

# Radiator Warms Air For In-Bin Grain Drying

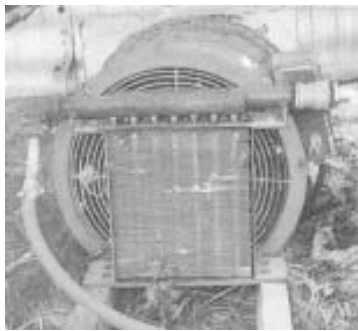
Stan Goodman, Piney, Manitoba, needed a quicker way to dry the Reed Canary Grass seed he grows on contract for a couple of seed companies.

Goodman prefers drying seed with aeration fans and natural air and he has two grain bins with perforated floors set up for this purpose. "It took up to about 3 weeks to dry a higher-moisture batch of seed with just aeration," he notes, so he was usually forced to use a propane fired grain dryer.

Hoping to cut his drying costs, Goodman looked at some of the commercially available low-temperature drying systems. "Propane heaters placed directly in front of aeration fans can remove humidity from the air and cut drying time without putting a lot of heat into the air," he says. But he would still have a propane bill to pay.

He has a sawmill and plenty of scrap wood, though, so he decided to create his own low-temperature drying setup by putting a wood furnace in front of the intake fan. "Pulling hot air from a jacket around the furnace worked well, but even though the wood burner was vented away from the aeration fan, the seed still had a smoky smell after it was dry," he says.

When his son brought a wood-fired boiler to Goodman's shop for some minor repairs, he was inspired to try again. This time, he set the hot water furnace away from the bin and piped the hot water from it to a radiator



Stan Goodman created his own low-temperature drying setup by piping hot water from his wood-fired furnace to a radiator in front of his bin's aeration fan.

he mounted in front of the aeration fan.

"It worked great," Goodman says. "With the intake air warmed by the hot water running through the radiator, I was able to dry a batch of seed in just three days."

He set up two radiators, one for each of his drying bins. "I can use one boiler for both radiators," he says.

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John Gray used a 60 hp gas engine and 4-speed car transmission to boost power and improve performance of his 7-in. dia., 47-ft. auger.

## Add-On Engine Boosts Auger Performance

John Gray, Vanscoy, Sask., used a 60 hp gas engine and 4-speed transmission from a 1980 Honda Civic to boost power and improve performance of his 7-in. dia., 47-ft. auger.

Gray grows specialty crops like peas and says the big engine lets him run the auger as slow - or as fast - as he wants. Also, the transmission allows him to instantly reverse the auger to quickly clean it out to use for another crop.

The auger was originally powered by a 14 hp gas engine. He removed that and mounted the Honda engine and transmission in its place, bolting the motor mounts to an angle iron frame which he then bolted to the auger frame. A pulley that he mounted on the transmission is used to belt-drive the auger. A sprocket mounted on front of the engine is used to chain-drive a hydraulic pump that Gray uses to operate sweep augers inside his bins. He also shortened the transmission

gearshift lever and mounted it next to the transmission, about 3 ft. off the ground. A pair of poly tanks mount on the auger frame next to the engine, one for gas and the other for hydraulic oil.

"It allows me to shift gears from ground level and operate the auger as slow or as fast as I want. By operating the auger slow I can keep it full all the time and avoid breaking peas. To reverse the auger, I simply flip a homemade clutch lever, which I mounted on one side of the engine, to disengage the transmission. Then I use the gearshift lever to put the transmission in reverse. The frame that supports the engine pivots in the middle so the engine always stays level as the auger is raised or lowered. As a result, the belt always stays at the correct tension level."

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A pulley mounted on transmission is used to belt-drive the auger.



Camera comes with a microphone, transmitter, and a receiver that you attach to your TV or VCR.

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