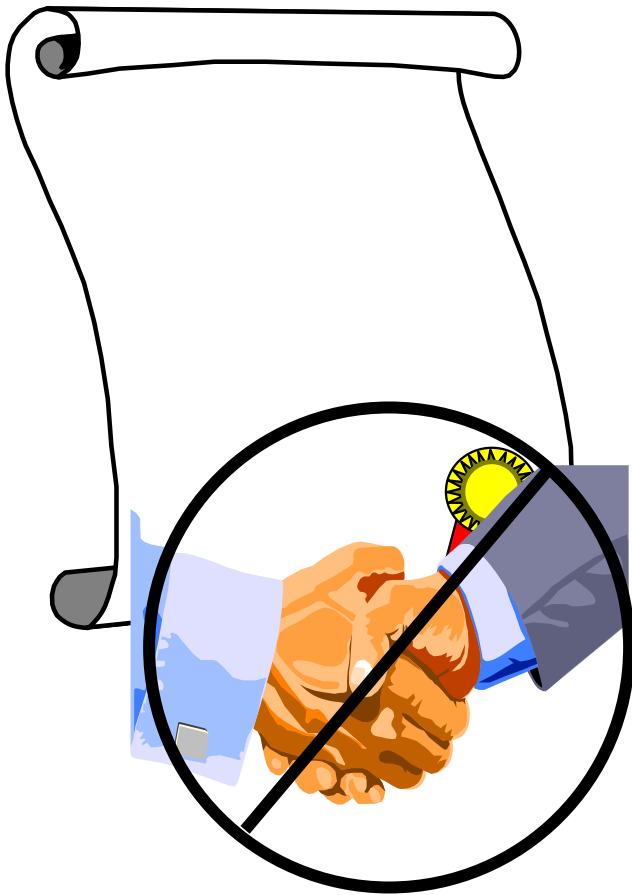


Calculating Crop Share, Cash and Flexible Cash Lease Rates

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Instructions for the Crop Leasing program.

This program requires Excel 97 or newer. Other spreadsheets programs may run the CropLeas template but none have been tried. Microsoft Works will not run this spreadsheet program.

The CropLeas template is designed to estimate the contributions of each party to a crop lease arrangement. The contributions are measured by the costs each party incurs. In some instances, the costs are readily identifiable. Seed, chemicals, and crop insurance are examples of expenses that can be easily identified. Other contributions such as the “value” of land and machinery may not be as easily determined. The following discussion explains how the CropLeas template operates and how it can be used to analyze alternatives. The discussion generally follows the CropLeas template, as you would read through it from top to bottom. See Appendix A.

Items the user is either required or allowed to enter are in blue text when the template is opened in one of the Windows based spreadsheets listed above. Make sure that you check all pages within the template to zero out unwanted entries that may already be in a particular enterprise.

Figure 1. CropLease Excel screen capture showing EnterP_Inv page tab of this spreadsheet.

