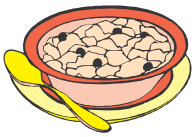
Eat a Good Breakfast To Start a Good Day



The habit of eating breakfast has declined in all age groups over the past quarter century—but especially among young women aged 15 to 18 years. Yet research is showing that the old USDA adage is proving to be all too true: For teens, the nutrients taken in at breakfast set the tone for the whole day. Teens who eat breakfast are two to five times more likely than breakfast-skippers to consume at least two-thirds of recommended daily levels of calcium, magnesium, riboflavin, folic acid, phosphorus, iron, and vitamins A, B_6, and D. Individuals who consume breakfast also have total daily intakes lower in fat and higher in carbohydrates than those of breakfast-skippers.

Studies have shown that teens who eat breakfast make better food choices all day long. Not only do those who skip breakfast fail to compensate for the missed vitamins and nutrients when they eat at other times, a few studies have shown that they also tend to have a higher body mass index. Extra efforts are needed to inform 15-year-olds of the importance of eating breakfast in terms of their overall dietary adequacy and growth. *Theresa A. Nicklas, USDA-ARS Children's Human Nutrition Research Center at Baylor College of Medicine, Houston, Texas; phone (713) 798-7087, e-mail tnicklas@bcm.tmc.edu.*

Bacteria in Feather Follicles?

For years, it's been assumed that bacteria enter empty feather follicles during poultry processing. Scientists have investigated ways to cleanse the follicles of potentially harmful microbes. But recently, they found that the amount of bacteria present on poultry skin is basically the same—with or without empty feather follicles.

To see this, the researchers first had to breed featherless chickens with commercial broiler breeders. Using artificial insemination, they propagated offspring that would produce both feathered and featherless broilers that would grow to comparable size in the same length of time. One week before processing, the birds were all given *Campylobacter* orally. They were then slaughtered and defeathered. Examination of the breast skin under sterile conditions revealed no significant differences between feathered and featherless carcasses in the levels of *Campylobacter, Escherichia coli,* and total aerobic bacteria present. *R. Jeffrey Buhr, USDA-ARS Poultry Processing and Meat Quality Research Unit, Athens, Georgia; phone (706) 546-3339, e-mail jbuhr@saa.ars.usda.gov.*

Snails Can't Take Caffeine

For the first time, researchers have looked at caffeine as a possible control for slugs and snails—including the orchid snail, *Zonitoides arboreus.* This common, damaging pest likes to feed on the roots of Hawaii's colorful and exotic tropical orchids. Scientists discovered the effects of caffeine on mollusks by accident while using it to control a different pest of potted plants. They found that a 2-percent solution of caffeine sprayed onto the coconut husk-chip material—called coir—on which orchids were being grown killed nearly 95 percent of snails infesting the pots. In another trial, a 2-percent caffeine solution killed all but 5 snails infesting a group of orchid plants within 30 days of application, compared to 35 snails left after a standard dose of a common molluscicide.

Caffeine is a naturally occurring compound in coffee and chocolate and is considered to be Generally Recognized As Safe by the Food and Drug Administration when used as a food additive to cola-type drinks. Future studies will show how well caffeine sprays may protect other floral crops from snail attack. *Robert G. Hollingsworth, U.S. Pacific Basin Agricultural Research Center, Hilo, Hawaii; phone (808) 959-4349, e-mail rhollingsworth@pbarc.ars.usda.gov.*

New Food Safety Allies: Chemical-Detecting Wasps

Scientists have learned that parasitic wasps can be trained to detect the chemicals associated with foodborne toxins, such as aflatoxins. These mycotoxins—the naturally occurring metabolic byproducts of certain molds, such as *Aspergillus flavus* and *A. parasiticus*—can cause problems in harvested peanuts and corn. Some strains of these *Aspergillus* species produce aflatoxins, but others don't. Current methods to test for aflatoxins are limited, time-consuming, and expensive.

Now, the researchers have devised a model system to show that parasitic wasps can differentiate between chemicals associated with toxin- and non-toxin-producing *Aspergillus*. They feed sugar water to the wasps while exposing them to the scent that is to be tracked. Through typical associative learning, the wasps can learn to link this chemical scent to their food. The next step will be to determine what in particular attracts the wasps, because although certain airborne vapors are associated with aflatoxin, their specific chemical make-ups are unknown. *W. Joe Lewis,Crop Protection and Management Research Unit, Tifton, Georgia; phone (229) 387-2369, e-mail wjl@tifton.cpes.peachnet.edu.*

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