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How to Determine the Right Farm Rental Rate

Introduction

UVM Extension developed this guide to support farmers and landowners through the process of determining a fair cash rental rate for farmland, equipment and infrastructure in Vermont. The same methods might apply to other states in New England, the Northeast or other parts of the United States.

There are benchmarks and averages for farm rental rates (often by locale or land type) though these figures are averages and may not apply to your situation. Prospective farm tenants or owners can assess their particular situation by examining several factors:

1. Market rental rates
2. Owner's farm ownership costs
3. Amount the farm business can afford to pay
4. Other costs or benefits the farmer or landowner adds to the arrangement

The chapters in this series detail approaches for examining the above factors. They cover important variables to consider when setting rental rates. Owners and tenants can derive dollar figures for each of the above factors and use them as reference points for negotiating a lease rate. In the end, it is up to the farmer-tenant and landowner to assess the variables of their particular situation, and determine an equitable rate for their particular arrangement.

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Assessing Market Rental Rates

The market rate for farmland is simply what others in the area are paying for it. Rental rates differ from region to region based on the supply and demand for farmland, and the varying degrees of profitability of the type of farming being proposed. Rental rates also vary according to:

- **Soil quality** factors include moisture and soil drainage characteristics, stoniness and exposed bedrock, slope, and nutrient and water holding capacity that influence the lands potential productivity
- **Field size, shape and dimensions will influence the feasibility of certain management systems and often relate to accessibility or efficiency of machinery needed to manage the land.**
- **Field conditions** include whether the field has been maintained in terms of fertility and erosion protection, and whether it has been kept free of brush and weeds and the hedgerows maintained. For example, flat, stone-free, well-drained river bottom soil typically rents for much higher rates than hilly, stony pastureland, particularly pasture which may not have been used in many years, so they are fully of brush and weeds, and maybe need significant amendments to fertility.
- **Location** in proximity to markets, adjacent farm resources, other agricultural infrastructure and services.
- **Availability of water or infrastructure**, such as barns or fencing.

In Vermont, market rates are largely influenced by the Vermont Department of Taxes Use Value and Appraisal Program, otherwise known as Current Use. The same holds true for other northeastern states with property tax abatement programs for keeping land in agriculture. Many of these programs give the property owner a very significant property tax break for enrolling land in the program. As a result, it costs the landowner less to own the agricultural land every year, landowners are satisfied with the tax benefits from the state, and thus tend to charge less for renting that land to a farmer.

Researching Market Rates

There are two primary methods for assessing the going market rate for renting farms and farmland, word of mouth and using online tools, such as the National Agriculture Statistics Service (NASS) online database.

Map it Out!

Fields are typically rented on a per acre/per year basis. Because of this, it is important to verify actual acreage included in the lease. Landowners might have old maps produced by surveyors other aerial imaging, but acreage can change if hedgerows are not maintained or open land has reverted back to brush. To obtain the most accurate acreage information, use updated Online mapping tools, such as the Natural Resources Conservation Service (NRCS) Web Soil Survey (http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm), the Vermont Agency of Natural Resources Natural Resource Atlas (http://anrmaps.vermont.gov/websites/anra) or contract the services of a professional land surveyor.

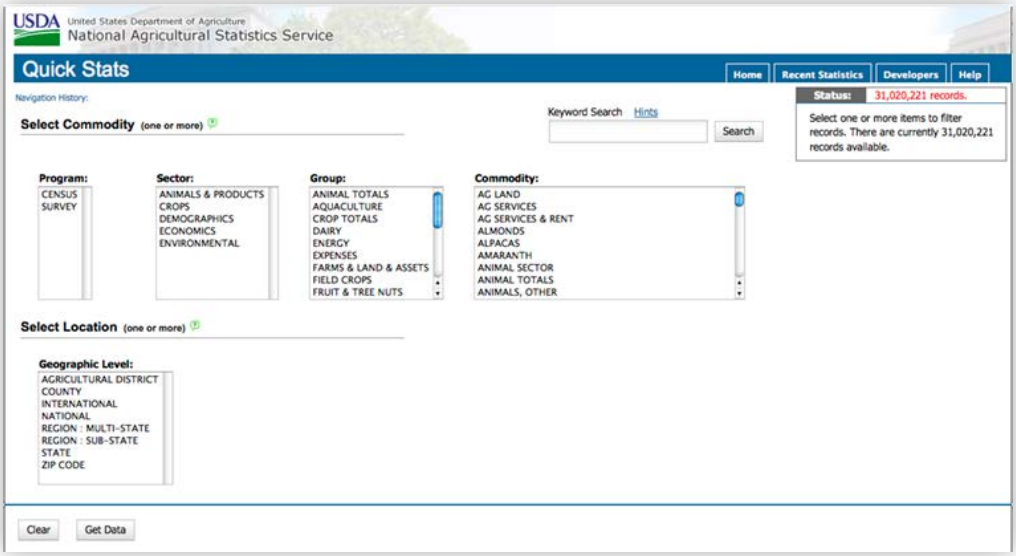
1. Word of mouth: Farmers and landowners can ask neighboring farmers and landowners how much cash is changing hands for rent. If you are using this method, keep in mind that every parcel of land differs according to the variables listed above. For relative values, use figures from neighboring farms and make sure that you are comparing similar fields with comparable attributes.

When researching market rates for renting farmland, you may want to consult with advisers who converse regularly with farmers, such as Extension educators and farm loan program officers. Even if they do not conduct formal surveys to document statewide rental rates, agency personnel and educators might have anecdotal information based on a small number of landowners/farmers that participate in their programs. This can be used as a starting point of reference.

2. National Agriculture Statistics Service (NASS). NASS conducts periodic surveys of farmers and publishes data sets that reflect rental values by county and by state. There might not be data available for some counties where transactions are too few, or during some time. All data is available online, at http://quickstats.nass.usda.gov.

Below is a step-by-step guide for using the NASS Quickstats database to find average rental values. Keep in mind that the values for cash rent in the NASS database are averages. While they can be used as a starting point of reference, the averages might not accurately represent the variables at play in your particular situation.

1. Go to the Quickstats Online Query Tool, at http://quickstats.nass.usda.gov/



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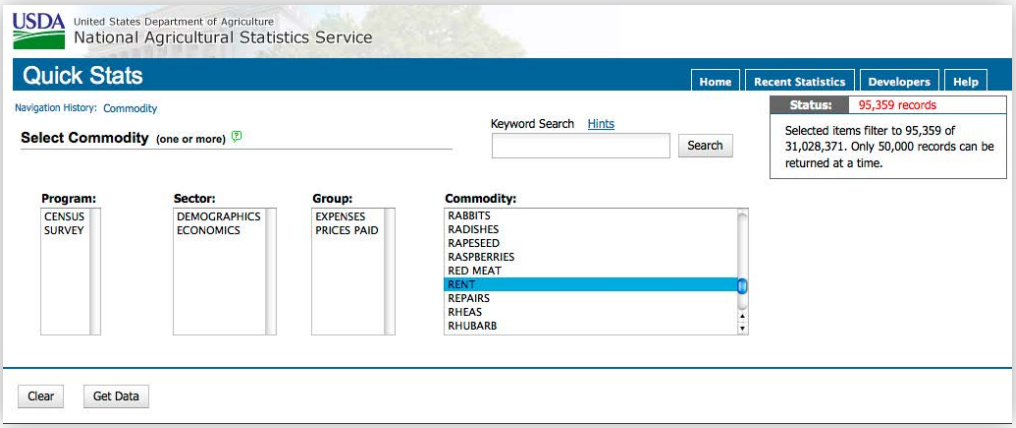
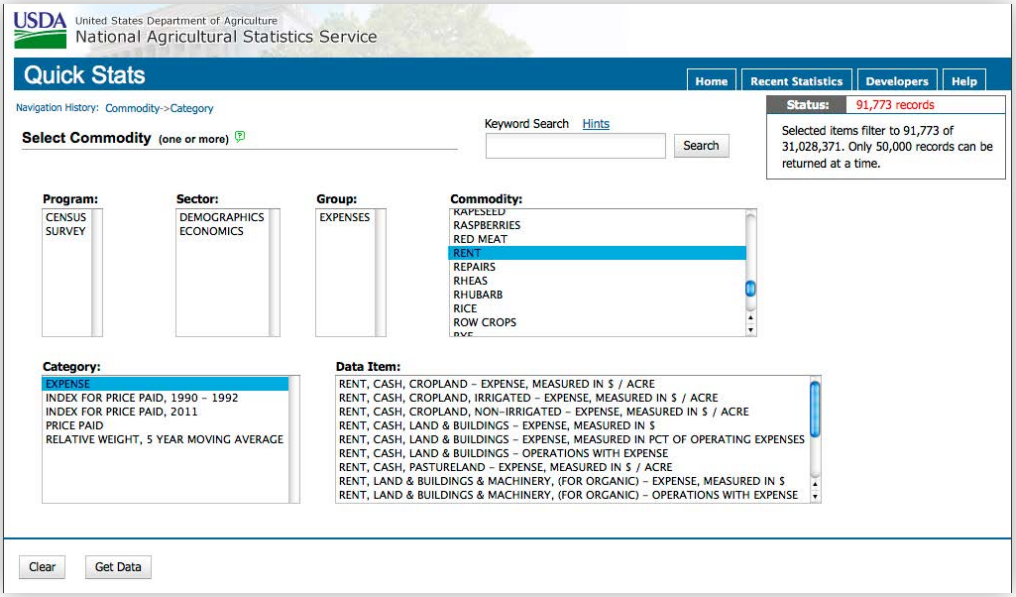
2. Under the "commodity" menu, highlight "rent." You will see that after you highlight "rent" or any other of the items in each pull-down menu, the website will automatically re-load and provide a different set of menus and options. Pause a few seconds after each menu choice to allow the website to reload/refresh before choosing another option.



