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welder he bought new in 1996.

"It handles equipment repair jobs quickly and conveniently. I bought it in case my **Lincoln Weld & Power** machine ever breaks down," he says. "What I like most about both welders is that you can go from weld to power for, say, grinding with the flip of a switch."

"I bought a SP-125 Plus **Lincoln** Wire Welder attachment for it."

**Mike Flynn, Killen, Texas:** "I've fixed all kinds of items with it, from loaders to the wrought iron grille on our front porch, and it's a great performer," says Mike about his 1995 **Miller MillerMatic 250** welder. "In fact, after I had mine a year, I recommended we purchase one at work, the automotive technology department at Central Texas College."

"The only weak spot I can think of is the trigger. I had to wait two weeks for a new trigger one time. but am more careful with the gun now and haven't broken another."

Mike also likes his **Solex** welding mask with auto darkening lens (OSD Envizion Inc., 5801 Safety Drive NE, Belmont, Mich.

49306; ph 800 558-4582). "It cost \$59.95 and is especially handy for me since I wear glasses and it allows me to keep the work in focus as I'm positioning the gun to weld."

**Don Stark, Rudyard, Mont.:** Don had a few problems with his 1989 **K-ARC 100** MIG welder until he made a minor modification. "When I first got it it would cut out from heat build up," he says. "So I mounted a \$4.95 box fan on back and it's worked great ever since."

"I like 1013 rod for everyday use and 7018 for high-strength applications."

**"Works great on everything from thin sheet metal up to 3/8-in. thick steel plate."**

**George Clouse, Hastings, Mich.:** "Works great on everything from thin sheet

metal all the way up to 3/8-in. thick steel plate," says George, pleased with his 1996 **Miller MillerMatic 250** MIG welder. "The only thing that would have been nice is to have a little better set-up instructions for different steels."

George has had good luck with magnetic and aluminum angle clamps from **James Morton Inc.** (50 Franklin Street, Batavia, N.Y. 14020; ph 800 828-1004 or 519 621-7240). "I'd recommend them to any welder," he says.

"My rod of choice is 6013 for stick welding most common steels. I use 6010 on rusty steel. With my MIG welder I use large spools of .035 Imperial "75" wire."

**Jim Bodenham, Riceville, Iowa:** Jim says his mid 1940's **Forney** 180-amp AC stick welder is a real trooper. "After at least 50 years of use, it works as well as the day I bought it," he says.

Jim's favorite rod is 7014. "They call it 'beginner' or 'mud rod', but it joins two pieces of metal and they stay that way."

**Ted Tanin, Franktown, Colo.:** Ted's satisfied with his 1995 **Hobart** Handler MIG

120-amp welder. "I like its portability," he says. "It's 110-volt, so you can take it just about anywhere. It's well designed."

He uses an Argon gas attachment for welding aluminum. "It's working out great," he says.

He likes Hobart Fabshield 21-B wire and 7018 rod, which he uses with his 1958 **Hobart** 200-amp Power Weld, "which also is a very good machine."

**Russ Kaufman, Alesa, Ore.:** "For a \$200 'Buzz Box', it works just fine," says Russ about his 1994 **Century** 110-100 stick welder.

Russ uses magnetic angle holders and is sold on the auto darkening mask he's used for 10 years (Gor-Vue, 29085 Solon Rd., Cleveland, Ohio 44139). "I wouldn't use an old-style mask again," he says. "I had some problems with moisture build-up on the shield and finding replacement elements, but I simply bring it in the house now instead of leaving it out in the shop and that's solved the moisture problem."

## Putting "Ozonation" To The "Smell Test"

By Jim Houtsma, Associate Editor

In our "Owner's Report On Odor Control Products" (Vol. 21, No. 5), farmers reported on a number of new products available to reduce the smell of manure.

The ink on that magazine was barely dry when I ran across a company with a new farm-size ozone air purifier for hog operations at the Clay County Fair in Spencer, Iowa.

I decided to visit a nearby farmer, Mike Kats, who has been successfully using the company's system to control odor at his 400-sow farrow-to-finish operation near Doon, Iowa.

Kats has spent six or seven years working on "ozone-ating" the water and air on his farm.

"I began using a commercial ozonation system to reduce odor and rust levels in the hogs' drinking water," Kats told me. "Ozone mixes with water to oxidize foreign materials. I started using excess ozone bled off that system as an air freshener in one of my farrowing houses. In a few days, my hogs were more energetic, looked healthier and ate more. Air quality was also greatly improved and hogs had fewer respiratory problems."

