



Feed mixer has a 16-ft. long, 6-ft. high box and a 23-in. wide front loader conveyor.

SELF-PROPELLED MIXER FEEDS INTO BUNKS

Self-Loading Feed Mixer Built From Old Combine

After looking at commercially-built self-loading feed mixer trucks and deciding that he could not justify the price, Kim Moon, Melba, Idaho, built his own self-loading mixer-feeder.

It loads itself and automatically weighs and mixes feed ingredients into a precise total mixed ration. In fact, Moon's home-built rig worked so well he has started custom-building the self-propelled rigs for other farmers and ranchers.

"It works as well as any commercial model but we can sell it for about \$70,000, half the price of some commercial units," says Moon.

The innovative feed truck is equipped with a 23-in. wide front loader conveyor that loads silage, hay and other crops, as well as grain and protein concentrate. It conveys feed to a 16-ft. long, 6-ft. high box equipped with 4 mixer augers and electronic scales. Two digital monitors, one located in the cab and the other outside the cab, allow the operator to control ingoing and outgoing feed weights and quantities. Moon bought the mixer box from Kirby Mfg. (P.O. Box 989, Merced, Calif. 95341 ph 209 723-3941), but built the rest of the machine on his own using the frame, cab, engine, and front wheels off a 1977 International 915 combine.

Moon says the feed mixer truck can be used to load out corn silage from bunker silos and haylage from Ag Bags. It can also grind up and then load any size or shape hay bale. The header reaches up to 12 ft. high for silage pits.

He bought the combine from an implement dealer for \$4,800 equipped with a 414 cu. in, 150 hp turbocharged diesel engine and a 3-speed hydrostatic transmission. He stripped it down to the frame, engine, and cab. He used 9-in. channel iron to build a new frame and made mounting brackets for the engine, cab, and box. He turned the frame around so that the steering axle is in front. He installed the cab on one side of the frame, then installed the radiator on the other side and mounted the engine behind it. The loading elevator is mounted between the cab and engine. He built it from sheet metal supported by steel tubing that supports a "high abrasive" steel floor. He used a length of 6-in. dia. steel pipe equipped with 5 1/2-in. flighting to build the auger.

"I reversed the combine's frame so it would be better able to support the weight



Conveyor auger reaches up to 12 ft. high for silage pits. Moon used a length of 6-in. dia. steel pipe equipped with 5 1/2-in. flighting to build the auger.

of the box. On a combine most of the weight is on front whereas on a feed mixer truck most of the weight is on back," notes Moon.

He paid \$27,000 for the box and mounted 23.1 by 26, 4-ft. high tires on back to support it. The combine's 16-in. steering wheels weren't built heavy enough to support the front of the truck so he bought heavy duty split wheel rims and welded 3/16-in. thick steel plate inside the rims, then drilled out new holes for the bolts.

The combine's original hydraulic system raises and lowers the front loader auger and also operates the power steering. Moon installed a second hydraulic pump that operates the conveyor and four augers inside the box. The pump is belt-driven off the engine crankshaft. Two hydraulic cylinders are used to raise or lower the front loading auger, two cylinders are used to open the side discharge conveyor door, and another cylinder is used to open a flapper at the end of the conveyor. Another cylinder is used to swing a cab-mounted ladder back alongside the truck. "The ladder extends down to within 1 1/2 ft. of the ground which makes it easy to climb into the cab. In some feedlots you have to drive very close to the bunks in order to dump feed into them and the ladder could get ripped off if you're not careful. Commercial models have a ladder with only one step and you practically have to jump up to reach it."

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FIRST-OF-ITS-KIND RIG SPORTS NEW-STYLE CHOPPING DISCS

"2-Way" Crop Chopper

Bill Fuesz, Haxtun, Colo., wasn't happy with stalk choppers on the market because he couldn't find one that would chop corn and sunflower stalks into uniform lengths. He solved the problem by building his own "two-way" residue chopper that's unlike anything you've ever seen.

"It completely shreds residue into small 6 to 8-in. long pieces and it doesn't plug up," says Fuesz, who built his first prototype three years ago and has used it on more than 8,000 acres.

The 32-ft. unit is equipped with two rows of special-built cutting wheels that he made from scratch by mounting pairs of 3 1/2-in. wide knives on 18 1/2-in. dia. cutting wheels. The cutting wheels mount on axles that are tied together with sprockets and chains which time the disc gangs so that the cutting blades on the rear discs enter the soil just as the ones on the front discs come out.

"It works better than any other method I've ever tried," says Fuesz. "The secret to its success is that it chops both ways which ensures that it will always cut through residue no matter what direction it lays. Other residue choppers use either coulters that run parallel to the line of travel or blades that know chop perpendicular to it. As far as I know no other residue chopper chops both ways at the same time.

"It's built in five sections so it flexes on uneven ground. There are two sections on front and three on back, with four hydraulic cylinders used to raise and lower the machine. The cutting wheels are spaced 15 in. apart and are offset 7 1/2 in. on the back axle so that they overlap each other. The blades on the rear axle just miss the shaft on the front axle and vice versa. Because of the timing of the front and rear gangs it won't plug up. If the front cutting wheels start to plug up with residue, the rear cutting wheels immediately start ripping it out. It leaves residue on the ground without causing it to fly up into the air."

The key components of the new machine are the new-style 2-way cutting discs. Al-



The 32-ft. unit is equipped with two rows of cutting wheels that Fuesz built by mounting pairs of 3 1/2-in. wide steel knives on 18 1/2-in. dia. cutting wheels.

though they look deceptively simple, a lot of work went into their design. Fuesz assembles each one individually using a die made for him by Nichols Tillage Tools (312 Hereford Ave., Sterling, Colo. 80751). Each cutting segment is made up of individual pie-shaped sections with 3 1/2-in. wide cutting blades mounted at right angles. There are 18 blades per disc, or 9 per side.

"The 32-ft. wide unit will cover twelve 30-in. rows. I use a 175 hp tractor to pull it which lets me cover about 30 acres per hour. I use it in the fall on irrigated corn and on irrigated and dryland sunflowers. I use it in the spring to chop corn and sunflower stalks, then chisel plow once and plant. It can also be used as a mulcher or as a soil conditioner, allowing me to chop residue and incorporate chemicals at the same time. Or I can use it as a tillage tool before planting wheat to kill weeds that have already emerged. It would also work great in conjunction with a deep tillage tool. I keep a tank full of water on the unit to add weight.

"I plan to build a 30-ft. wide, 3-section, 3-pt. chopper in the future and put it on the market for \$15,000 to \$20,000."

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