3. After "rent" is highlighted under the commodity menu, highlight "expense" in the "category" menu.



4. Proceed to select a "geographic level," "state," and "year." Notice that you can also go to the "data item" menu, and choose the variable you would like to examine. For example, you can choose, "RENT, CASH, CROPLAND, NON-IRRIGATED — EXPENSE, MEASURED IN $ PER ACRE." However, Vermont is a small state and data is unavailable for many of the items. To circumvent this problem, refrain from choosing a "data item." Instead first

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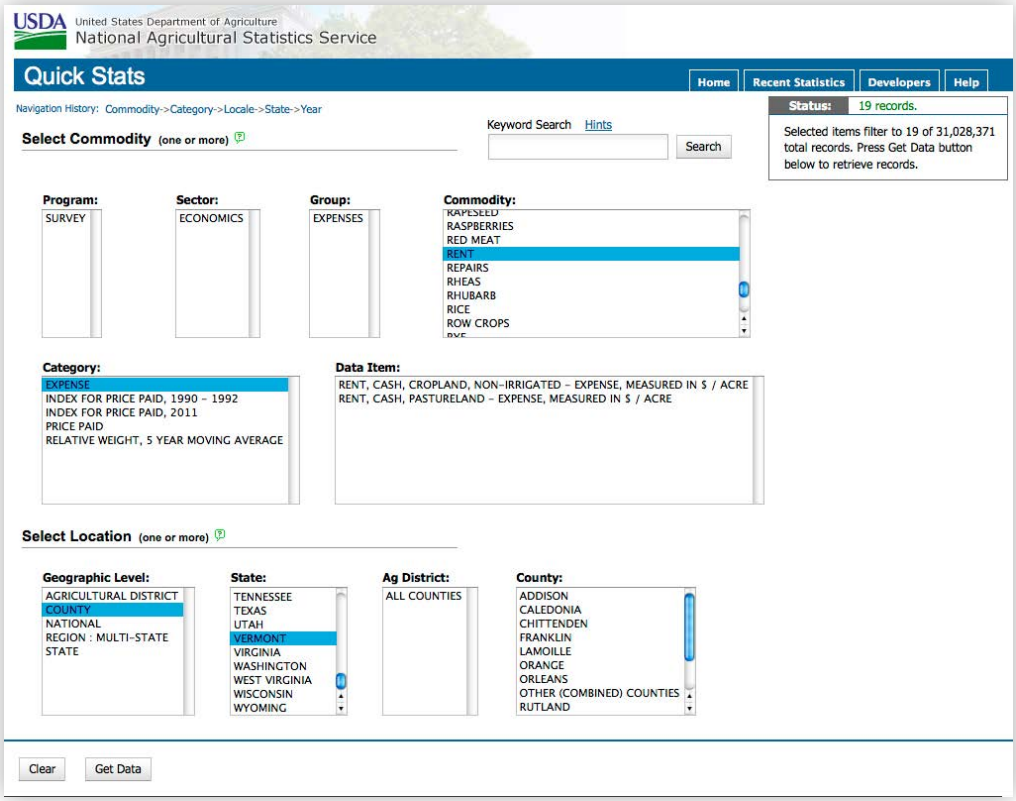
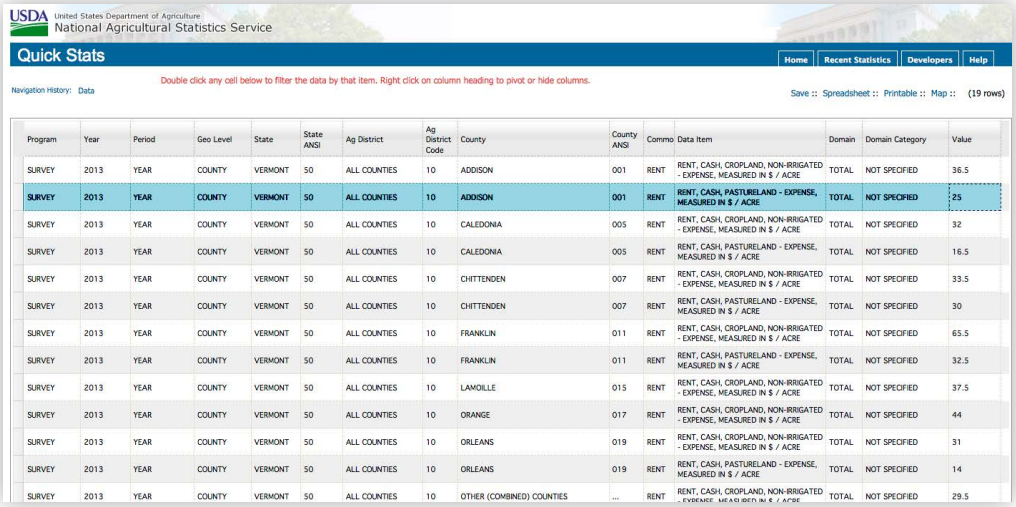
choose the "geographic level," "state," and "year." The example shown here highlights data at the county level. Your eventual query will display all data items available.



5. Select the "get data" button. The data should then appear in a table. Scroll all the way over to the right-most column entitled, "Value."This is the cash rent dollar value. If there is an "(s)" in that column, there were insufficient reports to establish a value. The example below highlights Addison county pastureland's average rental value of $25/acre/year.



Program	Year	Period	Geo Level	State	State ANSI	Ag District	Ag District Code	County	County ANSI	Commo	Data Item	Domain	Domain Category	Value
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	ADDISON	001	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	36.5
SURVEY	**2013**	**YEAR**	**COUNTY**	**VERMONT**	**50**	**ALL COUNTIES**	**10**	**ADDISON**	**001**	**RENT**	**RENT, CASH, PASTURELAND - EXPENSE, MEASURED IN $ / ACRE**	**TOTAL**	**NOT SPECIFIED**	**25**
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	CALEDONIA	005	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	32
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	CALEDONIA	005	RENT	RENT, CASH, PASTURELAND - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	16.5
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	CHITTENDEN	007	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	33.5
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	CHITTENDEN	007	RENT	RENT, CASH, PASTURELAND - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	30
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	FRANKLIN	011	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	65.5
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	FRANKLIN	011	RENT	RENT, CASH, PASTURELAND - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	32.5
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	LAMOILLE	015	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	37.5
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	ORANGE	017	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	44
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	ORLEANS	019	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	31
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	ORLEANS	019	RENT	RENT, CASH, PASTURELAND - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	14
SURVEY	2013	YEAR	COUNTY	VERMONT	50	ALL COUNTIES	10	OTHER (COMBINED) COUNTIES	...	RENT	RENT, CASH, CROPLAND, NON-IRRIGATED - EXPENSE, MEASURED IN $ / ACRE	TOTAL	NOT SPECIFIED	29.5

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Again, keep in mind that NASS displays average values, representing a range of rental rates across all farms that reported data, which might only be a fraction of all farmland rented in an area. Actual rental rates likely fluctuate within a range, depending on the attributes of a particular site that effect crop or livestock productivity.

