

Production costs

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interest on indebtedness, sales of milk, and changes in inventory values are among those that all would agree ought to be included in the computations.

There is quite a bit of debate, however, about whether the rental value of the farm dwelling and the opportunity costs of equity capital and owner management ought to be included. Of even greater disagreement is whether to include price appreciation or depreciation in land values and income earned off the farm. In all these matters, ample room exists for honest differences of opinion.

A THEORETICAL

CLASSIFICATION OF COSTS

It may be useful, at this point, to develop a classification scheme for costs to facilitate later discussion. There is an order of immediacy of claim, or degree of associative certainty, between various cost items and the production of a particular product, in the present case, milk. Two major categories of costs may be delineated:

- A. Unshared, or direct costs,
- B. Shared joint, or indirect costs.

An example of the former would be purchased of 16 percent dairy ration, all of which is fed to the milking herd. An example of the latter would be depreciation on a tractor that is used both to produce a cash crop and to scrape the manure from an exercise area used by the milking herd.

Each of the two foregoing major categories of costs may be further broken down as follows:

- 1. Cash
 - 2. Non-cash
 - a. depreciation in value of capital assets
 - b. decreases in value of non-capital inventories
 - c. cost (value) of risk factor inputs

Cash costs generally have the most immediate claim on any revenues that are generated because they are usually consumed during the same accounting period in which they are purchased. Cash costs are also the easiest to observe and do not require the use of any judgment or assumptions as to their dollar amounts. Some examples might be: feed, hired labor, breeding fees, taxes, and utilities.

Non-cash costs are shown above in three categories. The first category, depreciation, deals with allocation among accounting periods. Of course, depreciable items such as machinery and buildings require cash payment at some time, but not necessarily during a particular accounting period. How much of the original purchase price should be considered a cost during an accounting period should be a function of how much of the useful life of the item is used up during the accounting period. We know that some of it is likely to be used up even if the item isn't used at all, that more is used up if it is used more, and less if it is used less. Since it is highly unlikely that a piece of equipment will be used in exactly the same way for exactly the same time each accounting period, we can only arbitrarily include a portion of its original cost during any accounting period of interest. Conventionally, of course, we make those allocations according to whatever depreciation schedule has been adopted.

TAX RECORDS

Tax records are used frequently as a convenient source of certain information. Under federal income tax accounting, if the sales price of a capital asset held for one year or more is less than its depreciated book value, the difference is reported as a long-term capital loss. If the sales price is greater than the depreciated book value, the amount by which the difference exceeds depreciation taken, if any,

is reported as a long-term capital gain. The remainder of the difference between sales price and book value is then reported as ordinary income. Under present tax laws, therefore, the use of accelerated depreciation methods are no longer a way to convert ordinary income into capital gains. They usually do have the effect of postponing liability for taxes until a later time, however, and the accelerated cost recovery feature of the 1981 tax law will further accentuate that effect.

Depreciation is probably overstated in the early years of the life of an asset, having the effect of overstating costs at that time. Then, in the later years of the life of the asset, depreciation is understated, having the effect of understating cost of production. Thus, with respect to any particular capital asset, it can be seen how true cost accounting and cost accounting for tax purposes may lead to different estimates of the cost of production. If one could assume, however, that there is a fairly uniform mixture of ages of capital assets in an industry at any given time, and that there is a fairly uniform flow of new and replacement capital assets into the

industry over time, then the inclusion of a reasonably large number of firms in a study should result in net differences between true and tax accounting costs of minimal magnitude.

The second category of non-cash costs given above is change in value of non-capital inventories. Farmers have the option of using the accrual or cash basis for tax accounting purposes. Most choose the cash basis for its simplicity, although the accrual method is more accurate for estimating costs during a particular accounting period. To be completely accurate, though impossibly complicated, one would value all the assets in the farm business at the beginning and end of each accounting period. The valuations would include land, buildings, machinery and equipment, livestock, farm supplies, feed, grains, hay, etc. Then it would be unnecessary to estimate depreciation separately — it would already be included in the changes in asset values that were calculated. It is more convenient to use depreciation schedules for depreciable items, and to let ordinary and capital gains or losses take up the slack between paper costs and real costs, in the manner described above, when the item is disposed of. This is done in spite of the fact that the gain or loss is assigned to just the accounting period in which disposal took

place, when it should have been spread over the entire period for which the item was employed.

CONSUMABLE INVENTORIES

It is relatively easy to estimate beginning and ending inventories of consumable items bought or readily saleable for cash. Over a period of years one expects the trends in carryover quantities of these items to be generally level. That is, they are neither up much nor down much, on average. Yet, from one year to the next, the levels may vary a great deal. Therefore, when an estimate of costs is based on a single survey, variations in inventory values must be accounted for or a true picture of costs for that year will not be obtained.

For example, suppose a dairy farmer had 5,000 bushels of corn on hand at the beginning of a year and only 3,000 bushels at the end of that year. Then, if corn was worth \$2.00 per bushel at the beginning of the year and \$3.00 per bushel at the end of the year, the change in the value of the corn inventory would be $(3,000 \times \$3) - (5,000 \times \$2)$, a loss of \$1,000. This loss is an additional cost. It is additional to any corn that was purchased and additional to the costs of any corn that was produced on the farm during the accounting period in question. If the corn inventory increases in value from the beginning to the end of the year, the increase in value

would be used as an offset to costs, for reasons which should now be clear. It can be seen at this point, that the valuation of two parts. One is the change in physical quantities, and the other is the change in value per unit. For the sake of accuracy, both should enter into the calculations.

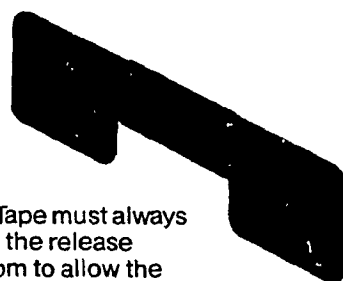
The third category of non-cash costs, risk factor inputs, generally includes the farm owner's time and equity capital, and the time of other unpaid family members. One question here is whether these are truly costs or more properly entrepreneurship hoping for a return. Another question is what values to place on each of those factors if they are to be incorporated into cost of production estimates. Some analysts hold that these factors are simply worth what they earn. That is, their cost is what they bring into the business. Others hold that their costs are what they could earn in their best alternative use.

The question of which costs ought to be included in computations of costs of production has now been answered in part. It has been asserted that cash costs, some measure of depreciation, and some measure of change in value of inventories of consumable production items, should be included. There is probably general agreement, too, that the op-

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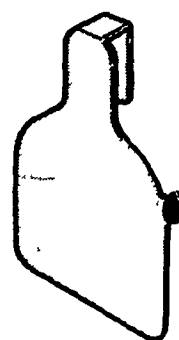


1.



The ECTIBAN Tape must always be applied with the release slits at the bottom to allow the insecticide to seep out.

2.



The ECTIBAN Tape may be applied to ear tags to control horn flies and face flies.