

CASHPRO

A Computer Spreadsheet for Projecting
Annual Cash Flows
and Pro Forma Income Statements

by

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Introduction

This is a users manual for CASHPRO, an Excel 5.0 spreadsheet designed to assist in the projection of cash flows for farm businesses. The spreadsheet is designed to encourage use of correct procedures in projecting cash flows and to ease the process of making the projections.

Projections of the expected cash flows for a future year are useful to evaluate the financial feasibility of changes in the business, and as information for the ongoing management of a business. When changes are being made in a business, cash flow projections provide evidence as to whether the business will be able to make all required payments after the change is made. For an ongoing business projected cash flows can be compared to actual flows to evaluate various cost and return items of the business.

Cash flow projections are also useful in assessing the profitability of a change in the business. However, an investment with positive net cash flows is not necessarily a profitable investment. The cash flows play an important part in assessing the profitability of an investment, but non- cash inflows and outflows (for example, depreciation) must be taken into consideration to determine profitability.

Valid cash flow projections can be obtained only if proper procedures are used in the process. Some basic rules must be followed to insure useful projections. These basic rules include:

1. **Project cash flows from accrual (or accrual adjusted) receipt and expense values.** DO NOT project cash flows from cash flows! For example, assume a dairy farm with cash feed expense of \$100,000 in a year in which accounts payable for feed increased by \$30,000 and the inventory of feed on hand declined by \$20,000. Projecting next year from the \$100,000 cash expense will grossly underestimate feed expense.

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To insure projections from an appropriate base the first cash flow worksheet in this spreadsheet provides a place to make the entries necessary to obtain an accrual adjusted set of base year cash flows.

2. **Exclude unusual occurrences from the base year data used for projections.** If the base year is unusual in some way, using it as a base for projecting the future is certain to result in poor projections. For example, if crop yields were unusually high, projecting future year income based on the resulting receipts is sure to exaggerate expected income.

To handle the adjustments necessary to exclude the effects of an unusual year, a column is included on the accrual adjustment worksheet for normal year adjustments. "Normal" in this case refers to an average situation of the type that could be expected in future years. It does not refer to what the farmer "hopes" to get, nor the best the farmer has ever achieved, even if he/she thinks of that as "normal."

3. **Use causal logic in estimating each receipt and expense item.** DO NOT just mindlessly multiply each item by the percentage change in cows or acres. Because some labor is usually provided by the operator, labor cost rarely changes in proportion to cows or acres. Taxes do not necessarily change when cow numbers change. Insurance may not change when acres change. Many business changes involve different percentage changes in crops versus livestock. Multiplying all expenses by the change in cow numbers in that case is sure to result in errors in the projections. Many other examples could be cited. Examples of causal logic are presented in table 1.

To encourage use of causal logic, the cash flow projection worksheet includes space to record the basis used for projecting each item (notes for projections) as well as the planned dollar change.

4. **Be sure to adjust for inflation**, or changes in prices. Input prices for items that are not farm produced tend to increase in price each year. Farm based input and output prices tend to be quite volatile. Using a best estimate of expected price changes will usually greatly improve cash flow estimates.

A column for expected inflation rates is included in the cash flow projection worksheet and the entered values are automatically included in the projected values.

5. **Livestock farms that grow forages or concentrates should carefully assess their forage and/or concentrate balance** whenever significant changes are taking place in the size or composition of the animal herd or cropping program. Feed costs are a large expense and are frequently misestimated because sufficient effort is not made to assess the amount needed versus the amount provided. This is particularly true

when the relative proportions of various crops or livestock groups are being changed i.e., more corn silage and less corn grain or hay.

To handle these situations, forage and concentrate balance worksheets are provided. The results of these worksheets can then be incorporated in the cash flow projections. The forage balance worksheet is based on dry matter. Although dry matter does not accurately represent all the characteristics of alternate forages, it will usually provide a close enough estimate of the quantity of forage needed to make a close estimate of forage costs.

Once cash flows are estimated, it is usually a short step to development of a pro forma income statement. Addition of the non cash items such as depreciation, inventory change, changes in accounts payable and receivable, and non operating gains and losses are necessary to complete the income statement.

This program facilitates the development of a pro forma income statement by providing a form listing the added data needed, and then incorporating those data with the projected cash flows to generate a pro forma income statement. A complete pro forma statement can then be printed.

Spreadsheet Layout

The various worksheets that makeup the spreadsheet are laid out across the top of the Excel matrix as shown below.

A1	N1	AA1	AU1	BI1	BU1	CD1
Base year data	Projected cash flows	Forage balance	Concen- trate balance	Total inflows and outflow	Added data for income state- ment	Income State- ment

Basic Menu Structure

The program is menu driven. The main menu can be reached using Ctrl M (hold down control and press m). The basic menu structure is as follows.

Menu Item	Operation
Base	Go to base year receipt and expense worksheet
Future	Go to the calculation of planned year cash flows
Roughage	Go to forage balance worksheet
Concentrate	Go to concentrate balance worksheet
Total	Go to the total cash inflow and outflow summary
Income	Go to the Pro forma Income Statement Menu:
Input	Go to input form to enter added data needed for income statement
Statement	Go to the pro forma income statement
Print	Go to the Print Menu:
Cash	Go to cash flow print menu
Projections	Print base year and projected year cash flows
Forage	Print forage balance worksheet
Concentrate	Print concentrate balance worksheet
All	Print base year and projected year cash flows as well as forage and concentrate balance worksheets
Summary	Prints total cash inflow and outflow summary for the year.
Income	Prints proforma income statement
All	Prints all of the above (cash flow projection, inflow/outflow summary, and proforma income statement)
Clear	Go to the Clear Menu:
Base	Clears all except the base year data
All	Clears all data from all worksheets

Case Farm

To illustrate the process of cash flow projection, balance sheets and cash flow statements with explanatory notes for an case farm have been included in this publication. This case illustrates use of the computer program for a major expansion, so both the transition year and average future year data are included. The farm is Amber Ridge Farms, which was a 141 cow, 625 acre dairy and crop operation on December, 31 1998. They were planning to expand on August, 1 1999 to 270 cows and will shift from sale of dry corn and wheat to annual high moisture corn sales of 200 tons. For this farm, 1998 is the base year, 1999 is the transition year, and the years 2000 and beyond are represented by the average future year. The worksheets for the transition year are included along with the discussion of data entry and use of the program. The worksheets for the average future year and the explanation of the farm situation are included at the end of the manual.

Data Entry

Entry of data is accomplished by going to the various sections of the statements and entering data in the appropriate locations. Each page of forms can be reached by appropriate selection using the menu, you will be taken to the upper left corner of the statement.

Enter data only in unprotected cells. These cells will usually appear in blue or, at least, some color other than black. Protected cells contain equations for calculation of data or transfer of data from another section of the worksheet.

Unprotecting a cell and entering data will wipe out the equation for all future uses of the program. With unprotected cells in color, it is easier to determine if all the required data have been entered.

In using these worksheets, it is recommended that the following order be used. If the farm is not a livestock farm, start with number 3.

1. If the farm being analyzed is a livestock farm and any forage is home grown or the composition of the herd (i.e., heifers as a percent of cows) will change:
 - a. Determine if it would be advisable to assess the adequacy of the amount of forage available, or if the cost of purchased forage should be assessed in detail.
 - b. If so, complete the forage balance worksheet.

2. If the farm being analyzed is a livestock farm and any grains are grown on the farm or the composition of the herd (i.e., heifers as a percent of cows) will change:
 - a. Determine if it would be advisable to conduct a detailed analysis of concentrate needs and costs.
 - b. If so, complete the forage balance worksheet.

3. Enter the base year data in the accrual adjusted and normalized receipts and expenses worksheet. Remember: if you have accrual receipt and expense data, you need only complete the cash received (enter the accrual data here) and normal year adjustment columns.

4. Complete the projected cash flows worksheet. The normal accrual receipts and expenses will be automatically brought forward from the base year worksheet (completed in step three above).

5. If an assessment of the total cash flows for the year is desired, complete the Total Inflows and Outflows worksheet. The farm cash flow data will automatically be brought forward from the cash flow projection worksheet. The Net Cash Flow Excess (Deficit) that is determined by this worksheet indicates the total cash flow position of the business for the year.
6. If a pro forma income statement is desired, complete the Additional Data Input For Preparing Income Statement From Cash Flow Projections worksheet. Once these data are entered the pro forma income statement will be complete.

Completing the Worksheets

Forage Production Balance Worksheet

Begin by entering all crop and production information for the base year (1998 for Amber Ridge Farms) in the base year (left) column. Inventory data should be available from your balance sheets. Be sure to enter your % Dry Matter figures for your forages in decimal form (.32 not 32).

Enter Animal Unit data for the base year. Units/animal is an indication of relative consumption for different animal groups. Choose one animal group as your standard (for a dairy herd, cows would be the normal standard). Assign your standard (cows) a units/animal of 1.0. Then, assign other animal groups unit/animal values depending on the percent that their forage consumption is of the base. For example, if cows is your standard and an open heifer consumes 70% as much forage as a cow, enter 1 in units/animal for cows .7 and for open heifers.

Enter your Percent Change in Feed Use In Planned Year as a whole number (1.05 would represent a 5% increase over the base year) and your Planned Year Dry Matter per Animal Unit will be calculated. If there is no change in feed use, enter a 1.0.

Care should be taken in selecting the planned year beginning and end of year inventory values. Be sure the values relate to the year being projected. If you are doing a projection for next year or a transition year, Beginning of Year Inventory for the planned year will usually be the same as the End of Year Inventory for the base year. However, the end of planned year inventory must be estimated based on planned production and inventory needs. If you are projecting an average future year that does not immediately follow the base year, it is often possible to use the End of Year Inventory for the transition year as your Beginning of Year Inventory. In most cases the beginning and end of year inventories will be the same when projecting an average future year. If a sequence of years is being projected, the end of year inventory for one year is the beginning of year inventory for the next.

Enter all planned production, sales, and purchase of forages' information for the planned year. Then enter your Animal Units for planned the year. If the number of animals change during the year, such as with a transition year, use the weighted average number of animals throughout the year.

