

sented in table 2. The presence of the black armored layer was associated with reduced damage. The most consistently resistant progeny were of the selection 526-1, from which 18 plants were obtained that exhibited resistance. All of these had a damage index of from 0.63 to 1.0, and exhibited the black armored layer. The most susceptible selections (the controls) had an index of 3.0 and remained white (no armored layer). Where selections were segregated for presence or absence of the armored layer, as in the selections 526-2 and 526-3, only those plants showing a low damage index exhibited the phytomelanin layer.

The readings or field evaluations given in the reported data were mostly from plants that were single-headed, and not branched. Moreover, the results given for

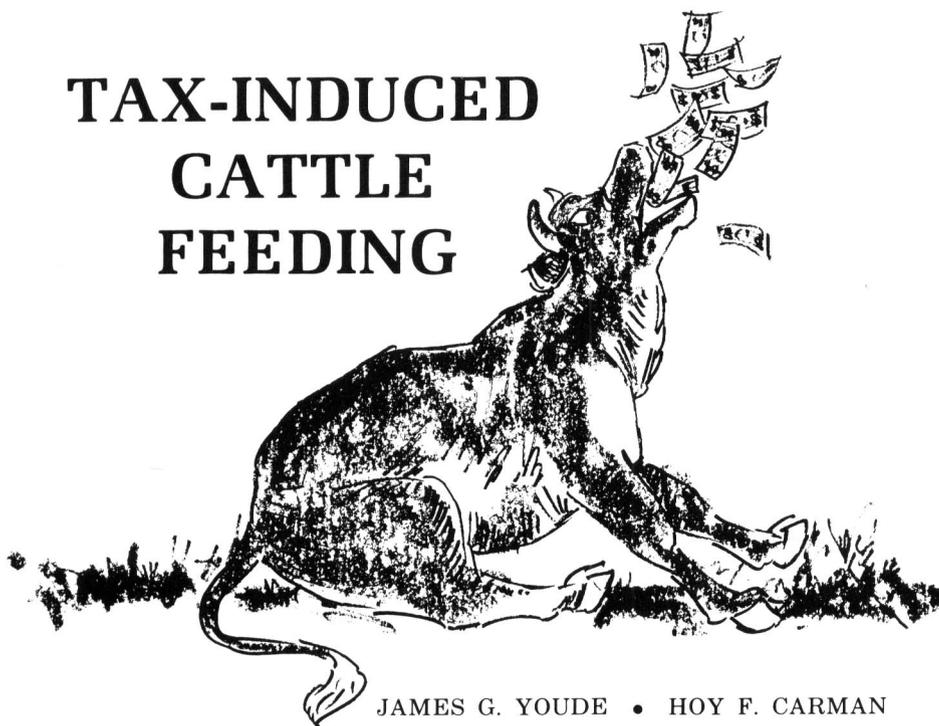
the harvested seeds, evaluated chemically for presence or absence of the armored layer and for size and color, were primarily from those single-headed plants that exhibited little or no sunflower moth larval damage (scores of 1 or less). Many susceptible selections (and the controls) were also evaluated. However, field distribution of the moths was not uniform, which permitted some plants to escape damage. This would explain the fact that a few plants appeared resistant or tolerant in the field but did not have the armored layer.

Two F₁ crosses, 310-2 × 526-1 and 215-4 × 526-1, exhibited sunflower moth resistance in a few plants, all of which had the armored layer. This shows that the addition of the armored layer to commercial sunflower varieties should

provide some resistance to larvae of the sunflower moth. More work must be done, however, to determine whether or not the armored layer has an adverse effect on meal or oil quality. Also to be determined is the inheritance possibility for the armored layer and effects on the insect.

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TAX-INDUCED CATTLE FEEDING



JAMES G. YOUDE • HOY F. CARMAN

Cattle feeding for income tax deferral has resulted in many nonfarm investors providing substantial capital for cattle feeding in California. This recent growth in outside financing, accomplished mainly through limited-partnership arrangements, has potential economic implications to agriculture. Favorable aspects include a possible smoothing of seasonal variations in feeder and fed cattle prices with increased returns to feeder cattle producers. Participating cattle feedlot operators are better able to utilize their facilities and have probably benefited from their association with limited partnerships. There are also possible economic disadvantages. Non-participating feedlots may encounter problems obtaining the numbers of feeder cattle desired. If feedlots become dependent on these investors, as it appears they have in California, a change in tax laws or investor interest could create problems of adjustment in sources of financing. Also, if cattle funds are available on a sporadic basis, they could increase instability in the fed beef business.

IN OCTOBER, 1971 Joe Torte, an aggressive young Los Angeles attorney, had a "tax problem." A wrongful-injury law suit he had worked on for two years was settled in favor of his client, and he received a feed of \$75,000 from the settlement. Combined with his "normal" 1971 professional income of \$50,000, Torte faced a large tax liability. He immediately began exploring methods of reducing his 1971 income tax payment.

