

## Making malodors unsniffable

Americans' sensibility standards toward malodors around the house are seemingly on the increase, encouraged by advertisements, disposable income and product availability. But room-freshening alternatives to date work mainly by masking unpleasant odors with stronger, more pleasant ones, thus raising the total odor level in the room accordingly.

A chance discovery by chemists at Monsanto Flavor/Essence Inc., in St. Louis, will soon provide American odor-sensibilities with a new alternative—"malodor counteractants." As yet unnamed, these compounds work not by masking bad odors, but by "turning the nose off" to them and leaving only the perception of a "fresh air" smell.

The discovery, made several years ago, was just announced in the Oct. 13 CHEMICAL AND ENGINEERING NEWS. The chemical structures for the malodor counteractants are still secret (Monsanto is applying for patent protection) but project leader Alfred A. Schleppnik says they are relatively simple compounds. A few parts per million in a room will almost instantly eliminate human perception of malodors, and the effect will last for hours. Malodorous compounds are usually proton donors or acceptors, and the new compounds interfere with olfactory perception of them in some unknown way.

The first application of the compounds will probably be home air fresheners and the elimination of off-odors in certain personal care products such as shampoos and cosmetic creams. Monsanto does not plan to sell malodor counteractants directly to the public, but will sell them to consumer product manufacturers. The first ones should be available next year.

## Warning label for 'the pill'

The U.S. Food and Drug Administration announced that it has drafted warning labels for birth control pills to alert physicians and patients to some possible adverse effects. The warnings, not yet released, will be prescreened by consumer, medical and industry groups. They include five points: 1) Women over the age of 40 should be urged to use other contraceptive methods to avoid the risk of heart attacks. 2) Women should wait three months before attempting conception after discontinuing the pill to avoid the risk of spontaneous abortion. 3) If a woman misses one period and has not been using the pill as directed, she should be checked for pregnancy to avoid exposing a developing fetus to the contraceptive hormones. 4) Pregnancy tests involving the administration of sex hormones should be discontinued. 5) Nonmalignant liver tumors, although extremely rare, should be considered a possible side effect. The warnings are not intended to discourage the use of oral contraceptives, an FDA spokesman emphasizes. The "pill" is still considered a safe and effective method for most women.

## Effective combination antibiotic reported

Pharmaceutical chemists from Merck Inc., Rahway, N.J., reported a new experimental drug with the potential to eradicate a wide spectrum of pathogenic bacteria to a conference on antimicrobial agents and chemotherapy held in Washington, D.C. The agent is a combination drug that works by preventing bacteria from synthesizing D-alanine, an essential cell-wall component for every type of bacteria.

No bacterial strain yet tested has proven resistant to the new agent, including pathogens that have grown resistant to most other antibiotics, such as *Pseudomonas aeruginosa* (responsible for many life threatening infections in hospitalized patients). Human safety trials have not yet begun, but based on animal trials, Merck researchers say they are optimistic.

## Miscarriage and the coffee connection

Utah has the lowest rate of fetal death in the country. This is probably partially related to the fact that the population of Utah is mainly Mormon, and Mormons, as a rule, do not use alcohol, tobacco or caffeine. Research has shown that excessive drinking and smoking by a pregnant woman can be harmful to her unborn fetus. Now, there is preliminary data suggesting that excessive use of coffee by pregnant women may also be harmful to fetuses.

Paul Weathersbee, J.R. Lodge and L.K. Olsen of the University of Illinois at Urbana—Champaign have found that pregnant women who drink more than six cups of coffee a day may be increasing the chances that they will miscarry. These findings, explains Weathersbee, are based on results of a study of 550 families. "We found," he says, "that 13 of 14 women who said they drink an average of seven cups of coffee or more daily, had an unfavorable pregnancy." Mormon families, because they avoid coffee, are being used as a control group.

Caffeine is one of the substances that passes through the placenta from the mother to the fetus, and recent research has suggested that fetuses may not be able to metabolize or break down caffeine. Even newborns are not able to do so until a few days after birth. The caffeine, itself, says Weathersbee, has almost the same effect as ionizing radiation on cells. In fact, he says, you can't tell the difference between the effects of caffeine and ionizing radiation on cell cultures. Both can damage genetic material and cause other problems. This type of damage, he goes on, may be responsible for the high rate of fetal death and miscarriage noted among women who are heavy coffee drinkers. Weathersbee cautions, however, that the data are preliminary, and that coffee is probably only one of several factors that contribute to reproduction difficulties.

## Infestations: Crabs and scabies

As big a problem as gonorrhea—that's what is being said about the recent resurgence in the incidence of infestation with pubic lice (crabs). At the recent meeting of the American Medical Association, it was estimated that the incidence of crab-lice infestation was 50 percent higher than in the previous year. The incidence of body lice remained about the same. The incidence of crab lice is highest in females 15 to 19 years of age and in males older than 20. The lice are usually found in the genital region but may also infest the eyelashes, armpits and other areas of body hair. The minute organisms can be transmitted through clothing or bedding, but the toilet seat theory is out. Crabs are almost always transmitted during sexual contact.

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The likelihood that a patient with a skin problem characterized by itching and lesions may have scabies (a dermatitis with intense itching caused by the burrowing into the skin of the itch mite, *Sarcoptes scabiei*), "has increased dramatically in recent years," says Orville J. Stone of the University of California at Irvine. "Scabies is a highly infectious disease currently reaching epidemic proportions," he says, "particularly because there is such a low index of suspicion." Until 1971, the disease was considered extinct in the United States. Now Stone reports that he, like many other physicians, is seeing more cases of scabies in one day than he did in his first ten years of practice.

Scabies, like crabs, are usually transmitted by close personal contact. And in both cases, the problem is most common in persons under 30 years of age. Some explanations for the increase in scabies include the fact that Americans have been traveling more; the demise of hexachlorophene from wash products; and the so-called sexual revolution.