

# *Determining the Value of Growing Crops*

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January 1958

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Bulletin B-503

# *Determining the Value of Growing Crops*

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In these days of expanding public facilities, such as utility lines and enlarged and improved highways, farmers are being unwillingly dispossessed of their land. In these cases, owners of the land are due compensation equal to their loss. This is usually interpreted to mean that owners should receive "fair market value" for their land.

Where only part of a farm is taken, the appropriate measure of damage is frequently considered to be the difference between the "fair market value" of the whole farm before the taking and the "fair market value" of the untaken portion after the taking.

Often the need for taking appears to be so urgent that there is no waiting for growing crops to mature and be harvested. In such cases, the right-of-way seeker is obligated to pay for the crop as well as the land. Since there is no well-defined way of indicating the "fair market value" of various crops at different stages of maturity, another approach must be used. This publication describes a method of determining just compensa-

tion for crops at various stages of growth,<sup>1</sup> and presents a table which may be used as the basis for estimating values of various crops.

<sup>1</sup> Acceptable procedures of determining land values as of a particular time have been rather generally agreed upon by those who specialize in this field, and therefore, are not discussed in this publication. Nuisance damages which often develop as a result of the taking of a portion of a farm and/or crops are also excluded from this discussion. The extent of this type of damage and its conversion into dollars depends on the manner and the degree to which the taking affects future use of the untaken portion. The problem is related to individual cases which cannot be easily generalized and is too involved for adequate treatment here.

## **Compensation Should Equal Damages**

Just compensation should exactly reimburse the injured party for the loss which he would otherwise suffer; the appropriate measure of injury to the owner of a growing crop is what he would have realized from the crop had it been harvested. This would be the gross value of the crop (yield times price) less harvesting and marketing costs and whatever other expense he saves by not having to care for the crop between the time it was taken and usual harvest time.

Charges for harvesting, hauling and other necessary operations can often be made at the predominating custom rates, where they are known. The justification for this is that presumably the owner, who was dispossessed of his growing crop, would have the opportunity to engage in custom work for others. In situations where this would not be true, it may be necessary to make appropriate adjustments.

In the case of wheat, with an expected yield of fifteen bushels and an expected price of \$1.89 per bushel when combining costs are \$3.00 per acre and hauling \$0.05 per bushel, the pre-harvest value would be \$24.60.

|                                |   |         |             |
|--------------------------------|---|---------|-------------|
| 15 bushels at \$1.89           | = | \$28.35 | gross value |
| less \$3.00 per acre           |   | 3.00    | combining   |
| less 0.05 per bushel           |   | .75     | hauling     |
| Value of crop prior to harvest |   | \$24.60 |             |

In those cases where no additional expenditure was expected on the part of the farmer between the date of appraisal and harvest, this would represent the value of the crop from the time it was seeded to harvest, except that average yield expectations might be modified when the apparent development of the crop seemed to warrant. Yield expectations should be based on long-time average yields per planted acre modified by current conditions of weather, fertilizer program, and appearance of the crop.

In the case of small grains, which require little or no care from seeding to harvest time, no adjustment in value would be warranted as the result of the passage of time unless it was desired to reflect the cost of waiting for the income. Usually, this is a minor matter. Settlements for crop damages are often not received prior to normal harvesting dates. Exceptions to the above would be in order when the expected yield was contingent on additional expenses being incurred between the date of the appraisal and harvesting time. If the agreed-upon yield was contingent upon additional expenditure for spraying, fertilizing, cultivating, or irrigating, then the cost of these operations would correctly be subtracted from the pre-harvest value to arrive at the value as of the date of the appraisal.

For cotton, corn, peanuts, and other crops which require the expenditure of substantial amounts of cash and labor between planting and harvesting time, the gross value of the crop would need to be reduced by harvesting and marketing costs as above and by the expected additional costs of bringing the crop along from its current condition to harvest time.

