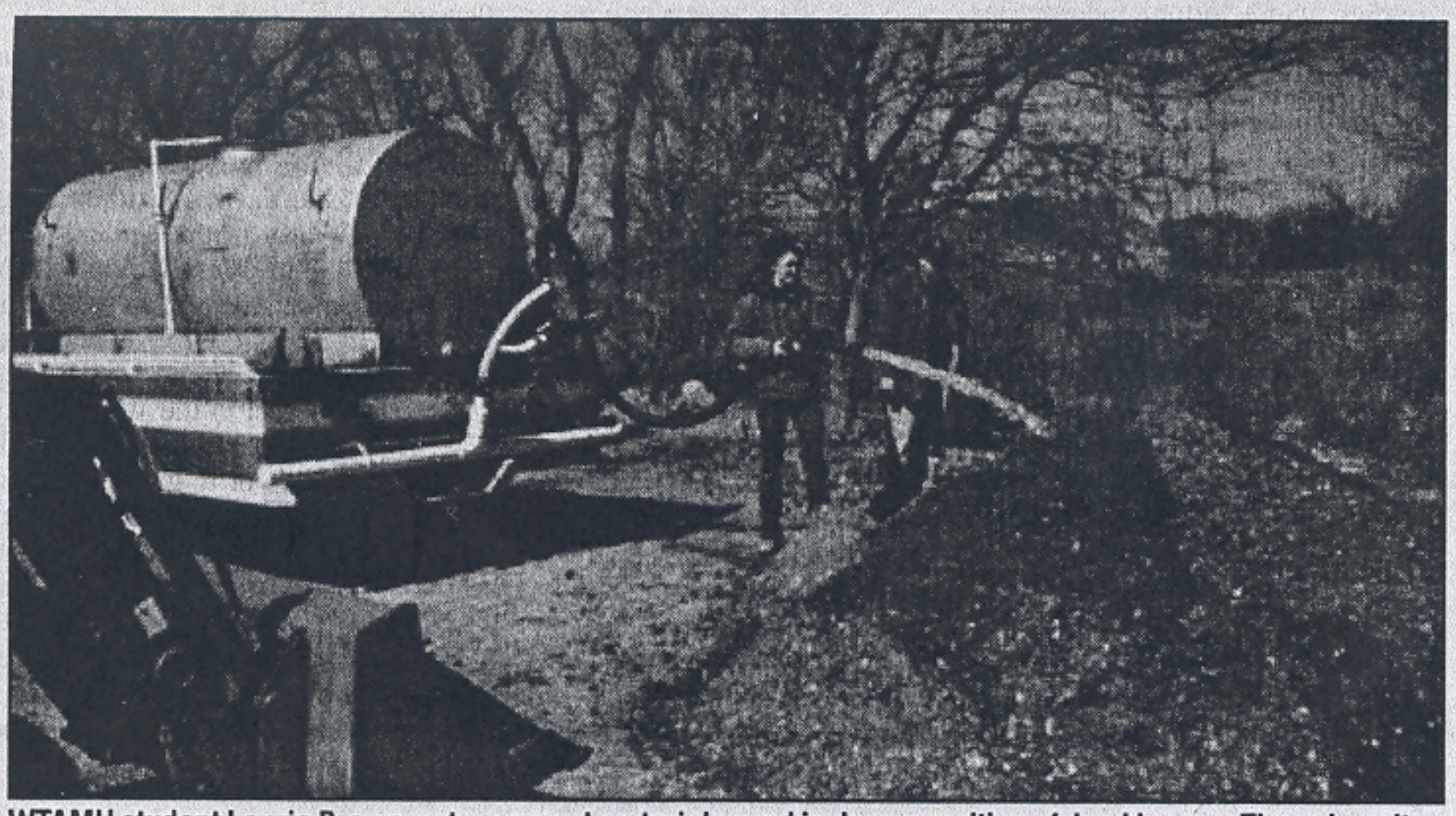

WTAMU student Laurie Brown wets compost materials used in decomposition of dead horses. The university is studying the process as an alternative to disposal of old, dead or unwanted horses.

WTAMU courtesy photo

Composting may be alternative in wake of horse slaughter bill

Horse slaughter has become a sensitive issue, so WTAMU wants to find a way to help residents dispose of dead equines

By PATRICIA GARDNER
Farm & Ranch Editor

Members of Congress adjourned Friday to campaign for the upcoming November elections and leaving work until their return.

One issue uppermost on Texans' minds left untended was the American Horse Slaughter Prevention Act.

The act, which bans the slaughter of old, sick or unwanted horses for human consumption, was approved in the House on Sept. 7 by a vote of 263 – 146 before being passed over to the Senate.

If the Senate approves the pending bill, thousands of horses could be left with no final resting ground.

Composting may be an environmentally friendly option that fits in the "circle of life" frame of mind and may be less emotional to horse owners, two area researchers said.

