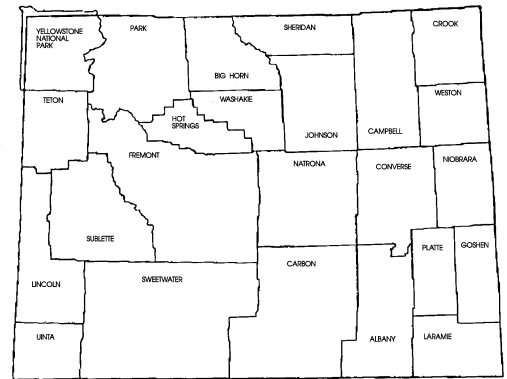


Wyoming Machinery and Operation Costs Calculation Software

MP-92

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This software program will allow the user to calculate operating and ownership costs for various machinery items, both individually and when combined into user defined operations. The program must be executed from a hard disk drive, as it is too large to run from a floppy disk alone.

The program generates tables similar to those in the *Wyoming Machinery and Operation Costs* bulletin provided with the software. The program allows the user to adjust all items used in the definition of machinery, providing for customized output tables. The software uses the formulas described in the bulletin for its calculations. Thus, the user may check any computer calculation by hand using methods outlined in the bulletin. In addition, many different combinations of machinery and equipment may be defined to create customized farm/ranch operations, with complete cost listings.

TO EXECUTE THE SOFTWARE:

To execute the machinery cost software, the user must first copy program files from the distribution disk to a hard drive. To do this, make a directory on the hard drive (e.g., MD \MACHCOST <Enter>). Next make the new directory (MACHCOST) the default directory on the hard drive (e.g., CD \MACHCOST<Enter>). Then install the program files from the floppy disk to the new directory by typing INSTALL followed by the drive letter and directory name (e.g., A:INSTALL C:\MACHCOST <Enter>). If your drive names are different from those in the example, make appropriate changes before executing the commands. Now load the program by typing MACHCOST<Enter>.

GENERAL INFORMATION:

The program is divided into two main sections: input item definition and operation definition. The user will usually define machinery items first and then combine these into various operations. The program menu, accessed by <Esc>, allows the user to easily move between program sections. Help may be obtained in the program at any time by pressing the <F1> key. Help within the machinery cost program is context sensitive and takes the place of a program manual. This means that wherever possible, the program will provide the help needed when the user presses the <F1> key. Other sections of the help library may also be viewed while the help function is active.

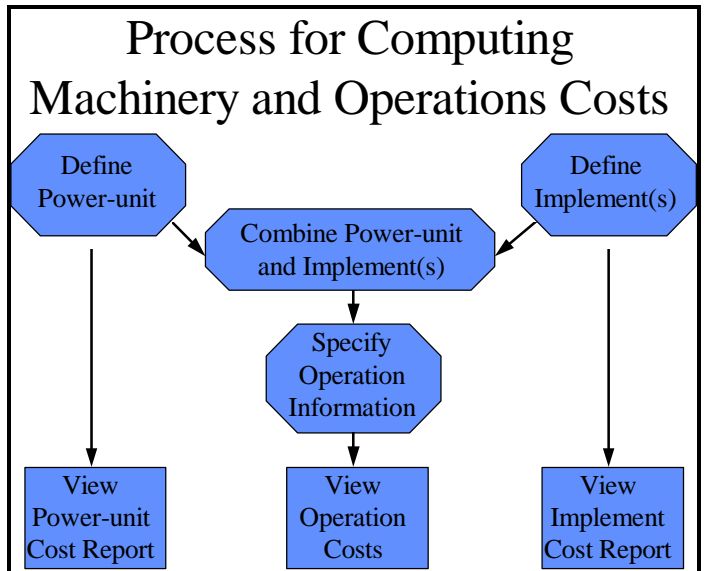
To enter data in the various sections, use the cursor (arrow) keys to move to a cell and type in the information, followed by <Enter>. (Some cells are protected in the program to prevent changes to formulas.) The <PgUp>, <PgDn>, <Right>, <Left>, <End> and <Home> keys are also active, allowing the user to easily move around within data and output sections.