## **Tenants and Landlords Share Compensation**

When the land being taken is rented on a share basis, the damage payment for the growing crop will be shared by the landlord and the tenant. This compensation will not necessarily be shared, however, on the same basis as it would have been shared

if the crop had been harvested. In those cases where the landlord would not normally have contributed to the maturing and harvesting of the crop, his part of the award would be the normal share of the gross value of the harvested crop and the tenant would keep the remainder as his part of the compensation.

For example, if the wheat crop used in the preceding example was on land rented for one-third of the crop with the tenant bearing all the harvesting and hauling costs, then the landlord would justly receive one-third of the harvested value of \$28.35 or \$9.45. The harvested value would need to be reduced by \$3.75 per acre for harvesting and hauling to arrive at a correct award of \$24.60 for the pre-harvest value. The tenant's share would be \$24.60 less \$9.45 for the landlord or \$15.15. This is short of two-thirds of the pre-harvest value, as all savings in harvesting costs belong to the tenant.

The computed value of the principal crops at various stages of maturity with different yields and Oklahoma farm prices as of June 15, 1957, are shown on following pages. To make the tables more applicable to local conditions, some adjustments of costs for performing various field operations might be desirable. (Oklahoma Experiment Station Bulletin B-473 gives variations in custom rates for different sections of the state.) Yields and costs assume non-irrigated conditions. Evaluation of irrigated crops would be very similar. Normally, the effects of irrigation would be to increase yield expectations. Downward adjustments from the pre-harvest value would include out-of-pocket costs such as the savings in pumping costs, water bills, and labor which would not have to be used because of the taking of the crop prior to maturity. Fixed costs for irrigation equipment might correctly be reflected in arriving at damages coming from the taking of part of the farm land, but would not enter into determining the value of growing crops.

Computed value of Oklahoma crops per acre at various stages of maturity with a range of yield expectations and prices as of June 15, 1957

