

Making Manure Smell Better

Essential oils—like those traditionally extracted from aromatic plants such as rosemary and lavender—might one day make even manure smell better . . . or not smell at all. Odor-abatement research has shown that as little as 1 gram of essential oils from oregano and thyme is sufficient to block production of foul-smelling volatile fatty acids in a half-liter slurry of cattle feces and urine. Carvacrol and thymol can be obtained from several common herbal plants or produced synthetically. In tests, both of these chemicals inhibited odors for several weeks—whether used singly or in combination.

The essential oils have also been shown to reduce fecal bacterial populations in manure slurries. Pathogen-laden manure is one source of contamination that can occur during slaughter. So researchers are now going to feedlots to test the efficacy of carvacrol and thymol against potentially deadly pathogens like *E. coli* O157:H7. *Vincent H. Varel, USDA-ARS Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, Nebraska; phone (402) 762-4207, e-mail varel@email.marc.usda.gov.*

Livestock Like Dining at Twilight

Twenty-four-hour surveillance of feedlots has shown that cattle would rather feed at sunset—instead of morning, as is usual. Observation has shown that evening feeding may halve the number of aggressive incidents among disgruntled steers—which could greatly cut down on producer costs.

Such applied animal behavior research, though fairly new to U.S. agriculturists, is shedding light on other aspects of cattle behavior, too. Animal ethologists are looking for markers that will allow producers to measure—and reduce—stress in their animals. They believe that lessening stress will improve both animal well-being and food safety.

Julie Morrow-Tesch, USDA-ARS Livestock Issues Research Unit, Lubbock, Texas; phone (806) 742-2826, e-mail jmorrow@lbk.ars.usda.gov.

Keeping Tabs on Noxious Weeds

Information about the distribution of these persistent pests is now accessible online at a University of Montana/ARS web site. To view this wealth of noxious weed data, go to: http://invader.dbs.umt.edu/Noxious_Weeds. Researchers have uploaded official federal, state, and provincial noxious weed lists from the lower 48 United States and 6 Canadian provinces.

The information can help predict potential future weed problems based on past trends and occurrences in neighboring states and regions. It should also help decisionmakers' research and control efforts at both local and national levels. *Kerri Skinner, USDA-ARS Northern Plains Agricultural Research Laboratory, Sidney, Montana; phone (406) 433-9484, e-mail kskinner@sidney.ars.usda.gov.*

Don't Wash Those Dishes—Compost Them!

Given a chance, plates and bowls made of a new biodegradable composite material will all but disappear in only 4 weeks—and all traces will be gone in 6 months. Made mostly of limestone and starch by EarthShell Corp. of Baltimore, Maryland, the new tableware could degrade even faster with more intense composting management.

So far, quickest results have been obtained when the composting was done in a closed container with the material stirred by a mixing auger. The compost consisted of the EarthShell plates and bowls, unbleached paper napkins, fiber trays, biodegradable trash bags, and food from a federal agency's cafeteria, plus leaves and grass clippings.

Best of all, tests show the compost does as well as commercial potting mixes

as a medium for growing cucumbers, and the limestone in it works as a soil conditioner. So the waste-disposal problem could result in a product useful to agricultural producers and home gardeners. *Patricia Millner, USDA-ARS Soil Microbial Systems Laboratory, Beltsville, Maryland; phone (301) 504-8163, e-mail millnerp@ba.ars.usda.gov.*

Assessing B₁₂ Deficiency

A close look at three thousand 26- to 83-year-old men and women in the ongoing Framingham [Massachusetts] Offspring Study has shown 39 percent to have plasma levels of vitamin B₁₂ in the “low normal” range—that is, below 258 picomoles per liter.

Nearly 9 percent of the study population fell below the currently stated deficiency level of 148 pmol/L. Over 16 percent were below 185 pmol/L, a level at which many people can also be deficient. Researchers think there may be a lot of undetected vitamin B₁₂ deficiency in the general population.

The human body requires B₁₂ to make the protective coating surrounding the nerves. A deficiency can cause walking and balance disturbances, loss of vibration sensation, confusion, and, in advanced cases, dementia. It also causes a type of anemia in which there are fewer but larger red blood cells.

High intakes of fortified cereals or dairy products proved to be good sources of B₁₂—reducing by nearly half the number of subjects with blood levels below 185 pmol/L. But researchers found no association between plasma B₁₂ levels and intake of meat, poultry, or fish—at least among certain age groups—even though those foods are the major dietary source of B₁₂. The reasons are not yet understood. *Katherine Tucker, Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston, Massachusetts; phone (617) 556-3351, e-mail tucker@hnrc.tufts.edu.*