Default data provided in the program are entered from tables for resources found in the *Wyoming Machinery and Operation Costs* bulletin. However, any or all of the default information may be changed by the user.

THE PROCESS OF OPERATION DEFINITION

As shown in this diagram, the software allows for the definition of machinery operations in a series of steps. The first of these steps is to define a power-unit--machinery supplying horsepower to an operation. The second step is to define an implement (or up to four implements) to be used in conjunction with the power-unit. These two steps are accomplished in the section of the program titled "Input Item Definition". Once items have been defined, a report may be viewed showing the costs of the individual pieces of machinery.

When power-unit or implement items have been defined, definitions must be stored in a file on the hard drive to allow combination into machinery operations.



The next step in the process is to select the power-unit and implement items (files) from the hard drive to create an operation. Next specify the specific operation information, such as operating inputs (seed, fertilizer, etc.), ground speed of operation, horsepower required, etc. Once these items have been entered, viewing the output table provides a listing of costs for the total operation. This operation report may also be saved to the hard drive for later viewing or printing.

EXAMPLE POWERED AND NON-POWERED EQUIPMENT DEFINITION

To provide an example of this process, let's define a tractor power-unit and a grain drill (non-powered) implement. At the main menu, select Tractors from the menu, by either typing "T" or moving the cursor to the Tractor menu item and pressing <Enter>.

The default 150 horsepower tractor information is now displayed. We must change the default information to define our 80 horsepower tractor to be used with our grain drill. First, change the Equipment Name to "Wheel Tractor - 80 PTO HP". Next, change the Purchase Price to \$34,840.00 (as listed in Table 4 of the bulletin). Finally, change the PTO Horsepower entry to 80 (this is near the bottom of the list of factors). Note that we could also change any of the other factors in the list we felt should be adjusted. The bulletin and the program help screens provide additional information on these factors.

Pressing <Enter> now brings up the question "Are All Entries OK? Y/N". Typing "Y" <Enter> takes us to the output menu. Selecting Review Parameters from this list will allow us to review the information we have entered for the new 80 HP tractor. Selecting View Output Table allows us to view the annual and per hour costs of the 80 HP tractor over a range of hours of (annual) use. Finally, selecting Disk Operations, allows the us to save the file for later use. Select Save File from the menu list and enter the name "80HPTCTR" <Enter>. After saving the file, choose the Quit option to return to the main menu.

Now define a 12ft grain drill. To do this, select Equipment from the main menu. A moldboard plow definition is displayed as the default equipment item. Change the appropriate definition factors to define a grain drill. First, change the Equipment Name to "Grain Drill - 12ft". (To edit an item, press <F2>). Next, change Equipment Options to "Pull Type". Now change Purchase Price to \$8,810 (as taken from Table 4 in the bulletin). Change the Useful Life (Hours) factor to 1,200; change the Maximum Life (Years) factor to 12; and change Repair Factor 1 to 0.54 and Repair Factor 2 to 2.10. This completes the definition of a 12ft grain drill.

To save the grain drill information, press <Enter> and answer "Y" <Enter> to the question "Are All Entries OK? Y/N". Next, select the Disk Operations and then the Save File menu items. Enter the file name "12FTDRIL" <Enter>. Select Continue after saving the file to move back to the main program menu.

We are now ready to compute the cost of using the 80 horsepower tractor to pull the 12ft grain drill in a barley planting operation. To do this, select Combine Items from the machinery cost program main menu. If you have saved the data files, respond "Y" <Enter> to the question "Have You Saved Your Work? Y/N". Responding "N" <Enter> at this point will provide an opportunity to save before combining items (and possibly losing data).

EXAMPLE COMBINATION OF MACHINERY

The first step in combining machinery items is choosing the machinery files. To do this, select Machinery Files from the main menu. (If you've forgotten to define one of the operation machinery components or want to define new components, select the Input Definition option). The first machinery item to specify is the power-unit. All operations MUST have a power-unit specified. Pressing <Enter> will display all previously defined machinery files. Select the 80HPTCTR file from the list and press <Enter> to use this file. Next, enter the number of hours of annual use for the tractor. (*This should include all hours of expected use over a year, not just the hours for the operation being defined*). Type "500" <Enter>. Pressing <Enter> again will move the cursor to the next entry blank.