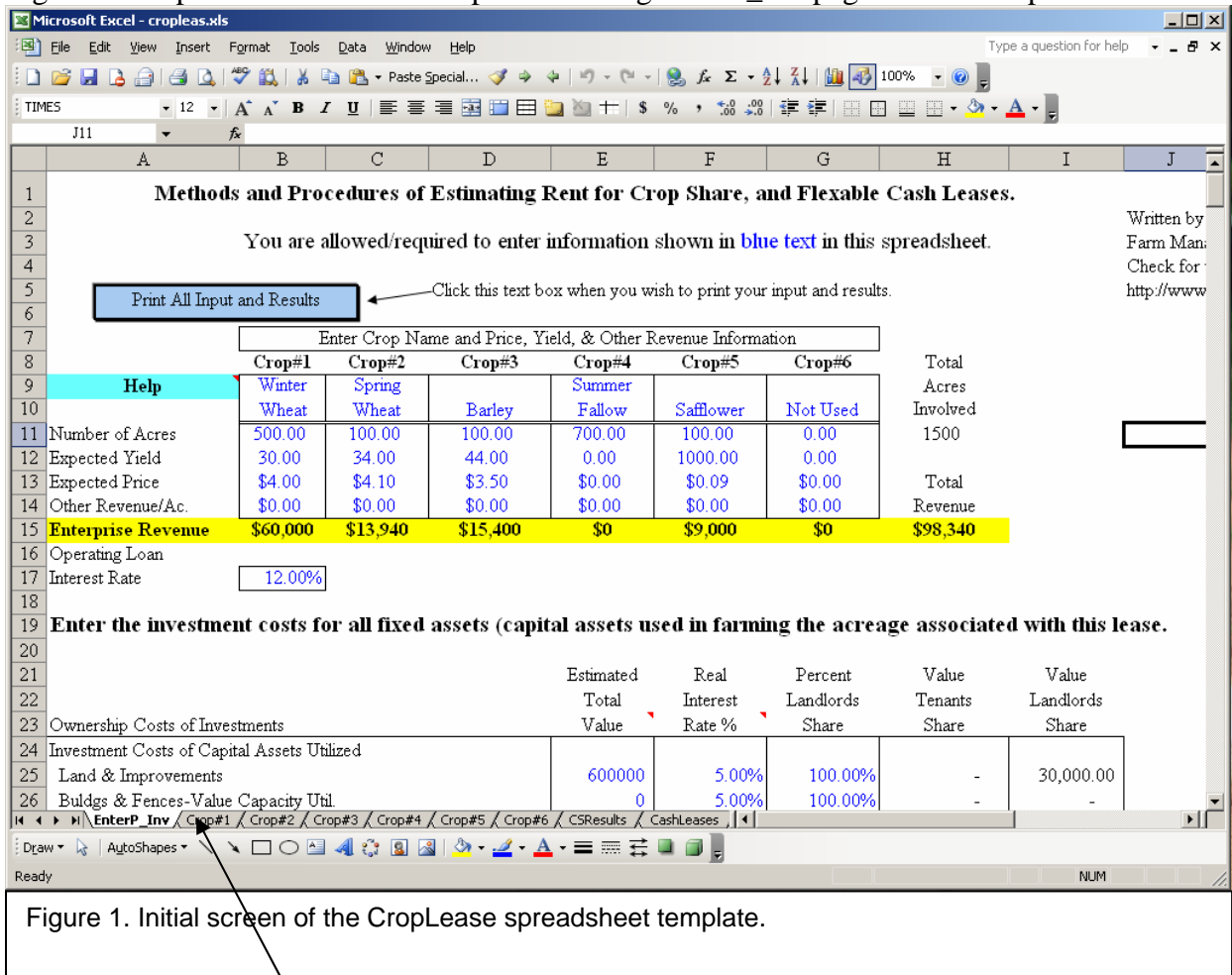


Figure 1. Initial screen of the CropLease spreadsheet template.

Page tabs

Prices, Yields and Enterprises

The first portion of the program allows the user to enter the particular crop enterprises to be grown and collects information on prices, yields, number of acres and “other revenue per acre” associated with each crop enterprise entered. Crop enterprises can be any small grain or forage crop of interest. Up to six crop enterprises can be entered. For each space provided for an enterprise that is not used, simply enter a label of Not Used, or something similar.

The user should enter as many crops that will be grown on the leased acreage using the number of acres for each crop. Lease calculations are then based on a “crop rotation” rather than a single crop lease. While many leases are for a period of several years, it is not necessarily true that the exact crop rotation specified in a single run of this template will occur in every year of the lease. In this instance, the lease may contain an annual renewal/review clause to recalculate the effects of the crop enterprise mix on lease rates. However, if there is only one crop grown, enter information for only the crop grown on the leased acreage.

The revenue information entered on rows 11 through 14 should use expected (most likely) prices and yields for the “current” year of the lease. If the lease is a long term lease, the lease may contain a clause that requires the landlord and tenant to recalculate lease rates each year. After entering information in rows 11 through 14, the next step is to enter the fixed assets and their associated costs for the entire operation. Both landlord and tenant fixed assets are entered.

Short Term Interest Rate:

After entering the enterprises and their associated revenue, enter the short term interest rate used to calculate interest on operating costs. The rate entered should be the “opportunity cost” rate that applies to your specific situation. For example, if you borrow operating money at 11%, enter .11 or 11 on row 17. If you do not borrow operating money but have a chance to invest money and earn a 9% rate of return, then enter a .09 or 9 on row 17.