The Takeaway

The most common approach for owners and tenants to determine a rental rate is to use area market rates. Talking with other farmers or service providers in your area is a good way to gauge market rates, as is using the USDA NASS Quickstats database. Owners and tenants can determine average market rates, than adjust up or down if needed by considering farm asset ownership costs, the portion of the tenant's business proceeds going towards rent or other benefits in the lease arrangement that might discount the rental rate. These topics are covered in the following chapters.

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Assessing Landowner's Costs of Owning Land

A common approach to determining a lease rate is to separately assess the portion of the rate attributed to land, and the portion attributed to other buildings, equipment or infrastructure. For more information on costs associated specifically with equipment, buildings and infrastructure, see the chapter in this series entitled, "Part Three: How to Value Equipment, Buildings and Infrastructure in a Lease."This chapter focuses on costs associated with land.

Landowners pay the property tax on land and buildings they own.They might also pay other annual costs such as insurance and interest. Owners often hope rental payments cover a portion, if not all, of these costs. Land rental pricing is complicated by the long-term aspect of the investment in land ownership. Changes in land value, currency inflation and other uncertain elements contribute to the risk faced by the property owner. It is worth examining each of the landowner's costs separately, to determine which ones apply. Certain costs are associated with land ownership, buildings, equipment or infrastructure ownership. The DIRTI-5 formula is a useful way to remember common annual ownership costs. The table below covers the DIRTI-5 formula costs and their relevance.

The DIRTI-5 Formula	
Type of Ownership Cost	**Relevance to Type of Asset**
Depreciation	Equipment, Buildings, Infrastructure
Insurance	Land, Equipment, Buildings, Infrastructure
Repairs and Maintenance	Equipment, Buildings, Infrastructure*
Taxes	Land, Buildings
Interest and Opportunity Cost	Land, Equipment, Buildings, Infrastructure

This section explains insurance, taxes and interest/opportunitycost — the annual costs associated with land ownership. Lease payments can cover all or a portion of the annual costs associated with the landowner providing land for the farm tenant to use. Assessing ownership costs can be used as a starting basis for coming to such agreement.

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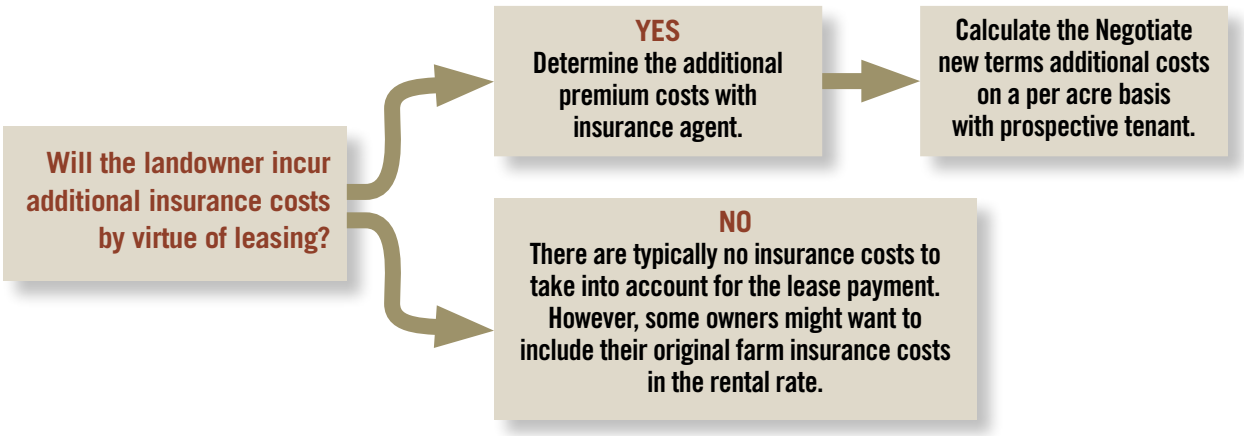
PART TWO

Common Costs of Land Ownership: Insurance, Taxes and Interest/Opportunity Cost

INSURANCE

In a lease situation, both farmer-tenants and landowners can lower their exposure to liability and property/casualty risk by having insurance. One question becomes what new or additional insurance costs must the landowner accrue as a result of the lease arrangement?A standard homeowner's policy will not cover liability or property loss related to regular commercial farming activity. It is a very common arrangement for the farmer-tenant to have farm insurance that names the landowner as "additional insured." This might be enough to provide financial and legal protection for both parties. In this case, there is no new insurance cost to the landowner, and the farm business covers its own insurance premiums. But in other cases, the landowner may end up increasing his/her own coverage, in which case the landowner might want to pass on the additional insurance premium costs to the farmer through the lease payment. For example, if the farmer-tenant wants to have an on-farm market or pick-your-own operation that will bring customers onto the property, the land owner's insurance agent may recommend additional insurance coverage on the property owner's policy. Alternatively, when farmer-tenant only intends to rent the land strictly for crop production, the owner may not need additional insurance. Owners should confer with prospective tenants on how they want to use the land, and consult with their insurance representative.

Every case is unique, and insurance agents and attorneys can help both parties distinguish between reasonable, required or excessive levels of coverage. For more information on insurance considerations in a lease, see Chapter VIIIc., Insurance and Liability, in the Landowner's Guide to Leasing Land for Farming, published by Land For Good, available online at http://www.landforgood.org.



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PROPERTY TAXES

Property taxes are a significant ownership cost. The exact tax burden for every property is public information that can be obtained at town offices. Owners will also see a summary on the annual tax bill. If it is not easy to ascertain what proportion of the property taxes are for the portion of the farm being leased based on the most recent tax bill, talk to a town lister who can clarify how each part of the farm is taxed.

The proportion of property tax costs the farmer pays should reflect the proportion of the property that is being rented. Also, many farmers and landowners do not base the lease rate on the owner's tax burden for the fair market value of the real estate, which is often heavily influenced by the market for housing and commercial development. Instead, the rental rate reflects property taxes attributed to the state's farmland and forestland tax program known as the Vermont Use Value Appraisal Program (commonly referred to as "Current Use"). State tax departments may update the agricultural land value annually as part of determining how much landowner's with land enrolled in agricultural or forestry land use programs are taxed. Every state's program is slightly different. Contact town listers to determine how the state land use valuation factors specifically into the actual annual real estate tax for the landowner. More information on farmland tax programs throughout New England can be found in "Landowner's Guide to Leasing Land for Farming," published by Land For Good and available online at www.landforgood.org.

Regardless of whether or not the land is enrolled in a land use program like Vermont's Current Use Program, you can find information related to the actual real estate taxes to the landowner at the lister's or Town Clerk's office of the town where the land is listed. For more information on enrolling agricultural land in the Vermont Current Use program to lower annual property tax costs, contact the Vermont Department of Taxes at (802) 828-6633 or download forms and standards online at: http://www.state.vt.us/tax/pvrcurrentuse.shtml.

A three-year written lease with a farmer enables the landowner to obtain a property tax benefit by enrolling farmland in the Current Use program in Vermont. The program has a specific definition for farmer, which the program refers to as "bonafide farmer." Even if the farmer does not meet the definition of "bonafide farmer," the lease arrangement can still enable the landowner to enroll land in Current Use if the farmer-tenant earns at least $2,000 in gross sales from farm crops for parcels under 25 acres, or $2,000 plus $75 for every acre above 25, or a total of $5,000, whichever is less.1Contact the Vermont Department of Taxes or obtain a copy of the Current Use Program application for specific information regarding eligibility.[1]

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According to the Vermont Department of Taxes 2013 Current Use Program report, the taxable ag land value per acre was $265.[2] This was roughly one-tenth of the fair market value of agricultural land at that time. The average property tax rate for Vermont cities and towns in 2013 was roughly 2%. The average property tax on an acre of ag land enrolled was 0.02 X $265 (ag value), or about $5 in 2013. The tax on land not enrolled in Current Use would have been ten times this, or roughly $50. **Landowners in 2013 received an average $45 per acre tax benefit by enrolling agricultural land in Current Use.**

To summarize, if landowners can maintain enrollment in a tax benefit program, they are often willing to charge farmers a lower lease rate or waive the lease rate altogether. Making sure the farmer does not jeopardize the program status is a common provision of lease agreements where the land is in Current Use. If land is already in Current Use the owner might expect the farmer-tenant to enable the owner to keep the land in Current Use. Owners may require a market rental payment that will increase if the owner loses the Current Use discount on taxes.