Forage Production Balance worksheet

NAME Amber Ridge FarmsProjections for 1999

FORAGE PRODUCTION BALANCE

BASE YEAR				PLANNED YEAR					
BEGINNING OF YEAR INVENTORY				BEGINNING OF YEAR INVENTORY					
Crop	Tons	% Dry Matter	Dry matter on hand	Tons	% Dry Matter	Dry matter on hand			
Corn silage	1450	0.32	464	1310	0.32	419			
Hay crop sil	420	0.4	168	515	0.4	206			
			0			0			
			0			0			
			0			0			
Total tons dry matter			632 a	Total tons dry matter			625 h		
PRODUCTION DURING YEAR				PRODUCTION DURING YEAR					
Crop	Acreage	Tons / acre As fed	% Dry Matter	Dry matter Produced	Acreage	Tons / acre As fed	% Dry Matter	Dry matter Produced	
Corn silage	75	25	0.32	600	215	25	0.32	1720	
Hay crop sil	175	5.6	0.4	392	190	6	0.4	456	
				0				0	
				0				0	
				0				0	
				0				0	
Total tons dry matter				992 b	Total tons dry matter				2176 i
FORAGE PURCHASES DURING YEAR				FORAGE PURCHASES DURING YEAR					
Crop	Tons	% Dry Matter	Dry matter Purchased	Tons	% Dry Matter	Dry matter Purchased			
			0			0			
			0			0			
			0			0			
Total tons dry matter			0 c	Total tons dry matter			0 j		
FORAGE SALES DURING THE YEAR				FORAGE SALES DURING THE YEAR					
Crop	Tons	% Dry Matter	Dry matter Sold	Tons	% Dry Matter	Dry matter Sold			
			0			0			
			0			0			
			0			0			
Total tons dry matter			0 d	Total tons dry matter			0 k		
END OF YEAR INVENTORY				END OF YEAR INVENTORY					
Crop	Tons	% Dry Matter	Dry matter on hand	Tons	% Dry Matter	Dry matter on hand			
Corn silage	1310	0.32	419	3580	0.32	1146			
Hay crop sil	515	0.4	206	570	0.4	228			
			0			0			
			0			0			
			0			0			
Total tons dry matter			625 e	Total tons dry matter			1374 l		
Total tons dry matter used (disappearance)				Total tons of dry matter available					
(beg. + produced + purchases - sales - end)(a+b+c-d-e)			999 f	(h+i+j-k-l)			1427 m		
ANIMAL UNITS				ANIMAL UNITS					
Animal	units/animal	Number of Animals	Total units	Number of Animals	Total units				
Cows	1	141	141	197	197				
Bred heifers	1		0	10	10				
Open heifers			0		0				
Calves			0		0				
Total units			141 g	Total units			207 n		
Base year dry matter used (f)			999	Planned year dry matter per animal unit			6.95		
Base year dry matter used (f)			999	Planned year dry matter per animal unit			6.95		
Base year number of animal units (g)			141	Planned yr. no. of animal units (n) (x)			207		
Base year dry matter per animal unit (f/g)			7.09	Planned year dry matter use			1439		
1.0 plus percent change in feed use in planned year (x)			0.98	Planned year dry matter availability (-)			1427		
Planned year dry matter per animal unit			6.95	Deficit (or excess) tons dry matter			12		

When all the data are entered, your Deficit (or excess) Tons of Dry Matter will automatically be calculated in the bottom right cell. If your deficit/excess is greater than 10-15% of Tons of Dry Matter Available for use in the average future year, changes in your plan are suggested.

Once the forage balance is satisfactory, the projected purchases and sales information should be placed on the Projected Cash Flows worksheet as change in crop sales and/or forage purchases. The final projected cash receipt/expense columns should equal the quantity sold or purchased on the forage balance sheet for the planned year times the price at which you expect to buy or sell. For example, Amber Ridge Farms crop sales equal zero in the planned year. Since the normal accrual base is \$56,000, enter the planned change in crop sales as -56,000. If excess forage needs to be bought, you would enter an amount in the Planned Change in Crop Expense such that when it is added to the Normal Accrual Forage Expense, the sum equals the cost of the forage that you planned to buy (tons purchased on Forage Production Balance times their cost per ton). For example, if the forage balance worksheet indicated the need to purchase 108 tons of dry matter and you expected to buy .90 percent dry matter hay for \$100 per ton, the total forage expense would be \$12,000 ($108/.9 \times \100). If the normal accrual forage expense were \$5,000, you would enter \$7,000 in the planned change in expense column.

Concentrate Feed Production Balance Worksheet

In the top half of the worksheet, enter all appropriate information for concentrate and grain/oil seed production, purchases, sales, and use in the base year. The left column is for purchased concentrates. This may be a complete mixed ration, minerals only or whatever is purchased by this farm. Use one of the other columns for each grain/oil seed crop grown on the farm or for which you have specific purchase plans.

Enter the base year number of animals and units per animal for each type of livestock. Units/animal is an indication of relative concentrate consumption for different animal groups. Choose one animal group as your standard (for a dairy herd, cows would be the normal standard). Assign your standard (cows) a units/animal of 1.0. Then, assign other animal groups unit/animal values depending on the percent that their concentrate consumption is of the base. For example, if cows is your standard and a open heifer consumes 15% as much concentrate as a cow, enter 1 in units/animal for cows .15 and for open heifers.

When all the base year data are entered (as indicated above) the program will calculate base year use / animal unit for each crop/feed.

Enter the number of animals of each type for the planned year. Remember to use a weighted average of animal numbers for a transition year and the final numbers for an average year. It is assumed that the relative use per animal unit will be the same for the planned year as the base year.

Enter 1 plus the change in concentrate feed use expected in the planned year compared to the base year. For example, Amber Ridge Farms expects feed use to be 2 percent lower in 1999 than in the base year. Thus, a .98 is entered ($1-.02$).

Enter production information for feed crops and then your beginning year inventory. As discussed under the forage production balance, the base year end inventory can be used as the beginning inventory for next year or a transition year.

Concentrate Feed Production Balance

NAME Amber Ridge FarmsProjections for 1999**CONCENTRATE FEED PRODUCTION BALANCE**

		BASE YEAR				
Concentrate or feed crop (UNIT)		Purchased feed dollars	High moisture corn Tons			
Production:						
Acres			100			
Yield/acre			4.2			
Amount produced	(a)	0	420			
Beginning inventory	(b)	2480	300			
Purchases	(c)	95000				
Sales	(d)					
End inventory	(e)	2550	345			
Amount used (a+b+c-d-e)		94930	375			
Base year animal units		141	141			
Base year use/animal unit		673.26	2.660			
1+ % change in plan year use		0.98	0.98			
Planned year use/ animal unit		659.79	2.607			
Planned year animal units		207	207			
Total planned year use	(f)	136577	540			
PLANNED YEAR						
Production:		0				
Acres			210			
Yield/acre			4.1			
Amount produced		0	861			
Beginning inventory		2550	345			
Purchases (accrual)						
Sales						
End inventory		3000	615			
Amount available plan year(g)		-450	591			
Planned use - available (f-g)		137027	-51			
Planned year price per unit		0.93	70			
Planned year excess / deficit		127435	-3570			
Planned year cost (\$)						
Total planned year feed cost (sum of individual concentrates and crops)					123865	

ANIMAL UNITS		Base Year		Planned Year	
Animal	units/animal	Number of Animals	Total units	Number of Animals	Total units
Cows	1	141	141	197	197
Bred heifers	1		0	10	10
Open heifers			0		0
Calves			0		0
Total units			141		207

Average future year inventories must be estimated based on production and use plans.

Next, enter what you plan on purchasing, selling, and having in inventory at the End of the year. Keep in mind that a feed inventory buildup during a transition year is needed to support higher cow numbers but that inventory levels should remain the same for an average future year.

The “Planned use – available” figure will be calculated. Positive amounts here represent what you need to buy in the planned year and negative amounts represent what have in excess with the base year feeding program and the planned number of animals. Enter the price per unit for all concentrates and feeds. Total planned year feed cost will be calculated for each column. In some cases the cost excess/deficit may be negative (as shown for Amber Ridge high moisture corn), indicating that more of that feed is being grown or purchased than needed with the historical feeding program. Modest negative numbers are likely little cause for concern. They indicate that a little more of that feed will be fed and substitute for purchased feed, or that a little more will be sold (or less purchased) and the funds (savings) used to reduce the purchased feed amount.

If you entered planned purchases of a feed (other than general purchased feed), enter the cost of the tons, bushels etc. under “Planned year cost(\$).” This will be added to the total planned year concentrate cost.

The results from this worksheet are carried forward to the Projected Cash Flows worksheet. If feed crops are sold, enter the amount in the Planned Change in Receipts column under “feed sales” that makes the Projected Cash Receipt column correct. For example, for Amber Ridge Farms, projected feed sales are \$14,000 (200 tons of HMC * \$70/ton) up from zero in Normal Accrual Receipts so the Planned Change in Receipts for feed sales is \$14,000. If normal accrual feed sales were \$50,000 and no other crops were involved, you would enter –36,000 (\$50,000 - \$14,000) in the planned change column so that projected receipts would be \$14,000.

Since the Concentrate Feed Balance Worksheet determines total concentrate feed cost, enter the amount in Planned Change in Expense for feed expense that when added to the Normal Accrual Expense equals the Total year feed cost at the bottom of the Concentrate Feed Production Worksheet. For Amber Ridge, the Projected Cash Expense figure is \$123,865 (127,435 concentrate purchases + -3,570 HMC purchases). Therefore, Planned Change in Expense for feed expense is \$28,865 (123,865 – 95,000).

Accrual Adjusted and Normalized Receipts and Expenses Worksheet

If the farm is not a livestock farm or it was determined that calculation of forage and concentrate feed balances were unnecessary, entries will start with this worksheet.

Begin by entering base year receipt and expense information in the Cash Received/Cash Expense columns. If you entered accrual information, go on to Normal Year Adjustment.

If cash data were entered in the Cash Received/Cash Expense column, enter relevant Change in Inventory or Prepaid Expense information as the end of base year inventory value minus the end of prior year (beginning of this year) inventory value. Change in Receivables/Change in Payables are entered similarly in the next

column. Subtract the end of base years' receivable/payable balance from the prior year (beginning of this year) value to get the number to enter in this column. An example of both Change in Inventory and Change in Receivable/Payable is shown under 1998 crop sales for Amber Ridge Farms. Cash crop sales were \$85,900. They also had a \$11,840 decrease (111,965 – 123,805) in inventory and a \$18,000 decrease (see notes) in outstanding crop receivables from 12/31/97 to 12/31/98. Entering this information created a 1998 Normal Accrual Crop Receipt figure of \$56,060 (85,900 - 11,840 - 18,000). Clearly, it is important that the balance sheets be completed at exactly the end of each year, so that the change in inventory exactly represents the same year as the cash value. Balance sheets as of other dates than the end of the year (and beginning of the next year) will cause errors in the projections.

If the base year is abnormal in some way, this is corrected by entering Normal Year Adjustments. Enter the change necessary to make the resulting receipts and expenses represent normal (average for this farm) performance. For example, machinery repairs for Amber Ridge Farms had an unusual cost of \$2,500 in 1998 that was not expected to reoccur so a negative \$2,500 is entered to make the data represent a normal year. If a cost or receipt were unusually low in the base year its normalizing entry would be positive.

This worksheet provides the base data for projecting any future year. Once it is complete projections for next year, the transition year and/or future years can be made without changing this worksheet.

