Mocash

A Computer Spreadsheet for Projecting Monthly Cash Flows

by

Eddy L. LaDue, Jacob Schuelke and Virgil Mensah-Dartey

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Table of Contents

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Introduction

This Excel worksheet is designed to assist in the development of monthly cash flow projections for the coming year (referred to as <u>next</u> year) based on the receipt and expense occurrences of the prior, or a base, year (referred to as <u>this</u> year). This is an historical base model, not a budget based model. Receipt and expense data for <u>this</u> year for the farm being projected must be available, broken down on a monthly basis for each category.

Monthly cash flow projections for next year are an essential part of effective capital management in any business. They are used:

(1) to develop a plan to avoid cash flow problems,

(2) to plan for efficient use of capital,

(3) to determine the operating, or line of credit, needs of the business for the year,

(4) to identify expected term credit needs, and

(5) as a basis for monitoring the business to identify issues that need management attention (management by exception).

This program does not project cash flows. It provides the framework, does the arithmetic and transfers data from one worksheet to the next. A useful cash flow projection can be made only if considerable thought is given to the individual receipt and expense items and the expected operation of the business for next year. A cash flow projection that mindlessly changes each item by the planned change in herd size or acres will be of little value.

Keep in mind that:

(1) Budgeting is not an exact science and the idea is only to be in the ballpark with your projections of the coming year(s). Projected data will never exactly predict the future, but it should be close enough to provide a basis for management decisions and for evaluation of actual occurrences.

(2) Miracles rarely occur. Do not to build large productivity changes or other unsubstantiated changes in the budget. The past performance of a business is usually a good predictor of the future. There is a cause for every financial result. Use causal logic in projecting cash flows. Think about what causes each expense and receipt item. See Table 1 for ideas.

Table 1. Example Basis for Projections

(All items 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 harvested for sale, production level and price.

3. Cattle Sales – Per cow adjusted for price

4. Other Farm Receipts – Last year is adjusted for known changes.

5. Nonfarm Income – Last year's adjusted for likely changes.

6. Labor Expense – Last year's total adjusted for planned changes in the number employed and wage rates.

7. Feed (Concentrate) – Last year's per cow adjusted for changes in feed crop acres and prices.

8. Feed (Forage) – Last year's adjusted for planned change in forage production rate.

9. Machine Hire – Last year's adjusted for planned changes in hire of machines.

10. Machine Repairs – Percent of machinery investment adjusted for change in acres and animals.

11. Fuel – Per crop acre adjusted for number of cows.

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 – Acres 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.

Spreadsheet Layout

The various worksheets that makeup the spreadsheet are laid out within the Excel matrix as shown below. The letter and number in upper left-hand corner of each cell in the table indicate the location of the upper left corner of the worksheet. Users can get to the various worksheets using this information, but it will generally be easier to use the menu structure to move around in the spreadsheet.

	P1 Worksheet 3A	AG 1 Worksheet 4	AV1 Worksheet 7
A21 Worksheet 1	P31 Worksheet 3B	AG 31 Worksheet 5	AV31 Supplemental Worksheet 4
A61 Worksheet 2A	P61 Worksheet 3C	AG 61 Worksheet 6	
A91 Worksheet 2B	P91 Worksheet 3D	AG 91 Supplemental Worksheet 3	
A121 Supplemental Worksheet 2	P121 Worksheet 3E		
A51 Supplemental Worksheet 1	P151 Worksheet 3F		

Menu

There are many steps in projecting monthly cash flows. Thus, there are a number of worksheets contained in this spreadsheet. The program is menu driven to ease moving from one worksheet to another. The main menu can be reached using Ctrl M (hold down control and press m). The main menu items are:

Menu Item   Operation

Income   Go to the Income Menu:

    Worksheet 1   Go to Worksheet 1 - Basic Data of deviations in operating Expense, capital purchases in the coming year, and milk/livestock price

