How to estimate the depreciation cost

Depreciation cost is an invisible cost which it is easy to neglect. It is, however, a crucial expense item in assessing your farming performance. For the smooth renewal of farm capital such as farm machinery, buildings and facilities, the depreciation cost should be assessed each year. This sum should be kept in reserve to be used in future.

Depreciation cost is an important expense item

Farm income is the main aim of family farming. It is necessary for every farmer to understand its meaning, and be able to calculate the process of achieving a good farm income. In the simplest terms, farm income equals gross farm receipts minus farm expenses.

The depreciation cost of farm machinery, farm buildings and farm facilities is an expense, so it should be included when farmers are adding up their farm expenses. However, it is very easy for them to forget the existence of the depreciation cost in calculating their farm expenses, because it does not seem as if the depreciation cost has to be paid every year.

In this leaflet, we first try to understand the depreciation cost, by analyzing the concept of farm income. Second, we will see what the depreciation cost is, and finally, we will see how to calculate how much it comes to.

What is the depreciation cost?

Depreciation cost means a reduction in value. The diagram shows it is a normal farm cost, like the cost of labor and farm inputs. Why is it included

![Fig. 1. Chart showing depreciation as one of the farming costs](image-url)
as a farm expense, even though it is not paid every year? This is because the value of farm machinery is partly used up every year until the end of its life.

Let us take a simple example. A farmer operates his farm with 5,000 US dollars of his own capital at the beginning of the year 2000. He uses this amount to purchase fertilizer, pesticides and the oil for his farm tractor. These cost 2,000 US dollars, 2,500 US dollars and 500 US dollars, respectively. He owns his farm tractor, which he bought one year previously, in 1999.

In this case, how much are the farm expenses during the year 2000? It is very easy for the farmer to think of them as only 5,000 US dollars, because only the fertilizer, pesticides and oil were consumed completely, while on the other hand he still has his farm tractor. But the real farm expenses are more than 5,000 US dollars, because the depreciation cost of his farm machinery should be added to the cost. Even though he still has his tractor at the end of the year 2000, it has undergone some wear, and its working life has been reduced by perhaps 10%. Thus, the farmer should add the estimated depreciation cost to his farm expenses. If the depreciation cost of the farm tractor is 2,250 US dollars per year, the operating expenses of this farm become 7,250 US dollars.

**Importance of annual assessment of the cost**

If you don't consider the depreciation cost to be part of the farm expenses, you will overestimate your farm income. This will cause two kinds of problems.

First, you will be faced with a big financial problem when the life of your farm tractor and other equipment comes to an end, because it will be hard for you to find a large sum of money to buy new ones. And if this happens when you are already having difficulties, the situation may become really severe.

Second, you will be tempted to spend more than your actual income. This will have a bad effect not only on your home economy but also on your farm economy, because in family farming, the two are mixed together.

**How to calculate depreciation cost**

Let us say that a farmer buys his farm tractor for 30,000 US dollars in 1999, that the life span of that tractor is 12 years, and its remaining resale value after 12 years is 10% of the purchase price. This is shown in Table 1. The formula for calculating the depreciation cost is as follows.

Depreciation cost = (purchase price - remaining value) / life span

Note: This is not the only way to calculate the cost, but it is the simplest one.

Thus, the depreciation cost of the farm tractor can be calculated as follows:

\[
\text{Depreciation cost} = \frac{(30,000-30,000 \times 0.1)}{12} = \text{US $2,250}
\]

This amount, US$ 2,250 is used every year, even though it may not actually be paid every year. Therefore, the farmer should include it when he calculates his farm expenses.

Note: The depreciation cost must be applied, not only to farm machinery, but also to farm buildings and farm facilities.

### Table 1. Calculation of depreciation cost of tractor

<table>
<thead>
<tr>
<th>Item</th>
<th>Farm tractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price of new tractor</td>
<td>30,000 US$</td>
</tr>
<tr>
<td>Year of purchase</td>
<td>1999</td>
</tr>
<tr>
<td>Life span</td>
<td>12 years</td>
</tr>
<tr>
<td>Resale value after 12 years</td>
<td>10% of the purchase price</td>
</tr>
</tbody>
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