Estimated Total Value of Land, Improvements, Buildings, Fences, Machinery, Equipment, Supplies and Other Investment Costs

The next section of the spreadsheet, starting on row 19 of the EnterP_Inv tab, is designed to calculate the fixed/ownership costs of all property contributed by each party. In rows 24 through 30, the value of the property (land, building, machinery, etc.) contributed to the production process are entered for the landlord and tenant. The value of the property should be the current market value. The values entered should be the total value of the property contributed to the production process. If there are 1000 acres of land contributed by the landlord and the land is worth \$400 per acre, then enter \$400,000 for the value of land and improvements. Note, there is a separate line for Buildings and Fences. This allows the land and improvements to be listed separately from buildings and fences *if desired or required*. Typically, the valuation of land includes all items attached. If there is no reason to separate the buildings and fences (or other improvement), the value of these can be included in the per acre value specified for Land & Improvements.

The value of machinery and equipment can be entered in two rows or just one as with land, improvements, buildings, and fences. Note, the value of Machinery and Equipment both have a qualifier on them. Only the value of the machinery and equipment that are actually used should be entered. For example, assume total value of machinery and equipment utilized for a lease is \$150,000. If only 20 percent of the capacity of that machinery were used on the acres in question, then \$30,000 is the value entered for machinery and equipment (20% times \$150,000). Entering \$150,000 would grossly overstate the contribution by the person supplying the machinery. If all machinery is used exclusively on the acres in question, the entire \$150,000 is the value used. This would also be true of buildings that are used for other purposes than to support the acres included in the lease. The value of land and improvements may also be “factored out” if the landowner reserves the right and/or uses some part of the acreage included in the lease for his/her own benefit. An example would be the landowner leasing grazing land but grazing some of his/her own cows along with the tenant’s cattle on the land leased to the tenant.

Real Rates of Interest

Once the value of property contributed is entered, the rate of return on that investment must be specified. The real rate of interest is the appropriate rate (see column F, rows 25 through 30). The real rate of interest is simply the nominal rate of interest minus the inflation rate. The nominal rate is the rate that you can borrow money for today. If the nominal rate is 11% and the inflation rate is 7%, the real rate is 4%. Historically, the real rate of interest ranges from 4 to 8 percent. Do not enter the percent sign (%) when entering the interest rates.

Percent Landlords Share

The next column, column G, allows the user to allocate the value of capital contributions between the landlord and the tenant. “Capital” is the term used to describe the fixed or long term assets (land, buildings, machinery, etc.) used in the production process. The column heading is the Percent Landlord’s Share. Enter 100 percent to allocate the value entirely to the landlord. If the allocation should go to the tenant, enter a 0 for the landlord’s share. If capital is contributed by both the landlord and tenant (listed on a single row), enter the percent share that the landlord is contributing to the production process. The remaining value will be automatically allocated to the tenant. Remember, if capital assets contributed by the landlord or the tenant are not fully utilized with the lease in question, only the value of the capital contributed is entered in the “Estimated Total Value” column, column E, hence use outside of the lease has already been factored out.

Value of Tenants Share and Value of Landlords Share

This template calculates the last two columns of data on the EnterP_Inv page tab. These columns represent the dollar value (measured as an opportunity cost) that the tenant and landlord would like to receive as compensation for the value of assets contributed to the production process. The value of the tenants share is calculated as the total dollar value of contributions times the real interest rate times the percent landlords share. The landlords share is calculated in a similar manner. Total opportunity costs are calculated for each party on row 31. This is

simply the total dollars each party would like to receive as compensation for committing capital assets to the lease.

Other Ownership Costs: Depreciation, Taxes, Insurance

Other ownership costs include depreciation, taxes and insurance. Some of these costs are cash costs and some are not. For example, depreciation is an expense allowance for the use of long term assets in the production process. The depreciation used should **not** be the amount used for tax purposes. Tax based depreciation will not accurately represent actual depreciation. The depreciation expense claimed should reflect the actual use of machinery and equipment on the leased acres in question. A very simple (and easy) way to calculate depreciation is to take the average number of years remaining the machinery will last and divide that number into the current market value of machinery. The example uses that procedure (\$170,000 of machinery and equipment divided by an assumed remaining useful life of 10 years). The result is a total depreciation claimed of \$17,000 for machinery. Remember, if the entire machinery complement capacity is not used on this particular lease, then the depreciation must be prorated for the proportion of the machinery capacity actually utilized. The machinery capacity actually utilized should have been listed in rows 25 through 30 in column E. A more detailed approach could be used; valuing each piece of machinery and estimating depreciation based on that piece of equipment's remaining useful life. The sum of the depreciation for all individual pieces of equipment can then be claimed. Tax depreciation should not be used in any instance.