Accrual Adjusted and Normalized Receipts and Expenses

NAME Amber Ridge Farms YEAR 1998

ACCRUAL ADJUSTED AND NORMALIZED RECEIPTS AND EXPENSES

Operating Receipt Item	Cash Received	Change in Inventory	Change in Receivables	Normal Year Adjustment	Normal Accrual Receipts
Milk, eggs	412700		9400		422100
Culled livestock	23500				23500
Breeding stock					0
Feeding livestock					0
Calves	6200				6200
Crop sales	85900	-11840	-18000		56060
Feed Sales					0
Government Rct's	15600				15600
Custom work	2200				2200
Miscellaneous	12800				12800
Total	558900	-11840	-8600	0	538460

Operating Expense Item	Cash Expense	Change in Inventory or Prepaid exp	Change in Payables	Normal Year Adjustment	Normal Accrual Expenses
Hired labor	19500				19500
Livestock feed	94800		200		95000
Stock roughage					0
Machine hire	900				900
Mach. repairs	18400	300	-150	-2500	15450
Fuel and oil	14500		-300		14200
Replacement stock	40146				40146
Pur. feeding stock					0
Breeding	4500	100			4400
Vet & medicine	12300	-100			12400
Bedding					0
Livestock supplies					0
Cattle lease & rent					0
Custom boarding					0
bST	12400				12400
Other livest'k exp.	7400				7400
Marketing	3300				3300
Fertilizer & lime	17300				17300
Seeds & plants	15700	6900			8800
Chemicals, spray	11200				11200
Storage & drying					0
Other crop exp.	12900				12900
Real estate repairs	10200				10200
Taxes	35900				35900
R.E. rent & lease	11500				11500
Insurance	10000				10000
Utilities	8600				8600
Miscellaneous	8800				8800
Total	370246	7200	-250	-2500	360296

Total normalized accrual receipts minus expenses excluding interest 178164

1. Include cash received from the sale of purchased livestock with the sale of culled or breeding livestock. Exclude the gain or loss from sale of purchased breeding livestock from the calculations. Total accrual income will differ from that found on the income statement if the income statement treats purchased breeding livestock like other depreciable assets.

Projected Cash Flows Worksheet

This worksheet is used to make the actual cash flow projections. It is crucial that projections are based on causal logic related to actual expected occurrences. Table 1 can be used as a source of ideas for causal logic. In many cases projections for next year, or a transition year, will be very different from those for an average future year. Thus, careful consideration of the actual occurrences expected in those years is necessary.

The Normal Accrual Receipts/Expenses column of data are automatically brought forward to this worksheet from the previous worksheet. Basically, this is what would be expected to happen if no changes were made to the business and no price changes occurred.

The “Notes for projections” column is used to record the methods and numbers used in projecting the cash flows. These notes are very important for readers and users of the cash flows. It tells readers how the projections were made and helps them determine whether reasonable logic was used in making the projections. For the user, the notes provide a reminder of exactly what was used. This is particularly important when a number of alternatives are being considered, or where cash flow projections are referred to after some time has passed. It is usually hard to remember exactly how each of the numerous items were calculated, if no notes are made.

In the “Planned change in receipts/expenses” column enter the change in each item, from the normal accrual value, that is expected. These values should not be adjusted for inflation. That is, make the calculations in base year dollars. Table 1 provides suggestions for causal logic for making projections.

In the “Percent inflation adjustment” column enter the price change in each item that is expected from the base year levels. The USDA publishes inflation projections for farmers several years in advance at <http://www.ers.usda.gov/briefing/baseline/>. It is best, however, to use more localized projections when they are available such as those published by the Cornell Program on Dairy Markets and Policy for New York milk prices (<http://cpdmp.cornell.edu/>). You can use your own best estimate of what you will pay for labor, and talk to your area suppliers for price projections, if they are available, to get a better idea of your cost changes. Enter all Percent Inflation Adjustments as a percentage (7 not .07).

The Projected Cash Receipt/Projected Cash Expense columns will be automatically calculated using the normal accrual value, plus the planned change with both adjusted for the inflation rate entered.

Notice that these projections do not include interest. Frequently, cash flows are calculated to determine the amount available for debt payments and family living. Since debt payments generally include interest, leaving interest out of these calculations avoids the necessity of separating interest from principal. Of course, if a pro forma income statement is prepared, the separation must be made at that point.

Projected Cash Flows

NAME Amber Ridge Farms Projections for 1999

PROJECTED CASH FLOWS

Operating Receipt Item	Base unit for Projections	Normal Accrual Receipts	Planned Change in Receipts	Percent Inflation Adjustment	Projected Cash Receipts
Milk, eggs	+33%	422100	139293	-6	527709
Culled livestock	13/40=33%	23500	7755	10	34381
Breeding stock		0			0
Feeding livestock		0			0
Calves	+91%	6200	5642	10	13026
Crop sales	no sales	56060	-56060		0
Feed Sales		0			0
Government Rct's		15600			15600
Custom work		2200		1	2222
Miscellaneous	+4%	12800	512	2	13578
Total		538460			606516
Operating Expense Item	Base Unit for Projections	Normal Accrual Expenses	Planned Change in Expenses	Percent Inflation Adjustment	Projected Cash Expenses
Hired labor	15,000+6,240	19500	21240	2	41555
Livestock feed	concentrate bal	95000	28865		123865
Stock roughage	12 x 45	0	540		540
Machine hire	not hired	900	-900		0
Mach. repairs	+40%c,+5%a	15450	1745	2	17539
Fuel and oil	+40%c,+5%a	14200	1604		15804
Replacement stock	+33%	40146	13248	10	58733
Pur. feeding stock		0			0
Breeding	+40%	4400	1760	2	6283
Vet & medicine	+40%	12400	4960	3	17881
Bedding		0			0
Livestock supplies		0			0
Cattle lease & rent		0			0
Custom boarding		0			0
bST	+40%	12400	4960	3	17881
Other livest'k exp.	+40%	7400	2960	2	10567
Marketing	+40%	3300	1089	2	4477
Fertilizer & lime	+1%	17300	173	3	17997
Seeds & plants	+2%	8800	176		8976
Chemicals, spray	+5%	11200	560	2	11995
Storage & drying		0			0
Other crop exp.	-14%	12900	-1806	1	11205
Real estate repairs	+19%	10200	1938	1	12259
Taxes		35900		3	36977
R.E. rent & lease		11500			11500
Insurance	+20%	10000	2000	2	12240
Utilities	+33%	8600	2838	2	11667
Miscellaneous	+7%	8800	616	2	9604
Total		360296			459545

Projected cash receipts minus expense excluding interest 146971

Suggestions for projecting a transition year:

The year in which major changes are made in a business usually represents a significant transition. Projecting such a transition year is often difficult, particularly on livestock farms. The business usually starts as the prior year business with modest changes and ends the year as the changed business. If the changes that affect costs and receipts occur within a month or so, an average of the two business situations weighted by the number of months each is in effect can be used. For example, in 1999 Amber Ridge plans on averaging 145 milking cows until August, 1 when the addition to 270 cows will take place. Furthermore, they project a five percent decrease in milk production for the year as the herd adjusts to the expansion. Therefore, milk sales are going to be based on 197 cows $(145 \times 7 + 270 \times 5) / 12$, a 40% $((197 / 141) - 1)$ increase over the base year. The percentage increase in milk production for the year, entered in the Base Unit for Projections, is increase in cow numbers times change in productivity or 33% $((1.4 \times .95) - 1)$. The Planned Change in Receipts will be the base year sales times percent increase in production, which is \$139,293 $(422,100 \times .33)$.

In cases where more gradual changes take place, monthly weighted averages can be use. For example, if in the above situation, herd size were to increase gradually during August through October, the weighted average could be calculated as:

Jan. – July	145 cows	7 months
August	175 cows	1 month
September	210	1 month
October	240	1 month
November	270	2 months

$$(7 \times 145 + 175 + 210 + 240 + 2 \times 270) / 12 = 182 = \text{average herd size}$$

Table 1. Example Basis for Projections
(All listed below may also need to be adjusted for inflation)

1. Milk Sales – Per cow adjusted for production level and price.
 2. Crop Sales – Acres for sale, production level and price.
 3. Cattle Sales – Per cow adjusted for price

 4. Other Farm Receipts – Last year adjusted for known changes.
 5. Nonfarm Income – Last years adjusted for likely changes.
 6. Labor Expense – Last year total adjusted for planned changes in the number employed and wage rates.

 7. Feed (Concentrate) – Last year per cow adjusted for changes in feed crop acres and prices.
 8. Feed (Forage) – Last year adjusted for planed change in forage production rate.
 9. Machine Hire – Last year adjusted for planned changes in hire of machines.

 10. Machine Repairs – Percent of machinery investment adjusted for change in acres and animals. For dairy farms, the change in number of cows plus number of acres can often be used.
 11. Fuel – Per crop acre adjusted for number of cows. For dairy farms, the change in number of cows plus number of acres can often be used.
 12. Breeding Expense – Per cow.

 13. Vet and Medicine – Per cow.
 14. Milk Marketing – Per cwt. of milk.
 15. Other Livestock Expense – Per cow.

 16. Fertilizer and Lime – Per crop acre adjusted for crop mix change.
 17. Seeds and Plants - Per crop acre adjusted for crop mix change.
 18. Spray and Chemicals - Per crop acre adjusted for crop mix change.

 19. Other Crop Expense – Per crop acre.
 20. Land, Building & Fence Repair – Per dollar real estate investment.
 21. Taxes – Per dollar real estate investment (excluding last 10 years building investment).

 22. Real Estate Rent – Amount rented and rental rates.
 23. Insurance – Per dollar asset value.
 24. Utilities – Per cow or per acre of crops dried.
 25. Miscellaneous Expense – Per dollar other expenses. For dairy farms, the change in number of cows plus number of acres can often be used.
-

Suggestions for Average Future Year:

An average future year projection is designed to represent the business after the planned changes are made, under the assumption that no further changes are made. Some businesses operate in a relatively unchanged state for a few years after a major change. In this case the average future year represents the expected cash flows for those years. It is also useful for situations where further changes to the business are planned. It indicates whether the “after this change” situation is viable. In case the changes planned for future years cannot be made or the external environment changes such that the planned changes are inadvisable, the average future indicates whether the business is viable without additional change.

Make projections for the average future year based on the character of the business after all planned changes have taken place. For Amber Ridge farms, milk will increase by 91% from the base year $((270 / 141) - 1)$ since productivity will return to 1998 levels.

General suggestions for projections

Estimating machinery costs for changes in livestock numbers can be difficult. Most of these expenses are usually attributed to the crop operation, but major changes in livestock numbers can materially influence machinery expense items. Based on crop and livestock budgets, it appears that the machinery expenses for one cow and normal attendant young stock are often similar to the expenses of one acre of grain and forage crops.

Using this assumption for Amber Ridge Farms, the 1998 actual expenses can be divided between livestock and crops. 1998 fuel expense was \$14,200 and there were 141 cows and 615 production acres of crops. Thus, 18.65 $(141 / 141 + 615)$ percent of the expense was for cows. That represents \$2,648 $(.1865 \times 14,200)$. The remainder, \$11,552, was for crops. Cow numbers are increasing 91% and there is a projected 5% increase in fuel expense due to more corn silage production, so the Planned Change in Expense for fuel expense is \$2,908 $((2,648 \times .91) + (11,552 \times .05))$.

	1998 fuel expense	% change	Total Increase
Cows	2,648	91%	2,410
Acres	11,552	5%	578
Total	14,200		2,908

An advantage of this procedure is that it relates expenses to the actual experience of this business. The experience of this farm is used as the base and adjustment are calculated from percentage changes in the activities of the business. If it is a business with high machinery costs, that characteristic will be carried through into the projected cash flows.

