Depreciation in Farm Finances

importance of depreciation of production facilities requires realistic depreciation rates, accurate records

Arthur Shultis

Depreciation is an increasing part of farm production costs.

Higher costs of replacing production facilities, higher income taxes, a greater need for correct handling of capital outlay and for figuring capital gains and losses emphasize the importance of proper capital records.

The sale or other transfer of farm property calls for a careful appraisal of the various assets included. A seller may have a tax to pay on his capital gain, and needs a record of his cost or other basis and prior depreciation. The receiver of the farm needs to set up a capital and depreciation record as a basis of further depreciation. He also needs the value of the growing crop as an offset to income from that crop when sold. These needs are some of the reasons for keeping accurate records of capital outlay, depreciation, and remaining values of each depreciable facility.

Investment in production facilities is high in California agriculture because of its commercialized and specialized nature. Most of the facilities wear out or become unproductive and must be replaced. These facility costs are spread over the years of productive life by an annual charge as depreciation at a rate which will absorb the original cost during the useful life of the facility. If the depreciation charged each year were set aside for replacement, the funds should be on hand, although probably not enough to cover increased costs unless at 3% compound interest—as an example, a $1,300 tractor of 10 years ago will require about $2,000 for replacement.

California farmers have seen the size or amount of the annual depreciation on their production facilities growing in recent years as the new equipment they buy increases in cost. When they buy a labor-saving machine—such as a cotton picker or sugar beet harvester—they reduce total costs but substitute depreciation and machine operating costs for a large part of the labor cost reduction.

There are no adequate data to show the investment in depreciable production facilities or assets and annual depreciation in California agriculture but estimates have been made of the probable investment and depreciation of four types of the two-man or two-family size-group farm.

Useful Life and Depreciation Rates

Facilities	Years to bearing	Useful Life Range	Useful Life Usual	Common Rate
		years	years	per cent
Fruit trees	4–12	20–80	33	3.0
Grape	3–7	30–50	40	2.5
Alfalfa	½	3–5	4	25.0
Barns and other farm buildings		20–50	40	2.5
Fences		10–30	20	5.0
Irrigation wells		10–30	20	5.0
Irrigation pumps and motors		10–25	17	6.0
Tillage and similar farm machinery		8–20	10	10.0
Special pickers, choppers, etc.		5–20	7	15.0
Automobiles and trucks 60,000 miles		4–20	7	15.0
Tractors 12,000 hours		8–12	10	10.0

A 40-acre deciduous fruit farm would have a total investment of around $53,000 of which $29,000, or 55%, would be in depreciable assets—trees, irrigation well and pump, pipeline, tillage equipment, sprayer, a shed for equipment, truck, tractor, and miscellaneous small equipment—but not a dehydrator or family dwelling. Depreciation is estimated at $1,440 a year at conservative rates, which would be 9% of the income of $16,000 a year at an average $400 an acre.

A 120-acre irrigated field-crop farm, with an irrigation system of moderate cost, would ordinarily involve an investment of $75,000 of which $27,000, or 36%, would be in depreciable assets—irrigation system, farm machinery, a building for equipment, two tractors, and a truck. Annual depreciation would be around $1,900 a year or 8% of a gross income of $24,000.

A 60-cow market-milk dairy farm on 80 acres of fair irrigated land could have an investment, aside from the operator's dwelling, of $98,000 of which $46,000, or 47%, would be in depreciable assets—irrigation system, alfalfa and irrigated pasture stands, crop equipment, dairy buildings, dairy equipment, two tractors, truck, and miscellaneous equipment. Cows were not considered depreciable since they would ordinarily be raised on the same farm, although where purchased they are sometimes depreciated. Total depreciation would be $2,500 a year or 9% of a total income of $27,000 a year.

A commercial egg-producing farm with a four to six thousand hen average for the year would have a total investment of $56,000 of which $41,000, or 73%, would be in depreciable production facilities, not including the hens because their useful life is too short to be so considered. Annual depreciation would be about $2,000 or around 6.5% of the $30,000 annual income.

These illustrations show the magnitude and importance of depreciable production facilities; the great importance of the proper recording of capital outlay and the estimating of annual depreciation. Of first importance is the correct division of expenditures between what are capital expenditures and what are current operating expenses.

Within reasonable limits farmers have been permitted to estimate their own rates of depreciation on their production facilities. As income taxes rose, many farmers used rather high rates of depreciation—such as 20% on tractors that would probably last 10 years or more—to lower their current income taxes. But once written off no further depreciation can be taken.

In the past too many farmers have considered depreciation as a book cost or as a cost already paid and which they won't have to pay again. They have been able to make necessary replacements from current income or by moderate use of credit.

Farmers should use realistic rates of depreciation on their depreciable assets. As an example: A tractor used heavily through most of the year on a large farm might justifiably be written off over a 5- to 10-year period. The same make of tractor used a small number of days annually on a smaller farm should be considered as usable up to 15 years or more.