| Crop  | Unit   | Price <sup>1</sup> | Yield | Value Per Acre (dollars) |                     |                    |                    |
|---|--|--------------------|-------|--------------------------|---------------------|--------------------|--------------------|
|   |  |                    |       | Harvested                | Pre-Harvest         | Planted            |                    |
| Wheat   | Bu.  | 1.89               | 30    | 56.70                    | 51.70 <sup>2</sup>  | 51.70 <sup>2</sup> |                    |
|   |  |                    | 25    | 47.25                    | 42.75               | 42.75              |                    |
|   |  |                    | 20    | 37.80                    | 33.80               | 33.80              |                    |
|   |  |                    | 15    | 28.35                    | 24.60               | 24.60              |                    |
| Oats  | Bu.  | .63                | 10    | 18.90                    | 15.40               | 15.40              |                    |
|   |  |                    | 50    | 31.50                    | 26.70 <sup>4</sup>  | 26.70 <sup>2</sup> |                    |
|   |  |                    | 40    | 25.20                    | 21.00               | 21.00              |                    |
|   |  |                    | 30    | 18.90                    | 15.00               | 15.00              |                    |
| Barley  | Bu.  | .78                | 20    | 12.60                    | 9.00                | 9.00               |                    |
|   |  |                    | 15    | 9.45                     | 6.00                | 6.00               |                    |
|   |  |                    | 50    | 39.00                    | 33.20 <sup>5</sup>  | 33.20 <sup>2</sup> |                    |
|   |  |                    | 40    | 31.20                    | 26.20               | 26.20              |                    |
| Cotton<br>(Seed and Lint)   | Lbs.   | 0.284              | 250   | 71.00                    | 55.25 <sup>6</sup>  | 48.25 <sup>7</sup> |                    |
|   |  |                    | 200   | 56.80                    | 44.20               | 37.20              |                    |
|   | Lint   |                    | 150   | 42.60                    | 33.15               | 26.15              |                    |
|   | Peanuts  |                    | Lbs.  | 0.11                     | 800                 | 88.00              | 73.60 <sup>8</sup> |
| 600   |  | 66.00              |       |                          | 52.70               | 42.70              |                    |
| 400   |  | 44.00              |       |                          | 31.80               | 21.80              |                    |
| Corn  |  | Bu.                |       |                          | 1.38                | 30                 | 41.40              |
|   | 20   |                    | 27.60 | 22.60                    |                     | 18.60              |                    |
|   | 15   |                    | 20.70 | 15.70                    |                     | 11.70              |                    |
|   | Grain Sorghum  |                    | Bu.   | 1.08                     |                     | 20                 | 21.60              |
| 15  |  | 16.20              |       |                          | 12.45               | 10.45              |                    |
| 10  |  | 10.80              |       |                          | 7.30                | 5.30               |                    |
| Annual Legume<br>Hay (Baled)<br>(Clover, Cowpeas,<br>Lespedeza, Vetch,<br>etc.) |  | Ton                |       |                          | 16.96 <sup>14</sup> | 2                  | 33.92              |
|   | 1½   |                    | 25.44 | 12.19                    |                     | 12.19              |                    |
|   | 1  |                    | 16.96 | 7.46 <sup>15</sup>       |                     | 7.46 <sup>2</sup>  |                    |
|   | Annual Non-Legume<br>Hay (Baled)<br>(Oats, Sudan,<br>Millet, etc.) |                    | Ton   | 14.72 <sup>16</sup>      |                     | 2                  | 29.44              |
| 1½  |  | 22.08              |       |                          | 8.83                | 8.83               |                    |
| 1   |  | 14.72              |       |                          | 5.22 <sup>15</sup>  | 5.22 <sup>2</sup>  |                    |
| Native Hay<br>(Baled)   |  | Ton                |       |                          | 18.40               | 1.3                | 23.92              |
|   | 1.0  |                    | 18.40 | 8.90                     |                     | ----               |                    |
|   | .7   |                    | 12.88 | 5.63 <sup>15</sup>       |                     | ----               |                    |
|   | Sorghum Forage<br>(Bound, Shocked)                                 |                    | Ton   | 10.00 <sup>17</sup>      |                     | (Per Cutting)      | 3                  |
| 2   |  | 20.00              |       |                          | 12.00               | 12.00              |                    |
| 1   |  | 10.00              |       |                          | 6.00 <sup>15</sup>  | 6.00 <sup>2</sup>  |                    |
| Vetch<br>(For Seed)   |  | Lb.                |       |                          | .15 <sup>17</sup>   | 300                | 45.00              |
|   | 200  |                    | 30.00 | 24.40                    |                     | 24.40              |                    |
|   | 100  |                    | 15.00 | 9.70 <sup>11</sup>       |                     | 9.70 <sup>2</sup>  |                    |

| Crop               | Unit | Price | Yield | Life <sup>20</sup> | Value Per Acre |             |                     |                    |
|--------------------|------|-------|-------|--------------------|----------------|-------------|---------------------|--------------------|
|                    |      |       |       |                    | Harvested      | Pre-Harvest | Planted             |                    |
| Alfalfa<br>(Baled) | Ton  | 21.20 | 1     | 4                  | 78.44          | 39.22       | 39.22               |                    |
|                    |      |       |       | 3                  | 60.42          | 30.21       | 30.21               |                    |
|                    |      |       |       | 2                  | 41.34          | 20.67       | 20.67               |                    |
|                    |      |       |       | 2                  | 1              | 21.20       | 10.60 <sup>21</sup> | 10.60 <sup>2</sup> |
|                    |      |       |       |                    | 4              | 158.88      | 79.44               | 79.44              |
|                    |      |       |       |                    | 3              | 122.84      | 60.42               | 60.42              |
|                    |      |       |       |                    | 2              | 82.68       | 41.34               | 41.34              |
|                    |      |       |       |                    | 1              | 42.40       | 21.20               | 21.20              |
|                    |      |       |       |                    | 3              | 4           | 235.32              | 117.66             |
|                    |      |       |       | 3                  |                | 181.26      | 90.63               | 90.63              |
|                    |      |       |       | 2                  |                | 124.02      | 62.01               | 62.01              |
|                    |      |       |       | 1                  |                | 31.80       | 31.80               | 31.80              |