When crop mix changes, crop expenses need to be adjusted for the basic differences between crops. One way to accomplish this is to use relative crop coefficients for each expense item. Relative crop coefficients are estimated by selecting a base (main) crop, giving it a crop coefficient value of 1.0 and then calculating the level of use of other crops relative to that of the base crop. For example, if normal fertilizer and lime expenses are \$60 for corn, \$18 for hay and

\$36 for wheat. Setting the corn coefficient to 1.0 makes the coefficients for hay and wheat .3 (18/60) and .6 (36/60) for wheat. Since corn is the base, these become corn equivalents. Using these coefficients, the corn equivalents produced in the base year and the fertilizer and lime cost per corn equivalents for the base year can be calculated as shown below.

	A	B	A * B
Crop	Corn Equivalent	1998 crop acres	Total Corn Equivalents
Corn, Silage + HMC	1	400	400
Hay and Haylage	.3	175	53
Wheat	.6	40	24
Total		615	477

Assuming similar cropping practices and costs, the projected year's corn equivalent will be 482 (see below).

	A	B	A * B
Crop	% of Corn use / acre	Planned Acres	Total Corn Eq
Corn, Silage + HMC	1	425	425
Hay and Haylage	.3	190	57
Total		615	482

Since corn equivalent increased by one percent ($482/477 - 1$), fertilizer and lime costs are projected to increase by one percent or \$173 ($\$17,300 \times 1\%$).

This procedure has the advantage that cash flows are projected from the actual experience of this farm, and thus, build in the level of costs generally experienced by this farm. It is often more accurate than using the planned costs per acre to calculate farm expenses because farms are often consistently higher or lower than planned per acre expenses would imply.

Total Inflows and Outflows

The Total Inflows and Outflows worksheet is designed to summarize the total cash flow position of the business for the year. It incorporates the cash flows from operation of the business, calculated in the cash flows worksheet, with the flows from financing, non farm sources and family living to obtain the net cash flow for the business.

The total cash income and total cash expenses (except interest) are taken directly from the cash flow projection worksheet.

Cash operating interest expense is the interest on operating debt that is expected to be paid during the year. This interest is not part of term debt payments. Interest on term debt is not included here. It can be estimated by determining the amount of operating debt that will be outstanding each month

during the year and then applying the expected interest rate. It would be part of a monthly cash flow budget, if one were prepared. Determining operating interest is complicated by the fact that there may be no operating debt outstanding at the end of the year, but considerable interest may still be paid.

Amber Ridge farms expects to pay about \$1,500 per year in operating interest on accounts payable and operating funds borrowed and repaid during the year.

Non farm cash income is cash from outside the business that contributes to the business cash flow. It should be net cash income in cases where it is generated from activities that also have expenses that are not already counted in farm expenses. It may be used directly to pay family living expenses or used in the business in other ways. If non farm income is used for family living expenses, a zero may be entered here and the actual family living expenses listed below reduced by the amount of non farm income. However, it is usually easier, and more straightforward to enter total net cash non farm income on this line and then enter total family living expenses below.

Capital asset sales refers to cash income received from the sale of capital assets. This would generally include machinery, land and buildings. Do not include the routine sale of cull livestock or breeding livestock, if they are already included as part of the livestock sale receipts in the farm cash flow projections worksheet.

Funds borrowed refers to gross funds borrowed (principal). It is the sum of the loans borrowed during the year. All term debt proceeds should be included. The proceeds from operating loans that were borrowed and repaid during the year may be included or excluded. If they are included, be sure to include the amount repaid with scheduled term debt payments. Farms with zero operating debt at the end of each year may find it easier to omit operating debt borrowings and repayment. If the operating debt outstanding at the beginning and end of the year are different, borrowings and repayments, or at least the net difference, should be entered.

For 1999 Amber Ridge Farms is requesting a \$350,000 cattle and equipment loan and a \$395,000 real estate loan. They have not had a history of operating loan balances at the end of the year and plan to have any operating loans repaid by the end of each year. Thus, they have chosen to exclude the principal on operating notes from the cash flow.

For an average future year, borrowed funds will be connected with purchase of replacement capital assets. On most farms this will be for replacement machinery. In order to avoid escalating debt payments in future years (to keep the average future year really average) funds borrowed will only be the amounts re-borrowed in a rollover or revolving-debt financing situation. For example, Amber Ridge has a \$150,000 rollover machinery loan that they make payments on like a regular five-year loan, but they can re-borrow and re-extend the principle. Monthly payments of \$3,114 in the first year on the \$150,000 revolving machinery loan, would decrease the principle to \$125,122, so they can and plan to re-borrow \$24,878 (150,000-126,122) annually. This will go in the Funds borrowed cell.

*Total Inflows and Outflows*Name Amber Ridge FarmsYear 1999**TOTAL INFLOWS AND OUTFLOWS**

Total cash income		<u>606516</u>	
Total cash expenses (Excluding Interest)	(-)	<u>459545</u>	
Operating interest expense	(-)	<u>1500</u>	
Net cash income			<u>145471</u>
Nonfarm cash income	(+)		
Capital asset sales	(+)		
Funds borrowed	(+)	<u>745000</u>	
TOTAL INFLOWS			<u>890471</u>
Scheduled term debt payments (principle and interest):			
Before refinancing		<u>53585</u>	
After refinancing	(+)	<u>56070</u>	
Total		<u>109655</u>	
Principal refinanced (and included in funds borrowed)	(+)	<u>323281</u>	
Capital investments	(+)	<u>429800</u>	
Family living expenses	(+)	<u>65000</u>	
TOTAL OUTFLOWS	(-)		<u>927736</u>
NET CASH FLOW EXCESS (DEFICIT)			<u>-37265</u>

Scheduled term debt payments include principal and interest payments on term debt. It also includes principal repaid on operating debt as long as the amounts borrowed are included up under funds borrowed. Alternately, if an operating loan pay down is expected, only the net pay down can be included in the scheduled debt payments. If a major refinancing occurs in the business, it will usually be easier to use the before and after refinancing lines. If major refinancing does not occur during the year (as occurs with an average future year), place all planned debt payments in the before refinancing line. Capital lease payments should be included with debt payments (be sure they are not also included in operating expenses).

Principal refinanced refers to the principal listed under funds borrowed that represents refinancing. For example, the two new loans listed up under funds borrowed include refinancing (paying off of existing loans with new funds borrowed) of \$323,281 of existing debt. Clearly, the amount refinanced could be excluded from the funds borrowed and this line left at zero. However, it is usually more straightforward to list the total loans under funds borrowed and list the amount refinance here.

Capital investments include purchase of all capital assets, such as machinery, cattle, land and buildings. Exclude purchases of replacement livestock that have been included in the cash flow projection worksheet. If replacement livestock are not included in the annual cash flow projections, they should be included here and any financing for them included up under funds borrowed. Include expansion livestock. Include replacement machinery.

Amber Ridge Farms had 1999 investments of \$429,800, including \$150,000 of cattle, \$243,800 for real estate and \$36,000 in replacement machinery.

For an average future year annual machinery purchased must be estimated and included. From historical purchase behavior, Amber Ridge spends about 14% of their average machinery investment every year in additional machinery purchases. Using the projected end of transition year machinery market value of \$302,800, they can expect to spend an average of \$42,392 ($\$302,800 * .14$) each year on additional machinery investment.

Family living expenses include the amount of cash withdrawn from the business for all families and individuals making such withdrawals. It includes both family living expenses and income taxes to be paid. It is recommended that any non farm income that is used for family living be listed up under non farm income and that total family living expenses be listed on this line. However, if preferred the family living expense can be the amount withdrawn from the farm business and non farm income can be excluded from the total inflows and outflows. Amber Ridge Farms estimate their family living expenses for 1999 to be \$65,000.

Net cash flow excess (deficit) is the net cash flow position of the business under the plans incorporated in the projections.

Deficits often occur in a transition year due to a lag in receivables, inventory build-up, and other transition expenses that will occur. If your net cash flow is deficit, however, you should plan on additional borrowing or assure a line of credit in excess of that amount to avoid cash shortfalls.

For an average future year, a deficit indicates that the plan does not work and implies that normal operations are going to cause borrowing from (reductions of) the equity in the business. Changes in the basic investment, disinvestment, method of operation, financing terms or level of family withdrawal are necessary. If the excess amount is greater than 10% of total cash inflows, you may want to plan different uses of your cash (such as less borrowing), to make more efficient use of capital and have less idle cash.

In addition to average year cash flow excess or deficit, you can calculate your farms average future year sustainable debt repayment ability. Do this by deleting the contents of scheduled debt payments cells and the net cash flow excess will be the money available to service debt in the future.

To calculate the maximum debt that your farm can handle under the current debt structure, divide sustainable debt repayment ability by the average debt service cost percentage for your situation. Debt service cost percentage is total scheduled debt payments for the year divided by the average of principle outstanding in that year.

To calculate the amount of additional debt that your farm can handle, re-enter the scheduled debt payments in the average future year results and divide the Net Cash flow excess by the debt service cost (total annual payment amount divided by loan principle) of the type of additional debt you plan on adding.

Additional Data Input for Preparing Income Statement from Cash Flows worksheet

This worksheet includes the information, in addition to that developed in the previous worksheets, that is necessary to construct a pro forma accrual income statement. You must enter all non-stared cells for all versions of the income statement. Entering data in all the non-stared cells will provide net farm income before taxes. Entering the information requested in the single stared cells (*) extends the net farm income to an after tax basis. Completing all cells including the double stared cells (**) results in a combined net farm and non-farm income on an after tax basis.

The added data needed include the inventory change expected during the year, interest expense (separate from principal), depreciation and non-operating gains and losses. Taxes data are needed to get to an after tax basis and non-farm income is necessary to provide a combined farm and non farm statement.

Inventory change from beginning to end of projected year includes all the inventory changes expected during the year being projected. Unless inventory balances are not expected to change during the year, a pro forma balance sheet for the end of the projected year will be necessary. Enter end of year values minus prior year (beginning of year) values. When projecting "next year" or a transition year, changes in inventories will frequently be expected.

By definition, an average future year projection will normally not have any inventory changes. A number in this section of the sheet for an average future year projection means a sustained growth or decline in that item on a farm that is planning no changes.

In the Interest expense section, enter all interest that is paid in the planned year on all debt (term (capital) and operating) in the first cell. Enter all interest

paid on leases in the second cell. Interest on term debt and leases is determined by separating term debt payments into interest and principal. Operating interest will require estimating the average outstanding balance and applying the expected interest rate.

Depreciation is the amount of depreciation expected to be taken in the planned year. This can be easily obtained from a well designed depreciation schedule by adding the new purchases with their expected depreciation methods. Depreciation can be estimated by adding first year depreciation on expansion assets purchased in the planned year to the prior year's total depreciation amount.

Hedging net income includes the net gain/loss expected from the hedging operation for the planned year. Be sure that the entered values are consistent with the commodity prices used in the receipts section of the cash flows.

