



Carcass disposal unit uses alkali hydrolysis to convert animal carcasses into liquid.

Portable “Incinerator” Liquifies Dead Animals

For the first time, farmers can incinerate animals right on the farm without going to the rendering plant. It's all made possible by a revolutionary new carcass disposal unit, which uses alkali hydrolysis to convert animal carcasses into liquid. The pull-type unit is completely automatic and can be used on any kind of livestock, including poultry.

Chickens and turkeys completely liquify in eight hours. Big animals such as horses and cattle are gone in 18 to 24 hours.

What's left is a slurry that makes good fertilizer. It can be pumped into a liquid manure spreader or stored in a pit.

The “Bio Liquidator” can be pulled by any 1/2-ton pickup. It costs about half as much as an incinerator to operate and also generates a usable fertilizer end product.

“This new product could change carcass disposal in the agricultural industry. It could create a business opportunity for someone who wants to service a particular area,” says Joseph Wilson, Bio-Response Solution, Danville, Ind.

“It's like making soap except that you're using alkali to break the carcass down into liquid. The process can save farmers money because rendering plants now charge \$200 to \$300 to pick up a cow or horse, and then it costs another \$100 to process the animal. In general, it costs about 20 to 30 cents per lb. to process a 1,000-lb. animal. Our Bio Liquidator can process animals at a total cost of less than 10 cents per pound, including the cost of the alkali and propane.”

The system uses 50-lb. bags of alkali and hot water, continuously agitated in a large enclosed tank. What's left - after just 18 to 24 hours - is just bone fragments.

For more than 30 years Wilson has been involved with much more expensive stationary units used by university research laboratories all over the world. Those machines also use alkaline hydrolysis but are much larger

and operate on high pressure. They're powered by either electricity or natural gas. Each machine sells for up to \$600,000. Their new portable system operates on low pressure and sells for \$50,000 to \$80,000, depending on options.

“This is the first time this technology has been affordable for livestock producers and meat packers,” says Wilson. “It costs far less than incineration because we're not burning the animal and trying to cook all the water out. We're only heating the water to near boiling and holding it at that temperature for 18 to 24 hours. And it's environmentally sound because it doesn't generate pollution like an incinerator does.”

The tandem axle unit is equipped with a 100-lb. propane tank on front that powers a boiler and an electro-hydraulic system that's used to tip the tank and turn agitators inside. At the bottom of the tank is a system of coils through which the hot water circulates.

A loader tractor is used to load dead animals into the machine. The animal's weight is input into the computer and then an appropriate amount of dry or liquid alkali is added. The amount of alkali added is about 10 percent of the animal's weight.

The 100-gal. propane tank is good for four to five cycles of incineration.

A hose hooks up to the unit to add water to the correct level based on the weight of all the animals in the tank.

“The propellers agitate the water like a washing machine and are the key to the system,” says Wilson. “The propellers are computer-controlled and change directions every minute. We add 150 lbs. of water for every 100 lbs. of animal, so a 2,500-lb. animal will have 750 gal. of slurry left which equals 6,200 lbs. of effluent.”

Wilson says the company plans to offer a 1,000-gal. slurry transfer trailer to pump the slurry into. “It will let you cool the slurry in



A loader tractor is used to load dead animals into machine.



After animals are loaded either dry or liquid alkali is added.



Two hours into the cycle, chickens are being digested rapidly with feathers virtually gone (left). Digestion is virtually complete in 16 hours. Note liquid soap floating on surface (right).



Tipped into cleaning position, the unit can be easily hosed out. A few bone fragments are the only solids left.

the transfer trailer so you can keep loading animals without having to wait for the slurry to cool down,” notes Wilson.

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“Slope Mower” Works By Radio-Control

At \$38,000 to \$40,000, the Spider Slope Mower isn't meant to be an ordinary backyard lawn mower. But municipalities and professionals doing lawn maintenance on sloped, uneven terrain too dangerous for human operators appreciate the radio-controlled, commercial grade Czechoslovakian mower that's now available in the U.S.

“It's made for overpasses on interstates, and for dams and water reservoirs,” says Stan Wood of Slope Care, LLC, which handles distribution in the Eastern U.S. “Disneyworld in Florida uses it for all the overpasses going into Disneyworld.”

The Spider Mower cuts a 4-ft. swath and remains stable on inclines up to about 40

degrees. On steeper slopes, a cable on a winch fastened to a guardrail, tree or golf cart keeps it upright. The Spider mower can be radio-controlled up to 300 ft. away. When out of range, it automatically shuts off.

The 4-WD mower has front-wheel steering, independent suspension and four mulching rotary blades. It's powered by a 23 hp Kawasaki gas engine, moves up to 5 mph, and can mow up to two acres/hour using less than one gal. of gas/hour. The Spider weighs 715 lbs. and is designed to last 5,000 hours.

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Radio-controlled mower can go on uneven terrain too dangerous for human operators.