



Farm Talk

Jerry Webb

Buy fuel, sell grain

There certainly has been enough written and said about on-farm alcohol production. The idea sounds so good many farmers are forging ahead with their own stills. They're making alcohol to be used as fuel for their machinery. On the surface, alcohol production looks like a good deal. A farmer takes some of his own crops, most likely corn, and turns them into motor fuel. That saves money and reduces the amount of

imported oil needed for agriculture. But it's not that easy. After considerable study, a pair of North Carolina agricultural economists now say it costs more to produce on-farm alcohol than it's worth. Everett Nichols and Dan Jackson, members of the Department of Economics and Business at North Carolina State University, are telling farmers in that state that small-scale, on-

farm alcohol distilleries just aren't worthwhile; that at current prices it costs a lot more to produce on-farm fuel than it does to buy it; and, there are other problems. Farmers are using three major products for farm-produced fuel — ethanol, methanol and vegetable oils. Of the three ethanol, or grain alcohol as it's popularly called, is commonly considered the most feasible. It's fairly easy to make, the distillery equipment is inexpensive, and it can be made from almost anything that will ferment. Corn and grain sorghum are the two most economical feedstocks for this process.

According to Nichols and Jackson, the average production costs in terms of dollars per gallon of ethanol range from 14.22 for a small batch still to \$2.37 for a large continuous operation unit. Those costs include all charges involved except the use of land. By subtracting out the feed value of the by-products left over from the production of ethanol, the economists have arrived at some break-even values depending on the kind of operation. In their study, the economists found all of these break-even values were higher than the current price of gasoline. "None of the distilleries included in the study can produce ethanol cheaper than gasoline. And all are

currently unprofitable," the economists say.

Even considering the direct tax saving available to ethanol producers in terms of investment credit, federal and state excise tax exemption and income tax credit, totaling about 55 cents a gallon, ethanol production still isn't worthwhile. Even figuring corn at \$1.80 a bushel, far below its present market price, they say ethanol just can't be produced cheaply enough.

Significant improvements in the process will have to be made to lower production costs or farmers will have to find some sort of additional state or federal subsidies, according to the economists. If gasoline prices continue to rise, then someday ethanol production might seem more feasible.

But they point out when that happens, large-scale industrial distilleries will probably step in and fill the market. As that happens, prices for inputs, especially grain, will go up, eliminating the on-farm advantage of ethanol production. Besides that, the large-scale plants will be more efficient and will be able to pay more for the raw products they need.

The economists think eventually only the most efficient firms, most likely large-scale operations, will be able to pay the higher input costs and continue to earn a profit. Small, inefficient units will be forced to shut down.

Nichols and Jackson are advising farmers to weigh all these factors before they make relatively large investments in small-scale farm distilleries. They think such operations will probably continue to be unprofitable even with substantial increases in gasoline prices.

"Distilling alcohol is a complicated enterprise requiring skilled labor to realize a profit. For most, start-up costs are substantial. With present technology, commercial alcohol production is more competitive than on-farm production," they conclude.

There's another problem with on-farm ethanol production and that is the amount of water it contains.

Farm-produced alcohol is considered hydrous because of its relatively high water content and low proof. Because of this hydrous ethanol, which is all farmers can expect to produce from their on-farm systems, can't be successfully mixed with gasoline to make gasohol. It can only be utilized as straight ethanol in gasoline engines that have been modified to burn it instead of gasoline.

Used as a pure fuel it takes 1.7 gallons to equal the energy in one gallon of gasoline, and that reduces its competitiveness by a considerable margin.

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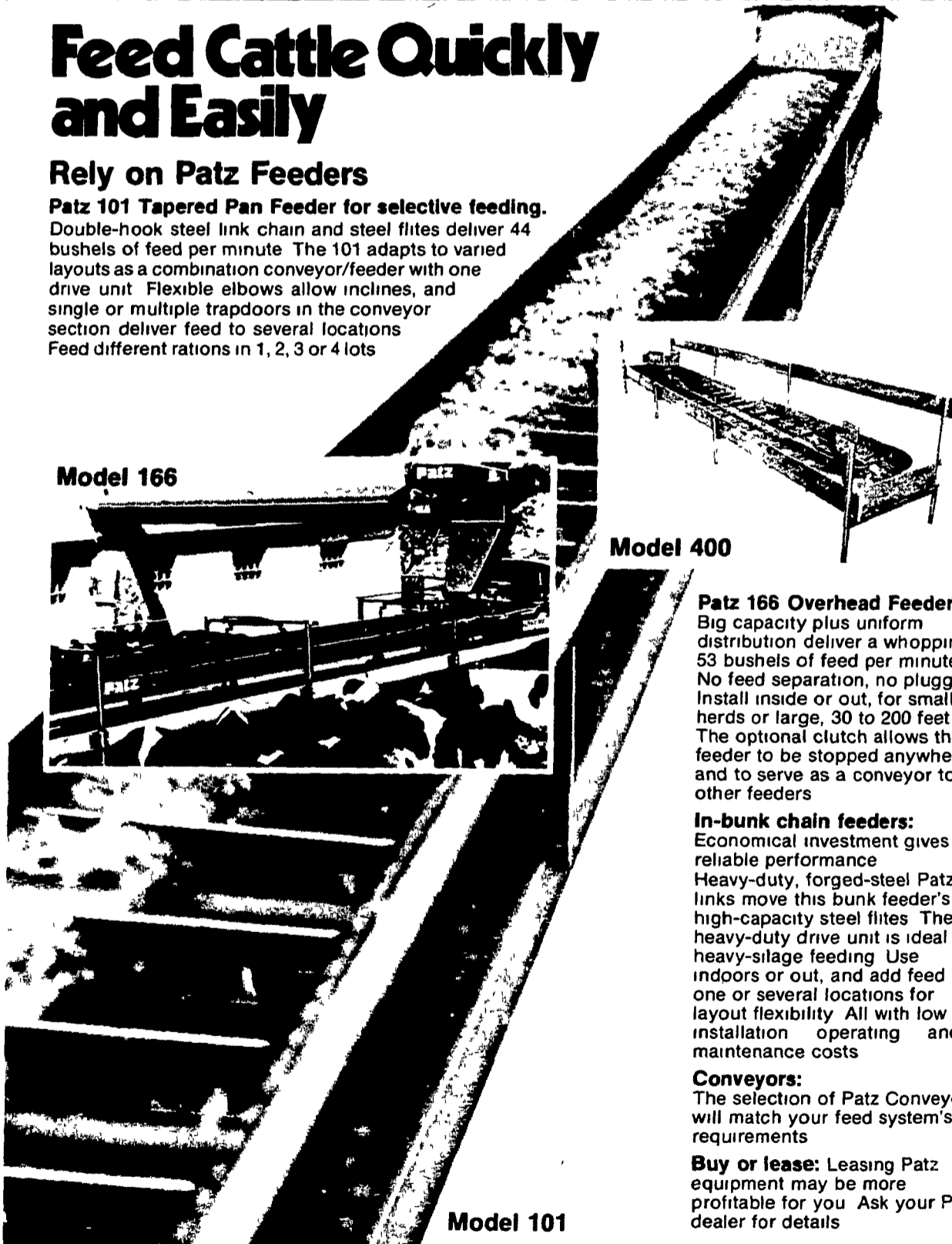
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