Taxes and insurance are typically out of pocket costs and can be easily identified. The amount of each of these items is entered in the appropriate row. Again, the capacity of the entire equipment complement utilized should be considered. If only 20% of the machinery is used on the lease in question, only 20% of the taxes attributable to the machinery should be entered in this template.

The percent landlords share column is used just as it was to calculate opportunity costs when entering the capital assets contributed by the landlord and tenant. If the landlord is paying the taxes on land, 100 is entered in the landlord's share column for taxes on land and improvements. If the landlord is not responsible for the costs in question, a 0 is entered in the landlord's share column. Any percentage between 0 and 100 is used to indicate a sharing arrangement between the landlord and tenant for the particular item in question. Percentages can be entered as either decimal or whole numbers.

Total Ownership Costs

Total ownership costs are calculated for each party on row 59. The dollar value calculated for total ownership costs are the amount of that each party would like to receive to be adequately compensated for their contributions.

Operating Costs

The remainder of the program is used to calculate and allocate operating costs of production to the landlord and tenant. Operating costs of production are those that vary with the level of

production. Seed, fertilizer, chemicals, fuel, oil, repairs, and crop insurance are examples of operating costs. If no production takes place, these costs are not incurred. As production increases, these costs will increase, typically being the same for each additional unit of enterprise added to the production process.

Figure 2. Example of the operating cost entries for each crop from the “Crop#1” page tab.

Crop#1	Crop#2	Crop#3	Crop#4	Crop#5	Crop#6
Winter Wheat	Spring Wheat	Barley	Summer Fallow	Safflower	Not Used

Crop #1 Winter Wheat		Enter the Total Costs Per Acre for Winter Wheat					
		UNITS	Price Per Unit	Quantity Per Unit	Percent Tenants Share	Value Tenants Share	Value Landlords Share
A. PREHARVEST							
1. Seed		BUSHEL	5.00	1	100.00%	2,500.00	-
2. Chemicals _____	2,4-D	UNIT	2.50	1	100.00%	1,250.00	-
		UNIT	0.00	1	100.00%	-	-
		UNIT	0.00	1	100.00%	-	-
3. Chemical Application		ACRE	0.00	1	100.00%	-	-
4. Fertilizer	nitrogen	LBS.	0.220	60	62.53%	4,126.98	2,473.02
	phos	LBS.	0.140	20	62.53%	875.42	524.58
		LBS.	0.000	0	100.00%	-	-
5. Fertilizer Application		ACRE	0.00	1	100.00%	-	-
6. Insurance (Crop)		ACRE	10.00	1	100.00%	5,000.00	-
7. Tractor Operating Cost (Fuel, Oil, Repairs)		UNIT	1.25	1	100.00%	625.00	-
8. Machinery Operating Costs (Oil, Grease, Repairs)		UNIT	0.75	1	100.00%	375.00	-
9. Hired Labor							
A. Wages		HOURS	0.00	0	100.00%	-	-
B. Social Security		HOURS	0.00	0	100.00%	-	-
C. Workman's Comp.		HOURS	0.00	0	100.00%	-	-
10. Unpaid Labor							
A. Owner/Landlord		HOURS	0.00	1			-
B. Operator/Tenant		HOURS	8.00	0.45		1,800.00	
C. Tenant's Spouse		HOURS	0.00	0		-	
D. Tenant's Children		HOURS	0.00	1		-	
11. Other Misc. #1		ACRE	0.00	1	100.00%	-	-
12. Other Misc. #2		ACRE	0.00	1	100.00%	-	-
13. Interest On Preharvest Costs		DOLLARS				885.14	179.86
A. Avg. Months Loan Outstanding*			6				
B. HARVEST COSTS							
14. Combine Operating Costs Only		ACRE	8.55	1	100.00%	4,275.00	-
15. Truck Operating Costs Only		ACRE	1.66	1	100.00%	830.00	-
16. Interest On Harvest Costs		DOLLARS				51.05	-
A. Avg. Months Loan Outstanding**			1				
Total Operating Costs For Winter Wheat Acres:						\$22,593.59	\$3,177.46

Costs for each enterprise are entered by clicking on the tabs at the bottom of the Excel window. The tabs are generically numbered Crop#1, Crop#2, etc. To access one of these pages within this template, simply click on the tab name. At the top of each page tab, there is a table that shows the name of the Enterprise that is associated with the Crop#_ tab in the Excel template. See

Figure 2. Proceed through each tab necessary completing the information for each enterprise included in the leased acreage.

