



Enterprise budget, breakeven tables and pricing for corn grain and silage

George Greaser, Virginia Ishler, Jayson Harper and Greg Roth

Three main objectives are evaluated in this Excel spreadsheet on corn grain and corn silage. They include:

1. Production budgets for corn grain and corn silage based on 3-tillage practices; conventional, no-till, and reduced tillage.
2. Tables listing the breakeven on net returns for dry and high moisture corn grain, and corn silage.
3. Corn silage pricing can be adjusted for the quality parameters which have the greatest impact on dairy cattle performance:
 - Dry matter content
 - a. Affects the type of fermentation that takes place in a storage structure.
 - b. Starch digestibility can be negatively influenced, especially in dry, unprocessed silage.
 - Net energy of lactation (NEL)
 - a. Energy is the main nutrient that corn silage supplies to a dairy cow's diet and influences her potential milk production.
 - b. The NEL value is a calculated value on forage analysis reports. It should be noted that not all labs use the same equation to calculate this number.

Maneuvering the spreadsheet

The spreadsheet will open up to a main menu. Make sure that the macros have been enabled. The user can maneuver around the spreadsheet by clicking on the appropriate buttons or by selecting the worksheet tabs. To obtain information for the enterprise budget and the breakeven tables, the data sheets labeled corn grain or corn silage need to be filled in first. The sheet on corn silage pricing can be used separately and does not rely on previous data entry. All data entry areas are highlighted in tan.

Corn grain and silage data entry

The first number that has to be entered is the type of tillage practice. Conventional tillage is a "1", no till is a "2" and reduced tillage is a "3". Make sure to enter data in the column that matches the tillage practice selected. Values already listed in the table are based on Pennsylvania data and are averages. The user should enter data that is relevant to his/her own operation. Custom rates in Pennsylvania for selected farming operations can be found at the following web site: <http://www.nass.usda.gov/pa/custom99.htm>. Often other transaction costs, such as delivery, handling, and storage must be considered when appropriate.

Enterprise budget

Once data has been entered for corn grain and/or silage, those values will be carried over to the spreadsheet labeled “Budget”. The user can evaluate their operation by entering anticipated prices and yields. Variable costs, fixed costs, total costs, and net returns will be calculated.

Breakeven tables

Three tables are listed that can evaluate the breakeven on net returns for dry corn, high moisture corn, and corn silage. The user can enter five different yields and prices in each table to examine various scenarios.

Corn silage pricing

This portion of the spreadsheet allows the user to examine the price of corn silage based on its dry matter content and net energy of lactation (NEL) value. A price for silage needs to be entered. This can be based on the current market value or from the enterprise budget. Producers selling silage should determine whether the prevailing price for silage would cover their costs of production.

The normal NEL value to enter is based on what is considered normal for the geographical region and the particular year. The actual NEL should come from a forage analysis report.

A dry matter percent of 35 is considered ideal and is the standard from which the dry matter price is adjusted. The normal dry matter range is from 28 to 39 percent. Discount values are listed if the silage is too wet or too dry. The user can adjust the discount numbers. The assumption is that silage put up too wet will undergo an undesirable fermentation and affect the feeding value to early lactation and high producing animals. Silage that is ensiled too dry, regardless of processing, can also undergo an undesirable fermentation. However, kernel processing does allow good quality forage at higher dry matters.

The value of the silage based on NEL is the dry matter price adjusted for energy. This table provides the seller or buyer with guidelines to adjust corn silage based on quality parameters. Dry matter is used because it reflects quality and NEL because it is the primary nutrient provided by corn silage.

To use this part of the spreadsheet properly, corn silage should be analyzed for nutritive content. Price should be set based on actual dry matter content and energy value. For example, during drought years, the nutritive content of corn silage can vary widely however it can make nutritious silage. Absence of ears does not imply that corn silage lacks fermentable energy. The forage portion should contain reasonably high levels of soluble sugars.

Comments regarding the economics of the spreadsheet can be forwarded to George Greaser at gxg9@psu.edu; phone 814-863-8639. Nutrition related questions can be forwarded to Virginia Ishler at vishler@psu.edu; phone 814-863-3912.

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