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Cropland Rental Tool (CROPRENT) for Agricultural Producers

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Abstract

The Cropland Rental Tool (CROPRENT) is an Excel-based decision tool for comparing different cropland rental agreements, such as flexible cash rents, for up to five crops and/or management systems using historical and current production data, such as yield and production costs. Flexible cash rents allow tenants and landowners to share in the risk associated with volatile commodity prices and uncertain yields. This tool can be used for a variety of commodities regardless of geographic location and by a diverse audience, including Extension educators, landowners, and tenants. The Cropland Rental Tool and accompanying User Manual are available for download.

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Introduction

Agricultural producers are faced with a variety of cropland rental options, such as cash rent, share rent, and flexible cash rent. The use of flexible cash rents allows rents to vary from year-to-year based on changes in price, yield, or revenue, allowing tenants and landowners to share in the risk associated with volatile commodity prices and uncertain yields. Tenants are protected from high rents in years where prices, yields, or revenues are low, and landowners receive higher rents in years where prices, yields, or revenues are high. These types of leases require good communication between landowners and tenants, particularly regarding establishing the terms of rental agreements. As flexible cash rent agreements become more popular, Extension educators need tools for educating interested landowners and tenants on alternate rental options.

There are a wide variety of decision tools developed by Extension educators and others for producers to assist in making informed production decisions (Bass, Mutch, & Ackroyd, 2011; Pruitt & Lacy, 2014; Raper, DeVuyst, & Doye, 2010). While there are decision tools available for comparing rental options, most are for specific crops, such as corn, soybeans, and wheat, or geographic areas (Dhuyvetter & Kastens, 2012; Edwards & Johanns, 2014; North Central Farm Management Extension Committee, 2012). Producers of other crops are limited in their choices of cropland rental decision tools. Therefore, Extension educators, landowners, and tenants need a flexible tool for use with a variety of

commodities ranging from cotton to vegetables regardless of geographic location.

The Cropland Rental Tool (CROPRENT) is an Excel-based decision tool for comparing different cropland rental agreements for up to five crops and/or management systems, such as a conventional system versus a conservation system on cotton, using historical and current data, such as yield and production costs. Because the tool is not crop specific, it can be adapted by Extension educators to include commodities grown in a geographic area and previously developed enterprise budgets for those commodities. Tenants and landowners can use the tool to:

1. Explore rental options;

2. Negotiate rental agreements with landowners/tenants; and

3. Finalize actual rent at harvest if using a flexible cash rent option.

Calculating Flexible Cash Rent

There are several methods to calculate flexible cash rent (North Central Farm Management Extension Committee, 2012); however, in CROPRENT, expected cash rents flexed on price, yield, and revenue are defined as:

- $$\text{Cash rent flexed on price} = \text{base rent} + \left(\text{base rent} * \left(\frac{\text{expected price} - \text{base price}}{\text{base price}} \right) \right);$$

- $$\text{Cash rent flexed on yield} = \text{base rent} + \left(\text{base rent} * \left(\frac{\text{expected yield} - \text{base yield}}{\text{base yield}} \right) \right); \text{ and}$$

- $$\text{Cash rent flexed on revenue} = \text{base rent} + \left(\text{base rent} * \left(\frac{\text{expected revenue} - \text{base revenue}}{\text{base revenue}} \right) \right).$$

Base rent is the starting point for determining flexible cash rents. This may be the current cash rent or some other value agreed upon by the landowner and tenant. The base price, yield, and revenue are the starting points for determining any increase or decrease in the base rent and may be county or farm averages, depending on the contract. The expected price, yield, and revenue are the values that the producer expects to receive based on current market information. Landowners and tenants must agree on the 1) base cash rents, yields, and prices; 2) minimum and maximum rents; and 3) method and date for determining actual yield and price used to establish final flexible cash rents. These decisions must be made during the planning process.

Procedures

To use the tool, users start at a main menu, which allows movement through the six steps of the decision tool, access to tables and reports, or users to clear data.

1. *Step 1: Enter General Information*—Users enter farm-specific information, such as farm name, location, and crops/management systems with the number of acres of each crop/management

system grown on the identified land. For Extension educators, this step could be used to describe example scenarios for training purposes.

2. *Step 2: Enter Historical Yield, Price, and Revenue*—Users enter historical farm or county yields and prices for the last 5 years. Historical revenue is automatically calculated from the historical yields and prices.

3. *Step 3: Enter Production Costs*—Users enter variable and fixed production costs for an operation or from state-specific enterprise guides available from the appropriate Cooperative Extension Service.

4. *Step 4: Enter Cash Rent and Share Rent Information*—Users enter actual or expected cash rental rate, as well as the tenant's share of the revenue, variable costs, and fixed costs for share rent arrangements.

5. *Step 5: Enter Flex Rent Information*—Users enter information needed to calculate cash rent flexed on price, yield, and revenue, such as base yield and price, minimum and maximum rent, and expected yield and price data. There is the option to import historical data from Step 2.

6. *Step 6: Calculate Rent*—A summary of all the cropland rental options is presented for users.

After entering the necessary data, users can view tables displaying the range of expected flexible cash rents for each crop. These tables show producers how actual flexible cash rents may differ from expected flexible cash rents if actual price, yield, or revenue do not equal expected price, yield, or revenue. Actual flexible cash rents are calculated in the same manner as expected flexible cash rents, except expected values are replaced with actual price, yield, and revenue as agreed upon between landowners and tenants. Tables of expected versus actual flexible cash rents can assist in facilitating discussions between tenants and landowners regarding rental options and provide documentation for actual rents after harvest. Finally, a breakeven analysis provides users with additional information regarding their overall production decisions, such as breakeven prices and yields.

Summary

Using CROPRENT, Extension educators, tenants, and landowners are able to compare different cropland rental agreements based on farm specific data. Specifically, users can explore flexible cash rent agreements as compared to traditional cash rent and share rent agreements. Users can easily determine how changes in commodity prices and yields will affect flexible cash rent agreements and the appropriate rental options for owned or rented cropland. The Cropland Rental Tool is downloadable for free, with the accompanying User Manual, from http://www.cottoninc.com/fiber/AgriculturalDisciplines/AgriculturalEconomics/Cotton-Farming-Decision-Aids.

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