Example

- The 2013 Current Use program value for one acre of agricultural land was $265.
- The lease is for agricultural land in the Town of Addison.
- According to information you receive from the Addison town lister, the effective property tax rate for the land was 1.73%.

  Multiply $265 X .0173 = $4.58 per acre was the ag land use property tax.

Key Questions

1. Is the agricultural land being leased enrolled in a land use program, such as the Vermont Department of Taxes Current Use Program?

   YES ▶ Determine the actual property tax paid on the agricultural land per acre.

   NO ▶ Can the land be enrolled?

   YES ▶ If the land can be enrolled, there is a potential tax savings for the landowner, which could justify a lower lease rate. Theoretical annual tax cost information for agricultural land use can be obtained from the town lister.

   NO ▶ Landowner and prospective tenant can consult with their county forester, Extension educator or other land use planner to determine if there is a future prospect for enrolling the land.

2. What is the annual property tax cost for the portion of the farm to be rented?

   DETERMINE ▶ the property tax rates in the town or municipality. Multiply the rate by the property value per acre for open land to be rented. Alternatively, seek assistance with the town clerk's office whose personnel can provide information about past taxes paid and assessed values per acre.

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INTEREST AND OPPORTUNITY COSTS

Interest is the expense associated with the borrowing of money to purchase real estate (interest does not include the "principal" portion of a mortgage payment). The opportunity cost is the investment returns the landowner gives up by having capital tied up in the land investment. With financial markets and the owner's percentage of ownership constantly changing (as in the case when a loan is being paid down), reasonable estimates must be used to evaluate interest and/or opportunity costs.

Because many landowners do not perceive their land strictly as an investment, it is uncommon to base land rental rates on interest and opportunity costs. Taxes and insurance, where applicable, are the more common costs that landowners hope to pass on to tenants through rental payments. However, especially if there is mortgage debt outstanding, interest can be a significant annual cost to landowners, and the method of calculating interest and opportunity cost require specific attention.

The simple and most common approach:

You can choose a fixed percentage rate to represent both the interest being paid on any outstanding mortgages and the opportunity cost of investing owner's capital. Use the current interest rate on a ten-year Federal Treasury note, or assume another rate, such as the prevailing interest rate on a 30-year fixed real estate mortgage, or the current Prime lending rate. Then multiply the rate by the value of the land. This value will often include the value of a farm house, which is often not part of the lease. The value of the house can be separated from the value of the land being rented for purposes of these calculations.

Example

- The ten-year federal Treasury note interest rate is 2.5%.
- The appraised fair market value of the land is $100,000 dollars for 33.3 acres, or $3,000 per acre.
- ▶ Multiply 3,000 x 0.025 = $75 per acre is the combined interest/opportunity cost per acre year.

The fixed rate approach, detailed above, might not take into account the actual annual interest and/or opportunity cost during the lease term in cases where there is mortgage debt outstanding. Alternatively, owners can calculate the actual interest costs for owning and/or financing the asset during the lease term by consulting amortization schedules or talking with their lenders to understand

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the make-up of the loan payment. The fixed rate approach produces a constant average cost factor, while the alternative method will produce constantly changing values over months and years of loan repayment.

In conclusion, owners and farmer-tenants can use the DIRTI-5 analysis to assess the fixed costs of owning farmland. The total of the applicable DIRTI-5 costs can be used as a reference point for negotiating an equitable cash rental rate. Annual DIRTI-5 costs might be higher or lower than area market rental rates, in which case there can be an open discussion between owners and prospective tenants about what is fair. Important other factors to consider when negotiating an equitable rental rate are covered in the other chapters in this series.

1 **See Current Use Standards: http://www.state.vt.us/tax/pdf.word.excel/pvr/CU%20Appraisal%20Standards.pdf accessed online 11/15/2013.**

2 **See 2013 Current Use Report: http://www.state.vt.us/tax/pvrannualreports.shtml accessed online 11/15/2013.**

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How To Value Equipment and Infrastructure in a Lease

A common approach to determining a lease rate is to separately assess the portion of the rate attributed to land, and the portion attributed to other buildings, equipment or infrastructure. For more information on costs associated specifically with land, see the chapter in this series entitled, "Part two: How to Assess Landowner's Costs of Owning Land." This chapter focuses on valuing equipment, buildings and infrastructure. The most common approach to valuing equipment and infrastructure in a lease involves the tenant and owner examining the owner's annual ownership costs. They can then come to an agreement on which of those costs will be covered through the lease rate, or how much of the total of these costs will be covered through the lease rate. There are also ways to assess market rates specific to renting similar equipment, buildings or infrastructure. For more information, see sidebars, "Cow Dairy Barn Market Rental Rates," "Custom Hire Rates Guide"[3] or part one in this chapter series, "How to Assess Market Rental Rates."

This chapter deals primarily with elements of the "DIRTI-5," or common annual ownership costs relevant to buildings, equipment and infrastructure ownership. Landowners assume considerable annual costs for owning farm assets. Landowners often hope farmers cover a portion, if not all of these costs, in the lease payment. Owner and tenant need to agree for themselves what is fair . It is worth examining each of the landowner's costs separately, to determine which ones apply. Owners and tenants can assess ownership costs as a starting basis for coming to such agreement.

The DIRTI-5 formula is a useful way to remember common annual ownership costs. The table below, covers the DIRTI-5 formula variables and their relevance. See sidebar for a "quick and dirty" way of estimating DIRTI-5. The text that follows details each DIRTI-5 cost, and provides examples and key questions to research. You can derive actual costs based on the owner's actual experience, or assumptions can be made using the methods explained below.[4]

Custom Hire Rates Guide

In the Northeast, you can cite the Annual Machinery Custom Rates Guide as a reference when assessing theoretical rental values for equipment. The USDA NASS and Pennsylvania Department of Agriculture develop and update this publication, often referred to as the "Pennsylvania Custom Rate Guide." The guide includes both equipment and custom rates. One can make inferences on the market lease rate for certain equipment by taking custom hire rates and subtracting out major operator costs for the custom operator. One could assume that if a certain custom tillage job can be performed for $80 per hour, that the rental of the same equipment would be less once you deduct the value of operator times and diesel fuel. Be careful! This type of analysis relies on numerous assumptions and may be prone to error. Use it as a starting point for research, not as a final decision.

Cow Dairy Barn Market Rental Rates

A traditional approach for setting rental rates for dairy cow barns for has been to rent based on the barns "per stall" capacity for mature milking cows on a monthly basis. Most often rates are established for thebarn and the land rent is calculated separately. In some cases, it can be useful to compare the per stall rental rate to the DIRTI5 as a part of the negotiation of the rental rates. At the time of publication of this chapter, anecdotal reports document a wide range of between $10 and $18 per stall per month. The lower rates are associated with tie stall barns and the higher rates are associated which have freestall barns with separate milking parlors.

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The DIRTI-5	
Type of Ownership Cost	**Relevance to Type of Asset**
Depreciation	Equipment, Buildings, Infrastructure
Insurance	Land, Equipment, Buildings, Infrastructure
Repairs and Maintenance	Equipment, Buildings, Infrastructure
Taxes	Land, Buildings
Interest and Opportunity Cost	Land, Equipment, Buildings, Infrastructure

Depreciation

Depreciation refers to the annual value of something that is lost through its use. It is calculated by dividing the original cost or value of the asset by the number of years of its useful life. Land typically does not depreciate in value, but equipment, farm buildings and other infrastructure that are part of the lease arrangement can be degraded as they are used. A dollar value can be assigned to how much value is lost each year.