While visiting with his accountant, Torte was advised that he should consider becoming a cattle feeder, thereby deferring his extraordinary income to a later year. He learned that he could defer taxes on the entire \$75,000 with about 600 head of cattle. The total 1971 feeding investment, including prepurchased feed, is summarized below:

Cost of 600 head of cattle purchased	\$103,000.00
Feed bill for 1971 (October, November, December)	15,000.00
1972 Feed prepurchased	54,000.00
Total Investment (excluding interest)	172,000.00

Torte provided \$37,000 in margin funds, leaving a loan balance of \$135,000. He also prepaid \$6,000 of interest expense for 1972. Hence, an investment of \$43,000 has given him an income deferral of \$75,000 from 1971 to 1972. Torte also gained considerable financial leverage as a cattle feeder: with 24.2 percent down he controls an investment of \$178,000.

Tax-deferral programs

The incident outlined here is true; only the names and numbers have been changed to protect the authors. Our attorney-turned-cattle feeder is representative of a new "breed" of investors who recently have entered this business. This article outlines the characteristics of several tax-deferral cattle feeding programs, income tax aspects, the extent of nonfarm investment in cattle feeding, and the probable impact of these programs on various sectors of the cattle industry.

Extent of feeding

No reliable data exist on the number of cattle being fed under various investment programs. However, one knowledgeable industry spokesman recently estimated that 60% of all cattle presently on feed in California are being custom-fed for the accounts of investors other than traditional feeders or packers — including about 25 cattle funds. In 1971, some 2.0 million head of cattle were fed in California. If a similar number are fed in 1972, and if the above percentage remains constant, it would mean that about 1.2 million head of cattle will be fed under limited-partnership programs in this state alone during 1972 — becoming a major factor in the Western fed beef industry.

Most nonfarm investors interested in tax deferral through cattle feeding invest in a limited-partnership program. Prospectuses offering interests in limited partnerships have become widely available during the past two years.

The limited-partnership nature of the agreements accomplishes two purposes: it allows for single tax treatment of the profit (or loss) of the cattle-feeding venture, and it limits the financial liability of the investor-partner to his total investment in the program. A "general partner" establishes the cattle feeding program and arranges for financing, cattle feeding facilities, and any other products and services necessary to place the limited partner in the cattle-feeding business. For his efforts (in organizing and selling the program), the general partner receives a commission or "service fee" from the investor. In addition, the general partner charges a "management fee" for con-

ducting this business for the limited partner; under some programs he also receives a specified percentage of any net profits accruing from the feeding venture, and/or a fee for arranging financing.

Operations

In some instances the feedyard operator and the general partner are the same individual; in other cases the latter contracts with a feedlot to feed cattle on behalf of the program's partners. The feedyard charges the program for all costs incurred in feeding and caring for their cattle, including costs of cattle, feed, interest on borrowed capital, medicine and veterinary services, yardage, buying and selling commissions, trucking, death loss, etc. The feeder makes his "margin" from a yardage charge and/or from a markup on feed. Typical markups are up to 25% of feed ingredient costs, or \$10 to \$15 per ton of feed purchased.

Minimum investments required by limited partners in a cattle-feeding program vary from \$2,250 to \$10,000, with \$5,000 a commonly-specified lower limit. Some combination of the following investor qualifications is usually specified in the prospectus:

- (1) residence in state where securities are registered;
- (2) net worth of at least \$50,000, exclusive of home, automobile and furnishings;
- (3) annual gross income of \$20,000 or more;
- (4) Federal income tax bracket of 50 percent or above;
- (5) no more than 15 percent of annual gross income in the program;
- (6) experience in investment and business matters.

It is obvious from these requirements that the programs are designed for well-heeled "Wall Street cowboys."

Tax aspects

Farming is the only business in which the operator can elect to use cash accounting for federal income tax purposes. Under the cash accounting system, income is reported when received, costs are deductible when paid, and inventories are

ignored. With a few qualifications, expenditures for interest, management fees, feed, care and maintenance of cattle and other operating expenses are deductible in the year paid. Investors like Torte have been able to effectively use cash accounting to defer income from one tax year to the next. Cattle-feeding investments offer only tax deferral; there is no opportunity to shelter ordinary income through conversion to capital gains. In addition, cattle feeding may convert the deferred amount from earned income with a maximum tax rate of 50%, to investment income with a maximum rate of 70%. This disadvantage of cattle feeding is not recognized by many investors.

Tax savings

Let us suppose that Torte breaks even on his feeding investment and pays 1972 taxes on the income he has effectively deferred. His 1971 tax saving was \$54,180 - \$12,140 — \$42,040 but his 1972 tax will be increased by \$42,340, (\$54,480 - \$12,140 — \$42,340), for a net increase of \$300 in tax liability! However, if he invested his 1971 tax saving at a yield of 8% (which could be in the form of capital gains), he would have a net gain of \$2,522 - \$300 — \$2,222 — after paying 25% capital gains tax, and deducting the \$300 increase in tax liability.

Additional advantages of tax deferral will accrue to the investor if he moves to a lower tax bracket in the future as a result of changes in government policy or income-reducing factors, such as retirement. Once involved in cattle feeding, the investor has a strong incentive to continue or to shift funds to investments yielding a long-term capital gain. Several of the limited partnerships currently involved in cattle feeding have a minimum life of three years.