Keeping depreciation rates in line with actual deterioration, obsolescence, and expected remaining life of facilities has the advantage of keeping remaining book values of depreciating facilities in line with actual values. It is a help in making net worth or financial statements, and is a guide to insurable values.

A continuous capital and depreciation

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In olive plants, lot sizes of less than 1,000 pounds—25% of actual lots fell in this category—would mean time losses of over 40% in typical plants. Average lots of 3,000 pounds would mean an average loss of 15%. Very large lots can be handled efficiently, with average time losses approaching 2%.

Costs

The major impact of the separate-lot system on plant operating costs is caused by the loss of effective working time, and by the resulting reduced volume of fruit handled per hour. In most plants, the elimination of the separate-lot system would permit only minor changes in the working force—grower-tally girls for packed fruit could be eliminated in fresh-fruit packing houses, and the number of men weighing and handling graded and sized olives could be reduced in some olive plants.

The lower table on page 14 summarizes data on plant volumes and estimated direct labor costs for the apple, pear, and olive plants included in the study. This table shows that the elimination of the separate-lot system would result in increases in the potential plant volume per hour. The volume increases would be small where the present system results in small reductions in effective working time, and large where present time losses are large. Most plants would be able to reduce the direct labor payroll per hour, although these changes would be relatively minor. The combined influence of direct labor reductions and increased volume per hour would be reductions in average direct labor costs—exclusive of packing labor and other piece-rate workers—ranging from $0.13 to $1.09 per thousand pounds of apples or pears, and from $0.30 to $0.80 per thousand pounds of olives. These costs of the separate-lot system may not seem large but they may be quite significant in terms of the total volume of fruit handled by a plant in any season. Moreover, the range in costs emphasizes that many plants can improve efficiency and reduce costs by adjusting their separate-lot systems in order to minimize the loss in effective working time.

A subsequent part in this series will deal with the sampling system—the second system used in California fruit-packing and processing houses to account to growers for products received. This part will also compare plant costs under the separate-lot and sampling systems to determine the particular method most economical under varying conditions.

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DEPRECIATION

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record aids in farm management and accounting and is almost a must for farm income tax reporting. The table on page 6 lists the usual lives and depreciation rates for certain groups of depreciable farm assets.

In accounting for income tax purposes, farmers have the option of considering certain development costs as current expense or as capital outlay to be spread over the useful life—of an orchard, for example—in the form of depreciation. There is a clear-cut line between what is actually a capital outlay for an improvement—or piece of equipment usable over a period of years—and what is maintenance or repairs chargeable as current expense.

Not all capital outlay is for a depreciable asset. The original leveling of land is a capital outlay considered to be permanent and not to be written off in the form of depreciation. However, releveling to restore land to its previously level condition can be considered as current expense. Where releveling goes beyond that and results in a better job than the original, it becomes, in part, an additional capital outlay and should be so divided.

A capital and depreciation record should provide for the listing by groups of all individual depreciable farm assets. Such a listing should show age, year acquired, original cost, subsequent additional capital outlay, prior depreciation, and for each year the remaining value, added capital, estimated remaining life and depreciation for the year. With such a listing for any requested inspection only group totals need be inserted in the Farm Schedule for Income Tax.

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The California Farm Record Book contains model forms of capital and depreciation records, inventories and net worth statements. It may be obtained for $1.00 from Agricultural Publications, 22 Giannini Hall, University of California, Berkeley 4, or from the local office of the Farm Advisor.

DEER

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dispersed. Therefore, the figures obtained from the plots were not strictly comparable. However, it is significant that deer actually had to pass through Common Sudan or Sudan 23 to reach the Sweet Sudan.

Deer use on the planting of oats and the oat-vetch mixture was heaviest during the midwinter and spring months. Pellet group density checks indicated relatively little difference in utilization until the late spring period after the middle of April. Then as the oats matured there was a definite shift to the end of the field containing vetch. Deer preference for legumes at this season and into the summer is well known.

These tests are not precise, but they do indicate that it is possible to plant certain crops relatively less attractive to deer than are other similar crops.

Sudan 23 is known to be less palatable for livestock than Sweet Sudan but it produces up to 25% more feed than other strains. This together with its low palatability for deer make it a good choice.

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Oat and Vetch Plots

Plot no.	Planting	Date checked March 12, 1952	Date checked April 11, 1952	Date checked June 6, 1952
		Pellet groups per acre	Pellet groups per acre	Pellet groups per acre
1	Oats	1800	300	200
2	Oats	2500	100	1100
3	Oats	3700	100	300
TOTAL		8000	500	1600
AVERAGE		2667	167	533
Days		127	30	61
Deer Days Per Acre		210	13	42
Deer Days Per Acre Per Day		1.57	0.43	0.69
4	Oats and Vetch	1900	300	1600
5	Oats and Vetch	1700	200	1400
6	Oats and Vetch	2200	200	700
TOTAL		5800	700	3700
AVERAGE		1933	233	1233
Days		127	30	61
Deer Days Per Acre		152	18	96
Deer Days Per Acre Per Day		1.19	0.60	1.58

One deer day = 12.7 Pellet groups.