

John Kurtz owns a 200-sow farrow-to-finish farm in Lancaster County, Pa. — one of the country's fastest-growing counties. But neighbors don't complain about hog odor when Kurtz heads to the fields with his spreader.

He spreads *composted* hog manure, which has "a mild aroma like rich mountain soil," he says. "There is absolutely no offensive odor."

The Kurtz farm is getting a lot of visitors. Interest is soaring in alternative manure handling systems in the wake of uproars over hog lagoon spills. The latest big one hit last Monday in North Carolina, and a hogman there says, "We're all gonna be on 'wanted' posters if this keeps up." One Iowa county wants to block further lagoon installations. Cattle feeders, dairy-men and poultry producers compost manure in many locations, but confinement hog waste's high moisture needs dewatering or addition of bulk, like cornstalks.

Kurtz has done the homework, made the investments and now says, "We're finally getting comfortable with our blends and temperature controls. This is our third summer of composting."

Benefits of hog-waste compost:

1. The compost yard has virtually no odor, even on warm days.
2. Aerobic bacteria convert solid wastes into water-stable nutrients, which can be stored for months and easily spread on fields with no runoff worries.
3. With *properly*-made compost, your soil becomes more mellow and fertile over time. Crops have fewer weeds, insects and disease.
4. You avoid distorting the biological balance of cropland which can occur when applying hog-lagoon effluent. Studies show that anaerobically-produced lagoon residue dramatically alters the balance of soil microorganisms.
5. Compost is an excellent base or carrier for fertilizers and lime.



One cool way to resolve a hot environmental issue

Compost enhances effectiveness of "conventional" NPK fertility, say many compost advocates.

Kurtz has about 1,700 head of hogs on the place most of the time, plus cattle in his feedyard.

His composting operation functions not just to get rid of manure, but to upgrade it into a higher-value product.

Kurtz pumps hog manure from a collecting pit and squeezes it down to 70% moisture with a \$25,000 dewatering machine made by Fan Engineering, a German firm. The expeller is marketed in the U.S. by Agway.

"Dewatered residue is easy to handle," Kurtz says. He blends in cattle manure, other carbon sources, fine clay (to provide colloidal attachment sites for bacteria) and a bacterial inoculant.

His composting pad is only 100 ft. x 200 ft. — less space than a lagoon would need. A storage pit holds excess water, which doesn't present an odor problem. He applies this "manure tea" on fields or uses it to raise moisture levels as compost heats up.

Making ideal compost is a science, but also a little like making fine wine: You learn a feel for it. Kurtz checks compost windrows with a probe thermometer, churning them with a self-propelled compost turner to maintain ideal temps and oxygen.

Composting consultant George Leitig of Blue Bell, Pa., says that many hog confinement setups don't have convenient carbon sources and bulking ingredients, such as cornstalks, to blend with high-moisture hog manure.

Ironically, that's an advantage for corn-hog farmers competing with the big units. Corn-hog farmers can roll up cornstalks in round bales or compress it into stacks and use it in their compost recipe. Leitig says, "If you're building a hog setup and haven't constructed a lagoon, we'd advise against it. The lagoon simply builds in a long-term problem."

Soil gradually loses productive tilth when it's used heavily as a dumping ground for hog-lagoon waste, argues Leitig. Conversely, soil given regular lacings with properly-made compost becomes more mellow and capable of holding plant nutrients.

Leitig holds "how-to" seminars on composting each November.

Composting advocate, Larry Breech of Columbia County, Pa., notes that nutrient leaching from his compost site is virtually zero.

That will become a major issue when U.S. farmers have to meet tough pollution standards.

Many North Carolina lagoon owners *weren't* allowed to pump out lagoons onto saturated fields during wet weather this spring. That's not a problem for well-made compost; its humus is virtually stable in water.

In Europe, more national governments are *requiring* composting of animal wastes and most other organic matter such as household garbage. Ironically, much of today's European composting technology originated with American research. Now, Americans are digging out "old" research. Compost machine manufacturer Edwin Blosser of Midwest Bio Systems, Tampico, Ill., has refined U.S. research into a composting system independent of European inoculants.

Bob Pike, owner of Pike Labs in Strong, Maine, has developed instrumentation and computer programs to help formulate and control the making of high-quality compost. So, U.S. knowhow is coming of age in this area.

"This is going to create a firestorm in the West." — Rep. James Hansen (R-Utah), protesting a parliamentary move by Rep. Bill Richardson (D-N.M.) which blocked GOP-backed grazing-reform legislation — for now.

Trust government for environmental purity? After five years on the EPA National Priorities List of the most seriously contaminated sites, Edwards Air Force Base in California has cleaned up only 10 of its 419 toxic-waste sites. Much of the Superfund is spent on bureaucracy, not backhoes.

"We're about ready to go on biological cleanup of hydrocarbon spills," says the owner of a private microbiological lab in the Midwest. Microbes injected into underground plumes of gas or oil would munch the toxins. Digging up that soil and burying it at a "safe" site wouldn't be needed.

"We've withdrawn proposed regs" that would have required registration and permits for non-indigenous ag microbes in fertility or feed use, says an Animal and Plant Health Inspection Service rep. More than 250 comments to the proposal poured in after we and others reported the issue earlier. USDA remains one of the most responsive agencies when it comes to listening to citizen comments.