Now specify the first implement in the operation. Pressing <Enter> brings up a list of previously defined machinery items. Select the 12FTDRIL file from the list and press <Enter> to choose it. Next, enter the number of hours of annual use for this implement. (*This again should include all hours of expected use over a year, not just the hours for the operation being defined*). In our example we'll assume 100 hours of annual use (1200 hours of life over 12 years). Type "100" <Enter>.

This completes the machinery file selection for our example operation. However, the program provides flexibility to define up to four (4) separate implements to be used with a single power-unit. Pressing <Esc> will bring up the question "Are All Entries OK? Y/N" Answer "Y" <Enter> if appropriate. The next step is to further define our operation.

Select the Define Operation option from the main menu. This section defines additional information about the operation and any operating inputs. First enter the Operation Name "Drill Barley" and press <Enter>. Using the down arrow <Down>, move to the Operating Input section. Under Input Name type "Barley Seed" <Enter>. Now using the right arrow <Right> move to the Amount/Ac column. Type "0.95" <Enter> (for 95 cwt). Similarly, enter "CWT" <Enter> under Units, and "14.50" <Enter> under Cost/Unit.

This will be the only operating input for this operation. However, the program will allow for up to four (4) operating inputs per operation. Now, move down <Down> to the ground speed entry blank.

We will now enter the Ground Speed of the Operation which is used to calculate operation labor costs. Type "4.0" <Enter>. Information about this and other factors defined in this section of the program may be found in Table 5 in the bulletin or in the program help screens. Next enter the Total Labor Cost per Hour of Operation. We will assume \$5.38 for our operation. Remember, that this labor rate should include health, FICA and other benefits, in addition to the per hour labor rate.

Next, enter the PTO Horsepower Required for Operation, Width of the Implement, and Field Efficiency of the Operation which will all be used by the program to calculate fuel costs. Enter "72" <Enter> for the horsepower required. Table 6 in the bulletin and program help provide horsepower ranges for some field operations. These factors vary by speed, soil type, soil condition, tire inflation pressures, etc... For our example, we will assume a 12ft grain drill, requiring 6 horsepower per foot of width (6 X 12 = 72). Enter "12" <Enter> for the width of the implement in feet and "70" <Enter> for field efficiency (taken from Table 5).

Pressing <Enter> after defining all factors brings up the question "Are Entries OK? (Y/N)". Answer "Y" <Enter> if all data are correct. To correct an entry, respond "N" <Enter>. The program next brings up the output menu.

Selecting View Output Table from the menu will display costs for the operation defined. These costs are segmented into variable and fixed categories, and are calculated on a cost per hour and cost per acre basis. Selecting Disk Operations from the output menu allows the user to save this or any other operation to disk. Select Save File from the disk operations menu and enter the name "DRILBRLY" <Enter>. Previously saved files may also be retrieved using this menu. Selecting Continue will select the program main menu.

PRINTING YOUR INFORMATION:

To print output tables, the program assumes you have a printer capable of printing with compressed print. If your printer does not have this capability, you may get garbage when the program attempts to print. You may, however, view all program reports and individual data sections on the screen, without printing any reports. In addition, all user entered information may be saved to disk for later use, reducing the need for printed output.

SAVING YOUR DATA:

The user is responsible for saving the results of any entries made while using the program. The output menu may be accessed by selecting Output from the main menu. Selecting Disk Operations from this menu provides for retrieving and saving data files. **IF YOU DON'T SAVE YOUR DATA, IT WILL BE LOST.** It is recommended unique names be used to save the results of your work. File names are restricted to eight (8) characters.

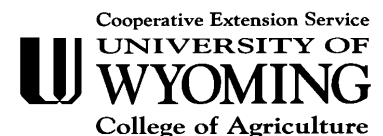
IF YOU HAVE PROBLEMS:

If you encounter problems while running this software, contact:

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