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Crop-Share Leases

The material in this publication was originally included in "PB 1597: Cropland Leasing Considerations," written by Rebecca G. Bowling, assistant Extension specialist; Delton C. Gerloff, associate professor; Jimmy C. Castellaw, area specialist; Samuel C. Danehower, area specialist; and Richard C. Lacy, associate area specialist, Department of Agricultural and Resource Economics with additional contributions made by Paul Denton, professor, Plant Sciences. The information has been revised and updated by Samuel C. Danehower, area specialist.

Crop-share Leases

The determination of an appropriate crop-share or cash lease arrangement will have a significant influence on net farm income and satisfaction of the two parties entering into an arrangement. Most crop-share leases are based on customary arrangements of sharing income and expenses in a particular location or area and will vary among locations. The most effective lease should be in a written format to reward both parties in proportion to the value of contributions they provide. Changes in technology as well as the cost structure of farming, including input and land costs, make it necessary for current lease agreements to be used. Selecting a specific lease agreement may not be an easy task. Some specific advantages and disadvantages of the crop-share lease are listed below.

Advantages of Crop-share Leases

A. To the Landowner:

1. Income over time will likely be higher since the landowner shares in more of the production and price risks. Benefits will be received from increased yields, prices or government program payments.
2. It may be easier for an estate to document material participation for special use valuation if farmland is crop-share leased.
3. There is a greater opportunity to supervise the farm operation.

B. To the Tenant:

1. Production and price risks are reduced relative to a cash lease.
2. Less operating capital is required in crop-share leases in which the landowner provides part of the operating costs.
3. Management skills, farm knowledge and the landowner's experience may be quite valuable to the tenant.

Disadvantages of Crop-share Leases

A. To the Landowner:

1. Management input and financial contributions for crop production items are often required. Landowners sharing in expenses should be prepared for a cost outlay before income is available.
2. Must trust that the tenant will fairly distribute the crops produced.
3. Unless arrangements are made with the tenant, the landowner must assume responsibility for marketing crops received as share rent.
4. Income will become more variable depending on management by the tenant as well as yield risk and price risk.
5. Production and price risks must be shared with the tenant.
6. If production risk management is desired, knowledge and understanding of crop insurance and its cost is necessary.

B. To the Tenant:

1. Potentially less freedom in operating the farm than with a cash lease.
2. Income over time may be lower than with a cash lease since the landowner bears part of the production and price risks.
3. More communication is required by both parties, but tenant should be prepared to discuss management decisions with landowner, and if tenant has multiple landowners, this could become cumbersome.
4. More detailed records are required due to the sharing of yields and production costs.

Evaluating Crop-share Leases

Farming is a business in which land, production inputs, machinery, labor and management are combined to produce

crops. In a crop-share lease arrangement, each of these items may be owned or contributed by different parties. Payment for the items should be equal to the value contributed toward production. Equitable payment to each party is the reason for developing a fair lease.

The typical landowner-tenant crop-share arrangements in Tennessee are the 1/3-2/3 share and the 1/4-3/4 share. In a few counties with highly productive soils, a 1/2-1/2 share is sometimes used. This 1/2-1/2 (50-50) share arrangement is much more common on the more productive soils in the midwestern states. On some of the least productive soils for crop production in Tennessee, a 1/5-4/5 share agreement is occasionally used. Expenses shared vary among arrangements, but typically include fertilizer and lime. Some share arrangements involve no sharing of expenses and a 1/5-4/5 agreement or 1/4-3/4 agreement.

An equitable crop-share lease can be developed using some basic rules or principles. The following discussion of these basic rules or principles contains excerpts from "Crop Share or Crop Share/Cash Rental Arrangements for Your Farm," North Central Region Extension Publication 105. Five important principles to follow in a crop-share lease agreement include:

1. Variable expenses that are yield-increasing should be shared in the same percentage as the crop share.
2. As new technologies are adopted, share arrangements need to be adjusted to reflect the impact of these new technologies on costs and returns.
3. Both parties should share in total returns in the same proportion as they contribute resources.
4. Tenants and/or landowners should be compensated at the termination of the lease for the unexhausted portion of long-term investments.
5. Communication must be maintained between landowner and tenant.