    Worksheet 2A   Go to Worksheet 2A – Livestock / Milk & Egg Receipt income

    Worksheet 2B   Go to Worksheet 2B – Crop and other income, and total receipts

    Supplemental 1   Go to Supplemental Worksheet 1 – Supplemental livestock income

    Supplemental 2   Go to Supplemental Worksheet 2 – Supplemental crop income

Expenses   Go to the Expenses Menu:

    Worksheet 3A   Go to Worksheet 3A – Labor and Feed Expenses

    Worksheet 3B   Go to Worksheet 3B – Machinery Expenses

    Worksheet 3C   Go to Worksheet 3C – Livestock Expenses

    Worksheet 3D   Go to Worksheet 3D – Crop Expenses and Land Rent

    Worksheet 3E   Go to Worksheet 3E – Real estate Expenses and Taxes

    Worksheet 3F   Go to Worksheet 3F – Utilities, Marketing, and Miscellaneous Expenses

Totals   Go to the Totals Menu:

    Worksheet 4   Go to Worksheet 4 – Summary of cash farm expenses

    Worksheet 5   Go to Worksheet 5 – Capital purchases planned

    Worksheet 6   Go to Worksheet 6 – Cash inflow, including non-farm, and outflows

    Supplemental 3   Go to Supplemental Worksheet 3 – Family living expenses

Results   Go to the Results Menu:

    Worksheet 7   Go to Worksheet 7 – Projected cash flow

    Supplemental 4   Go to Supplemental Worksheet 4 – Scheduled debt payments

Print   Go to the Print Menu:

    All   Print all worksheets

    Summary   Prints: Worksheet 4 – Summary of cash farm expenses
                       Worksheet 5 – Capital purchases planned
                       Worksheet 6 – Cash inflow, including non-farm, and outflows
                       Worksheet 7 – Projected cash flow
                       Supplemental Worksheet 3 – Family living expenses
                       Supplemental Worksheet 4 – Scheduled debt payments

    Results   Prints: Worksheet 7 – Projected cash flow
                       Supplemental Worksheet 4 – Scheduled debt payments

Clear   Clear all information entered in all worksheets

Case Farm

To illustrate the use of the MOCASH program, a case farm example will be used throughout the discussion. The case farm is Oak Park Dairy owned by Christine Johnson and her sister Mary Hansen. It is a 250 cow dairy with 630 acres of corn, hay crop and wheat. Christine and Mary have heard that the price of milk is expected to drop in the coming year and are developing a monthly cash flow plan to (1) insure that they will not experience cash flow problems in 2000, (2) to plan their line of credit needs and (3) provide a benchmark for monitoring monthly expenses during the coming year. Their planning notes for 2000 appear at the end of this publication.

The 1999 data are presented in Tables 1 through 4 below. The data in these tables are cash only. The changes in inventories for 1999 are:

Oak Park Dairy	
Changes in Inventories	
Inventory Item	Change from 12/31/98 to 12/31/99
Feed	$-4,000
Lime and fertilizer	$-3,000
Machinery parts	$-1,200
Accounts payable:	
Vet bill	$+2,947
Chemicals and sprays	$+3,200

TABLE 1 — Oak Park Dairy — 1999 Cash Inflows

Month Produced	Number of Cows	Production per Cow	Total Production	Month (Received)	Milk Sales	Calf Sales	Cull Cow Sales	Crop Sales	Other Farm Income	Nonfarm Income
Dec	247	1881	464607	Jan	83862	610	3960	0	4054	0
Jan	248	1894	469712	Feb	84078	540	1880	0	2513	0
Feb	249	1854	461646	Mar	71924	560	5780	0	1865	0
Mar	247	1809	446823	Apr	70196	450	5060	0	3324	0
Apr	243	1823	442989	May	54399	430	2620	0	1557	0
May	239	1802	430678	Jun	55041	490	3040	0	7054	0
June	236	1792	422912	Jul	54598	530	5990	0	2230	0
Jul	235	1736	407960	Aug	55931	1510	1120	0	2603	0
Aug	252	1768	445536	Sep	65316	410	3050	0	1751	0
Sep	253	1801	455653	Oct	72996	560	2650	0	2603	0
Oct	254	1850	469900	Nov	72177	480	3080	3150	2084	0
Nov	252	1866	470232	Dec	69453	560	1930	25350	2343	0
TOTAL		21876	5388648		809971	7130	40160	28500	33981	0

