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When You Figure Depreciation

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When You Figure Depreciation

When You Figure Depreciation

A depreciable item is any long-lived asset that wears out over a period of time.

Buildings, fences, improvements, machinery, breeding, and work stock are a few items classified by the Internal Revenue Service as depreciable. The amount charged-off in any one year represents the amount of capital that you will need to replace this item when it is worn out. Depreciation is one of the figures you can subtract from gross income to get your taxable income at the end of the year.

OUT-OF-DATE EQUIPMENT

Occasionally it may be profitable to scrap a piece of equipment even though it is not completely depreciated. It may be obsolete because of technological developments. New models may perform so much more cheaply that it will pay you to buy the new equipment. Special rules for figuring depreciation on this type of equipment will be explained later.

USEFUL LIFE

The first step in calculating depreciation is to determine the "useful life" of an item. No one average figure will fit all situations. "Useful life" must be figured on the basis of your particular operating conditions, experience, and replacement system.

In other words, you should figure "useful life" as being the number of years you expect the item to be useful in your business.

SALVAGE VALUE

The Internal Revenue Service requires that you determine a salvage value for an item when you buy it. This figure will depend on the useful life you give to the new item and the method of depreciation used. Salvage or resale value represents, for all practical purposes, the junk value of a piece of equipment. The amount set aside as salvage value is not lost, but figures into the depreciable value of the new item. If you traded a tractor with a salvage value of \$100 for a new

By Joshua F. Robinson, associate Extension farm management specialist

model and paid \$3,000 plus trade-in, the depreciable value of the new tractor would be \$3,100 (\$3,000 + \$100).

DEPRECIATION METHODS

You should select a system of figuring depreciation that best fits your particular situation, and at the same time provides a steady flow of depreciation each year to cover replacements. The system you select will depend mainly on these three factors:

1. The speed at which an item depreciates. Machinery, for example, will lose a higher percentage of its value the first year than a fence or building. An automatic feeding system designed for a specific poultry unit would probably have little alternate use if you decided to replace it. From a standpoint of resale value it may have depreciated one-third or more the moment it was installed.

2. The length of "useful life" of an item and your replacement system.

3. Your business policy, such as future purchases, anticipated future needs in terms of adjustments in farm operations, and so on.

The following methods are the three most extensively used for figuring depreciation on farm items.

Straight-Line Method

This method is the easiest to compute because an equal amount is taken each year of an item's "useful life." The cost or other basis for depreciation is the cash paid for the item or in case of a trade-in the cash paid, plus the undepreciated and salvage values.

For the cost of the property, an estimated salvage value or resale value is deducted. The amount remaining is divided by its estimated "useful life" and this

Table 1. Depreciation Methods Compared
(Self Propelled Combine Costing \$5,600 With Useful Life of 10 Years)

Year	Annual Depreciation Charge		
	Straight line 10%	Declining balance 20%	Sum of years digits— 10/55; 9/55 etc.
1st	\$550	\$1,120.00	\$1,000
2nd	550	896.00	900
3rd	550	716.80	800
4th	550	573.44	700
5th	550	458.75	600
6th	550	367.00	500
7th	550	293.60	400
8th	550	234.88	300
9th	550	187.91	200
10th	550	150.32	100
Total	\$5,500	\$4,998.70	\$5,500
Salvage value or unrecovered cost	100	601.30	100
Total	\$5,600	\$5,600.00	\$5,600

amount is then depreciated each year of the "useful life."

Let's suppose you bought a combine valued at \$5,600, with an expected life of 10 years. At the end of 10 years, you estimate it will have a salvage value of \$100. The amount remaining for depreciation is \$5,500 (\$5,600 — \$100).

The remaining \$5,500 is divided by 10, the expected life of the combine, and you come up with an annual depreciation of \$550 (See table 1).

Declining Balance Method

This method works best for property that loses value faster in early stages of its "useful life." The main difference between this and the straight-line method is that you do not have to deduct a salvage value before figuring first-year depreciation, as an amount still remains to cover salvage value after all depreciation is taken.

When figuring depreciation with the Declining Balance, you do it the same way your banker figures interest on the unpaid balance of a loan. You use the same percentage figure each year.

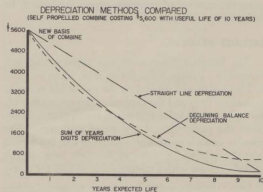
Let's again assume that you bought the \$5,600 combine. This time you figure the first year depreciation at 20% of the total value (this would be twice the straight-line rate of 10%). In this case 20% of \$5,600 would be \$1,120, leaving an unused balance of \$4,480 for the following year. The next year's depreciation is \$4,480 times 20% or \$896, leaving an unused balance of \$3,584, and so on, for the 8 re-

maining years. The amount left after 10 years is the salvage value. (see table 1.).

Sum-of-the-Years Digits Method

This method is similar to the Declining Balance type in that it figures a larger proportion of depreciation in the early years. However, like the Straight-Line Method, you deduct a salvage value at the time of purchase.

With this type, you apply a different fraction each year to value of the property after subtracting salvage value. The denominator or the bottom of the fraction is the total of the numbers representing the years of "useful life" of the property. For example, if the "useful life" is 10 years, the denominator is 55 (1+2+3+4+5+6+7+8+9+10).



The numerator or top of the fraction is the number of years of life remaining at the beginning of the year for which the depreciation is made.

This isn't as complicated as it seems. In the case of the \$5,600 combine, you would first deduct, of course, the \$100 salvage value. You would then multiply the remaining \$5,500 by 10/55 the first year. Second year depreciation would be 9/55 of \$5,500; third year, 8/55 of \$5,500, and so on.