Operating costs can be calculated for up to 6 crop enterprises. Any combination of crop enterprises can be analyzed with this template. The user simply enters the name of each enterprise on the EnterP_Inv tab of the spreadsheet. Each enterprise (crop) has its own separate section (page tab) in the template. All pages for crop operating costs are identical.

General considerations for entering operating costs include:

1. Enter the price per unit and quantity used in columns E and F. As indicated by the blue text color, the user can change the units to whatever is desired (lbs., cwt., quarts, pints, oz., etc.). Alternatively, you may simply leave the word UNITS in column D and make sure the price and quantity are entered in the same unit of measure. For example, if entering chemical costs and the rate (quantity) is listed in pints, the price should also be listed in dollars per pint. If the price is a per acre price, enter a 1 under the quantity column.
2. All operating costs must be entered (using Price Per Unit, column E and Quantity per Unit, column F) to reflect the correct enterprise costs per acre. If tractor and machinery operating costs are easier to list together, these costs can be combined and entered in either the machinery *or* tractor cost row. Unlike the section on investment costs where only the value of the capacity of machinery and equipment utilized is entered, the full operating costs, **by crop or per acre**, for both machinery and equipment should be entered here. Remember, operating costs are those that vary with production.
3. Interest is charged on the sum of operating cost items used with the exception of Unpaid labor. Interest is charged at short-term nominal rates, see row 37 and 42, for the number of months the loan is outstanding. The user enters the number of months the loan is outstanding as they are completing the information for each crop enterprise.
4. Totals for each row of operating cost is calculated by using the price per unit, the number of units, the number of acres for each crop, and the percent tenant's share. Total costs are allocated to either the tenant or the landlord based on the tenant's percentage share. **Note, the first page tab (EnterP_Inv) used the Percent Landlord's Share (column G) to allocated costs to either the tenant or the landlord. For the operating cost page tabs, the Percent Tenants Share is used for each of the crop enterprises to allocate costs to the landlord or tenant in column G.**
5. The last line for each enterprise is the total operating cost for that enterprise. This is the amount of money that each party would like to receive to be compensated for the contributions they have made to the production of a particular crop.

Sharing Operating Costs

6. If operating costs are to be shared by both parties of a lease, the initial run of this template should not include any costs for **those items that will be shared**. For example, if fertilizer expense is to be shared, the initial run should have a 0 for the price of fertilizer and a 0 for the percent tenant's share. After all other inputs are entered for all crop enterprises, the percent share of total costs for the landlord and tenant is calculated by the program, (see the CSResults tab, row 22). The calculated tenant's cost share contribution should be entered into the Percent Tenant's Share column, column G, in each crop page tab where fertilizer, or other shared inputs, are used. The price and quantity should also be entered at that time. Fertilizer is used as an example here, but this procedure holds for any input for which the costs are shared between the tenant and the landlord. This procedure assures that the landlord and tenant both have a degree of interest in a profit maximizing level of variable inputs such as fertilizer and chemicals. **Do not forget to go back and enter costs that are initially left at 0 once the other costs have been considered and the percent share has been calculated for each party.** This procedure does not change the landlord or tenants share of total cost.

Results

Initial results are presented for crop share leases on the CSResults tab. See Figure 3 or Appendix A which contains a complete printout of the template.

Ownership and operating costs are shown for each enterprise for both the landlord and the tenant. These are summed to arrive at total costs for the tenant, landlord, and the entire operation. These costs represent the amount each party would like to receive to be fully compensated for the contributions they have made to the production process. Total costs for the lease are also shown without considering who pays the costs. The percent of total contributions made by each party are calculated on row 22 of the CSResults page tab.