- <sup>1</sup> Oklahoma Farm price June 15, 1957.
- <sup>2</sup> Harvested value is reduced by the cost of harvesting and marketing. Charges made were \$3.00 per acre for combining plus 5 cents per bushel for yields above 20 bushels and 5 cents per bushel for hauling the total yield.
- <sup>3</sup> Planted value is usually the same as pre-harvest. In those cases where side dressing or spraying are generally required in order that the expected yield may be realized, reductions for these operations should be made.
- <sup>4</sup> The value of the harvested oats crop has been reduced by \$3.00 per acre for combining plus 3 cents per bushel for yields above 40 bushels and 3 cents per bushel for hauling the total yield.
- <sup>5</sup> The value of the harvested barley crop has been reduced by \$3.00 per acre for combining plus 4 cents per bushel for yields above 30 bushels and 4 cents per bushel for hauling the total yield.
- <sup>6</sup> To arrive at the pre-harvest value of cotton, the value of the harvested crop per 100 pounds of lint has been reduced by \$2.00 per hundred pounds for snapping, \$0.30 for hauling, \$0.60 for ginning, \$3.50 per bale for bagging and ties and increased by the value of the seed at \$60.00 per ton, assuming a lint to bolls ratio of 1—3.7 (27% lint) and a seed to bolls ratio of 1—2.5 (40% seed). These changes totaling \$10.74 per 100 lbs. of lint are reduced by a credit of \$4.44 for seed, making a net cost of \$6.30 per hundred pounds of lint harvested.
- <sup>7</sup> The value of the cotton crop when planted and up to a stand is less than the pre-harvest value by the cost of thinning and four cultivations estimated at \$7.00. In areas where dusting or spraying is a common practice, a reduction for this practice should be made. The cost of fertilization has not been deducted, as this is usually applied at planting time. In areas where usual practices are substantially different from these, appropriate adjustments need be made.
- <sup>8</sup> Harvesting costs for peanuts include digging, windrowing, and threshing at \$10.00 per acre plus sacks and hauling at 55 cents per hundred.
- <sup>9</sup> Costs incurred between planting and harvesting peanuts include about \$10.00 per acre for hoeing and three cultivations.  
Irrigated peanuts normally have higher yield and higher labor requirements in that five cultivations would be the usual. Water and labor costs for irrigating peanuts often run close to \$20.00 additional per acre when pumping from the 300 foot level.

- 10 Corn harvesting usually costs about \$5.00 per acre.
- 11 Two or three cultivations and some hoeing are the usual requirements to bring corn from the just-planted stage to the pre-harvest position. An allowance of \$4.00 per acre has been made for this. When yield expectations are based on side-dressing with nitrogen, then a deduction should be made for this cost which is avoided.
- 12 Combining at \$3.00 per acre and 5 cents per bushel for hauling.
- 13 Two cultivations (\$2.00).
- 14 Eighty percent of the price of alfalfa hay.
- 15 Mowing and raking, \$2.00 per acre; baling and hauling, \$7.50 per ton.
- 16 Eighty percent of the price of native hay.
- 17 Estimated.
- 18 Binding and shocking, \$4.00 per ton.
- 19 Combining, \$5.00 per acre; sacks and hauling, 30 cents per hundred pounds.
- 20 Remaining life of stand.
- 21 The value of a stand of alfalfa is about one-half of its expected production. Future production should be discounted at the rate of perhaps 5% per year. For example, the owner of a field which was expected to produce two tons per year for the next three years could expect to receive a total of three tons per acre net after paying for harvesting costs. This year's crop would be valued \$21.20; the crop to be produced next year, at 95% of \$21.20 or \$20.14; and the third year, 90% of \$21.20 or \$19.08—giving a total present value of \$60.42. In those cases where it appears that it will be necessary to spray or to fertilize in order to obtain the indicated yield, the share of these charges which the land owner would be expected to pay should also be subtracted from the computed value of the crop.