Principle No. 1. Variable expenses that are yield-increasing should be shared in the same percentage as the crop share.

Variable inputs or expenses are those used in production, such as seed, fertilizer, herbicides, insecticides, fuel, harvesting, drying and hauling. Some, such as fertilizer, are directly yield-increasing. Sharing a cost such as fertilizer in the same percentage as the crop is shared will encourage both the landowner and tenant to apply fertilizer at the most profitable rate.

Principle No. 2. As new technologies are adopted, share arrangements need to be adjusted to reflect the impact of these new technologies on costs and returns.

Substitution occurs when some input can be used to replace another input. For example, chemical weed control may replace cultivation. In this instance, who should pay for the chemicals? Three situations affect who should pay.

1. Yield-increasing inputs — These inputs should be shared between the landowner and tenant.
2. True substitution inputs — These inputs should be paid by the party responsible for the item in the original lease.
3. Inputs that are both yield-increasing and substitution — The lease needs to address this situation.

Principle No. 3. Both parties should share in total returns in the same proportion as they contribute resources.

This principle implies that if a landowner contributed 50 percent of total resources and the tenant contributed 50 percent, then a 50/50 sharing of the crop would be equitable. All inputs should be valued, including management and risk.

The relationship among these inputs is that on high-priced, productive land, the landowner's share of the crop should be increased. This increase results because the tenant's costs (machinery, labor and management) tend to be nearly the same on either high-priced, productive land or low-priced, less productive land.

A major concern with crop-share leasing is that crop-share percentages are influenced strongly by customary arrangements in the area. A further concern is that customary share arrangements change little over time, even though the relative values of land, machinery, labor and management may change markedly.

Thus, the landowner and tenant should determine their contributions according to the actual operation, rather than on the basis of what has been, or is, customary for the area.

Principle No. 4. Tenants and/or landowners will be compensated at the termination of the lease for the unexhausted portion of long-term investments.

For example, if the tenant pays for lime application, then the lease should provide a method for calculating the payment to the tenant for the unused portion of the lime if the lease ends before the total value of the lime is recovered. If such arrangements cannot be developed, then the party who will likely control this investment at the termination of the lease should make the contribution.

Principle No. 5. Communication must be maintained between a landowner and tenant.

If the lease does not follow the first four leasing principles, the farming operation may not produce at maximum economic efficiency, or one party may gain at the expense of the other.

However, strict adherence to these first four principles cannot guarantee success, particularly if adequate management and effective communication between landowner and tenant are missing. Therefore, securing a good tenant and making necessary adjustments to the lease arrangement to make it an attractive business operation for the tenant may well be the key to maximizing profits for the landowner and tenant.

Developing a Fair Crop-share Lease Arrangement

The next step is to apply the above principles when determining a fair crop-share arrangement.

Table 1 is designed to provide information for establishing a fair and equitable crop-share arrangement. The approach used in Table 1 is based on the principles discussed earlier, particularly the principle that both parties should share in the total returns in the same proportion as their contributions.

The worksheet provides answers to two problems:

1. How should the crop be shared between landowner and tenant?
2. How should the cost of shared inputs be divided between the landowner and tenant?

The worksheet can be used to analyze a leasing situation by the following:

Contributions approach. The percentage of nonshared expenses that each party will contribute is determined. For other operating expenses and crop(s), the parties share in the same percentage.

The major task is to establish fair values and annual use charges for the various contributions. The following discussion will outline this valuation process, illustrated in Table 1. A blank worksheet also is provided.

Land: Land should be valued at its fair market value for agricultural purposes. The influence of nearby cities and other non-agricultural influences on value should be ignored.

Interest on Land: A practical "bargaining" rate of interest may approximate 5 to 7 percent because:

1. The current value of real estate is used rather than the purchase price.
2. If the farm was sold, the net dollars available to loan out at a higher rate of interest would be lower than the fair market value because of income taxes and sale expenses.
3. Historically, actual returns to land have been in the 3 to 5 percent range as an annual return above all charges, except land.

