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Will there be enough corn: Implications for related industries *

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(second in a series of three)

USDA supply-demand projections for the year ahead and trends through 2008 imply that the grain-livestock sector is entering an extended period of chronically tight corn supplies. While that is by no means certain, the following are some implications for related sectors if a chronically tight supply scenario occurs.

Industries supplying inputs to grain producers

Demand would be strong for inputs such as tractors; combines; and tillage, planting, spraying, and transport equipment. Strong demand for fertilizer, corn herbicides, and seed corn also could be anticipated, although demand for soybean seed and herbicides might weaken. Strong demand for rented and owned farmland also would be certain to occur.

- Increased co-product feed prices due to the high price of corn and soybean meal.

Several of these elements would likely continue in future years, enabling ethanol processors to bid rather strongly for corn. However, in years of major drought comparable to 1980, 1983, 1988, and 1995, profit margins for ethanol processors could become extremely small or even negative. In 1995-96, these conditions led to a 26 percent drop from a year earlier in U.S. processing of corn for ethanol.

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Handbook Update

For those of you subscribing to the *Ag Decision Maker Handbook*, the following update is included.

Revenue Insurance for Livestock Producers — B1-50 (3 pages)

Please add this file to your handbook and remove the out-of-date material.

Ethanol producers

Most ethanol processors have been able to adjust to this year's high corn prices because of:

- High gasoline prices that have increased the price of ethanol
- Extensive government incentives for renewable fuels production
- Limited domestic ethanol production relative to demand

* This information first appeared in *Feedstuffs*, Vol. 76, No. 30, July 26, 2004.

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Areas of uncertainty in future ethanol processing margins include prices for gasoline, ethanol, and co-product feeds. As supplies of Distiller's Dried Grains (DDG) increase, their prices likely will continue a downward trend relative to corn and soybean meal prices. For the next few years, ethanol processors likely will be able to bid aggressively for needed corn supplies unless the price of corn approaches the levels of 1995-96.

Foreign buyers

Foreign buyers as a group historically have treated the U.S. as a residual supplier of feed grains. When global supplies are tight because of foreign weather problems, as in the season just ending, they increase purchases from the U.S. When global supplies are more plentiful, foreign users historically have turned to non-U.S. supplies. Whether global corn supplies remain chronically tight in future years will depend heavily on Chinese corn production, and also on foreign grain producers' responses to higher grain prices.

Livestock and poultry industries

Projections imply that expanding demand for corn for ethanol processing will displace U.S. exports, but that is by no means certain. With the long-term tight supply scenario, a significant part of the displacement might be shifted to the U.S. livestock and poultry industries because of the ability of foreign buyers to bid aggressively for corn supplies.

In times of tight corn supplies, larger U.S. livestock and poultry producers may be able to bid more strongly for corn than smaller operations. Also, smaller livestock feeding operations typically are diversified grain and livestock farms. With high grain prices, they would tend to reduce livestock production or exit from the livestock business and rely primarily on grain for income. Hence, chronically tight feed supplies likely would accelerate the structural movement to fewer and larger livestock firms.

Grain elevators

In the past 25 years, grain elevator businesses across the Midwest have merged and consoli-

dated to become more efficient, and many have developed highly efficient train-load shipping sub-terminals. Train-load shipping involves large investments in facilities and equipment and great pressure to originate large quantities of grain to meet precise transportation commitments. With numerous existing ethanol processing plants and more under construction and in the planning stages, competition in grain origination is certain to intensify. Basis bids will become increasingly competitive and there will be increased pressure to develop unique new contracts with farmers. Some train-load shippers may be unable to efficiently use their facilities because of a greatly reduced supply of excess grain in their trade areas. These changes are likely to accelerate the closing of older, smaller elevators and/or shifting of these facilities to seasonal use for receiving, conditioning, and storing grain at harvest time. Merchandising margins are likely to be smaller than in recent years. Additional rail abandonments may occur on short-lines and branch rail lines. Some sub-terminals may find their primary role shifting from train-load shippers to storage points for ethanol plants and local feed mills.

The impact on Corn Belt elevators will vary from area to area, depending on closeness to new processing plants, trends in livestock and poultry production, and the extent of cropland shifts from soybeans to corn. A significant number of elevators will likely continue train-load grain shipments, although basis competition will intensify. Several new ethanol plants are at the planning stage in California, Oregon, Colorado, and Texas. If these plans materialize, corn will need to be shipped in from the Midwest. Plants in the pre-construction planning stage in these states may require as much as 160 to 200 million bushels of corn annually. This year's supply-demand situation and USDA's projections for the year ahead should be kept in mind when looking at potential market impacts.