On many farms, equipment and infrastructure have reached a point where they no longer lose value every year, and its value remains stagnant at "salvage value." A building may still be useful, but be "functionally obsolete" for modern farming purposes. In these cases the annual depreciation cost, or annual loss in the owner's value is negligible or zero. There still might be repair and maintenance costs associated with keeping old infrastructure or equipment in active use, but that is not to be confused with a depreciation cost. When infrastructure or equipment is new, regardless of how well it is maintained, it will lose value over time.

Depreciation for tax reporting purposes may be different from the rate at which actual market value is lost from the item in reality. Buildings generally have much longer periods of useful life and depreciate more slowly than equipment or machinery. Consult the Internal Revenue Service (IRS) Publication 225 "Farmers Tax Guide" to learn more about the various styles of depreciation which are allowable for tax reporting.

In considering the cost of owning assets for the owner, it is important to distinguish between capital expenses that should be depreciated versus "cash-based" repairs (these will be explained in the "R" in the DIRTI-5). Again, consult IRS Publication 225 "Farmers Tax Guide" to understand these distinctions.

Consider the example where an owner replaces a roof on a barn, and the landowner calculated the depreciation on the new barn roof as an expense that would

Quick and Dirty DIRTI-5 Method

Depreciation: Purchase price or current value / Estimated lifespan = Annual cost

Insurance: A land owner's liability insurance policy should include buildings and infrastructure. The "I" in this case is commonly estimated as the annual premium being 1% of the average value of the equipment or machinery and/or 1% of the present value of buildings. Alternatively, actual premium costs can be used if they are known.

Repairs/maintenance: Usually figured annually as 1 to 2% of replacement costs for buildings and 3 to 5% of replacement cost for machinery. Alternatively, actual repair and maintenance activities can be discussed by farmer and landowner, and anticipated costs detailed.

Taxes: Assessed value of buildings X actual tax rate

Interest/opportunity cost: Common Interest Rate X Average Investment Value of the equipment or infrastructure (average value is usually figured as half of total original cost).

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be factored into the rent or lease. In this case, it would seem inappropriate for the landowner to also include the roof replacement expenses of that project as "repairs" and also include them in the rental rate calculation.

If the property owner makes a significant improvement, such as an electrical system, walk-in cooler or new milking parlor, this is likely to add value for the tenant. The property owner may want to recover the cost. In this case the property owner can figure a depreciation cost for the improvement itself, as it loses value annually over the time of its "useful life."

Depreciation can be calculated with this simple formula:
(Purchase price or value when placed into use – End value or salvage value) ÷ Estimated Lifespan = Annual Depreciation

Note: When calculating depreciation most equipment gets assigned a lifespan in the range of 5, 10 or 15 years. Even though some items may last 20+ years, you will likely be spending money on large repairs after 15 years for most items.

For purposes of assessing infrastructure value for a lease agreement, the owner and farmer-tenant can customize depreciation periods according to common sense agreement. Alternatively, the IRS depreciation tables and methods for depreciating farm infrastructure as part of filing tax returns can be used as a guide. See IRS Publication 225 "Farmers Tax Guide."

In some lease arrangements, farmers actually make improvements that increase the value or working life of equipment or infrastructure. In these situations, the lease rate can reflect "appreciation," or the degree to which depreciation costs will be offset. For more detail on this topic, see the chapter in this series entitled "Part Four: How to Assess the Farmer's Contributions to the Lease Arrangement."

Examples

- ($50,000 tractor – $5,000 salvage value) ÷ 15-year lifespan = $3,000 annual depreciation cost
- ($75,000 building – $5,000 salvage value) ÷ 30-year lifespan = $2,333 annual depreciation cost

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Key Questions

1. Is the equipment or infrastructure still depreciating ? In other words, is it still losing value every year ? If it were to be used this year and sold the next, would the owner get a lower price for the asset after the year of use assuming it was cared for properly?

   YES ▶ The asset is still depreciating and there is a depreciation cost to the landowner.

   NO ▶ The asset's value remains stagnant and there is no depreciation cost to the landowner.

2. What is the annual depreciation cost anticipated for the lease term?

   DETERMINE ▶ the depreciation period. Many assets still lose value beyond IRS depreciation time periods used for tax purposes. Estimate with common sense the time period during which the asset loses value. Alternatively, determine depreciation periods for agricultural infrastructure according to the IRS. Consult IRS Publication 225 *Farmer's Tax Guide*. This can indicate a common time period during which an asset loses value after it has been placed into use, and after which an asset stops losing value every year.

   DETERMINE ▶ value of the asset when it was first placed into use on the farm.

   DETERMINE ▶ value of the asset after it stops losing value, commonly known as its "salvage value." The difference between initial value and salvage value is the value lost over the depreciation period. The Value lost ÷ Number of years in depreciation period = Annual depreciation cost.

Insurance

In a lease situation, both farmer-tenants and landowners can lower their exposure to liability and property/casualty risk by having insurance. One question becomes what new or additional insurance costs must the landowner accrue as a result of the lease arrangement? It is a common arrangement for the farmer-tenant to have insurance that names the landowner as "additional insured." This might be enough to satisfy both parties. In this case, there is no new insurance cost to the landowner, and the farm business covers its own insurance premiums. In cases where new infrastructure is built, it is often wise (or required) to increase insurance coverage. If the coverage is carried by the owner, then that insurance cost may be included in the lease rates. Every case is unique, and insurance agents and attorneys can help both parties distinguish between reasonable, required or excessive levels of coverage. For more information on insurance considerations in a lease, see Chapter VIIIc., Insurance and Liability, in the *Landowner's Guide to Leasing Land for Farming,* published by Land For Good, available online at http://www.landforgood.org.

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Key Questions

1. Will the owner incur additional insurance costs by virtue of leasing?

   YES ▶ What are the additional annual premium costs per acre of land included in the lease? Confirm amounts with your insurance agent. Owner and tenant then can decide what insurance costs are fair for the tenant to cover through a portion of the lease payment.

   NO ▶ There are typically no insurance costs to take into account for the lease payment. However, some owners might want to include their original farm insurance costs in the rental rate.

Repairs and Maintenance

Owners commonly expect farmer-tenants to cover repairs and maintenance. If the farmer agrees to cover all repairs and maintenance, it is not a cost to the owner. When the owner covers repairs and maintenance, it can be a regular cost built into the lease rate, or the cost can be evaluated on a case-by-case basis and covered separately from the lease payment from farmer-tenant to owner.

Some lease arrangements contain specific tasks that are the responsibility of the owner, and other tasks the responsibility of the farmer-tenant. The distinction in responsibilities is usually made by the farmer-tenant covering routine repairs and maintenance, and the owner covering costs that are long-term capital improvements or major overhauls. Repair and maintenance costs are routine, annual costs that need to be covered, such as oil changes and cleaning, in order to keep equipment or infrastructure in good working order. Farmer-tenants, if they cover these costs, can typically deduct them for tax purposes.

Capital costs are for longer term improvements or overhauls. Owners typically allocate these costs over many years as depreciation for tax purposes. Owners do not cover capital costs regularly, but they become necessary over time to prevent an item from becoming obsolete. The rebuilding of a motor, the replacement of a roof or barn door, foundation restructuring, or water pump overhauls are examples of capital costs.

A good written lease agreement will detail how and when repairs and maintenance will be done, whose responsibility it is to pay for it, and whose responsibility it is to perform the task. A maintenance schedule is a common attachment to the written lease agreement. The maintenance schedule can itemize costs that the farmer will cover to maintain the owner's equipment and infrastructure, or it can itemize costs that the owner will cover, or both.

Anticipate Expensive Fixes

Pay special attention to specific large-ticket items in the lease, before the lease term starts. Think about motors, fence posts and building doors. A 5 hp. motor can be expensive to replace. Will the prospective farmer-tenant or owner consider the necessary improvement routine maintenance or capital replacement? Fan motors may burn out at any time. If the farmer-tenant replaces the motor, does the renter own the motor and can take the motor with them at the end of the lease? You notice the roller track on a door is rusted. Through use, the roller track breaks and it needs to be replaced. This is capital replacement, not a normal repairs.

Distinguish between normal repairs and capital replacement, and discuss who will cover what costs, how and when.