Approximately 90,000 horses, or 1 percent of the U.S. horse population, are slaughtered annually, said Dr. Lance Baker, West Texas A&M Universityassociate professor of animal science.

"If they don't go to slaughter, they will have to go somewhere else," Baker said. "This bill is purely emotional, with supporters not considering what would happen to unwanted or dead horses."

The options for dealing with a carcass are burial, rendering, landfill disposal, incineration, composting or bio-digesting, he said. Many of these are costly, and a horse owner often has to pay to put the horse down as well as for its disposal, instead of getting money for the animal.

Here in the Panhandle, that cost can run from $100 - $150 for putting down the horse by a veterinarian, plus a cost of around $125 to dispose of the animal, Baker said.

Another alternative, burial, is tied to environmental laws regulating proximity of water sources, etc., and burning of the carcasses intertwines with local burn bans. Besides, Baker said, horse carcasses have to get really hot to efficiently burn, and that must occur in an approved incinerator.

Though it's not an alternative to a proper burial for a loved animal, West Texas A&M University has found a way to respond to the disposal of dead horses.

Large-carcass composting is a growing and accepted practice among feedyards and dairies, said Dr. Brent Auvermann, a Texas Agricultural Experiment Station agricultural engineer who has researched the process for about five years.

"Since we had already done some work with dairy cattle that weighed about 1,400 pounds, a horse at 1,000 pounds wasn't much different," Auvermann said. "The main thing is, the larger the carcass, the higher the stakes. It is critical that whoever does it, does it right."

Auvermann, Baker and West Texas A&M graduate student, Laurie Brown began conducting a composting trial on horses last winter, using dead horses provided by area veterinarians and that would otherwise have gone to the landfill.

"Folks need some options, so we decided to try this," Auvermann said.

The trial tested three formulas of composting material designed by Auvermann: 100 percent stall cleanout (horse manure and bedding); 50 percent cattle manure and 50 percent waste hay; and 50 percent stall cleanout and 50 percent cattle manure. He said he prefers the two mixes to the 100 percent stall cleanout.

> 'It's the whole circle of life thing. You grow the grass to feed the animals and then turn around and use them to do the same thing for the next generation.'
>
> **-Lance Baker, WTAMU animal science professor**

The carcass is laid on a bed of chopped hay and then covered completely with the composting material. Large animal composting works best if pre-composting of the material already has begun before the carcass is added, Auvermann said.

From that point, moisture is a key. Auvermann said it would be better to err on the side of too dry than too wet.

"Add water until a handful of the mixture squeezed hard doesn't result in droplets of water, but does leave a sheen of water on the glove," he said.

A good indication the composting process is working correctly is the temperature. Auvermann said the temperature should start rising within 12 to 24 hours and reach a level between 131 degrees and 155 degrees and stay in that range for several weeks to a month to efficiently decompose a carcass.

The temperature should be tested with at least a 48-inch temperature probe in several locations throughout the pile, he said.

In the studies, the pile was turned over at three months, at which time Baker said only a few large bones were identifiable. By six months, nothing was identifiable.

The optimum time to wait before making the first turn with larger animals is five to six months, Auvermann said. A large carcass will take from seven to nine months to compost completely, at which point it can be used as a soil fertilizer.

The phosphorous level will be about 20 to 25 pounds per dry ton, and might contain 20 lbs. to 35 lbs. of nitrogen, though the nitrogen volatizes off, Baker said.

"This is well suited to cotton in terms of the nitrogen-phosphorous ratio," Auvermann said, adding cotton gin trash would be an excellent ingredient to put into the composting mix.

The compost must go through three phases before it is a valuable product, he said. The final phase, curing, is important because it lets the last intermediate compounds be converted to non-phytotoxic compounds.

"Maturity testing is a good idea," Auvermann said. "When you putcompost on plants, if it is not mature, it may compete with the plants for nitrogen. It also can kill the plant if it is too hot with phytotoxic compounds."

He suggested trying a small amount with potting soil in a seeding tray to see if the seed would germinate and grow, or using a maturity test kit.

Another way to test the strength of the compost is through purchasing a composting material testing kit that while a little more expensive than planting for a test, will yield results in as few as four days. A test, Solvita, is available online at www.woodsend.org, he said.

Auvermann said several other options for the composted material could include use as a Class A biosolid for roadways and to help establish turf grass, or it could be used in the bioenergy arena. The resultant material could be gasified and burned after it is composted.

Both Auvermann and Baker said the small individual horse owner might not see composting as an option for disposal of their pet, but it could serve as a more soothing experience than the alternatives.

"All horses are going to die; it's a matter of how they are disposed of that is up to us," Baker said. "If you look at it (composting) environmentally and politically, it works. It's the whole circle of life thing. You grow the grass to feed the animals and then turn around and use them to do the same thing for the next generation."