The next section of the CSResults tab, starting on Row 28, shows the per acre dollar value of gross returns each party should receive based on relative contributions and the revenue information entered for each enterprise. Row 28 through 43 show calculations of various gross and net per acre or total cost, revenue or net returns that each party incurs. A number in () indicates a negative value. Row 35 calculates net returns over **total costs** per acre. Total costs include all costs including depreciation and opportunity cost estimates. Row 42 calculates net return over **cash costs** per acre. Cash costs include all costs except depreciation, interest on investment and unpaid labor. Net return over cash costs may be misleading. Remember, the real rate of interest on the current market value of the investments has been included (see rows 25 through 30 of the EnterP_Inv page tab). If some or all of the investments contributed were recently purchased, the interest that is actually paid on those assets may be relatively high. This, however, does not mean that either party should be expected to compensate the other for actual interest costs. To determine an exact net cash return, detailed financing arrangements would be necessary for each capital equipment item used in the lease. In addition, detailed financing information for operating inputs would also be necessary. The procedure described here is an estimate of a net cash returns using opportunity costs for capital assets and operating input financing.

Figure 3. Example of crop share lease results calculated by the CropLease template.

Crop#1	Crop#2	Crop#3	Crop#4	Crop#5	Crop#6
Winter Wheat	Spring Wheat	Barley	Summer Fallow	Safflower	Not Used

Results for Crop Share lease calculations for each enterprise utilized.

	Tenant	Landlord
Total Ownership Costs by Share	\$29,100.00	\$35,400.00
Total Operating Costs For Winter Wheat	\$22,593.59	\$3,177.46
Total Operating Costs For Spring Wheat	\$4,919.26	\$810.25
Total Operating Costs For Barley	\$4,421.21	\$532.60
Total Operating Costs For Summer Fallow	\$3,809.40	\$0.00
Total Operating Costs For Safflower	\$2,801.60	\$617.51
Total Operating Costs For Not Used	\$0.00	\$0.00
Total Ownership and Operating Costs by Share	\$67,645.07	\$40,537.81
Total Costs For Both Landlord and Tenant		\$108,182.88
Percent of Total Contributions Made be Each Party	62.53%	37.47%
Total Acres Leased		1500
Total Revenue From All Enterprises As Calculated Above		\$ 98,340.00
Per Acre Dollar Value of Gross Returns Based on Each Party's	Tenant	Landlord
Total Revenue based on expected prices and yields	\$61,490.47	\$36,849.53
Share Revenue based on Price & Yield Expectations-per acre leased	\$40.99	\$24.57
Total operating costs per acre based on total acres leased	\$25.70	\$3.43
Total ownership costs per acre based on total acres leased.	\$19.40	\$23.60
Per Acre Cost by Share (Based on Total Acres)	\$45.10	\$27.03
Net Return Over Total Costs Per Acre (Based on Total Acres Leased)	(\$4.10)	(\$2.46)
Total Net Return for all acres in the lease	(\$6,154.60)	(\$3,688.28)
Total cash operating costs per acre (based on total acres leased)	\$21.83	\$3.43
Total cash ownership costs per acre (based on total acres leased)	\$2.40	\$2.93
Total cash operating and ownerships costs per acre	\$24.23	\$6.36
Net Return Over Cash Costs Per Acre (Based on Total Acres Leased)	\$16.76	\$18.21
Total Net Cash Return (Based on Total Acres Leased)	\$25,145.40	\$27,311.72

A negative number in row 35 and 36 does not mean that cash costs are not being met. It does mean the amount of compensation that each party would have liked is not being received. In the

example, the tenant has a negative \$4.10 net return over total costs per acre and the landlord has a negative \$2.46 net return over total costs per acre. If these numbers were positive, it would mean the tenant and landlord had been fully compensated for all costs they incurred and there were some “pure profits” left over to share. If the values calculated in row 35 and 36 were zero, it means that all cash costs are being covered and all resources are being compensated at the opportunity cost rates of return entered by the user.

Cash and Flexible Cash Lease Calculations

Initially, the approach used to calculate a cash lease is identical to calculating a crop share lease. After the percent of the landlord's share (row 22 on the CSResults tab) and the per acre dollar value of gross returns (row 28 on the CSResults tab) are calculated, the dollar value of gross revenue that is calculated for the landlord can be adjusted downward. The downward adjustment should reflect the risk, or lack of risk, that each party is incurring with a cash lease rather than a crop share lease. If the landlord does not want to participate (share costs) in the production process and avoid associated risks, the tenant should be compensated for the added risk taken. Typically, the tenant pays all of the costs of inputs used in a straight cash lease. How much of a downward adjustment takes place will depend on many factors but the typical range is 5 to 15 percent.