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Some leases will also have a provision that spells out who will cover certain capital costs if they are integral to a continued lease arrangement. Farmer-tenants and owners can anticipate a particular improvement that needs to be made, and the lease can detail who will pay for that cost. Sometimes the property owner can be in a good financial position to cover the cost of an improvement when the farmer-tenant is not able to pay those costs. The property owner acts as a lender so to speak, with the farmer paying down the cost of the improvement over the course of a long-term lease through rental payments. Alternatively, the property owner may want to budget a fixed amount into the lease fee to cover both anticipated and unanticipated capital repair costs. One approach is to budget between 1 and 3% of the value of the building for repairs. This gives the farmer a stable rent that won't be affected by large capital repairs while also providing the property owner the necessary funds to pay for these costs.

Key Questions

1. Who will cover the costs of annual repairs and maintenance?

   IF FARMER-TENANT ▶ There is no repair and maintenance cost to be included in the lease payment.

   IF OWNER ▶ Determine the specific costs for each anticipated repair or maintenance job, and whether these costs will be passed to the tenant through lease payments or covered separately.

2. Is there a written repair and maintenance schedule that has been reviewed by both farmer-tenant landowner?

   NO ▶ It is a good standard practice for farmer-tenant and owner to develop a repair and maintenance schedule for every piece of equipment, building or other infrastructure included in the lease arrangement. The schedule can include:

   - Repair/maintenance interval.
   - Estimated time needed to perform each task.
   - Estimated materials cost to perform each task.
   - Who will cover each cost?
   - Who will perform each task?
   - A process for clarifying grey areas during the lease term when there is question about any of the above.

   YES ▶ Determine and confirm whether the repair/maintenance schedule is relevant and reflects the realistic abilities and expectations of all parties involved.

Taxes

Property taxes can be the farm owner's most significant ownership costs; however, many states have land use programs in which enrolled agricultural buildings are exempt from property tax. In Vermont, for example, farm buildings that are used by farmers and enrolled in Current Use are not taxed. The exact tax burden is public information at town offices. If it is not easy to ascertain what propor-

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tion of the property taxes are for the farm buildings or portion of the farm that is being leased, talk to a town lister who can clarify how each part of the farm is taxed. Temporary infrastructure, such as fencing, removable structures or equipment is not typically taxed annually by towns.

The proportion of property tax costs the farmer-tenant is expected to pay should reflect the proportion of the property that is being rented. Also, many farmers and property owners do not base the lease rate on the owner's tax burden for the fair market value of the real estate, often heavily influenced by the market for housing and commercial development. Instead, the proportion of property taxes attributed to the property's agricultural use value can be used. State tax departments will typically update this figure annually, as part of determining how much landowners with land enrolled in agricultural or forestry land use programs are taxed.

If the farm buildings are not currently enrolled in tax benefit programs, a lease agreement with a farmer may enable the buildings to be enrolled and the owner to pay less property tax. In Vermont a three-year lease with a bonafide farmer enables farm buildings to be property tax exempt. In these cases, the presence of the farm tenant results in a significant tax savings to the owner. Some owners will not pass through tax expenses into the lease rate because of the savings they have already realized. Others might discount other DIRTI-5 costs by the amount they save on property taxes.

Option #1: Tax = Assessed value of the building(s) x actual tax rate
Option #2: Tax = Adjusted agricultural value of assets x actual tax rate

Key Questions

1. Is the agricultural building leased enrolled in a land use program, such as the Vermont Department of Taxes Current Use Program?

   YES ▶ There is no annual property tax attributed to the enrolled building(s) for the landowner.

   NO ▶ Can the buildings be enrolled? If the buildings can be enrolled, there is a potential tax savings for the landowner, which could justify a lower lease rate. Theoretical annual tax cost information for buildings enrolled in agricultural land use programs can be obtained from the town lister.

2. What is the annual property tax cost for the buildings to be rented?

   DETERMINE ▶ the property tax rates in the town or municipality. Multiply by the assessed value of each building to be rented. Alternatively, seek assistance with the town clerk's office whose personnel can provide information about past taxes paid and assessed values per building.

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Interest and Opportunity Cost

These are actually two types of costs. **Interest** reflects the cost the owner bears to borrow money (from a lender) to acquire an asset. The **opportunity cost** is the money the owner forgoes in having his or her capital or equity tied up in the equipment or infrastructure. These figures change year to year, depending on how much of the asset the owner actually owns, and how much the bank actually owns. There are various methods for determining interest and opportunity costs for purposes of arriving at an equitable lease rate. They differ in complexity and the degree to which they reflect the actual costs during the time of the lease. The methods are described below.

Asset owners that have debt on a piece of equipment could contact a number of resources to calculate interest. Loan amortization calculators are available online that list actual interest to be paid for each payment period. Your loan officer may also be able to supply you with this information. Interest payments adjust with every loan payment through the life of the loan, so interest is high in year 1 and low in the last year of the loan. Because of this, a common approach is to use the average amount of annual interest paid over the loan period.

An owner needs to remember to not include the "principal portion" of a loan payment as an annual interest cost. Principal payments accrue as increased equity that is reflected on an owner's balance sheet. Because this adds to the owner's wealth (net worth or equity) principal payments are not seen as an annual "cost."However, the earned interest that is forgone by tying up capital is considered a cost dubbed an opportunity cost by economists.

Method 1 – Interest

Get a full amortization schedule for the loan. Total up the entire interest to be paid over the life of the loan. Then divide that total interest over the number of years in the loan. That will produce an average annual interest cost to factor into setting rental rates.

Example: $20,000 tractor loan, 7-year loan, 6% interest. $4,542 is total interest paid over the loan period. $4,542 ÷ 7 years = $649 per year is the average annual interest cost, using this method

Method 2 – Opportunity Cost

The assumption here is that there is no outstanding debt, and an asset still has a cash value. Multiply a common interest rate by one-half the original value of the asset (this is considered the average investment value).

Example: $20,000 tractor, 6% common interest rate for a tractor loan. 0.06 x (½ x 20,000) = $600 per year is the average annual interest/opportunity cost, using this method.

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In conclusion, owners and farmer-tenants can use the DIRTI-5 analysis to assess the fixed costs of owning agricultural assets, such as barns, equipment or other infrastructure. The total of the applicable DIRTI-5 costs can be used as a reference point for negotiating an equitable cash rental rate. Annual DIRTI-5 costs might be higher or lower than area market rental rates, in which case there can be an open discussion between owners and prospective tenants about what is fair. Additional factors to consider when negotiating an equitable rental rate are covered in the other chapters in this series.

The Problem with the DIRTI-5

Throughout the drafting of this guide, authors and reviewers had numerous conversations about the practical use of the DIRTI-5. The conversations all converged on the central theme that while the DIRTI-5 is a useful tool for helping owners understand costs, the calculations often total potential rental rates that are higher than currently observed market rental rates. It is worth noting several reasons why market rates for farm rental might differ from the numbers that owners derive through DIRTI-5 calculations.

Lack of Alternative Use:
When assessing rates, the issue of alternative use - or the lack of alternative use - must be considered. Agricultural assets have value to agricultural users and often do not have alternative uses. In many cases the "market rates" for farm property rental prevails over cost-based rate setting based on the assumption there is no demand from alternative users.

When DIRTI-5 Costs are Based on Fair Market Real Estate Value:
Farm assets can be appraised at fair market real estate values that can be significantly higher than values of assets appraised strictly for agricultural use. In turn, interest, opportunity and depreciation costs will be higher if fair market value appraisals are used in the DIRTI-5. Calculating the DIRTI-5 using an adjusted agricultural appraisal will result in lower rental rates. Landowners can consider the balance between recovering costs through rental rates or long-term real estate value appreciation.

Casual Renting versus the Business of Renting:
There is a difference between a person who is in the "business" of renting out assets compared to someone who is "casually" renting unused or underutilized assets. People in the business of renting acquire assets with the assumption they will generate a return by means of the rental business activity. People in the business of renting use the DIRTI-5 methodology to make sure they are covering costs. The prospect of "casual" renting, however, is a real-world situation that provides an opportunity for owners to recoup a portion of costs which is margin-

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ally better than recouping no costs to ownership at all. The portion of DIRTI-5 costs that are ultimately carried over and included in the lease rate can reflect where owners fall all along the spectrum of "casual" to "business" renter.