The July 2004 projections indicate that even with record U.S. corn yields, increased corn processing of this amount would need to be accompanied by reductions either in exports or

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other domestic uses of corn because of limited corn supplies. Incentives for potential new plants in western and southwestern states include:

- Large dairy and beef cattle feeding operations that can use wet DDG year around
- Short distances to ship ethanol to large markets in Arizona, California, Colorado, and Texas
- Lower energy costs in some states
- Possible sales of CO₂ to nearby urban markets
- State subsidies for plant construction

If these plants materialize, some train loading elevators will be able to bid aggressively enough to attract large quantities of corn for shipment to out-of-state ethanol plants.

Concluding comments

USDA projections for the year ahead indicate the U.S. corn supply-demand balance is changing from one of chronic surplus production capacity to an extended period of tight supplies. If so, relatively high corn prices will be needed to allocate limited supplies among alternative users. When all of the new ethanol plants currently under construction are completed, about 24 new plants will have come into operation since late 2001. At least 54 other plants are in the planning stage and probably will come into operation in the next few years. Processor demand for corn for these new plants is likely to be inelastic, reflecting government incentives and a relatively inelastic motor fuel market. An inelastic demand requires large increases in price to reduce use when feedstock supplies are short.

Further complicating the longer-term supply and cost outlook for the livestock-feed sector is the widely held view that China is shifting from a large exporter of corn to an importer. If that happens, China would become a new market for U.S. corn. At the same time China's corn customers would likely turn to the U.S. for supplies. This possible scenario raises the question of whether U.S. corn acreage can be increased enough to meet anticipated new sources of

demand. Rapidly expanding ethanol-based demand for corn is almost certain to continue for several more years. However, corn users should note that considerable uncertainty still exists about China's future corn exports or imports. Eight years ago, USDA and many other analysts predicted China would be permanently out of the corn export market. A year later, the Chinese proved them wrong. If China does drop out of the corn export market, U.S. corn supplies are likely to be much tighter in the years ahead. The corn industry would then be faced with challenges of how to reverse the downward trend in U.S. planted cropland and how to increase corn plantings. That scenario also would raise questions about which users could bid most strongly for limited supplies: livestock and poultry feeders, corn processors, or foreign buyers?

The rapid increase in the number of ethanol plants across the Grain Belt is already having a significant strengthening effect on basis patterns and the cost of corn for livestock in areas close to plants, and is affecting competition in originating grain at elevators. In the last few years, for example, the corn basis under nearby futures in northwest Iowa has strengthened six to eight cents per bushel relative to north central Iowa. Several new ethanol plants in the region have been significant contributors to the stronger relative prices and basis. As more new plants are built, grain supplies for export in some areas of the Corn Belt will be significantly reduced. With current and planned ethanol plants, the potential availability of Iowa corn for export to other states and countries could be reduced by 18 to 25 percent from recent levels—unless corn acreage increases significantly. Similar or larger decreases in surplus grain available for export may occur in parts of other states.

Supply and demand responses to high prices may accelerate global grain production and slow the demand growth, tempering the tightness in U.S. supplies. Expanded foreign production would tend to reinforce the nearly quarter-century downtrend in U.S. corn exports.



Reporting income under ledger contracts *

by Neil E. Harl, Charles F. Curtiss Distinguished Professor in Agriculture and Emeritus Professor of Economics, Iowa State University, Ames, Iowa. Member of the Iowa Bar.

Although ledger contracts for marketing hogs have been around for nearly a decade, audit activity has picked up in recent months with taxpayers questioned as to how income under the contracts was reported during the period of extremely low live hog prices in 1998-99 when hog prices dropped to as low as eight cents per pound.

What are ledger contracts

Ledger contracts were developed as a risk-sharing arrangement between a producer and a livestock packer under which the parties agreed that the packer would pay a specified amount per pound of live hogs (such as 38 cents per pound) regardless of the actual cash price. If the specified price was less than the market price, a balance would build up on the packer's ledger in favor of the producer. When the cash price was less than the specified price, the producer would still receive the specified price and the ledger balance on the packer's books would be reduced accordingly. If the specified price was set at or near the long-term average price for live hogs, the ledger balance would fluctuate as the market price oscillates above and below the long-term average price. With such a contract in hand, a producer, especially a marginal producer financially, would be more likely to obtain necessary funding for production facilities.

