

High-Tech Collar Lightens Load For Draft Horses

A new collar for draft horses in France is catching on fast. Made out of adjustable cast aluminum, the collars weigh about 21 lbs., about a third less than traditional 30 to 35-lb. collars.

"Horses in France, draft horses are coming back strongly, and interest is growing among youngsters and women," says Jacques Buchoux, a retired foundryman and engineer, who designed the collar. The horses play a big part in French agriculture – in vineyards, on vegetable farms, logging and pulling carts. They are also used to shuttle tourists around in cities.

Buchoux recognized that the old-style collars no longer fit modern horses.

"Old collars were manufactured with what was available in those days – wood, mild steel, straw, horse hair, fabric and leather – leading to overweight due to the poor tensile strength of these materials," Buchoux says. "With moisture, wood would warp, bend or even break, while the straw and leather, being organic would deteriorate rapidly with the sweat of the horse, giving uneven or asymmetrical pressure on each shoulder, or high pressure spots, irritating the horse. As a result, older collars have to be replaced or refurbished more often."

Aluminum alloy has many benefits. It's lighter for teens and women to handle. It lends itself to any shape, and resists corrosion. Buchoux spent a couple years on his design and used quality materials right down to the stainless steel screws.



Made of lightweight cast aluminum, high-tech collar weighs about 21 lbs. which is a third less than traditional 30 to 35-lb. collars.

"The real challenge, was to link the aluminum shells together with adjustable arms, including the closing system, as the collar can be fully open at 180 degrees," Buchoux says. It has right and left castings covered with foam rubber and leather that seat on the horse's shoulder.

Extensive testing has been done with the collar on a variety of breeds from Percherons to Ardennes horses. Though light, the aluminum is strong and withstands up to a 2,200-lb. force – more than 1,000 lbs. on each

shell, without permanent distortion.

Buchoux's business, La Sellerie Percheronne, offers a shock absorber option integrated into the collar to prevent the horse's shoulders from being hurt. But his standard collar is also kinder to horses than old-style collars.

"In heavy logging, or stony field plowing, the 2-in. elongation of the system creates a smooth deceleration that's really beneficial to the long term of horse life," Buchoux says.

The collar comes in two sizes and is

designed for working horses, not pulling competitions, he adds. They are available in France currently, and La Sellerie Percheronne is working on exporting them to the U.S.

Expected cost for the collars is \$1,800 to \$2,000 (U.S.).

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Tomorrow's Silage

Dairy producers who use Claas self-propelled forage harvesters have a new processor head option. Instead of making silage, they can make Shredlage™. Preliminary research indicates that the forage is more digestible, less sortable and has several other advantages over silage.

You can see the difference, says nutritionist Roger Olson. The pieces average 1 1/4 in. long – about twice as long as most silage. Plus the strands are more shredded so there's more surface area for rumen bugs to attach to, which makes Shredlage more digestible for cattle.

"A cow's rumen is like a washing machine," Olson says. "It needs large particles."

That's why physically effective fiber must be available in the feed. When using silage, producers typically add straw to the TMR (Total Mixed Ration) to get that fiber. With Shredlage, they won't need to – or can greatly reduce it.

Finally, Shredlage can be harvested drier when the corn is more mature (up to about 3/4 milkline), which means there are more nutrients and an 8 to 9 percent increase in starches.

The idea to make longer, more shredded strands came from a local farmer who unintentionally shredded his silage. Despite the way it looked, his cows thrived on it.

Olson's father, Loren, who had invented other equipment, built a prototype. Olson teamed up with Ross Dale, nutrition company owner, and Bob Scherer, owner of the manufacturing company Scherer Design Engineering, to test and build the Shredlage processor.

"This is a heavy-duty version. The differential speed between the two rolls is greater. The springs are heavier, and the frame is heavier," Scherer says. "The new process grinds easier and finer."

Scherer's company builds the processors, which can be simply exchanged for silage processors in newer self-propelled Claas harvesters in the 960 or smaller series. Some knives must also be removed from the cutter



Photo courtesy of Hay & Forage Grower magazine

Add-on "Shredlage" process shreds silage rather than chopping it, to make it more digestible for cattle.

drum in front of the processor to create the longer shredded Shredlage, and the Shredlage process requires a little more horsepower, Scherer adds.

Six units have been tested at dairy farms and early results of a nutritional trial study at the University of Wisconsin appear to validate the benefit to cattle's health, as well as slight increases in butterfat and possibly production, and a reduction of other feed costs.

The patent-pending Shredlage processors will be available this year, Scherer says. The cost will be higher than the standard processor, but has not been set yet.

He and his partners anticipate large dairies will be their first customers as they can capitalize on more nutrients and starches raised on their own farm and save money on straw and hay expenses. Eventually, they predict custom harvesters will invest in the equipment to meet customer demand.

While currently only available for some Claas equipment, work is in progress to expand the line and possibly fit the Shredlage processor to Deere choppers in the future.

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"ChopZilla" attachment for tractors and skid loaders uses two 24-in. saw blades mounted on a rotating 7-ft. beam.

"ChopZilla" Prunes Fast And Clean

An attachment developed to top and hedge blueberry shrubs in Florida is catching on across the country for all kinds of pruning jobs. With two 24-in. saw blades mounted on a rotating 7-ft. beam, and a vertical reach up to 15 ft., ChopZilla means business.

"The blades spin at a constant rpm depending on the engine's rpm, and the boom rotation is variable from 0 to about 200 rpm's," says Don Whitman of ChopZilla LLC. "It's 100-percent hydraulically driven and quick-taches to the tractor or skidsteer. It's configured to run off one or three sets of hydraulics."

ChopZilla cuts limbs up to 3 to 5 in. at speeds of 4 to 5 mph.

"A consultant to the blueberry growers says that besides saving time, ChopZilla's cut is so clean," Whitman adds. That's important to reduce stress and plant diseases. The machine's ability to prune 12 to 15 acres a day saves many hours of labor.

The saw blades, at about \$200 each, can be sharpened for about \$50 apiece. If they don't cut into dirt they can last a long time.

At 800 lbs., the ChopZilla's main requirement for a tractor is that it has at least a 9.2 gpm hydraulic flow. The company

has used it extensively on a 100 hp Massey Ferguson, where ChopZilla reached 19.6 ft., and a 7040 Kubota tractor. Whitman notes that counterweight is needed for small, narrow gauge tractors. A 4-ft. extension is required to use it on a skidsteer.

ChopZilla comes in two models. The first, which requires an adaptor to use it on tractors with just one set of hydraulic remotes, costs \$13,400. The second is for tractors with three sets of hydraulic remotes. It sells for \$12,900.

A video on the company's website shows ChopZilla in action. Moving the boom, engaging the blade and setting the speed are all safely controlled from the driver's seat.

More applications are being discovered for the ChopZilla. The Southwest Florida Water Management District uses it to maintain roads and cut brush. And a ChopZilla was recently sent to Iowa to use for cutting limbs after ice storms.

The company currently sells ChopZilla direct, but is working on setting up distributorships.

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