So Kats began extensive testing of various ozone air purifiers. He now has ozone generating equipment in all his hog buildings.

Kats mounts the ozone purifiers outside his buildings and pumps the ozone into the building through PVC pipe.

After years of testing, he says he has determined what levels of ozone work best. Results have been amazing, he says.

For example, in his farrowing houses, he's seen a 75 percent decrease in scours, a 50 percent decrease in number of pigs laid on, a 15 percent increase in pigs weaning weight, and up to a 20 percent increase in feed consumption per sow per day.

In his nursery and finishing barns he's seen comparable decreases in disease. Plus, he's seen an increase of 0.4 lb. or more average daily gain and a reduction in death loss from 2.6 percent to 0.6 percent in his nursery and a 50 percent reduction in death loss (from 3 percent to 1.5 percent or less)



**Mike Kats uses an ozone generator to control odor in all his hog buildings.**

in finishers.

But does ozone really reduce odor? That's what I had come to Kats' farm to find out.

He and I strolled through a three-room farrowing house with a pit underneath. Odor in the first room seemed much better than normal. Odor in the middle room was noticeably stronger but still not bad. But odor in the third room was what you'd normally expect.

When I asked Kats about the difference, he reviewed the home-built ozone distribution system in the building and determined that there was a problem and that more ozone was being pumped into the first room than the others. That would seem to indicate that the ozone system really works since the same manure pit ran under all three farrowing rooms.

Big Dutch Distributing has put the Ozone Solutions Inc. system on the market for approximately \$5 to \$10 per pig space in nursery and finishing buildings and up to \$20 in farrowing houses.

Contact: FARM SHOW Followup, Dennis Banstra, Big Dutch Distributing, 231 20th St. SW, Sioux Center, Iowa 51250 (ph 712 722-4357; fax 4359) or Mike Kats, Picket Fence Farms Inc., Rt. 1, Box 11, Doon, Iowa 51235 (ph 712 726-3121; fax 3161).



Photo courtesy Iowa Farm Bureau Spokesman

**System reduces ammonia coming off Moeckly's pit from 35 to 40 parts per million to 3 or 4 ppm, he says. It should last eight to 10 years.**

## European Filter System Eats Up Odor

"This approach has been used for years with great success in Denmark and Germany," says Jay Firth who, along with Brad Moeckly, designed and built a "biofilter" system to control odor at Moeckly's 350-sow farrow-to-finish operation near Elkhart, Iowa.

One of more than 50 odor control research projects underway in the state, the system is basically designed to let bacteria eat up the odorous gases sucked off Moeckly's 300,000-gal. concrete-lined manure pit.

"It's basically an aerial septic system," says Firth, a retired Ankeny, Iowa, veterinarian, noting that a prototype used for two years reduced ammonia coming off Moeckly's pit from a typical 35 to 40 parts per million to only 3 or 4 ppm.

The biofilter is relatively inexpensive and easy to build, he says, and it should last for years.

Here's how it works:

The pit is covered by a heavy nylon mesh cover. Gases are sucked out of the covered pit by 1/2 hp fan to a small wood building where they're sprayed with water. The water absorbs the gases and then filters through a 9-ft. layer of wood chips. Bacteria in the

wood chips then "eats" the gassy components that make up the foul odors.

It takes just 3 to 5 seconds for bacteria to begin consuming the ammonia, hydrogen sulfide, phenols, mercaptans and fatty acids, Firth says.

The pit is covered by a 75-ft. dia. Permalon nylon mesh cover (Reef Industries, P.O. Box 750245, Houston, Texas 77275-9955; ph 800 231-2417 or 713 507-4200).

Cost of the system was about \$15,000, including \$3,200 for the Permalon pit cover, he says. That's an estimated cost of 20 to 25 cents or less per finished hog, considerably less than pit or lagoon additives, he notes.

"In Europe, the wood chip filter lasts eight to 10 years before it's digested, so the fan will probably corrode before the wood is used up," says Firth, adding that corn stalks or hay could also be used as the filtering material.

Contact: FARM SHOW Followup, Bio-Air L.C., 7948 NE Berwick Dr., Ankeny, Iowa 50021 (ph/fax 515 964-1495).