It should be noted that this discussion has considered only the tax aspects of the investment. Cattle feeding is risky; therefore, the investor may face a much different tax picture depending on the profitability of his feeding venture. In this sense nonfarm investors have assumed much of the risk formerly borne by California feedlot operators.

Cattle feeding programs initiated by investors with tax-deferral objectives can be expected to affect certain industry sectors in the short-run and, in some instances, over longer time periods.

Traditionally, Western U.S. feeder cattle prices reach their seasonal lows during the fourth quarter. Although placements of cattle on feed are highest for the year during October and November, supplies of feeder cattle marketed also reach their seasonal peak in the fall. This supply pressure is usually stronger than seasonal demand (placements), resulting in seasonal price declines.

Potential tax-deferral cattle feeders are likely to recognize their need for a current-income tax shelter during the latter months of any year (just as Joe Torte did). Therefore, they will probably increase the demand for feeder cattle during the fourth quarter over that level which would otherwise prevail. Their presence in the market probably (at least partially) explains the sharp rise in both feeder cattle placements and feeder cattle prices relative to previous years during the fourth quarter of 1971.

In general, then, tax-induced cattle feeding would be expected to dampen seasonal feeder cattle price differences, relative to those that would otherwise prevail, by increasing fourth-quarter demand for feeders. This demand stimulus may also induce more weaner calves to be placed directly on feed, rather than being carried on grass to the next fall and fed as yearlings, particularly in years when insufficient numbers of heavier feeder cattle are available to meet seasonal feeding demand.

Seasonal marketing effects

How would we expect tax-induced feeding to affect fed cattle marketings and prices? Cattle placed on feed during the fourth quarter will be ready to market for slaughter from February 1 to August 1 of the following year, depending upon the in-weights of the feeder cattle, their average daily gain, and the weights at which they are marketed.

During the past ten years fed cattle prices have usually reached their seasonal high during the months of March through August. In 1970,

choice slaughter steer prices at six U.S. markets peaked in March and in July at about the same levels. In 1971 prices peaked in July, declined through September, then hit a yearly high in the unusual month of December.

The heaviest expected marketing months for tax-deferred cattle coincide with that seasonal period when fed cattle (and wholesale beef) prices historically have reached their seasonal highs. Therefore, some moderation in seasonal beef prices should occur as a result of increased year-end interest in this activity by outside investors. Of course, the ability of these programs to alter historical seasonal fluctuations is limited by the physical availability of both feeder cattle and feed. In addition, once an investor becomes committed to a three-year cattle fund with early-withdrawal penalties, his investment in the industry becomes less seasonal.

Cattle funds have undoubtedly increased returns for participating feedlots by increasing capacity utilization and providing a "guaranteed" margin for feeding. Some non-participating feedlots have encountered problems bidding against cattle funds for feeder cattle. Resulting under-utilization, and higher prices paid for feeders, have squeezed their returns.

Longer-run impacts

The number of cattle fed in the U.S. in a given year is a function of the available supplies of feeder cattle and feed grains; and the expected profitability of this activity, which is determined by the prices of fed cattle, feeder cattle, feed grains, and other feed and nonfeed inputs. Profitability can be interpreted to include both net feeding returns and tax savings. Profit expectations are based to a large extent on experiences during the previous year.

Increases in the size of the basic beef cow herd are necessary to expand the long-run supply of feeder cattle. Cow-calf producers are expected to respond to feeder cattle price increases by retaining heifers and/or reducing culling rates, thereby expanding the nation's beef cow herd. From two to three years elapse between a decision to retain a heifer and the date her offspring is large enough to enter the feedlot.

Whether tax-induced cattle feeding is a temporary or continuing phenomenon could result in significantly different impacts on the feeder cattle-producing sector of the industry. If this activity continues its present popularity, the increased demand for feeder cattle could result in expanded production at stable or increasing prices. However, if this activity contributes to an oversupply of fed beef, leading to declining fed cattle prices and lower (perhaps negative) feeding profits, the popularity of cattle-feeding funds would probably wane. If feeder cattle producers were induced by temporarily high prices to expand their production, and if feeder cattle demand then declined substantially, the magnitude of feeder cattle price fluctuations (i.e., the "cattle cycle") probably would be much greater than would otherwise occur.

Marketing weights

Another variable affecting the total supply of fed beef, and consequently fed cattle prices and feeding profits, is the *weight* at which fed cattle are marketed. Average slaughter weights vary seasonally and annually, depending upon the costs of feeding inputs and current and expected market prices for fed cattle.

Feeding by cattle funds may influence the slaughter weights of fed cattle. Since most programs charge the investor a fixed per-head management fee, the manager may have a financial incentive to market investors' cattle as soon as possible to maximize the number of cattle handled during a given time period. However, many cattle-feeding funds share 10% to 30% of the profits with management, thereby providing an incentive to feed cattle to weights which maximize net returns. On balance, the impact of cattle funds on slaughter weights depends on management objectives and compensation. In the absence of evidence on the relative weights of these factors, it is difficult to predict their net impact.

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