The CashLease page tab allows the user to calculate both a straight cash lease and a flexible cash lease arrangement. The cash lease calculations are based on the information entered into the enterprise budgets during the calculation of the crop share lease calculations. This process also assumes that yields and prices specified during the calculation of crop share lease percentages (yields and prices are specified on the EnterP_Inv page tab) are agreed upon by both the landlord and tenant as being the most likely yields and prices for each enterprise. There are two adjustments required to arrive at a cash lease. The first is to eliminate the landlord's share of operating costs that are typically incurred with a crop share lease. This adjustment is made on row 6 of the CashLease page tab in the template. The user must enter a Y or a N to indicate whether the landlord is going to share input expenses. If an N is entered, the program recalculates the percent of total cost shared by the landlord and tenant, allocating all operating costs to the tenant.

The second adjustment is to lower the lease rate per acre to reflect the certainty of a cash payment to the landlord and the increased risk the tenant assumes by paying all operating costs for all enterprises. Row 25 of the CashLease page tab allows the user to enter a percentage reduction agreed upon by the landlord and tenant to calculate a “straight cash lease.” The straight cash lease, per acre leased, is shown on row 26. Remember, the leased acres include both crop and summer fallow acreage. The total acres leased and total dollars are calculated on rows 27 and 28 of the CashLease page tab. For comparison purposes, the total net cash available is copied from the CSResults tab to show the dollars available to pay the cash lease calculated for the landlord.

The template can also calculate flexible cash lease arrangements. The process of calculating the flexible cash lease is based on the agreed upon prices and yields for each enterprise. These prices and yields were the “expected or most likely prices and yields” entered on the EnterP_Inv

page tab of the template. Flexible lease rates are calculated by adjusting the straight cash lease rate calculated on row 26 of the CashLease page tab by a price ratio, a yield ratio, or both. This process is completed in the template on the CashLease page tab starting on row 30. The template allows for individual adjustments based on yields and prices and then calculates adjustment based on both yields and prices. The yield adjustment is calculated first, starting on row 30. The primary use of this section is to analyze the effects on the total cash lease payment that will be received. Numbers entered to “adjust” prices or yields prior to the end of the production process can only be guesses. The final cash lease payment can only be determined after the production process is finished.

The adjustment to the agreed upon “standard cash lease” is made by multiplying a yield ratio (actual yield divided by established yield = yield ratio) times the standard cash lease rate calculated on row 26 of the CashLease page tab. The established yield is the yield for each crop enterprise agreed on by the landlord and tenant when the lease is developed. Note, the yield ratio allows for either upward or downward adjustments to the established cash lease. If the actual yield is higher than the established yield, the landlord’s cash lease payment will increase. However, the opposite is also true. The formula used to calculate the cash lease adjustment based on yield changes is:

$$\text{Established cash lease} \quad \times \quad \frac{\text{Actual Yield}}{\text{Established Yield}}$$

This formula shows that if actual yield is higher than established yield, the yield ratio will be greater than one and the cash lease payment received by the landlord will increase. However, if the actual yield is lower, the yield ratio is less than one and the established cash lease payment will decrease.

The user is allowed to enter actual yields on row 43 of the CashLease page tab. Since this template will usually be run before a lease agreement is signed, this will only show what might happen if yields are above or below the expected yields. This program could also be used “after the fact” to enter actual yields at harvest time and, hence, calculate the cash lease payment based on actual yields. If this is done, do not change any other part of the template, only the actual yields should be entered. Changing others portions of the template would change the entire basis of the original lease agreement calculations.

Rows 47 through 57 of the CashLease page tab show a sensitivity table that automatically varies the cash lease payment based on a percentage change in yields both above and below the established (most likely) yield that landlord and tenant originally agreed to in the lease. See Figure 4.

Figure 4. Sensitivity table for cash lease payments based on enterprises and percentage adjustment.

