

# Haying With Horses To Feed 225-Cow Herd

Wes Lupher keeps his costs in check by making hay with horses. It's also a great way to break in a team, says the southwestern Wyoming rancher. He uses them to cut and rake his hay and to feed his 225-cow herd each winter. He has fed as many as 500 head a day with teams.

Lupher learned to make hay with horses working with his dad. Now he works with his 4 kids doing the same. He says farming with horses was a low-cost way to get into the business and contributes to his ability to keep farming with today's tight margins.

Lupher's ranch is at 7,000 ft. He acknowledges that very few farmers in that high desert country still work with horses.

"Horses let me keep my overhead low," says Lupher. "I save my tractor for baling and hauling bales."

Lupher has a 30-ft. haybine, but he only cut 30 acres with it last year. He cut and raked close to 350 acres with horses and mowers.

"The real heavy hay was too much for the haybine," says Lupher. "I usually mow 75 percent or more of my hay with horses. We put up 200 tons last year."

Working with horses requires familiarity with old equipment and a nose for finding it. Much of what he sees is worn out and has been left to rust. When he does come across a decent horse-drawn rake or mower, his interest often sparks the owner's interest.

"I asked a fellow if he would part with two #9 McCormick mowers sitting behind his house," recalls Lupher. "He asked what they were and after I showed him, he wouldn't part with them."

He maintains 4 of the classic #9 McCormicks and usually has at least one in the field. However, his main mowers are 7 and 9-ft. I & J mowers with motors and ESM

double cutting knife systems (Vol. 41, No. 1).

"We still use the #9s quite a bit," says Lupher. "If we can get enough teams, we hook up all of them. At one time last year we were cutting 33 ft. of hay every pass with multiple teams and mowers."

Raking is done with 2 or 3 side delivery rakes and teams of horses and mules. He has a large V-rake equipped with a hydraulic hand pump to lift and lower it. It takes 3 or 4 horses to pull it.

Lupher also has a couple of sulky rakes that he uses to help put up 50 to 70 tons of loose hay on his home place. After mowing and raking, he pushes it into place with a homemade sweep head on an old Farmhand F-11 loader on his tractor.

"That lets me save the baler for hay that will have to be hauled from remote fields," says Lupher. "I've been gathering parts for a horse-drawn buck rake so I don't have to use the tractor for stacking. I'm also putting together a beaverslide stacker to stack hay."

"Getting good horse-drawn equipment is probably easier today than it was in my dad's day," says Lupher, citing firms like I & J and others dealing in parts and new equipment.

He does often have to train his teamsters. Lupher taps into friends, but notes that he is seeing more people wanting to come and help. His work is also attracting horse owners wanting to give their horses some experience. When 3 of his mares were raising colts this past year, he took in several teams.

"They are usually pretty nice horses that need a little polish, and when you get through making hay, even a new team has pretty good polish to it," says Lupher. "They can handle noise, and they learn how to stand, just by resting after a session pulling the mower."

Lupher prefers Shire horses and keeps



"I've fed out thousands of bales with my 3-wheel bale unroller," says Wes Lupher. A neighbor built the unroller for him. Hydraulic hand pumps down cylinders that squeeze the bale arms and raise the arms to lift the bale for transport.



In summer, he cuts hay with a horse-drawn sicklebar mower and rakes with a ground-driven side delivery rake.

2 experienced teams and a young team, as well as 2 teams of mules. The horses are used for feeding out hay on Lupher's home place. The mules are used on a remote winter feeding site.

"They are my tractors that always start," says Lupher. "Last winter we had a stretch of

40 below zero, and the mules and I were the only things moving. Everyone with a tractor froze up."

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## Horse-Drawn Drum Spreads Manure Better

Spreading composted manure is a key component of market gardens, and Schaff mat Pærd (SmP) has a better way to do it. The Luxembourg-based non-profit has developed new pieces of horse-drawn equipment and harness (Vol. 41, No. 6; Vol. 40, No. 3; Vol. 40, No. 1) that are more efficient and easier on the animal. The SmP Bio-Stree 1.1 is a prototype design to evenly spread compost and other materials across a 4-ft. width.

"Conventional manure spreaders only offer a coarse spreading and non-uniform distribution," says Paul Schmit, SmP. "The Bio-Stree is designed to evenly spread compost and mulch."

The spreader consists of a stainless steel, expanded metal drum suspended between 2 large drive wheels. The drum has a capacity of more than 1,870 lbs. and a spreading rate of 3 to 4 tons per acre.

The design was initially based on a rotary spreader developed by The Stablers, Waterloo, Ind., for use with ATV's or small tractors (Vol. 28, No. 6). It had small wheels with front-mounted drive wheels.

SmP was authorized to develop a horse-drawn version. However, the heavy frame and small wheels simply didn't work, according to Schmit.

"We did a complete redesign over 2 winters," he says. "We went with the tubular frame and direct-drive from bigger wheels."

Changes included 44-in. dia. carry/drive wheels and the double-sided direct drive transmission with freewheel hubs and built-in clutches. The hitch is a forecart previously developed at SmP. Schmit explains that the direct-drive is more efficient than drive

wheels with chains or belts. The increased efficiency combined with the large wheels allows SmP to use smooth rib treads instead of a lug tread. This in turn contributes to efficiency with less rolling resistance.

The new design works well when used on both pasture and tilled ground, notes Schmit. Tractive effort for the horse with a loaded drum was considered light on pasture and only medium on tilled ground.

While spreading rates cannot be adjusted during the spreading operation, scraper bars can be mounted inside the drum to adjust the discharge rate. As the drum turns, the rolling clumps of compost or manure are shredded as they fall against the abrasive diamond edges of the drum skin.

"The best spread is produced when the drum is filled 3/4 full," says Schmit. "We found that clogging or jamming of the spreader is impossible. Only very wet compost tends to clump into fist-thick balls, and if too many accumulate, they may need to be removed between loads."

Compost is loaded through a large lid equipped with 2 gas struts to assist when opening. A pin on the rear frame, when inserted through the mesh, keeps the drum from turning during transport and loading.

"The Bio-Stree 1.1 is still considered a prototype in test stage, but if we have enough interest, we plan to manufacture a small batch of them this coming winter with Equi Idea, an Italian company."

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Horse-drawn stainless steel, expanded metal drum evenly spreads composted manure across a 4-ft. width. Manure is loaded through a large lid.



## Horse-Drawn Broadcast Seeder

A single-horse, broadcast seeder from Schaff mat Pærd (SmP) is designed to be easy on the horse while accurately spreading seed. The Belgian non-profit company is known for its uniquely designed horse-drawn equipment.

The seeder is about 13 ft. wide with a seed hopper integrated into the tubular steel frame. The narrow 36-in. pneumatic wheels create minimal rolling resistance. The wheels are fitted with a double chain drive that ground-drives the transmission.

"Our research found that more than half the draft force is needed to overcome resistance in the transmission and the seeding mechanism, even when seed is not passing through," says Paul Schmit, Schaff mat Pærd. "Actual seeding requires a relatively small proportion of additional total draft force."

The hopper is equipped with an agitator shaft for an even flow of seed through the fluted-wheel seeding shaft to the 33 outlet tubes. A notched and numbered setting wheel on the right side of the seed hopper makes for easy seeding rate adjustments.

The setting wheel engages the threaded end of the fluted wheel seeding shaft, enlarging or reducing the outlet cross section.

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