A cash flow budget is an important tool for financial management. It is a projection of the sources and uses of cash in the farm business for the coming year. It helps in predicting cash shortfalls, planning when products should be sold, and estimating credit needs.

The objective of this lab is to learn the steps in developing a cash flow budget, by projecting your cash inflows and outflows for year 5 of Farmsim. You will need your Year 4 printout and your Farmsim Explanation handout. In particular, use your Cash Flow Summary from year 4 as a guide.

An Excel spreadsheet program to help you make out your budget is available on the Economics 330 home page under LABS, Lab 7. Click on the link to the spreadsheet and save it as an Excel (.xls) file first, then open it from where you saved it, in order to work in Excel. Enter numbers in the yellow shaded cells, only.

A. ENTERPRISE BUDGETS
First go to the sheet named Enterprise Budgets. Enter the number of acres of each crop you intend to grow on owned and cash rented land, and how many acres of each crop you will produce on land rented under a crop share lease, if any (the spreadsheet will adjust for the owner’s share of production and input costs). Enter your expected yields based on your results for the first 4 years.

If you intend to buy crop insurance, enter the premium cost per acre ($11.00 for yield or $17.00 for revenue insurance for corn, and $7.50 for yield or $12.00 for revenue insurance for soybeans). For harvesting variable costs, enter $30 if you custom hire, $8 if you own your own combine.

Farrow-to-finish hog production is fixed at 60 sow units for now. You can increase it in Year 6. Enter the number of cattle that you bought at the end of year 4, if any, under the type (calves or yearlings) and ration (silage or hay) that you chose.

The spreadsheet will automatically compute your revenue and variable costs for the whole farm and enter them in Cash Flow Budget sheet.

B. CASH INFLOWS
Now go to the Cash Flow Budget sheet.

Income from Sales
Enter your carryover inventory of corn and soybeans from year 4. Bushels of corn needed for livestock feed will be subtracted automatically. What’s left can be sold in the spring. If you are short of corn, the projected sales will be a negative value, i.e. you will have to buy corn. Carryover soybeans can all be sold in the spring. Expected selling prices based on the averages of the past 3 years are shown below, and are already entered.

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring corn-bu.</td>
<td>$4.30</td>
</tr>
<tr>
<td>Fall corn-bu.</td>
<td>$3.63</td>
</tr>
<tr>
<td>Spring soybeans-bu.</td>
<td>$10.44</td>
</tr>
<tr>
<td>Fall soybeans-bu.</td>
<td>$9.32</td>
</tr>
<tr>
<td>Finished cattle-lb.</td>
<td>$.80</td>
</tr>
<tr>
<td>Hogs-lb.</td>
<td>$.49</td>
</tr>
</tbody>
</table>
Enter the bushels of corn and soybeans that you plan to sell after harvest. Remember, you can’t sell more than your expected production for the year. You may want to leave these cells blank until you see what your projected net cash flows look like at the end of the year.

Under **Cattle sales**, the number of cattle you bought at the end of year 4 and the expected revenue from them are carried forward from the enterprise budgets. Yearlings will be sold in **June** and calves in **September**.

For **Hog sales**, enter the number of pigs from your year 4 closing inventory for Jan.-June sales (check your year 4 **Hog Summary**). July-Dec. sales are calculated from the enterprise budgets, as are sow and boar sales.

Under **Capital asset sales**, if you plan to trade machinery sets or combines, enter the value of the present machinery (from your Year 4 Net Worth Statement). That is their sale value. Machinery is traded in January.

Under **New loans**, if you plan to borrow money in Year 5 to buy machinery or a combine, or to expand your hog facilities, enter these amounts.

**C. CASH OUTFLOWS**

**Operating Costs**
Annual crop and livestock operating costs are calculated automatically, from information you entered in the Enterprise Budgets sheet. However, you need to allocate these among the six time periods until the **Check** column values are all zeroes. Use your best judgment about when expenses are most likely to occur. Crop insurance is not billed until October.

You can estimate and enter the **Fixed Costs**, starting with cash rent, using values from your Cash Flow Summary and other information from year 4. Enter values in the Whole Year column first, then allocate them among the six periods. Cash rent is due half in March, half in December.

