**TEXAS COMPANY TAKING ORDERS**

# Get Ready To "Pipeline" Your Grain to Market

by Ralph Watkins

Go ahead, railroads, and abandon your lines. Here come the grain pipelines!

Big pipes carrying grain may criss-cross the country a lot sooner than you might think. In fact, a company in Texas says it could build one right now, make it work, and that it would be competitive in per-bushel transportation cost.

The accompanying photo is a cut-away of an experimental pipeline called "Tubexpress", already available for purchase from Tubexpress Systems, Houston, Tex. Grain would actually move inside capsules that ride along on wheels, pushed by air pressure. No liquid would be involved, and about any size pipeline is possible up to 36 in. in dia., depending on how much grain there is to move.

Actually, twin pipelines side by side would be required — one to move grain to its destination and one to return empty capsules back to the point of origin. The need for twin lines is what keeps grain pipelines from being a great deal less expensive than transportation by conventional systems.

Vaughn Scanland, a vice president at Tubexpress, told FARM SHOW that pipeline size would depend on the tonnage of grain to be moved over a certain amount of time. Capsules would be manufactured to fit pipe size.

His company is looking closely at using its system to move coal as well as grain, "A 30-in. pipeline could move a million tons of coal a year," says Scanland.

The wheeled capsules move along by air pressure, which is only slightly, greater than natural atmospheric pressure, and not by vacuum. Booster air pumps along the line keep the capsules moving, and the pipeline wouldn't have to be completely air tight. Minimum labor to operate would be needed, as the system could be almost fully automated.

Scanland claims that, "Tubexpress is environmentally appropriate. Electric pumps would cause no pollution, and the motorless vehicles traveling underground would cause no noise or visual pollution. The need for highways that gobble up good farmland would be reduced."

Tubexpress' energy requirement would be less per ton-mile than truck haulage, Scanland points out. The system would have a long life, and could be depreciated over 33 years or longer.

As to safety, Scanland says that no derailments can happen, there would be no vehicle collisions, no fire hazard, and no spill hazard.

At Montana State University, Ag Economist Won Koo and others are doing cost evaluation research on running a grain pipeline — perhaps Tubexpress — from Great Falls west to Lewiston, Idaho, where most Montana grain is now shipped. From there, grain is taken by barge via the Columbia River on to the coast at Portland.

"A pipeline capable of handling 80 million bu. of Montana grain a year is economically feasible," says Koo. Construction cost would be $336 million. The cost of moving the 80 million bu., including original cost prorated, would be 53.2 cents per CWT (about 30 cents a bu.). This cost compares with rail operating costs of 58.6 cents/CWT (33 cents/bu.) for single-car rail shipments, or 53.85 cents/CWT (30 cents/bu.) for 50-car grain shipments.

Civil engineering professor Henry Liu, of the University of Missouri, Columbia, who has done alot of research on grain pipelines told FARM SHOW that Canadians successfully moved grain and other bulk cargo through a 300-mile oil pipeline in an experiment a number of years ago.

Liu is trying to develop a grain pipeline system that uses water to move sealed capsules along. Considerable experimentation has been done by others on slurry pipeline systems in which coal, for example, is pulverized and mixed with water to make a "mud" which is pumped along like crude oil. The slurry idea probably wouldn't work for grain, however, Liu points out.

The advantage of the slurry system is that only one pipeline rather than twin lines is required. Liu's capsules would be well sealed and the grain would not get wet, he points out. His proposed system would use electromagnetic pumps to pull the metal capsules along.

Liu cautions that a great deal more work is needed to build an efficient and reliable grain pipeline system. He feels, however, that pipeline transportation for grain, and perhaps other agricultural commodities, could become a reality in 10 years or less.

Tubexpress feels it won't take that long. "We're ready to take orders right now," says Scawland.

For more details, contact: FARM SHOW Followup, Tubexpress Systems, P.O. Box 1396, Houston, Tex. 77001 (ph 713 871-8000).

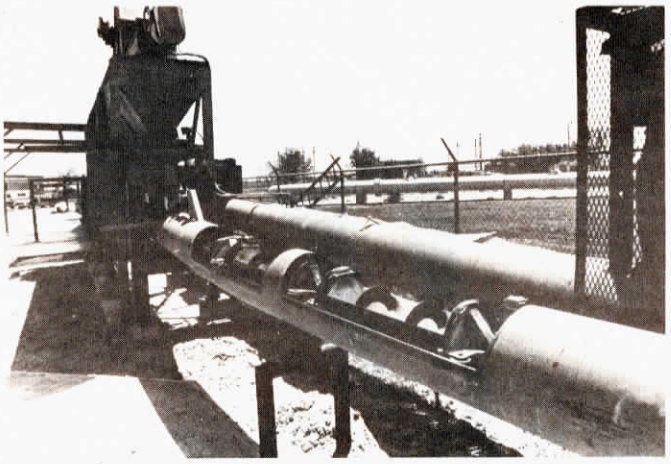

**Photo shows cut-away of a dry bulk materials pipeline loading station. Wheeled capsules, shown here with tops off, would be filled with grain, closed, and pushed through the line by air pressure.**


**Harvey Bish says he's one step ahead of every manufacturer but one with his 12-row corn header.**

**SMALL NEBRASKA MANUFACTURER ONE STEP AHEAD OF COMBINE COMPANIES**

# New 12-Row Header Fits Most Combines

In response to farmer demand, and in anticipation of a move combine manufacturers will themselves reportedly soon make, Harvey Bish, of Giltner, Neb. has developed a 12-row corn header to fit any of the big new high-capacity combines. He says he's one step ahead of every big combine manufacturer but one.

"We've been told Deere plans to come out with a 12-row model next year. So far as we know, Gleaner is the only manufacturer with a 12-row header now," says Bish, who's well-known to FARM SHOW readers as the manufacturer of a popular quick-tach kit that lets you mount one company's header on any other company's combine or field chopper. Although he's developed more than 20 different kits for different adaptations, Bish says the majority of kits go to mount Deere headers on non-Deere combines, which is why he used a Deere header as the base for the new 12-row model. He'll adapt the new 12-row Bish header to most any make or model high capacity combine on the market.

"We've already mounted our new 12-row header on two International 1480 rotaries," he told FARM SHOW, adding that although combine companies are developing their own 12-row headers, farmers already have the big new combines and need larger headers now.

Bish retooled a standard eight row 36-in. Deere header to build the 12-row. He added two rows at either end, lengthening the auger, stripping out the wider tin on each row, and reinforcing the entire frame. The "retooled" 12-row header adapts to 28, 30 or 32-in. rows and sells for $23,500.

For more information, contact: FARM SHOW Followup, Harv's Farm Supply, Harvey Bish, Giltner, Neb. 68841 (ph 402 849-2674).