Enter Percent Increment in Yield	Sensitivity Table for Yield Increase/Decrease Based on User						Cash Lease Based on Varied Yields
	Entered Percent Change.						
% Yield Change	Winter Wheat	Spring Wheat	Barley	Summer Fallow	Safflower	Not Used	
Three Increment Dec.	28.20	31.96	41.36	0.00	940.00	0.00	\$18.15
Two Increment Dec.	28.80	32.64	42.24	0.00	960.00	0.00	\$18.54
One Increment Dec.	29.40	33.32	43.12	0.00	980.00	0.00	\$18.92
Specified Yield	30.00	34.00	44.00	0.00	1000.00	0.00	\$19.31
One Increment Inc.	30.60	34.68	44.88	0.00	1020.00	0.00	\$19.69
Two Increment Inc.	31.20	35.36	45.76	0.00	1040.00	0.00	\$20.08
Three Increment Inc.	31.80	36.04	46.64	0.00	1060.00	0.00	\$20.47

The user is allowed to enter a percentage variation that will change the table values calculated in rows 51 through 57. The percentage variation is entered on row 48 in column B. In this example, the adjustment number is 2%.

A similar adjustment process is used to adjust for prices that are either above or below the “expected price” when the lease is originated. The adjustment for prices is calculated starting on row 59 of the CashLease page tab. The user is allowed to enter actual prices on row 69 to calculate price ratios for each enterprise. The enterprise price ratios are then used to calculate and adjusted cash lease rate per acre based on all acreage leased. The adjusted cash lease rate is shown in cell H70 and H71. A sensitivity table is also shown for price changes. Figure 5. As with yield, the user is allowed to enter percentage price changes on row 74 in column B. The formula used to adjust the established cash lease payment is:

$$\text{Established Cash Lease Payment} \times \frac{\text{Actual Price}}{\text{Established Price}}$$

Figure 5. Sensitivity table for price changes.

Enter Percent Increment in Price	Sensitivity Table for Price Increase/Decrease Based on User						Cash Lease Based on Varied Prices
	Entered Percent Change.						
% Price Change	Winter Wheat	Spring Wheat	Barley	Summer Fallow	Safflower	Not Used	
Three Increment Dec.	\$3.400	\$3.485	\$2.975	\$0.000	\$0.077	\$0.000	\$16.41
Two Increment Dec.	\$3.600	\$3.690	\$3.150	\$0.000	\$0.081	\$0.000	\$17.38
One Increment Dec.	\$3.800	\$3.895	\$3.325	\$0.000	\$0.086	\$0.000	\$18.34
Specified Price	\$4.000	\$4.100	\$3.500	\$0.000	\$0.090	\$0.000	\$19.31
One Increment Inc.	\$4.200	\$4.305	\$3.675	\$0.000	\$0.095	\$0.000	\$20.27
Two Increment Inc.	\$4.400	\$4.510	\$3.850	\$0.000	\$0.099	\$0.000	\$21.24
Three Increment Inc.	\$4.600	\$4.715	\$4.025	\$0.000	\$0.104	\$0.000	\$22.20

The last portion of the template adjusts the established cash lease rate based on both price and yield adjustments. Figure 6. The user is required to enter actual prices and yields on rows 89 and 90 on the CashLease page tab. Price and yield ratios for each enterprise are then used to adjust the established cash lease rate. The formula used for this calculation is:

$$\text{Established Cash Lease Rate/Acre} \times \text{Yield Ratio} \times \text{Price Ratio}$$

The adjusted cash lease rate calculated for both price and yield adjustments is shown in cell H92 and H93 on the CashLease page tab.

Figure 6. Flexible Cash Lease payment example based on price and yield adjustments.

	Winter Wheat	Spring Wheat	Barley	Summer Fallow	Safflower	Not Used	Cash Lease Adjusted for Price and Yield Changes Using Pre-specified Price & Yield as a Base
Actual Yield	28.0	30.0	40.0	0.0	850.0	0.0	
Actual Price	\$3.25	\$4.75	\$2.75	\$0.00	\$0.09	\$0.00	
Yield Ratio	0.933	0.882	0.909	0.000	0.850	0.000	
Price Ratio	0.813	1.159	0.786	0.000	1.000	0.000	\$15.39
Total Adjusted Cash Lease Payment							\$23,088.90

Initial Cash Lease Per acres is adjusted by both Yield and Price ratios.

$$\begin{array}{c} \text{Established Cash Lease} \\ \text{Rate Per Acre} \end{array} \times \frac{\text{Actual Yield}}{\text{Established Yield}} \times \frac{\text{Actual Price}}{\text{Established Price}}$$

Appendix A, Printout of Crop Lease Program