* gene found in fireflies. In insect, plant, and other species, researchers are now using *luciferase* genes to shed light on the workings of biological clocks, internal watches that let organisms follow daily cycles of activity. (Photo: Steve Kay)



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Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921. It gratefully accepts tax-deductible contributions and bequests to assist its efforts to increase the public understanding of science, with special emphasis on young people. More recently, it has included in its mission increasing scientific literacy among members of underrepresented groups. Through its Youth Programs it administers the International Science and Engineering Fair, the Science Talent Search for the Westinghouse Science Scholarships, and publishes and distributes the *Directory of Student Science Training Programs for Precollege Students*.

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Letters

Melatonin's conflict, safety issues

"Drug of Darkness" (SN: 5/13/95, p.300) failed to note Richard Wurtman's significant financial interest in Interneuron Pharmaceuticals, a company aggressively seeking to market melatonin, or chemical analogs, as a prescription sleeping pill. With hundreds of millions of dollars in "profits by patent" at stake, Wurtman's admonitions to avoid currently available "generic" melatonin should be viewed with skepticism.

Edward Fry
Petaluma, Calif.

At least six institutions besides MIT have applied for or now hold patents relating to uses of "melatonin or chemical analogs," and six companies besides the one I cofounded seek to develop and market products based on these uses. What all of these companies will

share is the obligation to prove to the FDA that their products are pure, safe (for example, in pregnant women or people taking other drugs), and effective.

At present, all of the health-food-store "melatonin" preparations I've seen contain amounts of the drug that are far too high and that raise melatonin concentrations in the blood far above any that occur normally. Are such levels safe? Perhaps the health-food-store marketers have safety data; if so, they'd be well advised to make those data available.

My deep concern about having the potent hormone melatonin sold without any sort of FDA oversight derives from terrible experiences with another natural compound also used as a hypnotic, L-tryptophan. My laboratory first showed, more than 2 decades ago, that relatively tiny doses of L-tryptophan could increase serotonin in the brain, thereby inducing sleep. At that time, MIT wasn't routinely patenting discoveries that might lead to new drugs, so we simply published scientific

papers on our findings and assumed that these would somehow lead to a safe and effective sleep-inducing product.

Instead—since we hadn't patented L-tryptophan and no one else could do so—no legitimate U.S. drug company chose to develop it, and it became a health-food-store product, unregulated by the FDA. Because of this lack of regulation, it was possible, a few years ago, for an impure L-tryptophan preparation to be introduced into this country by a company seeking to gain market share.

This preparation generated a new syndrome, the eosinophilia-myalgia syndrome, which killed at least 45 otherwise normal people and subjected thousands of others to a lifetime of pain and disability. I devoutly hope that history does not repeat itself with melatonin.

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