The percentage of depreciation taken during the first half of the useful life varies for each of the three methods (see table 1 and figure). The straight line method will permit about 49% of the total value in the first half of the expected life. The declining balance and sum of years digit methods allows about 67% and 71% of the total value to be recovered in the first half of the "useful life."

The declining balance and sum-of-the-years digit types are more applicable to machinery and equipment that experience a large decline in value during the first years of ownership and later taper off in value more slowly.

ADDITIONAL FIRST YEAR'S DEPRECIATION

In addition to figuring regular depreciation by any of these methods the first year, you can also deduct 20% of the adjusted value (cash purchase price plus undepreciated portion of trade-in), if the item has a "useful life" of 6 years or more. After taking the 20% allowance, the regular depreciation is then determined and taken for the rest of the year, depending on when you buy.

To illustrate, let's assume that in June you trade in an old tractor on a 1961 model with a dealer list price of \$4,700. The dealer wants \$3,000 plus the old tractor. Undepreciated and salvage value combined equals \$148. This amount plus any cash outlay is the adjusted basis or value of the new tractor. Remember that you can use only the \$148 undepreciated and salvage value plus the cash paid out and not the \$1,700 allowed for trade-in when figuring the adjusted basis of the new tractor.

The adjusted basis of the new tractor, is therefore, \$3,148 (table 2). To figure first year 20% allowable depreciation, take 20% of \$3,148, or \$629.60 (see table 3). This figure is subtracted from the \$3,148 leaving \$2,518.40 on which to figure further depreciation.

The next step is to subtract a reasonable salvage

Table 2. Adjusted Basis for New Tractor

Old tractor unused depreciation plus salvage value	\$ 148
Cash paid for new tractor	3,000
New tractor adjusted basis for depreciation and salvage	\$3,148

Table 3. Schedule for Computing Additional First Year Depreciation Plus Remaining First Year Depreciation

Additional first year depreciation: 20% of \$3,148	\$629.60
Remaining depreciation basis: \$3148—\$629.60=	2,518.40
2,518.40—48.40 est. salvage=	\$2,470 for depreciation
10% of 2,470=	\$247 annual depreciation
6 months owned in 1961 (½ of \$247)	\$123.50
Amount to be depreciated in 1961	Total
	\$753.10

value, say \$48.40, leaving \$2,470. The annual depreciation is 10% times \$2,470 or \$247. Because the tractor was bought in June or the middle of the year, only one-half of the first year's depreciation may be taken, or \$123.50. The \$629.60 additional first year depreciation plus the last half of 1961—\$123.50—or \$753.10 may be used in 1961 as shown in table 3.

Whether or not you use the 20% additional first year depreciation will depend on your income situation and choice of depreciation schedules in following years. If, for example, income from the sales of 2 years crops was received in 1 year, the 20% additional depreciation may be a welcome relief when you figure your 1961 taxes next year. In this case, the use of the additional 20% would probably be justified because you would save more by using it now than waiting until later.

You will be wise to remember, however, that the additional 20% first-year depreciation provision is a poor substitute for a carefully planned long-term depreciation plan.

INVENTORY AND DEPRECIATION RECORDS

Forms for depreciation schedules and inventories should be set up on a continuous basis for a period of five years or more. This eliminates the necessity of copying records into the new form each year and reduces the chance of error.

The sample depreciation schedule on the following page is standardized with the South Dakota "Farm and Ranch Business Record Book, Part II, Depreciation Schedules and Inventories." The sample is intended to merely show you how to fill in the forms. Your county agent can supply you with the business book, which allows for a five-year record. He can also give you further help in figuring your depreciation.

LONG TERM PLANNING

Your ultimate goal is a long-term plan charting the amount of money that must be set aside for replacement of worn out depreciable property. You will find making both a business analysis and a permanent record for income tax planning useful guides. The depreciation schedule is a small but important link of the total management plan which should be laid out by the farm manager for a successful future in farming.

SAMPLE DEPRECIATION SCHEDULE

Kind of machine or equipment	Date acquired	Cost or other basis	Salvage value	Depreciable balance	Est. life years	Method used	Rate* (%)	1961		1962	
								Remaining costs at the beginning of the year	De- precia- tion for this year	Remaining costs at the beginning of the year	De- precia- tion for this year
Barn	1/18/53	\$3,200.00	None	\$3,200.00	40	St. line	2½	\$2,560.00	\$ 80.00	\$2,480.00	\$ 80.00
Fence	1/ 8/53	600.00	None	600.00	15	St. line	6⅔	280.00	40.00	240.00	40.00
Tractor	1/25/54	3,000.00	\$100	2,900.00	10	St. line	10	1,885.00	290.00	1,595.00	290.00
Corn picker	10/ 1/59	1,020.00	50	970.00	6	St. line	16⅓	970.00	40.42	929.58	161.67
Truck (new)	1/ 7/61	2,418.00	†	—	6	Dec. balance	33⅓	2,418.00	805.99	1,612.01	537.33
Combine	1/ 5/61	4,821.38	†	4,821.38	10	Dec. balance	20	4,821.38	771.42	3,085.30	617.06
Combine	Additional 20% first year's depreciation taken out before depreciation figured								964.28	—	—

*When using the straight line method of depreciation, multiply the depreciable balance by the annual rate to get this year's depreciation.

†When using the declining balance method salvage value is the remainder after the machine is depreciated over its "useful life."