

we emptied the pit, we got it down further than we ever had before and I began to notice a difference. It doesn't smell as much as before."

Karl Johnson, Mankato, Minn.: "One of the products we've had the most success with is **Micro-Aid**," says Karl who's used the feed additive at his 1,800-sow farrow-to-finish operation for about six months. "We notice some difference in odor. An added benefit is the improved performance we see in our sows."

Max Waldo, Dewitt, Neb.: "We use **Pit Boss** at our West Point farm and **Inhibodor** at our Dewitt farm," says Max who has a 2,300-sow farrow-to-finish operation Inhibodor (Conklin Company Inc., 551 S. Valley Park Dr., Shakopee, Minn. 55379; ph 800 888-8838) is a yucca extract added directly to pits or sprayed on lagoons at 2 oz. per cu. ft. of slurry for the first treatment and 1/2 to 1 oz. for each 100 cu. ft. of new slurry. Cost is \$125 per gal.

"My men are convinced both Pit Boss and Inhibodor work," Max says.

Lance Barney, Freeport, Ill.: Lance and his brother Hunter credit a yucca-based feed additive, **Sarsa 50**, with eliminating a serious odor problem at their 1,700-sow farrow-to-finish operation (Bio Chem Inc., P.O. Box 527, Cambridge, Minn. 55008; ph 612 689-6866). The Barneys' problem brought an EPA lawsuit in the early 1980's.

"Before we started using it in our feed, at a rate of 1.2 oz. per ton, we had a crust on the surface of our lagoon and solids building up in the bottom of our pits," says Lance. "Now they're liquefied. We tried a number of other products before we zeroed in on this and nothing was as effective. It costs 82 cents per ton of feed and is money well spent."

Bob Uphoff, Madison, Wis.: "After trying several odor control products, we concluded we could achieve the same or better results with good manure management," says Bob, who has a 100-sow farrow-to-finish operation on the edge of the city.

"We remove manure from our outside lots as quickly as possible and compost it far from where it'll bother anyone. The only time we

have an odor problem is when we agitate our deep pits so we pay attention to wind direction and always try to inform our neighbors when we plan to agitate. We've had no formal complaints yet so we must be doing something right."

Van Hauptert, North Manchester, Ind.: "There are no miracle products out there," says Van who's used three odor control products at his 400-sow farrow-to-finish operation in the last six or seven years.

"I use **Micro-Aid** feed additive, which is helpful in controlling ammonia odor and keeping surface crust from forming in the pits. Unbeknownst to me, one of my men stopped using it in one building for a time and we soon developed a 3 to 4-in. crust on the surface of the pit.

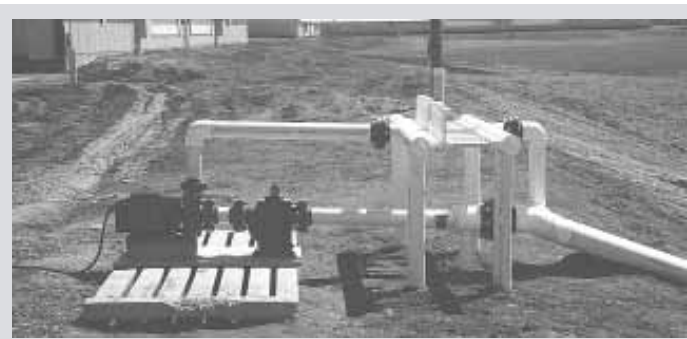
"I was told by Chem-A-Co., maker of **Pit Boss**, that its product would quickly break up the crust. It liquefied the crust within 60 days, but there was no difference in the level of ammonia odor and sludge seemed to be forming at the bottom of the pit.

"Last fall, I started using **Shac** in pits underneath my farrowing house, nurseries and growers. It reduced ammonia levels in 60 days. I won't know until I pump my pits this fall whether it had an effect on bottom sludge.

"As for cost, I have to balance the impact on my checkbook with the potential impact on my health - if something happened to my lungs, I wouldn't be able to farm anymore."

"I have to balance the impact on my checkbook with the potential health impact if something happened to my lungs and I couldn't farm anymore."

Mike Kohnen, Pomeroy, Iowa: "Odor control products can be expensive, with some



Hydro-Sparger consists of pump with strainer, a PVC injector manifold and under-lagoon distribution grid.

New Generation Aerators Reduce Odor Fast

A new generation of lagoon aerator introduces tiny air bubbles throughout an entire lagoon versus treating only a few inches of the surface. Smaller bubbles offer a big improvement over surface and paddle-style aerators because bubbles stay in solution longer to accelerate aerobic action and help break up solids, say manufacturers.

One of the new systems is the Hydro-Sparger from Blue Diamond Water Treatment Co. of Two Rivers, Wis.

Custom-built for any lagoon or pit, the Hydro Sparger consists of a 7 1/2 hp pump with strainer, an injector manifold made out of PVC pipe and a distribution grid. Wastewater is drawn into the system by the pump and driven through the injector manifold where 0.5 to 5 micron dia. air bubbles are injected into the water, then discharged through a perforated distribution grid at the bottom of the lagoon.

costing up to \$1 or more per head to use. If you've got 3,000 or 4,000 head and are supposed to treat your pit or lagoon two or three times a year, that can quickly add up to more than \$12,000. Unless the neighbors are really on your case, you can probably tolerate a little smell for that kind of money," says Mike who custom-feeds 2,800 hogs and deals with a 1.9 million gal. lagoon.