Non-operating gains and losses for machinery/real estate and purchased breeding livestock sales are the net tax gains or losses on the sales of capital assets. Cost of these assets has been included in the income in the form of depreciation. If the asset sells for more or less than the undepreciated balance, too much or too little depreciation has been charged in prior years. Thus, there is a gain or loss that results from the sale. These gains or losses are entered in this section.

Percent of livestock sale income that results from the sale of purchased animals is the proportion of income from the sale of animals that comes from the sale of animals that had been purchased, rather than raised. The net cost of purchased animals is charged to the business in the form of depreciation, with any discrepancies between tax depreciation and actual depreciation accounted for by non-operating gains and losses. Thus, the actual cash income from the sale of purchased animals does not go on the income statement. Under culled animals, enter the percent of the "culled livestock" income projected on the Cash Flow Projection worksheet that is expected to result from the sale of purchased animals. Under Breeding stock enter the percent of "Breeding stock" income projected on the Cash Flow Projection worksheet that is expected to result from the sale of purchased animals. Enter both numbers as a percentage (25, not .25). The program will exclude the sale of purchased animals from the income statement and include the remainder (the proportion not purchased) of the livestock sales as sale of raised livestock.

In the Amber Ridge situation, all replacements are purchased. Thus, 100 percent of the sale of culled animals results from the sale of purchased animals. There were no breeding livestock sales, so that line was left blank. However, if they had breeding livestock sales and they raised no animals, 100 would also be entered on the breeding stock line.

Change in the base value of raised breeding livestock is the income or loss that results from changing the base value of breeding livestock from the end of the prior year (beginning of this year) to the end of the year. If base values are held constant during the year, this will be zero. For an average future year calculation, this should always be zero. In fact, for most projection situations, this entry can be left at zero without significant error.

Taxes is the amount of income and social security taxes that are expected to be paid in the planned year. Enter values here if after tax net income is desired.

Additional Data Input for Preparing Income Statement from Cash Flows

Name: <u>Amber Ridge Farms</u>	Year: <u>1999</u>
ADDITIONAL DATA INPUT FOR PREPARING INCOME STATEMENT FROM CASH FLOW PROJECTIONS	
Inventory change from beginning to end of projected year (from balance sheet)	
Assets that influence income:	
Crop and feed inventory	<u>27360</u>
Raised breeding livestock (quantity only)	<u> </u>
Feeder livestock and poultry	<u> </u>
Notes and accounts receivable	<u>18898</u>
Advance government payments	<u> </u>
Assets and liabilities that influence expenses:	
Investment in growing crops	<u>-2450</u>
Supplies	<u>1004</u>
Prepaid expenses	<u>-8000</u>
Accounts payable	<u>3874</u>
Accrued property and R.E. taxes	<u> </u>
Accrued employer payroll withholding	<u>250</u>
Accrued rent and lease payments	<u> </u>
Total accrual expense adjustment	<u>-5322</u>
Accrued interest	<u>1005</u>
* Current portion of deferred taxes (farm)	<u>13370</u>
* Accrued income and Social Security taxes (farm)	<u>-5500</u>
** Accrued income and Social Security taxes (nonfarm)	<u> </u>
Interest expense	
Interest on loans (cash or by renewal)	<u>41900</u>
Interest portion of capital lease payments	<u>367</u>
Depreciation	
Depreciation on Machinery and Equipment	<u>31500</u>
Depreciation on buildings and improvements	<u>17140</u>
Depreciation on purchased breeding livestock	<u>44800</u>
Depreciation portion of capital lease payments	<u>3041</u>
Hedging Net income from hedging operations	<u> </u>
Non-operating gains and losses	
Gain or loss on sale of machinery and RE	<u> </u>
Gain or loss on sale of purchased breeding livestock	<u>5800</u>
Percent of income from sale of purchased animals:	
Culled livestock	<u>100</u>
Breeding stock	<u> </u>
Change in base value of raised breeding livestock	<u> </u>
Taxes	
* Cash farm income tax expense	<u> </u>
** Cash nonfarm income tax expense	<u> </u>
Nonfarm income	
** Operator and Spouses wage off farm (net of expenses)	<u> </u>
** Interest and dividends	<u> </u>
** Gain or loss on the sale of nonfarm assets	<u> </u>
** Other nonfarm income	<u> </u>
** Extraordinary income or expense	<u> </u>

* Required only if after tax farm income is being calculated

** Required only if nonfarm income is included in net income calculation

Cash farm income tax expense is the amount of income tax that is expected to be paid in the projected year. Technically this will be the amount paid on the prior year's income and the change in "accrued income and social security taxes" included under the inventory changes will adjust this to the amount paid for this year's income. An alternate way to handle the tax expense entries is to leave the change in "accrued income and social security taxes" blank and enter in this section the amount of taxes expected to be paid on the income generated in the planned (projected) year. If non-farm income is not going to be entered, leave the non-farm tax expense line blank.

If a combined farm and non farm income statement is desired, enter the non farm income in the Nonfarm income section. In each case these values should be net of expenses.

Extraordinary income or expense includes income or expense items that are so unusual that you want them recorded, but do not want them included in net income.

Income statement

All of the data necessary to prepare the net income statement have been entered on prior worksheets. No entries are necessary for this worksheet. It is a good idea to assess your income projections and compare them to prior year statements to be sure that the changes make sense for the changes that are being made. Comparisons to the most recent dairy farm business summary for farms of your size may also be helpful.

Sensitivity Analysis

Once you have completed your cash flow analysis for the planned year, it is a good idea to do sensitivity analysis. This involves changing important item values to see how they affect resulting values such as Net Cash Flow and Net Income. Some popular variables are price or production level of the primary products produced (milk on a dairy farm), price levels of important inputs (feed commodity prices for dairy farms), interest rates and total receipts and expenses.

The simplest way to vary a receipt or expense value is to change the Percent Inflation Adjustment figure in the Projected Cash Flows sheet. For example, if you wanted to see what the change in Cash Flow Excess (Deficit) would be from a 10% decrease in total milk production or average milk price for the year, subtract 10 from the Percent Inflation Adjustment value already there (if it were -7, enter -17). Then, go to the Total Inflows and Outflows sheet to observe the change in Cash Flow Excess (Deficit). If there is a large change, your budget is sensitive to that variable. If you believe that a change of that magnitude is possible and it would cause financial problems for the farm, you may want to look into risk management or assess your credit reserves for handling the coming year(s).

Since this is an integrated worksheet, you can vary any item entered in the blue cells and it will carry through to the total inflows and outflows and the income statement. However, if you are doing sensitivity to the Forage Production Balance or the Concentrate Feed Production Balance, you have to go back to the Projected Cash Flows sheet and adjust Planned Change in Receipts/ Expenses to see its effect on the rest of the budget.

Income Statement

INCOME STATEMENT		For 12 month period ending
Name	Amber Ridge Farms	1999
Address		
Farm Revenue		
Crops & feed sold		
Cash sales	0 (1a)	
Inventory change (Sch)	<u>27360 (1b)</u>	<u>27360 (1)</u>
Raised breeding livestock		
Cash sales: culled animals	0 (2a)	
sold for breeding	<u>0 (2b)</u>	
Quant. Inven. change (Sch)	<u>0 (2c)</u>	
Gain/loss on sale of purchased breeding stock (Sch)	<u>5800 (2d)</u>	<u>5800 (2)</u>
Feeder lvstk. & poultry sold:		
Cash sales	<u>13026 (3a)</u>	
Inventory change (Sch)	<u>0 (3b)</u>	<u>13026 (3)</u>
Milk, eggs & other products:		
Cash sales		<u>527709 (4)</u>
Change in notes and accts. receivable (Sch)		
		<u>18898 (5)</u>
Custom work: cash		<u>2222 (6)</u>
Gov't payments and patronage dividends:		
Cash received	<u>15600 (7a)</u>	
Change in adv. pmts. (Sch)	<u>0 (7b)</u>	<u>15600 (7)</u>
Income from hedging trans. (Sch)		<u>0 (8)</u>
Other		<u>13578 (9)</u>
Gross revenue (add lines 1 thru 9)		<u>624194 (a)</u>
Farm Expenses		
Feeding lvstk. & poultry purch.	<u>0 (10)</u>	
Feed purchased	<u>124405 (11)</u>	
Other cash oper. exp. (Sch)	<u>335140 (12)</u>	
Accrual expense adj. (Sch)	<u>-5322 (13)</u>	
Depreciation:		
Machinery & equipment (Sch)	<u>31500 (14a)</u>	
Fixed farm improvements (Sch)	<u>17140 (14b)</u>	
Purchased breeding stock (Sch)	<u>44800 (14c)</u>	
Portion of capital leases (Sch)	<u>3041 (14d)</u>	<u>96481 (14)</u>
Total oper. exp. (add lines 10 thru 14)		<u>550704</u>
Interest exp. (Sch)		<u>43272</u>
Total expenses		<u>593976 (b)</u>
Net income from farm operations	(a-b)	<u>30218 (c)</u>
Gain or loss on:		
Disposal of machinery and RE (Sch)		<u>0</u>
Base value change (Sch)		<u>0</u>
NET FARM INCOME		<u>30218</u>
Farm income tax expense (sch)		<u>13370</u>
AFTER TAX NET FARM INCOME		<u>16848 (d)</u>
Nonfarm Income (Sch)		
Operator & Spouses wage off farm (net of exp.)(Sch)	<u>0 (15)</u>	
Interest and dividends (Sch)	<u>0 (16)</u>	
Gain (loss) on sale of nonfarm assets (Sch)	<u>0 (17)</u>	
Other	<u>0 (18)</u>	
NET NONFARM INCOME (add lines 15-18)		<u>0 (e)</u>
Nonfarm income tax expense (Sch)		<u>0 (f)</u>
AFTER TAX NET NONFARM INCOME	(e-f)	<u>0 (g)</u>
Income before extraordinary items	(d+g)	<u>16848 (h)</u>
Extraordinary items - net of tax (explain)		<u>0 (i)</u>
NET INCOME		<u>16848</u>

Amber Ridge Example

Below is the background notes for the transition year cash flows for Amber Ridge Farms. The worksheets were used as examples in the discussion above. Following that is the notes and worksheets for an average future year cash flows for the case farm after the expansion. 1997, 1998, and the proforma 1999 balance sheets have been included at the end to illustrate the balance sheet data that backs up the projections.

Transition year Notes:

Forage Production Balance

1. The average “as fed” dry matter contents of forage on Amber Ridge are 40% for Hay crop silage and 32% for corn silage and they are not expected to change in the future.
2. No Forage will be purchased or sold in 1998 unless necessary.
3. Bred Heifers have the same units per animal of forage consumption as a cow because they are purchased one month before freshening.
4. Average herd numbers for 1998 and expected numbers for 1999 are:

	1998 average	1999 average
Cows (milk production)	141	197
Bred heifers		10

Calves are sold before they are old enough to eat forage. 1999 cow numbers are expected to be 145 for 7 months and 270 for 5 months. 125 Bred heifers purchased on an average date of July 1st will freshen on an average date of August 1st, having 125 bred heifers for one month will average to 10 heifers for the whole year.

5. Beginning feed inventories and 1999 production data are as follows on the sheet.
6. Forage use is expected to be 2% lower in 1999 due to decreases in milk production.