TABLE 2   Oak Park Dairy
                                              1999 Cash Outflows

Month	Labor	Feed Concentrate	Feed Roughage	Breeding Fees	Veterinary Medicine	Replacement Livestock	Other Live-stock Exp.	Machine Repair	Auto Expense	Petroleum
Jan	5943	17491	0	418	3852	0	3794	6669	0	1207
Feb	5649	17258	0	526	2309	0	2967	6045	0	786
Mar	6128	15635	0	387	2143	0	2888	4282	207	1145
Apr	6427	14251	0	318	2265	0	4880	9452	488	1520
May	6905	14040	0	742	2356	0	3418	2972	72	1190
Jun	5784	15875	0	361	1566	0	2954	2775	0	1392
Jul	5478	17061	0	708	2039	0	4630	525	119	1339
Aug	6588	16315	0	223	3400	0	3753	667	0	1261
Sep	7343	15893	0	525	1273	0	4920	1599	203	1439
Oct	8643	17347	0	563	2525	0	3934	2074	165	1865
Nov	7195	15759	0	1477	3306	0	3351	201	0	1587
Dec	6817	16717	0	342	0	0	4156	2382	151	1732
TOTAL	78900	193642	0	6590	27034	0	45645	39643	1405	16463

TABLE 3   Oak Park Dairy
                                            1999 Cash Outflows (Con't)

Month	Lime & Fertilizer	Seeds & Plants	Spray & Chemicals	Other Crop Expense	Custom Work	Rent	Land, Bldg. Repair	Insurance	Taxes	Utilities
Jan	0	0	0	0	0	0	763	0	5067	1639
Feb	0	0	0	0	0	0	939	0	0	1494
Mar	0	0	0	0	0	0	1599	8956	0	1547
Apr	439	7444	3556	329	0	0	2331	0	0	1410
May	10830	2674	2265	452	0	4061	4088	0	0	1333
Jun	575	0	213	124	0	1218	3363	0	0	1354
Jul	0	0	0	391	4120	1218	809	0	0	1272
Aug	452	0	0	65	0	919	757	0	0	1264
Sep	4516	3421	0	204	0	2417	771	0	10389	1455
Oct	0	0	0	68	0	1740	633	0	0	1539
Nov	0	0	0	313	0	387	1371	0	0	1568
Dec	0	0	0	0	0	0	1319	342	0	1692
TOTAL	16812	13539	6034	1946	4120	11960	18743	9298	15456	17567

TABLE 4

Oak Park Dairy

1999 Cash Outflows (Con't) and Totals

Month	Other Utilities	Marketing	Misc. Expense	Total Farm Expense	Family Living Exp	Total Expenses	Total Farm Receipts	Total Receipts	Cash Receipts Less Expenses
Jan	0	2981	685	50509	5500	56009	92486	92486	36477
Feb	0	2937	826	41736	5500	47236	89011	89011	41775
Mar	0	2494	405	47816	5500	53316	80129	80129	26813
Apr	0	2534	522	58166	5500	63666	79030	79030	15364
May	0	2491	1503	61392	5500	66892	59006	59006	-7886
Jun	0	2368	958	40880	5500	46380	65625	65625	19245
Jul	0	2246	678	42633	5500	48133	63348	63348	15215
Aug	0	2682	202	38548	5500	44048	61164	61164	17116
Sep	0	2657	296	59321	5500	64821	70527	70527	5706
Oct	0	2813	117	44026	5500	49526	78809	78809	29283
Nov	0	2753	498	39766	5500	45266	80971	80971	35705
Dec	0	2941	305	38896	5500	44396	99636	99636	55240
TOTAL	0	31897	6995	563689	66000	629689	919742	919742	290053