"I tried **Pit Boss** a few years ago. It's supposed to be at least 70 percent effective in controlling odor, according to Iowa State University, but I wasn't much impressed. On the other hand, I may not have given it a fair chance since I only used it once and the pH level in my lagoon wasn't down to the proper level."

Charles Johnson, Renville, Minn.: As a former environmental engineer for ValAdCo., a 10,000-sow co-op in western Minnesota, Charles tested a microbial feed additive a couple years ago. He was favorably impressed.

MicroSource "S" from Loveland Industries (P.O. Box 1289, Greeley, Colo. 80632-1289; ph 800 356-8920 or 970 356-8920) is a combination of bacillus organisms designed to change the way solids decompose. It's 70 to 80 percent effective in reducing odors from decomposition and 60 percent effective in reducing the amount of solids, according to the company. It's used at a rate of 1 lb. per ton of feed at a cost of \$1.30 per ton.

"It controlled odors in the co-op's two 10 million gal. two-stage lagoons," Charles says.

He also tried **Roe Odor Eliminator** (Roebic Laboratories Inc., 18124 24th Ave. N., Plymouth, Minn. 55447; ph 800 722-2072 or 612 404-2072) an organic pit additive



Aerob-A-Jet is a propeller style unit that floats on a raft in the middle of lagoon.

The system was evaluated at Iowa State University where it was shown to produce 4 to 5 times as much aeration as conventional rotor-type aerators.

At ValAdCo., a 10,000-sow cooperative near Renville, Minn., Hydro Sparger systems were installed in two 3 million gal. lagoons, says Blue Diamond's Floyd Wiltgen. Odor was completely eliminated in a couple days, he says.

A system for a 3 million gal. lagoon typically runs about \$12,000; \$20,000 for 6 million gal. Operating costs are 2 to 6 cents per hog produced.

Contact: FARM SHOW Followup, Blue Diamond Water Treatment Co., 6710 Sandy Bay Road, Two Rivers, Wis., 54241 (ph/fax 414 794-7248).

Another new-style aeration system is the Aerob-A-Jet from Sewage Aeration Systems of Lockridge, Iowa.

It consists of an electric motor, shaft, air tube and propeller that floats on a raft in the middle of the lagoon. The air tube extends about 1 ft. down into the lagoon and introduces bubbles .025 mm. in dia.

The system is currently being tested by North Carolina State University's Animal & Poultry Waste Management Center (APWMC), the company says.

In a test by a well-known hog producer, it eliminated odor in a 270 ft. sq. lagoon servicing a 3,000-sow operation within a week at a cost of 1/2 cent per hog per day, says the company's Bob Blough, who notes that the main objective of the system is to speed up aerobic activity. "Elimination of odor is a by-product of that process."

Available in seven models using electric motors from 1/16 to 3 hp and 2 to 12-in. dia. air tubes that handle from 600 to 65,000 gals. per day, respectively.

They start at about \$900.
Contact: FARM SHOW Followup, Sewage Aeration Systems, 103 North Broadway, P.O. Box 117, Lockridge, Iowa 52635 (ph 319 696-3500; fax 3555).

Rotting Straw Cleans Up Farm Ponds

Water quality in farm ponds can be improved by sinking barrels full of rotting straw beneath the water.

Researcher Greg Paranich of Lamont County ag service in Alberta says the rotting straw retards the growth of algae. That's because the microbes that break down the straw also consume phosphorus, which is needed by algae.

A 2,500 cubic yard pond requires three or four 45-gal. barrels of straw. The top of the barrels should not be cut off. Instead, cut the lid all the way around except for a 4 to 5-in. portion that serves as a hinge. Fasten a hasp to the barrel (in the same way that a padlock is installed) and use a snap to keep the lid closed. Perforate the entire barrel with 20 to 30 holes, each about 2 1/2 in. in diameter, to let water flow through freely.

Drill a 1/2-in. dia. hole into each end of the barrel and thread a 1/4-in. dia. nylon rope through the holes. Then tie the rope to form a loop outside the barrel. Drop a 30 to 40-lb. weight (rocks or scrap iron) into the barrel to add ballast.

Fill the barrel one-third full with chopped straw and saturate it with water to remove any air pockets. Then add more straw and keep saturating it until the barrel



Drawing courtesy Grainnews

Filling 45-gal. barrels one-third full of straw and submerging them can help clean up ponds, say researchers.

is full of water and straw. After closing the lid, place the barrel in the water and tie the end of the rope to a stake.

The rotting straw will compete with the algae for available phosphorus and will, in effect, starve much of the algae to death over a 3-month period.

A severely infested pond should first be treated with lime or bluestone to clean up the water. The addition of straw will then prevent regrowth of the algae. After three months use a front-end loader to pull the barrels out, dump out the straw, and then refill the barrels.

Continued on next page