Concentrate Feed Production Balance

1. There aren't any planned high moisture corn purchases or sales in 1999, but if purchases are necessary, high moisture corn can be bought for \$70/ton.
2. Concentrate and Feed use is expected to be 2% lower in 1999 due to decreases in milk production.
3. Concentrate costs are expected to be 7% lower in 1999.

Notes for Accrual Adjusted and Normalized Receipts and Expenses:

1. The accounts receivable balance difference of 1997 and 1998 of –8,600 (51,700 – 43,100) was comprised of a \$9,400 increase in milk receivables and a 18,000 decrease in crop receivables.
2. Supplies inventory increased \$300 throughout the year from a \$300 increase in machinery parts inventory, a \$100 increase in breeding inventory, and a \$100 decrease in medicine inventory.
3. Prepaid expense increased \$6,900 from increased seed inventories.
4. Accounts Payable decreased \$250 throughout the year due to a \$200 increase in livestock feed payable, \$150 decrease in machinery repairs payable, and a \$300 decrease in fuel & oil payable.
5. Machinery and equipment repair costs were above the level of cost experienced in earlier years. Normal costs will likely be \$2,500 lower.

Projected Cash Flows

1. Average per cow milk production is expected to decline 5% from 1998 levels as the herd adjusts to the expansion. The average herd size for the year will be 197 (145 for 7 months and 270 for 5 months), so the increase in milk production will be 33% $((197 / 141 \times .95) - 1)$
2. Mark Stevenson, in the New York Economic Handbook for 1999, estimates the average price of milk in 1999 to be \$.93 lower than in 1998. With an average 1998 mailbox price of \$15.54/cwt. (\$422,100 in sales / 2,715,519 lbs. sold) the Percent Inflation Adjustment in milk price will be -6% $(-.93 / 15.54)$.
3. Of the Bred heifers bought for expansion, only 13 (10%) are expected to be culled. A total of 40 cows were culled in 1998 and similar numbers are expected to be culled from the existing herd in 1999. The increase in culled sales above the 1998 will be 33% $(13 / 40)$.
4. All of the added heifers will freshen in 1999, so calf sales will increase in proportion to herd size, 91% $((270 / 141) - 1)$.
5. There will be no crop or feed sales
6. There will be no change in government receipts or custom work receipts
7. Miscellaneous receipts will increase half as much as the business size, 4% $((197 + 615) / (141+615)) / 2$ average cows and acres.
8. They will add one full time person on April 1st for \$20,000/year and one part time employee on June 1st for 30hrs/wk at \$8/hr. Additional cost for 1999 (before pay increases) is expected to be \$21,240 $((\$20,000 \times 9/12) + (30 \times \$8 \times 26\text{weeks}))$.
9. Machine hire was for trucks to haul dry corn. All corn in 1999 and beyond will be silage or high moisture corn so that expense will be avoided.
10. Assuming machinery repairs are the same for a cow as an acre of land, 1998 machinery expenses can be divided between livestock and crops in proportion to average cow numbers and acres. Since there were 141 cows and 615 acres, 18% $(141 / (141 + 615))$ is the cow proportion and 82% $(615 / (141 + 615))$ is the acre proportion. For 1999 the cow proportion will increase 40% $((197 / 141) - 1)$ with herd size and the acre proportion will increase 5% from increased corn production. With 1998 normalized 1998 machinery repairs of 15,450, planned change in machinery expense is \$1,745 $((.4 \times .18 \times 15,450) + (.05 \times .82 \times 15,450))$
11. Fuel and oil will increase in the same way as machinery repairs.
12. They replace all culled livestock on a cow per cow basis, so replacement stock expense will increase in the same proportion as culled cow numbers.
13. Breeding expense, vet & medicine expense, and other livestock expense are expected to change with average cow numbers, 40% $((197 / 141) - 1)$.
14. Marketing expense is primarily for milk hauling and some culled livestock expense, it is expected to increase in proportion to milk production.
15. Fertilizer and lime are expected to increase in proportion to corn equivalent acres:

	A	B	A * B
Crop	% of Corn use / acre	1998 crop acre mix	Total Corn Eq
Corn, Silage + HMC	1	400	400
Hay and Haylage	.3	175	53
Wheat	.6	40	24
Total		615	477

Assuming similar cropping practices, you can base next years crop costs on the change in your crop mix corn equivalent units.

	A	B	A * B
Crop	% of Corn use / acre	Planned Acres	Total Corn Eq
Corn, Silage + HMC	1	425	425
Hay and Haylage	.3	190	57
Total		615	482

The Base Unit For Projection is a 1% $((482 / 477) - 1)$ increase and the Planned Change in Expenses is 173 $(17,300 \times .01)$.

16. Seed costs are expected to increase in proportion to corn equivalents:

	A	B	A * B
Crop	% of Corn use / acre	1998 crop acre mix	Total Corn Eq
Corn, Silage + HMC	1	400	400
Hay and Haylage	1.25	175	220
Wheat	.8	40	32
Total		615	652

Assuming similar cropping practices, you can base next years crop costs on the change in your crop mix corn equivalent units.

	A	B	A * B
Crop	% of Corn use / acre	Planned Acres	Total Corn Eq
Corn, Silage + HMC	1	425	425
Hay and Haylage	1.25	190	238
Total		615	663

The Base Unit For Projection is a 2% $((663 / 652) - 1)$ increase and the Planned Change in Expenses is 176 $(8,800 \times .02)$.

17. Chemical and spray expense is expected to increase on corn equivalent units in for the change in crop mix from 1998 to 1999 with the following % of Corn use / acre numbers: Hay acres = .1, wheat acres = .1, corn acres = 1
18. Other crop expenses are expected to increase on corn equivalent units in for the change in crop mix from 1998 to 1999 with the following % of Corn use / acre numbers: Hay acres = .5, wheat acres = .7, high moisture corn acres = 1, shelled corn and corn silage acres = .5
19. Real estate taxes repairs will change in proportion to the change in market value of real estate after lost capital: 19% $((607,520 / 510,000) - 1)$.
20. Real estate taxes will change in proportion to the change in taxable real estate. There is a ten-year exemption on new buildings, so real estate taxes should not change except for inflation.
21. Real estate rents and leases are not expected to change in 1999.
22. Insurance will change in proportion to total farm assets: 20% $((1,375,101 / 1,141,935) - 1)$
23. The majority of utility expense is for milk cooling so it will increase in proportion to milk production.
24. Miscellaneous expense will change in proportion to the business size, average cows and acres.
25. Based on discussions with local suppliers, USDA forecasts, and other sources, 1999 inflation adjustments are as entered on the Projected Cash Flows sheet.

Total Inflows and Outflows

1. A loan of \$745,000 will be taken out to pay off \$323,281 in existing loans and finance \$429,800 in capital purchases (expansion and additional machinery investment).
2. Principle and interest payments made on existing debt and leases from 1/99 to 7/99 will be \$53,585 and after refinancing in 8/99 \$56,070 will be spent in the remaining five months of the year.
3. No capital assets will be sold.
4. Family living expense will be \$65,000.,
5. Any cash flow deficit will be carried on the operating line of credit

Additional Data Input for Preparing Income Statement from Cash Flows

1. Changes in inventory and payables will be as follows on the sheet.

2. Interest expense will be \$367 for the lease and on loans \$15,552 in interest will be paid before refinancing and will \$24,848 be paid after. With an additional \$1,500 paid in operating interest, the total interest expense for debt is \$41,900.
3. Depreciation will be as follows:
Machinery will depreciate in the same amount as last year, \$31,500.
Existing Buildings will depreciate \$4,950 and the new freestall, parlor, and bunk silo will depreciate 12,190 in the first year. Total = \$17,140
Cattle Depreciation will be \$44,800, \$29,800 on the existing herd (same as last year) and \$15,000 (150,000 value / 5 years x .5 (first year convention)).
4. Taxes are projected to be zero in the transition year due to low net income
5. No gain or loss on the sale of real estate or machinery
6. The gain from livestock sales will be \$5,800, same as last year.

Average Future Year Notes:

Forage Production Balance

1. Average future year end (and beginning) inventories will be similar to those for the end of 1999.
2. No forage is planned to be purchased or sold.
3. Forage use per animal will return to 1998 levels
4. Excess forage production less than 15% of total available on the Forage Production Balance, will be considered good and not result in planned sales.
5. Future forage yield projections are as so:

	Acres	Yield in Tons / Acre	% Dry Matter	Dry Matter Tons
Corn Silage	215	25	.32	1720
Hay Silage	190	6	.4	456
Total				2176

Concentrate Feed Production Balance

1. Average future year end (and beginning) inventories will be similar to end of 1999 inventories.
2. Feed and concentrate use per animal will be the same as in 1998.
3. Purchased concentrate feed costs will return to 1998 levels.
4. 210 acres of high moisture corn will be planted with an expected yield of 4.1 tons/ acre.
5. 200 tons of high moisture corn will be sold.
6. If they need additional high moisture corn silage, it can be bought for \$70/ton.

Projected Cash Flows

1. The expected average number of cows in the heard will be 270 and bred heifers will not be grown on the farm.
2. Milk production is expected to return to 1998 levels.
3. Average future mailbox price for milk is expected to be \$1.10/cwt. lower than in 1998. Total milk sales of \$422,000 divided by 2,715,519 pounds sold of milk in 1998 indicates an average price of \$15.54. Therefore, \$1.10 lower is a 7% decrease $(-1.10 / 15.54)$.
4. Culled livestock and calf sales will be proportional to average cow numbers.
5. Government Receipts will remain the same.
6. 200 tons of high moisture corn will be sold for \$70/ton.
7. Miscellaneous receipts will increase half as much as the increase in business size (total crop acres (excluding pasture) and cows). $((270+615/141+615)-1)/2 = 9\%$
8. Two added employees (one full time, one part time) will be hired for the full year (\$32,480).

9. All costs will have the same inflation as in 1999 except for feed costs and purchased replacements. Feed costs will come from the Forage and Concentrate Feed Balances and purchased replacements will return to 1998 price levels with no inflation.
10. Machinery repair and fuel and oil costs associated with the dairy will change in proportion to herd size. Crop associated costs will increase 5% due to the increased corn silage production. See the example on page 6.
11. Livestock and utilities expenses will change in proportion to cow numbers.
12. The change in the crop program will occur in 1999 and will continue at those levels.
13. Since the new investment was included in the real estate expense estimate of 1999, real estate expenses will continue at 1999 levels (Real estate repairs, taxes, rent and leases, and insurance)
14. Miscellaneous expense will change in proportion to business size (cows plus acres)

Total Inflows and Outflows

1. Annual operating interest is projected to be \$1,500
2. Average machinery investment is expected to be 14% of 12/31/1999 projected machinery market value, \$42,392 ($\$302,800 * .14$).
3. There revolving machinery line of credit it as follows:
 $P / Y = 12$
 $N = 60$
 $PV = 150,000$
 $FV = 0$
 $PMT = 3114$
 If they make payments for one year, the remaining principle will be \$125,122, and they can refinance \$24,878 ($150,000 - 125,122$) every year.
4. Future (2000) debt payments will be as follows:
 $390,000 - 5 \text{ year cattle and revolving machinery loan, } 8\% \text{ monthly payments} = \$7,908$
 $395,000 - 15 \text{ year real estate mortgage, } 8.25\% \text{ monthly payments} = \underline{3,833}$
 $\text{Total monthly payments} = \underline{11,741}$
 $\text{Annual debt payments} = 140,892 (11,741 * 12)$
5. Family living expenses are expected to continue at \$65,000 per year.