Real estate taxes: The actual taxes due annually.

Land maintenance: The average dollars spent annually for conservation practices and other land improvements.

Crop machinery: The value of machinery should be the average value of a good line of average machinery necessary to farm in the area. The value should not be the cost of a new line of machinery. Likewise, the value cannot be the actual cost to the tenant (as land cannot be the actual cost to the landowner) because the tenant may have a very large investment of machinery spread over a few acres. In turn, the tenant may have old, serviceable machinery that has a low value. Values used in Table 1 were taken from "AE 13-04: Field Crop Budgets for 2013."

*Machinery interes*t: The current interest costs on the average machinery value (usually half the total value) should be used.

Machinery depreciation: The annual machinery depreciation deduction varies but should reflect the annual decline in machinery value.

Machinery repairs, insurance and taxes: Farm records indicate that repairs are 6 to 9 percent of the average machinery value. The charge for taxes and insurance should be from 1/2 to 1 percent.

Labor: Labor can be contributed either solely by the tenant or by both the tenant and landowner. Each party is given credit by placing a value on labor contributed to the business.

Placing a value on labor is a bargaining process between the parties entering into the leasing arrangement. A guide for estimating the value of labor is the going wage rate paid to farm employees within the community. Most farm operators are certainly worth more than the value of an average employee because of their management skills and contributions. However, management should be valued separately from labor.

Management: Management is an important contribution to a successful farming operation. The function of management may or may not be shared. Experienced landowners may make substantial contributions to the management of the farm business. But, inexperienced or absentee landowners may contribute nothing to management. If the landowner contributes to management, then credit needs to be given. If the tenant bears all management responsibility in the choice of crops, inputs or other major considerations, then a value should be placed on this management function.

The value of management becomes largely a bargaining proposition between parties entering into the leasing agreement. Two possible alternatives are:

1. Set a management charge equal to 1 to 2 1/2 percent of the average capital managed in the business. The average capital managed is equal to the market value of the land and the value of the machinery.
2. Set a management charge roughly equal to what a professional farm manager would charge. Farm managers commonly charge 7 to 10 percent of adjusted gross receipts. (In the case of crop production, gross receipts equal total crop receipts.)

While either procedure can provide a reasonable value for management, basing the management charge on average capital managed will typically provide a more stable figure than a percentage of gross receipts, as gross receipts can vary greatly from year to year.

In the example in Table 1, nonshared expense items show an approximate 33.41-66.58 percent share situation (line 27). Using the contributions approach, the parties would share other operating expenses (i.e. fertilizer and lime) at the same percentage (lines 28 and 29). Each party is also usually responsible for any operating interest or finance charges that may accrue on their portion of the shared expenses. Generally, landowners who rent their farms through crop-share leases also are responsible for engaging and paying for crop insurance on their share of production; however, in this example it is not included. By multiplying the total income of $503.47 by 33.42 percent and 66.58 percent, the landowner's and tenant's share of income is projected to be $168.26 and $335.21 per acre, respectively.

In the example in Table 1, the landowner and tenant each receive a return on their investment of 1.13 percent. The calculation would be (income – total cost)/total cost. For each party that would be: landowner ($168.26 - $166.38)/166.38 = 1.13 percent; tenant ($335.21 - $331.44)/331.44 = 1.13 percent. This return would be in addition to the contributory value of the land for the landowner and management for the tenant.

The contributory approach to determining the appropriate crop share in this example resulted in a 33.42 percent-66.58 percent split, which is essentially the traditional 1/3 – 2/3 crop share, so both parties most likely would rent this farm on the 1/3 – 2/3 crop share.

An online tool to assist in calculations is available at http://www.farmlandlegacy.org/Tools.