Variability of Farm Business' Return on Assets:
In agriculture, the "return" on assets often comes from the profits generated by the manager's skills to deploy those assets. The DIRTI-5 uses capital markets (interest rates) as a proxy to calculate opportunity costs, thus prescribing a certain "return" be built into the rental rates. This prescribed return may not be consistent with the farm profitability of a specific manager or sector during a certain period of time. We observe that many assets have not been acquired with the intent to produce returns and are not managed in such a manner.

3 **The NASS Pennsylvania Machinery Custom Rates guide can be found online at http://www.nass.usda.gov/Statistics_by_State/Pennsylvania/Publications/Machinery_Custom_Rates/custom11.pdf accessed online 1/22/14.**

4 **Lessley, Billy, Dale Johnson, and James Hanson. *Using the Partial Budget to Analyze Farm Change* (Factsheet 547). University Of Maryland Cooperative Extension, 1991. Print.**

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How To Factor in the Farm Business' Net Returns

No lease arrangement is sustainable if the farmer goes out of business. It is important for the farmer to be realistic about how much the business can actually afford to pay to rent each acre of land. The number can be dramatically different depending on the type of operation. A hay business, for example, has a much lower net profit per acre than a vegetable operation. The current status of soils, water access and infrastructure will also affect profitability. A hay enterprise, for example, that takes hay from land that has been limed and/or manured according to a nutrient management plan might have greater profit potential than the same hay operation that needs to cover considerable soil amendment costs on exhausted soils before turning a profit.

Rent is an annual operating expense which farmers should budget thoughtfully like any other expense, such as fertilizer, feed or fuel. In order to confirm that a farm business can carry any particular level of cash rental payments throughout a lease term, farmers should project all income and expenses, including rent, for the duration of the lease. Farmers should project cash flow, accounting for everything that will require cash outlay, including the following:

- All operating expenses
- Debt the farmer needs to service
- Net income that will go toward family living expenses
- Any other capital expenses or reinvestment that will require cash through the lease term

Then the farmer can confirm whether or not net income from the business or other sources of cash can carry all expenses, debt service and capital costs. This provides a gauge of whether the proposed rental rate is an expense the business can carry and still stay on firm financial footing.

Often the farmer will question whether leasing versus owing makes economic sense. The use of a "partial budget" is another practical way for a farmer to compare different options, such as purchasing a piece of equipment compared to renting it. In a partial budget analysis, the manager totals up the following: increased costs, reduced costs, increased revenues and reduced revenues under each scenario. When comparing equipment rental versus equipment purchase, the manager will first calculate the current rental rates for the item (based on the amount of use expected) and how that will impact other cost or income factors. The farmer will then calculate the cost of ownership by projecting out loan payments and any anticipated maintenance or repairs to own the item. The results of the partial budget can reveal if it makes more financial sense to rent or own the item.

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Special Consideration for Beginning Farm Operations

It can often be difficult for new operators to accurately project costs of doing business, and net profit that can cover a lease payment. Compounding the challenge is the fact that many new operations are making start-up capital investments or servicing debt, leaving very little room to cover the lease payment. It is not unreasonable for new farmers to negotiate below-market lease payments with landowners during initial years, which rise in future years in tandem with the business becoming more profitable. Lease payments can be tied to a percentage of gross revenue, as in a "crop-share" lease, or the agreement can be to raise the payment a specific amount every year

There are programs available at the state level to assist farmers with more detailed business planning and which can be used to arrive at accurate values for net profit potential and costs. If there is difficulty in figuring out what is a feasible lease payment for the business to carry, it is suggested the business owner take advantage of these programs and assistance.

Vermont Farm and Forest Viability Program http://www.vhcb.org/viability.html
UVM Extension Farm Viability http://blog.uvm.edu/farmvia
UVM Extension New Farmer Project http://www.uvm.edu/newfarmer

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PART FIVE

How to Assess the Farmer's Contributions to the Lease Arrangement

It is important to acknowledge that farmers can provide several key benefits to landowners by leasing. For example, landowners can maintain higher property values by keeping land open as opposed to it reverting back to forest or brush. Land can be farmed in a manner that improves soil health, making it more productive. Farmers can provide other services that are mutually beneficial to landowner and tenant, such as mowing, landscaping or maintaining certain areas. In some leases, the farmer actually contributes a capital improvement to the property, such as a new access road or barn fence. The landowner and farmer-tenant can value the benefits the farmer contributes to the lease arrangement, and weigh these benefits against the costs the landowner assumes to own the land or other farm assets being leased.

In some rental situations, the owners agree to a certain amount of risk-sharing that relates to the economic climate for that particular season or for a certain type of farming. These rental rates reflect a manageable expense for the farmer to contribute to a sustainable business. This can also create the option for a landowner to establish rental terms that provide flexible rates to reflect the varying profitability due to changes in weather, markets and other factors.

The previous chapters covered the topic of "depreciation." That's when an asset **loses** value over its useful life. This chapter covers potential "appreciation," another way of thinking about the value a farmer can **add** to a property through a farming arrangement.

It is not always obvious when a farmer makes improvements that increase the value of the landowner's assets. Oftentimes lease arrangements involve activities where the benefits from farming are difficult to measure, and equate to a dollar value. Improving soil and water are examples of benefits that are often difficult to measure. There are however, some clear-cut cases where an owner and farmer, through a lease arrangement, might increase the dollar value of the owner's farm assets. The owner and farmer-tenant can consider potential benefits during the initial process of determining the equitable cash rental rate for the farm.

How Does the Arrangement Benefit You?

There are benefits that are easy to measure, value and quantify, but don't forget the more intangible benefits that may result from the lease. For the landowner, for example, having a person on the property can improve appearance by keeping weeds cut. Farmer-tenants can provide extra security by having someone regularly check and use buildings which can keep trespassers and potential vandals away. Another benefit is having someone who can nail a loose board before it falls off completely. Or how about having someone who can cut the limbs that fell on a fence before the fence gets stretched, requiring a major repair. It might be tough to quantify, but there is often a real benefit to the owner of having someone's caring eye watching over property whether it be land, buildings or equipment.

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Open Land versus Forested Land

Open land retains a higher appraised property value than forested land or land that is in transition from field to forest. This difference is mainly due to the fact that open land is much easier to develop into housing, commercial development or other profitable development uses. Farming activities keep land open, in which case the higher property value is maintained. In some leases, especially pasture leases involving livestock, forest or scrub land is actually "reclaimed" or cleared by animals or other farming activity. In these cases the property value is actually increased by the farming activity, changing land from forested to open.

In 2013, the Vermont Department of Taxes — for purposes of the Current Use Program — appraised Vermont open or agricultural land at a value of $265 per acre. Forested or non-productive forest land was appraised at $119 per acre. This difference of $146 per acre can be used to paint a picture of how much relative value is added or maintained. Please note that not every situation is typical, and there are some forests that are appraised at a higher value than agricultural lands, depending on the way each area is managed and maintained.

Environmental Stewardship

Some types of farming result in a net environmental benefit to the landowner and surrounding areas. The ability of well-managed soils to store carbon and mitigate climate change is a widely documented occurrence. Farms that maintain buffers between fields and waterways, and work to improve soil cover and reduce runoff, often improve surface and ground water quality. Some farms serve as beautiful places for people to recreate, and lease arrangements can maintain a landowner's landscape in a way that preserves recreational beauty.

While the above benefits are a challenge to quantify, some innovative lease agreements discount the cash rental rate proportionate to measurable environmental outcomes. One method is to conduct annual soil tests and discount the lease rate a certain percentage according to how many percentage points of organic matter were increased annually. Another method is to simply negotiate a set rate for the farmer to maintain the land's environmental certification; for example, "certified organic." Some landowners hope that maintaining the land's "certified organic" status leads to a higher future potential value of the land when sold or rented Along the same lines, a set discount can be factored in as long as the farmer meets certain, agreed-upon criteria, such as complying with a certified nutrient management plan or meeting with NRCS officials to create and implement a conservation plan for the farm.