The extended downturn in live hog prices in 1998-99 produced large, sustained negative balances in the ledger account. Among the obvious questions raised by such large negative balances were:

- 1) what is the packer's position relative to the producer's lender;
- 2) how is the ledger account handled on the producer's balance sheet;
- 3) what are the consequences if the packer (or producer) declares bankruptcy, terminates the business, or is sold; and

- 4) how does the producer report payments in the face of a large sustained negative balance in the ledger account?

In this article, the principal focus is on how a producer reports payments for live hogs during a period of large, sustained negative balances.

Income tax treatment of payments for live hogs

The income tax aspects relate to two distinct reporting problems:

- 1) how payments for live hogs should be reported and
- 2) how payments at the end of a contract are to be reported.

First, it should be noted that amounts actually paid for live hogs should be reported as income as the payments are received. As the Internal Revenue Code clearly states, "Except as otherwise provided...gross income means all income from whatever source derived, including (but not limited to)...gross income derived from business...."

Example 1:

A taxpayer has a ledger contract with a packing plant that sets the specified contract price at 38 cents per pound of live hogs. The taxpayer delivers 400 hogs weighing 100,000 pounds at a time when the market price is 43 cents per pound. The taxpayer is paid $100,000 \times \$0.38 = \$38,000$ and the ledger account balance is credited with $100,000 \times (\$0.43 - 0.38) = \$5,000$. The taxpayer reports ordinary income of \$38,000.

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If the market price for hogs is below the specified contract price when the live hogs are delivered, the producer is paid the contract price (38 cents per pound in this example) and the difference between the specified contract price and the market price is subtracted from the ledger account.

Example 2:

The taxpayer in Example 1 delivered 100,000 pounds of live hogs when the market price is 35 cents per pound. The taxpayer is paid $100,000 \times \$0.38 = \$38,000$ and $100,000 \times (\$0.38 - 0.35) = \$3,000$ is subtracted from the ledger account. The taxpayer would report ordinary income of \$38,000.

Inasmuch as taxpayers do not have the right to collect a positive balance in the multi-year ledger account or have the duty to pay a negative balance in the ledger account until the end of the contract, the taxpayer is neither required nor allowed to report the ledger account balances until the end of the contract.

The income tax consequences of the ledger contract are essentially the same whether the producer uses the cash method of accounting or the accrual method of accounting. The duty to pay a positive ledger account balance or a negative ledger balance does not arise until the end of the contract and is dependent upon the market price for live hogs until the end of the

contract. Therefore, the economic performance rules do not allow (or require) an accrual basis taxpayer to recognize a loss or a gain until the taxable year in which the contract ends.

At the end of the contract, positive balances paid to the producer are reportable as ordinary income; negative balances reduce income by the amount of the payment and should be reported as a negative amount on Schedule F.

Are payments in excess of market price a loan?

The argument has been made that payments in excess of the market price for live hogs could be treated as loans. That would appear to be possible only if the amount in question is a bona fide loan. The authority which has emerged in recent decades for the taxation of advances on commodity sales sold with deferred payment provides useful guidance on when a payment is a bona fide loan. Of course, a practice of reporting amounts by which the specified price exceeds the market price should involve reporting the excess of the market price as income over the specified price in years in which that is the case.

Fundamentally, however, treating the amounts as loans is only possible where it can be established that the amounts are bona fide loans. That is difficult to establish, if not impossible, when the contract does not characterize the amounts as loans as has generally been the case with ledger contracts for hogs.

McEowen joins Iowa State Univeristy

Roger A. McEowen was chosen to replace Neil E. Harl who is retiring at the end of the year. McEowen will be an associate professor of Agricultural Law at Iowa State University, a position Harl held for nearly 40 years.

McEowen joined the ISU faculty in Agricultural Education and Studies on August 15, 2004, from Kansas State University where he developed a strong program in teaching, extension and research from 1993 to 2004. McEowen received the Distinguished Service Award from the American Agricultural law Association in 2003, the youngest recipient ever for that award.

He will conduct seminars on farm and agribusiness legal issues. McEowen will conduct

the annual Farm Income Tax Schools held for income tax practitioners. He will speak to groups organized by ISU Extension, answer questions from Iowa constituents, and conduct research in the areas of agricultural law, taxation, and policy.



Roger A. McEowen

McEowen is a native of Indiana with a bachelor's degree from Purdue Univesrity, a Juris Doctor degree from Drake University, and a Master of Science in Agricultural Economics from Iowa State University.

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