Additional Data Input for Preparing Income Statement from Cash Flows

1. Interest paid in the future (year 2000) is expected to be:

Loan	Pmts in 2000	Amount	Total paid	Principle Paid	Interest
Lease	5	\$ 284	\$ 1,420	\$ 1,378	\$ 41
Cattle & Mach	12	7,097	85,164	56,307	25,857
Real Estate	12	3,833	45,996	13,927	32,069
Op Interest			1,500		1,500
Total					56,467

2. Depreciation is expected to be:

Machinery – the same as machinery purchases for the year since the average future year is only to maintain the current inventory	\$42,392
Real Estate	29,330
Purchased Breeding Livestock – heifer purchases for the year (\$76,697) times .5 since they will be ½ depreciated at sale	38,349

3. Gain on the sale of culled livestock will be \$11,026, Income from the sale of culled animals minus the undepreciated balance of those animals ($49,374 - 38,348$)
4. Income taxes are expected to be \$10,000

Average Future Cash Flow Projection Worksheets:

The completed worksheets for Amber Ridge Farms for an average future year after the expansion has been completed are shown below.

Forage Production Balance

NAME Amber Ridge Farms Projections for ave. future

FORAGE PRODUCTION BALANCE

BASE YEAR					PLANNED YEAR				
BEGINNING OF YEAR INVENTORY									
Crop	Tons		% Dry Matter	Dry matter on hand	Tons		% Dry Matter	Dry matter on hand	
Corn silage	1450		0.32	464	3580		0.32	1146	
Hay crop sil	420		0.4	168	570		0.4	228	
				0				0	
				0				0	
				0				0	
Total tons dry matter				632 a	Total tons dry matter				1374 h
PRODUCTION DURING YEAR									
Crop	Acreage	Tons / acre	% Dry Matter	Dry matter Produced	Acreage	Tons / acre	% Dry Matter	Dry matter Produced	
Corn silage	75	25	0.32	600	215	25	0.32	1720	
Hay crop sil	175	5.6	0.4	392	190	6	0.4	456	
				0				0	
				0				0	
				0				0	
				0				0	
Total tons dry matter				992 b	Total tons dry matter				2176 i
FORAGE PURCHASES DURING YEAR									
Crop	Tons		% Dry Matter	Dry matter Purchased	Tons		% Dry Matter	Dry matter Purchased	
				0				0	
				0				0	
				0				0	
Total tons dry matter				0 c	Total tons dry matter				0 j
FORAGE SALES DURING THE YEAR									
Crop	Tons		% Dry Matter	Dry matter Sold	Tons		% Dry Matter	Dry matter Sold	
				0				0	
				0				0	
				0				0	
Total tons dry matter				0 d	Total tons dry matter				0 k
END OF YEAR INVENTORY									
Crop	Tons		% Dry Matter	Dry matter on hand	Tons		% Dry Matter	Dry matter on hand	
Corn silage	1310		0.32	419	3580		0.32	1146	
Hay crop sil	515		0.4	206	570		0.4	228	
				0				0	
				0				0	
				0				0	
Total tons dry matter				625 e	Total tons dry matter				1374 l
Total tons dry matter used (disappearance)					Total tons of dry matter available				
(beg. + produced + purchases - sales - end)(a+b+c-d-e)				999 f	(h+i+j-k-l)				2176 m
ANIMAL UNITS									
Animal	units/animal	Number of Animals		Total units	Number of Animals			Total units	
Cows	1	141		141	270			270	
Bred heifers	1			0				0	
Open heifers				0				0	
Calves				0				0	
Total units				141 g	Total units				270 n
Base year dry matter used (f)				999	Planned year dry matter per animal unit				7.09
Base year number of animal units (g)				141	Planned yr. no. of animal units (n) (x)				270
Base year dry matter per animal unit (f/g)				7.09	Planned year dry matter use				1914
1.0 plus percent change in feed use in planned year (x)				1	Planned year dry matter availability (-)				2176
Planned year dry matter per animal unit				7.09	Deficit (or excess) tons dry matter				-262

Concentrate Feed Production Balance

NAME Amber Ridge FarmsProjections for ave. future**CONCENTRATE FEED PRODUCTION BALANCE**

		BASE YEAR			
Concentrate or feed crop (UNIT)	Purchased feed dollars	High moisture corn Tons			
Production:					
Acres		100			
Yield/acre		4.2			
Amount produced (a)	0	420			
Beginning inventory (b)	2480	300			
Purchases (c)	95000				
Sales (d)					
End inventory (e)	2550	345			
Amount used (a+b+c-d-e)	94930	375			
Base year animal units	141	141			
Base year use/animal unit	673.26	2.660			
1+ % change in plan year use	1.00	1.00			
Planned year use/ animal unit	673.26	2.660			
Planned year animal units	270	270			
Total planned year use (f)	181780	718			
PIANNED YEAR					
Production:	0				
Acres		210			
Yield/acre		4.1			
Amount produced	0	861			
Beginning inventory	3000	615			
Purchases (accrual)					
Sales		200			
End inventory	3000	615			
Amount available plan year(g)	0	661			
Planned use - available (f-g)	181780	57			
Planned year price per unit	1	70			
Planned year excess / deficit	181780	3990			
Planned year cost (\$)					

Total planned year feed cost (sum of individual concentrates and crops) 185770

ANIMAL UNITS		Base Year		Planned Year	
Animal	units/animal	Number of Animals	Total units	Number of Animals	Total units
Cows	1	141	141	270	270
Bred heifers	1		0	0	0
Open heifers			0		0
Calves			0		0
Total units			141		270

Projected Cash Flows

NAME Amber Ridge Farms Projections for ave. future**PROJECTED CASH FLOWS**

Operating Receipt Item	Base unit for Projections	Normal Accrual Receipts	Planned Change in Receipts	Percent Inflation Adjustment	Projected Cash Receipts
Milk, eggs	+91%	422100	384111	-7	749776
Culled livestock	+91%	23500	21385	10	49374
Breeding stock		0			0
Feeding livestock		0			0
Calves	+91%	6200	5642	10	13026
Crop sales	no sales	56060	-56060		0
Feed Sales	200 x \$70	0	14000		14000
Government Rct's		15600			15600
Custom work		2200		1	2222
Miscellaneous	+9%	12800	1152	2	14231
Total		538460			858229
Operating Expense Item	Base Unit for Projections	Normal Accrual Expenses	Planned Change in Expenses	Percent Inflation Adjustment	Projected Cash Expenses
Hired labor	20.000+12.480	19500	32480	2	53020
Livestock feed	concentrate bal	95000	90770		185770
Stock roughage	forage balance	0			0
Machine hire	not hired	900	-900		0
Mach. repairs	+91% _c ,+5% _a	15450	3164	2	18986
Fuel and oil	+91% _c ,+5% _a	14200	2908		17108
Replacement stock	+91%	40146	36533		76679
Pur. feeding stock		0			0
Breeding	+91%	4400	4004	2	8572
Vet & medicine	+91%	12400	11284	3	24395
Bedding		0			0
Livestock supplies		0			0
Cattle lease & rent		0			0
Custom boarding		0			0
bST	+91%	12400	11284	3	24395
Other livest'k exp.	+91%	7400	6734	2	14417
Marketing	+91%	3300	3003	2	6429
Fertilizer & lime	+1%	17300	173	3	17997
Seeds & plants	+2%	8800	176		8976
Chemicals, spray	+5%	11200	560	2	11995
Storage & drying		0			0
Other crop exp.	-14%	12900	-1806	1	11205
Real estate repairs	+19%	10200	1938	1	12259
Taxes		35900		3	36977
R.E. rent & lease		11500			11500
Insurance	+20%	10000	2000	2	12240
Utilities	+91%	8600	7826	2	16755
Miscellaneous	+17%	8800	1496	2	10502
Total		360296			580177
Projected cash receipts minus expense excluding interest					<u>278052</u>

*Total Inflows and Outflows*Name Amber Ridge FarmsYear ave. future**TOTAL INFLOWS AND OUTFLOWS**

Total cash income		<u>858229</u>	
Total cash expenses (Excluding Interest)	(-)	<u>580177</u>	
Operating interest expense	(-)	<u>1500</u>	
Net cash income			<u>276552</u>
Nonfarm cash income	(+)		<u> </u>
Capital asset sales	(+)		<u> </u>
Funds borrowed	(+)	<u>24878</u>	
TOTAL INFLOWS			<u>301430</u>
Scheduled term debt payments (principle and interest):			
Before refinancing		<u>140892</u>	
After refinancing	(+)	<u> </u>	
Total		<u>140892</u>	
Principal refinanced (and included in funds borrowed)	(+)	<u> </u>	
Capital investments	(+)	<u>42392</u>	
Family living expenses	(+)	<u>65000</u>	
TOTAL OUTFLOWS	(-)		<u>248284</u>
NET CASH FLOW EXCESS (DEFICIT)			<u>53146</u>

Additional Data Input for Preparing Income Statement from Cash Flows

Name: <u>Amber Ridge Farms</u>	Year: <u>ave. future</u>
ADDITIONAL DATA INPUT FOR PREPARING INCOME STATEMENT FROM CASH FLOW PROJECTIONS	
Inventory change from beginning to end of projected year (from balance sheet)	
Assets that influence income:	
Crop and feed inventory	_____
Raised breeding livestock (quantity only)	_____
Feeder livestock and poultry	_____
Notes and accounts receivable	_____
Advance government payments	_____
Assets and liabilities that influence expenses:	
Investment in growing crops	_____
Supplies	_____
Prepaid expenses	_____
Accounts payable	_____
Accrued property and R.E. taxes	_____
Accrued employer payroll withholding	_____
Accrued rent and lease payments	_____
Total accrual expense adjustment	_____ 0
Accrued interest	_____
* Current portion of deferred taxes (farm)	_____
* Accrued income and Social Security taxes (farm)	_____
** Accrued income and Social Security taxes (nonfarm)	_____
Interest expense	
Interest on loans (cash or by renewal)	_____ 59426
Interest portion of capital lease payments	_____ 41
Depreciation	
Depreciation on Machinery and Equipment	_____ 42392
Depreciation on buildings and improvements	_____ 29330
Depreciation on purchased breeding livestock	_____ 38349
Depreciation portion of capital lease payments	_____
Hedging Net income from hedging operations	_____
Non-operating gains and losses	
Gain or loss on sale of machinery and RE	_____
Gain or loss on sale of purchased breeding livestock	_____ 11026
Percent of income from sale of purchased animals:	
Culled livestock	_____ 100
Breeding stock	_____
Change in base value of raised breeding livestock	_____
Taxes	
* Cash farm income tax expense	_____ 10000
** Cash nonfarm income tax expense	_____
Nonfarm income	
** Operator and Spouses wage off farm (net of expenses)	_____
** Interest and dividends	_____
** Gain or loss on the sale of nonfarm assets	_____
** Other nonfarm income	_____
** Extraordinary income or expense	_____