Table 1. Crop Approach to Crop Share Arrangements

Crop Soybeans **Acres** 150

	Item	Total or per acre value		Rate or life	Annual Charge	Landowner	Tenant
	Non-shared Items						
1.	Land	$2850.00	x	5.0%	$142.50	$142.50	
2.	Real estate tax			0.2%	$5.70	$5.70	
3.	Land maintenance						
4.	Crop machinery interest				$11.99		$11.99
5.	Depreciation				$32.75		$32.75
6.	Repairs				$19.93		$19.93
7.	Insurance						
8.	Taxes						
9.	Labor	0.60 hour	x	$9.90 $/hour	$5.98		$5.98
10.	Management	$506	x	7.0%	$35.42		$35.42
11.	Fertilizer	**Enter Charge Only For Items Not Shared**					
12.	Lime						
13.	Seed				$61.15		$61.15
14.	Fuel — Oil				$16.78		$16.78
15.	Herbicides				$80.75		$80.75
16.	Fungicides				$17.40		$17.40
17.	Insecticides				$7.00		$7.00
18.	Harvesting						
19.	Drying						
20.	Hauling						
21.	Crop Insurance						
22.	Other						
23.	Operating Interest				$6.09		$6.09
24.							
25.							
26.	Total Non-shared costs (Lines 1-25)				$443.44	$148.20	$295.24
27.	Percent non-shared costs = Line 26 Landowner (Tenant) / Line 26 Total Annual Charge				100%	33.42%	66.58%

Table 1 (cont). Crop Approach to Crop Share Arrangements

	Item	Total or per acre value		Rate or life	Annual Charge	Landowner	Tenant
Shared Items							
28.	Fertilizer	**Enter Charge Only For Items Shared**			$34.80	$11.63	$23.17
29.	Lime				$18.00	$6.02	$11.98
30.	Crop Insurance				$0.00	$0.00	$0.00
31.	Operating Interest				$1.58	$0.53	$1.05
32.							
33.	Total shared costs (Add Lines 28-32)				$54.38	$18.18	$36.20
34.	TOTAL COSTS (Line 26 + Line 33)				$497.82	$166.38	$331.44
35.	Percent total costs = Line 34 Landowner (Tenant) / Line 34 Total Annual Charge				100%	33.42%	66.58%
Income							
36.	Soybeans	40 bushels	x	$12.65	$506.00	$169.11	$336.89
37.	SPARC Assessment	40 bushels		(0.05%)	($2.53)	($0.85)	($1.68)
38.					$0.00	$0.00	$0.00
39.	Total Income (Lines 44-46)				$503.47	$168.26	$335.21
40.	Percent crop share = Line 39 Landowner (Tenant) / Line 39 Total Annual Charge				100%	33.42%	66.58%

Table 1. Crop Approach to Crop Share Arrangements

Crop——— Acres ———

	Item	Total or per acre value		Rate or life	Annual Charge	Landowner	Tenant
	Non-shared Items						
1.	Land		x				
2.	Real estate tax						
3.	Land maintenance						
4.	Crop machinery interest						
5.	Depreciation						
6.	Repairs						
7.	Insurance						
8.	Taxes						
9.	Labor	hour	x	$/hour			
10.	Management		x				
11.	Fertilizer	**Enter Charge Only For Items Not Shared**					
12.	Lime						
13.	Seed						
14.	Fuel — Oil						
15.	Herbicides						
16.	Fungicides						
17.	Insecticides						
18.	Harvesting						
19.	Drying						
20.	Hauling						
21.	Crop Insurance						
22.	Other						
23.	Operating Interest						
24.							
25.							
26.	Total Non-shared costs (Lines 1-25)						
27.	Percent non-shared costs = Line 26 Landowner (Tenant) / Line 26 Total Annual Charge				100%		

Table 1 (cont). Crop Approach to Crop Share Arrangements

	Item	Total or per acre value		Rate or life	Annual Charge	Landowner	Tenant
Shared Items							
28.	Fertilizer	**Enter Charge Only For Items Shared**					
29.	Lime						
30.	Crop Insurance						
31.							
32.							
33.	Total shared costs (Add Lines 28-32)						
34.	TOTAL COSTS (Line 26 + Line 33)						
35.	Percent total costs = Line 34 Landowner (Tenant) / Line 34 Total Annual Charge				100%		
Income							
36.			x				
37.							
38.							
39.	Total Income (Lines 44-46)						
40.	Percent crop share = Line 39 Landowner (Tenant) / Line 39 Total Annual Charge				100%		

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