**Property taxes** and **insurance on buildings** are paid in March and September.

Estimate your **hired labor** expense at $12 per hour, for the hours you need to hire, throughout the year.

**Purchases of Capital Assets**
If you plan to invest in a new machinery set or a combine, or invest in hog facilities, enter their expected purchase costs under Purchases of Capital Assets. Cost information is contained in the **Farmsim Explanation**.

**Loan Payments**
Enter the loan principal amounts you owe, from your Year 4 Net Worth Statement. Enter both the amounts shown under Current Liabilities (this is the amount you will have to pay in Year 4) and the amounts shown under Intermediate or Long Term Liabilities. Interest is calculated on the entire amount owed, and automatically added to the principal payments. Payments on new loans to be borrowed for machinery or hog facilities will be added in automatically.

Under **Nonfarm Expenditures**, spread your $35,000 family living costs throughout the year. Income taxes (check your **Income Tax Report** for year 4 for the amount) must be paid in March.

**Are all the values in the Check column (column L) zero?** ____________________________
If not, go back and adjust your bi-monthly allocations until they are.
D. SUMMARY

Under **Summary**, enter your ending cash balance (cash on hand) from your year 4 **Net Worth Statement**, under **Beginning Cash Balance**. If you had some carryover operating loan balance at the end of year 4 (look under **Current Liabilities**), enter it under **Operating Loan Balance, Beginning Balance**.

Is your **net cash flow** for the whole year (cell E74) positive or negative? ________________________

If it is negative, you have several options to increase cash flow:

a) Sell more grain. Revise the corn or soybeans sales values at the top of the spreadsheet, under sales after harvest.

b) Sell market hogs early. Use the “Sell hogs early,” line at the top. Check your last **Hog Summary** to see how many pigs you might have at the end of the year.

c) Borrow funds by refinancing against your land. To show this, enter the necessary amount under **New Loans to Receive, New Loan Against Farmland**, to be received in December.

d) If you were planning a purchase of machinery or a combine, you may have to postpone it, or increase the amount you plan to borrow to make these investments if you are not already planning to borrow the maximum.

Is your net cash flow for the whole year positive now? _____________________________________

Now you need to project a positive **ending cash balance** at the end of each one of the two-month periods (cells F84 through K84). Budget for an ending cash balance of at least $1,000 in each period, to allow some margin for error. Is the projected **Ending Cash Balance** for each period at least $1,000? If so, congratulations---you are done! If you have lots of cash left over at the end of the year, you can pay off any remaining operating loan or more principal on land or machinery loans. This will save you interest expenses in the long run.

Is the **Ending Cash Balance** at least $1,000 in each bi-monthly period? ________________________

If not, you need to borrow some **New Operating Loan Received** funds in the cash deficit periods. You can also show repayment (**Repay Operating Loan**) in the cash surplus periods. Note that the interest on the new operating loans is calculated automatically.

Continue to adjust your borrowing and repayment until you can project at least a $1,000 ending cash balance for each period as well as for the entire year.

If you had any carryover operating loan balance from the end of Year 4, enter that value in cell E87. The projected operating loan balance for each period during the year will be calculated for you.

Print your Enterprise Budget sheet and your Cash Flow Budget sheet and attach them to this lab. Be sure the print setup command is set for **portrait, 1 x 1 pages**, so that each sheet prints on just 1 page.
E. Answer the questions below about your cash flow budget.

a. Which period has the most negative projected Net Cash Flow? ___________________
   Which period has the most positive projected Net Cash Flow? ___________________

b. What actions did you take to achieve a positive projected cash balance for the total year?

c. What actions did you take to achieve a positive projected cash balance for each period?

d. How large will your spring operating loan request need to be for year 5? Sum up the New Operating Loan Received line entries for January through August.

   $ ___________________

e. Is your projected Ending Balance for your operating loan at the end of the year larger or smaller than your operating loan Beginning Balance for the year?

   ___________________
   By how much?

   $ ___________________

f. If you were arranging a line of credit with a lender, what is the maximum operating loan ending balance you would need during any one period? When would the maximum ending balance occur?

   $ ___________ in _________________ (months)