* Required only if after tax farm income is being calculated

** Required only if nonfarm income is included in net income calculation

1997 Balance Sheet

Balance Sheet - End of Last Year (Beginning Balance)

Name Amber Ridge Farms as of 12/31/97
 Address _____

Assets					Cost Value	0	Liabilities	Market Value
Cash, checking & savings accts.					2750	2750	Accounts payable:	
Marketable stock, bonds (B6)					0	0	Labor 0 Feed 4000	
Hedging account equity					0	0	Repair 350 Fert. 0	
Accounts receivable					51700	51700	0 0 0 0	
Livestock & poultry to be sold:							Chem. Fuel 600	4950
Kind	no.	ave.#	\$/Unit	Value			Notes payable within 12 mo	
				0				
				0				
				0				
				0				
				0	0	0	Principal portion of longer term debt due within 12 mo.	
Tax basis								46922
Crops and feed:							Noncurrent debts: notes (sch. B9) mortgages	9710
Item	Quant.	Unit	\$/Unit	Value			Capital leases (sch.B8)	2699
Shell Corn	420	Tons	103	43260			Estimated accrued interest on:	
Wheat	1700	Bu	3.45	5865			Accts Notes	
Corn Silage	1450	Tons	20	29000			Noncurrent liab(B9)	1830
HM Corn	300	Tons	88	26400			Capital leases (B8)	71
Hay C Silage	420	Tons	40	16800			Estimated accrued taxes:	
Concentrate	8	Tons	310	2480	123805	123805	Real estate & property tax	0
Cash invest. in growing crops:							Employer payroll withhold	350
Crop	Acres	\$/Unit	Value				Accrued rent & lease pmts.	0
Wheat	40	65	2600				Advance gov't receipts	0
				0	2600	2600	Other	0
Supplies (sch. B4)					2000	2000	Deferred taxes (current portion - Sch. B10)	73082
Prepaid expense					1100	1100	Accrued farm income & S.S tax	1350
Other					0	0	Total Current	
Total Current Farm Assets					183955	183955	Farm Liabilities	67882
Noncurrent Farm Assets							Total Noncurrent	424518
Notes and accounts receivable					0	0	Total Farm Liabilities	565482
Breeding stock: purchased					100650	123300	Farm Owner Equity	368406
raised								
Machinery (sch. B2)					141500	300500	(Principal due beyond 12 mo.)	
Livestock leases (sch. B8)					0	0	Notes payable (Sch. B9)	168205
Machinery leases (sch. B8)					7119	7119		0
Building leases (sch. B8)					0	0	Mortgages & Contracts (Sch. B9)	156836
Cooperative investment (sch. B6)					15300	15300		0
Farm real estate (sch. B3)					317225	505000	Leases (Sch. B8)	4420
Contracts receivable					0	0	Deferred taxes (noncurrent portion - Sch. B10)	95057
Other					0	0		
Total Noncurrent Farm Assets					581794	951219	Total Noncurrent	329461
Total Farm Assets					765749	1135174	Total Farm Liabilities	397343
Nonfarm Assets:							Farm Owner Equity	368406
Current:								
Marketable stock, bonds(B6)					0	0	Nonfarm Liabilities:	
Other					0	0	Current:	
Noncurrent:					0	0	Noncurrent:	
Retirement accounts								
Cash value of life ins.							Deferred tax: nonfarm (B10)	0
Vehicles & household (B5)							Accrued nonfarm income & s.s. tax	0
Nonfarm R.E. (Sch B7)							Total Nonfarm Liabilities	0
Other							Total Liabilities	565482
Total Nonfarm Assets					0	0	Owner Equity	569692
Total Assets					765749	1135174	Total Liab.&Owner Equity	1135174

1998 Balance Sheet

Balance Sheet - End of Last Year (Beginning Balance)

Name Amber Ridge Farms as of 12/31/98
 Address _____

Assets					Cost Value	0	Liabilities	Market Value
Cash, checking & savings accts.					3900	3900	Accounts payable:	
Marketable stock, bonds (B6)					0	0	Labor _____ Feed _____ 4200	
Hedging account equity					0	0	Repair _____ 200 Fert. _____ 0	
Accounts receivable					43100	43100	0 _____ 0 _____ 0 _____ 0	
Livestock & poultry to be sold:							Chem. _____ Fuel _____ 300	4700
Kind	no.	ave.#	\$/Unit	Value			Notes payable within 12 mo	
				0				1
				0				2
				0				3
				0				
				0			Principal portion of longer term debt due within 12 mo.	
				0	0	0		51997
Tax basis							Noncurrent debts: notes (sch. B9) mortgages	10807
Crops and feed:							Capital leases (sch.B8)	3041
Item	Quant.	Unit	\$/Unit	Value			Estimated accrued interest on:	
Shell Corn	475	Tons	75	35625			Accts _____ Notes _____	
Wheat	1660	Bu	2.75	4565			Noncurrent liab(B9)	1620
Corn Silage	1310	Tons	20	26200			Capital leases (B8)	44
HM Corn	345	Tons	65	22425			Estimated accrued taxes:	
Hay C Silage	515	Tons	40	20600			Real estate & property tax	0
Concentrate	10	Tons	255	2550	111965	111965	Employer payroll withhold	250
Cash invest. in growing crops:							Accrued rent & lease pmts.	
Crop	Acres	\$/Unit	Value				Advance gov't receipts	0
Wheat	35	70		2450			Other _____	0
				0	2450	2450	Deferred taxes (current portion - Sch. B10)	67704
Supplies (sch. B4)					2300	2300	Accrued farm income & S.S tax	5500
Prepaid expense					8000	8000	Total Current Farm Liabilities	77959
Other _____					0	0	Total Current Farm Assets	145663
Total Current Farm Assets					171715	171715	Noncurrent Farm Liabilities	
Noncurrent Farm Assets							(Principal due beyond 12 mo.)	
Notes and accounts receivable					0	0	Notes payable (Sch. B9)	150636
Breeding stock: purchased raised					109244	138600		0
Machinery (sch. B2)					142600	302800	Mortgages & Contracts (Sch. B9)	145886
Livestock leases (sch. B8)					0	0		0
Machinery leases (sch. B8)					4420	4420		0
Building leases (sch. B8)					0	0	Leases (Sch. B8)	1379
Cooperative investment (sch. B6)					14400	14400	Deferred taxes (noncurrent portion - Sch. B10)	100274
Farm real estate (sch. B3)					312275	510000		
Contracts receivable					0	0		
Other _____					0	0	Total Noncurrent Farm Liabilities	297901
Total Noncurrent Farm Assets					582939	970220	Total Farm Liabilities	375860
Total Farm Assets					754654	1141935	Farm Owner Equity	378794
Nonfarm Assets:							Nonfarm Liabilities:	
Current: _____					0	0	Current: _____	0
Marketable stock, bonds(B6)								0
Other _____					0	0	Noncurrent: _____	0
Noncurrent: _____					0	0		0
Retirement accounts								0
Cash value of life ins.							Deferred tax: nonfarm (B10)	0
Vehicles & household (B5)							Accrued nonfarm income & s.s. tax	0
Nonfarm R.E. (Sch B7)							Total Nonfarm Liabilities	
Other _____							Total Liabilities	543838
Total Nonfarm Assets					0	0	Owner Equity	598097
Total Assets					754654	1141935	Total Liab.&Owner Equity	1141935

1999 Proforma Balance Sheet

Balance Sheet - End of Last Year (Beginning Balance)

Name Amber Ridge Farms as of 12/31/99
 Address _____

Assets					Cost Value	0	Liabilities	Market Value
Cash, checking & savings accts.					3900	3900	Accounts payable:	
Marketable stock, bonds (B6)					0	0	Labor _____ Feed _____	
Hedging account equity					0	0	Repair _____ Fert. _____	0
Accounts receivable					61998	61998	0 _____ All _____	8574
Livestock & poultry to be sold:							Chem. _____ Fuel _____	8574
Kind	no.	ave.#	\$/Unit	Value			Notes payable within 12 mo	
				0				
				0				
				0				
				0				
				0	0	0	Principal portion of longer term debt due within 12 mo.	
Tax basis								59307
Crops and feed:							Noncurrent debts: notes (sch. B9) mortgages	13927
Item	Quant.	Unit	\$/Unit	Value			Capital leases (sch.B8)	1379
Corn Silage	3580	Tons	20	71600			Estimated accrued interest on:	
HM Corn	645	Tons	65	41925			Accts _____ Notes _____	
Hay C Silage	570	Tons	40	22800			Noncurrent liab(B9)	2655
Concentrate	3000		1	3000			Capital leases (B8)	14
				0			Estimated accrued taxes:	
				0	139325	139325	Real estate & property tax	500
Cash invest. in growing crops:							Employer payroll withhold	
Crop	Acres	\$/Unit	Value				Accrued rent & lease pmts.	0
				0			Advance gov't receipts	0
				0	0	0	Other _____	0
Supplies (sch. B4)					3454	3454	Deferred taxes (current portion - Sch. B10)	81074
Prepaid expense					0	0	Accrued farm income & S.S tax	
Other _____					0	0	Total Current	Cost Value
Total Current Farm Assets					208677	208677	Farm Liabilities	86356
Noncurrent Farm Assets							Total Noncurrent	729569
Notes and accounts receivable					0	0	Total Farm Liabilities	896999
Breeding stock: purchased					249104	254700	Farm Owner Equity	382598
raised								
Machinery (sch. B2)					142600	302800	(Principal due beyond 12 mo.)	290693
Livestock leases (sch. B8)					0	0	Notes payable (Sch. B9)	0
Machinery leases (sch. B8)					1379	1379	Mortgages & Contracts (Sch. B9)	381073
Building leases (sch. B8)					0	0		0
Cooperative investment (sch. B6)					25	25	Leases (Sch. B8)	0
Farm real estate (sch. B3)					538935	607520	Deferred taxes (noncurrent portion - Sch. B10)	57803
Contracts receivable					0	0		
Other _____					0	0	Total Noncurrent	671766
Total Noncurrent Farm Assets					932043	1166424	Total Farm Liabilities	758122
Total Farm Assets					1140720	1375101	Farm Owner Equity	382598
Nonfarm Assets:					Tax basis		Nonfarm Liabilities:	
Current:					0	0	Current:	0
Marketable stock, bonds(B6)								0
Other _____					0	0	Noncurrent:	0
Noncurrent:					0	0		0
Retirement accounts							Deferred tax: nonfarm (B10)	0
Cash value of life ins.							Accrued nonfarm income & s.s. tax	0
Vehicles & household (B5)							Total Nonfarm Liabilities	0
Nonfarm R.E. (Sch B7)							Total Liabilities	896999
Other _____							Owner Equity	478102
Total Nonfarm Assets					0	0	Total Liab.&Owner Equity	1375101
Total Assets					1140720	1375101		