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Even in cases where it is not practical to quantify and value environmental benefits, the farmer can send a clear signal to the landowner that the land will be cared for, and the agricultural activities are done in an environmentally responsible manner. This might make a landowner more comfortable with a lease rate agreed upon by both parties. There are basic environmental regulations in most states that the farmer can acknowledge in the written lease agreement. In Vermont for example, the "Accepted Agricultural Practices"[5] regulate farm management for environmental protection. The lease agreement can contain provisions, such as this sample:

> *Tenant agrees to comply with the Vermont "Accepted Agricultural Practices," which are incorporated herein by reference.*

Other provisions can call for the assistance of an outside expert to help the farmer address sensitive areas where soil is likely to erode or water is likely to become polluted. The USDA NRCS or local Conservation District office can assist with visits to the farm to assess resource concerns. A lease might contain a provision similar to this sample:

> *Both Tenant and Landlord shall work cooperatively with the Natural Resources Conservation Service to develop a conservation plan for the farm when there are resource concerns. Tenant agrees to strive to the best of Tenant's ability to adopt all best management practices recommended by NRCS within a reasonable time frame identified in the conservation plan. Landlord acknowledges that Tenant might not have the financial capacity to adopt all recommended practices at once, in which case, Landlord, Tenant and NRCS will work together to prioritize strategies that are practical to implement on a yearly basis.*

Farmers and landowners should use common sense strategies for keeping communication lines open to ensure that farming practices will not degrade the land and adversely affect its future productivity. In some cases, landowners and farmers can work together to ensure soil and water quality are, in fact, improved. In any situation, a conversation about an equitable cash rental rate should include consideration of the farming activity's effects on the land's inherent quality and surrounding environment. There is generally much less pressure for landowners to raise farm rental rates if they know their land is being cared for responsibly.

Capital Improvements

Most farms need infrastructure to make the business viable. Water systems with adequate supply, fencing with adequate charge, and buildings with structural integrity are a few among many investments that need to be made on any farm, whether owned or leased. Many farms for lease do not include the necessary

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infrastructure, and this leaves the farmer with limited options : pay for the improvements (on someone else's land) themselves, or have the landowner agree to cover the cost of the improvements.

What follows are several scenarios for valuing capital improvements as a factor in a cash rental rate. It is important to distinguish between common repair and maintenance activities, and long-term capital improvementsCommon repair and maintenance activities, such as painting and roof repair, do not increase the value of an asset or the real estate that it sits upon. By contrast, larger, more significant improvements, such as adding a walk-in cooler or adding a new building, might increase the asset's fair market value, ultimately benefiting the landowner if the asset remains on the property in working order beyond the lease period.

Some agricultural improvements may not necessarily increase fair market value. These often include essential activities such as the installation of perennial fruit crops or tile drainage of a crop field. Through research in an appraisal process, owners can learn what improvements will directly impact fair market value. Owners will need to consider a mechanism for a shorter term pay back on improvements that may not increase long-term fair market value.

The IRS "Farmer Tax Guide" can be used as a reference to help distinguish common repairs and maintenance from capital improvements. For more information on distinguishing repairs and maintenance from capital improvements, see IRS Publication 225 "Farmer's Tax Guide," sections on "Farm Business Expenses, Repairs and Maintenance," and "Capital Expenses.".

The following scenarios might have different implications for how an equitable cash rental rate is negotiated. In each scenario, it is recommended that all agreements are documented in writing to clearly demonstrate the intentions and approval by both parties. Special consideration to time of completion, budget expectations and final outcomes are important aspects of such agreements.

SCENARIO #1 – FARMER PAYS THE COST OF ALL IMPROVEMENTS

In this situation, the lease rate can be discounted. The farmer and landowner should consider who will own the improvement after the lease period and develop written lease language that documents approval for the activity. For removable items, such as hoophouses or portable livestock housing or temporary fence, the decision is obvious; the farmer can remove the asset and move on. However, for items that are anticipated to be left in place, such as permanent fencing or a well, unless the lease agreement specifies otherwise, the landowner becomes the default legal owner of the item left on the property after the lease period is over.

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Some farmers might be comfortable with this, as long as they have long enough of a lease term where they can recoup their initial investment.

In cases where the item is left for the landowner, and the lease term is too short for the farmer to recoup their investment, the farmer and landowner have three choices:

A) Determine how the value of the eventual benefit to the landowner will be factored into a discounted annual cash rental rate.

B) Come up with a formula for how the landowner will compensate the farmer at the end of the lease term for improvements made. A common method is for the two parties to determine a depreciation schedule that includes how much value the asset loses annually over a period of time, assuming normal use and wear and tear. For example, a five-year lease, with a packing shed the farmer builds during year one, with a materials and labor cost of $5,000 dollars. If the two parties assume the shed depreciates at a rate of $500 per year, then at the end of the five year lease, the shed has lost $2,500 of its value. The two parties agree that if the farmer does not renew the lease, the landowner will pay the farmer at the end of the lease term a sum of $2,500, the difference between the new cost and depreciated or decreased value. In the tenant renew for another 5 years, then no further reconciliation will be required at the end of the second term even if the farmer leaves. But, in either case, the packing shed will remain the property of the landowner and remain with the property.

C) The farmer agrees to forgo any value lost in assets that remain on the land after the lease period ends.

SCENARIO #2 – LANDOWNER PAYS THE COSTS OF ALL IMPROVEMENTS

This might warrant an increase in the annual cash rental rate.Many landowners are willing to cover the cost of improvements if it means getting a good farmer onto the land. The landowner and farmer can agree what is fair. The landowner might agree to forego any chance to recoup the cost through the annual lease fee or repayment at another time. Alternatively, the agreement might be for the farmer to cover some or all of the costs as a part of the annual lease fee, or according to a payment schedule at another time. It is a good idea to document - in writing - an agreement to the construction project outcomes and budget before construction commences.

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SCENARIO #3 – FARMER AND LANDOWNER SHARE COSTS OF IMPROVEMENTS

- This might warrant a discount or increase in the annual cash rental rate, depending on the proportion of the contribution and each party's preferences. This is a common scenario, where farmers often contribute their own labor. The landowner covers material costs, and the farmer might also pay a portion of material costs. The same questions should be asked as in scenario #1: How long is the lease term?
- Will the farmer be able to recoup investment during the lease term?
- What is the useful life of the asset?
- Will there be any value left over after the lease period?
- Can the asset be taken off the land, or will it stay to become property of the landowner?

If the asset is expected to be non-removable, and retain value beyond the lease term, it is important to decide if compensation is justified. For the farmer's financial or labor contribution, the farmer and landowner can decide whether the landowner will compensate the farmer for his/her proportion of the asset's remaining value at the time of the lease termination. The method for compensation should be determined at the outset of the lease arrangement.
As for the landowner's contribution, there are also two options :

1) Farmer agrees to compensate the landowner's proportionate contribution, either through an addition to the annual lease payment or payment(s) at another time

2) Both parties agree that the landowner will not expect additional compensation for his/her proportion of the contribution.

For any of the above scenarios, farmer-tenants and owners can engage in thorough discussions and achieve solid common ground before the lease starts. In rare cases, no matter how common of an understanding existed at the start of the arrangement, there could be disagreement towards the end. To improve communication, lease agreements can include clauses for a non-binding arbitrator to help resolve disagreements if they become issues. A university Extension educator, lender, older respected farmer in the area, church leader or any other objective third party can assist. Agricultural mediation programs in many states often provide free services to facilitate conversations which foster common ground.

In summary, there are various scenarios in which a farmer-tenant might add value to an owner's land, equipment or infrastructure. Keeping land open, working to improve soil health, and installing capital improvements are examples. For each

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scenario, it is a good idea for owners and prospective tenants to evaluate as accurately as possible the following costs of implementing the improvements:

- Who will cover what costs at what time?
- How will each party value the benefits at the termination of the lease?

Owners and tenants can document expectations as part of the lease agreement, or as addendums to the lease in future years. If it is clear that the owner will benefit beyond the lease term, both parties can determine if the rental rate should be adjusted to reflect the potential benefit.

5 The Accepted Agricultural Practices are available online at the Vermont Agency of Agriculture, Food and Markets website at http://agriculture.vermont.gov/protecting_lands_waters/agricultural_water_quality/aap accessed online 1/22/14.