Before you Begin – Basic Data Needs

Because this program projects cash flows from a historical base, complete data for the prior, or other base year, are required. Thus, step one in using this model is to assemble the base year accrual expenses and receipts on a monthly basis. This will usually involve taking the monthly cash data and adjusting it for changes in inventories, payables, receivables or prepaid expenses. To get accrual information from cash based information, take the cash value of the receipt or expense for the year and subtract the change in (end of year minus beginning of year) inventory, prepaids, payables and receivables that correspond with that item. For example, Oak Park Farms spent $16,812 on fertilizer in 1999 and fertilizer inventories decreased $3,000, so their accrual cost for the year was $19,812. The decline in inventory resulted from not making normal purchases in December. This will result in added purchases in May. Thus, the accrual adjustment must be added to the May base year expense.

The second step is to adjust the base year data for unusual occurrences during the base year. For example, high vet costs because of an unusual health problem that has been corrected or high crop receipts due to unusually high yields, need to be adjusted for the projection.

These steps can be made to the base year data prior to entering them in the program, or they can be made during the cash flow projection process. However, if adjustments for unusual occurrences are delayed until projections are made, the projector must be remember to make those changes as (s)he goes along.

Data Entry

Entry of data is accomplished by going to the various worksheets and entering data in the appropriate locations. Each page of forms can be reached by appropriate selection using the menu,

which will move you to the upper left corner of the worksheet. To reach the menu, use Control M (hold down control and press M).

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 worksheet. Unprotecting a cell and entering data will wipe out the equation for all future uses of the program. The fact that unprotected cells are in color makes it easier to check whether all the required data have been entered.

Each category of receipt and expense items has a "percent change" line in the top right hand corner. This line is for the inflation rate, or change in price, from the base year for that item. For each projected value the base value as adjusted by the percent or dollar change column value is adjusted for the rate of inflation listed in the percent change column. If one desires, changes that will be the same percent for all months can be easily entered in the percent change line at the top. Remember to include any inflation in that number. Also, the two numbers are multiplicative. That is, if the expected inflation rate is 20 percent and the change in the receipt or expense item that occurs in all months is 70 percent, the correct number to enter in the percent change line at the top is 104 ((1.20 x 1.70) –1.0), not 90 (70 + 20). Similarly, a 50 percent decline in production and a 50 percent reduction in price do not result in a 100 percent reduction (to zero) in receipts. Receipts decline to 0.5 x 0.5 = 0.25, or a 75 percent reduction.

Worksheet 1 – Basic Data for Monthly Cash Flow Planning

In preparing a cash flow plan, it is important to record the assumptions and key values used in the projection. This helps readers (lenders, management team members, employees, etc.) understand the basis for the projections and provides a reminder for anyone who looks at the cash flows at a later date. It is also a complete way of labeling each cash flow projection when more than one is prepared. Although the preparer often believes that (s)he will certainly remember the assumptions, unexpected changes in the real world often make it difficult to remember. For example, if an increase in milk price is assumed and the actual price goes down for several months, it is often difficult to believe that you assumed an increase in the projections. Worksheet 1 is designed as a place to write down all the major assumptions used. It is often best to return to worksheet 1 whenever an important assumption is made in the projection process.

Enter planned business changes for the next year that will affect operating expenses and/or receipts from the base year. Examples include changes in herd size, crop acres, efficiency or productivity.

Enter planned capital purchases for next year and expected monthly price projections for the major livestock products that you plan to sell in the coming year. Milk price projections for New York can be obtained from the Cornell Program on Dairy Markets and Policy website (http://cpdmp.cornell.edu) and other agricultural commodity prices can be obtained from the USDA price projection website (http://www.ers.usda.gov/briefing//baseline/). If you have contracted or used risk management measures to assure a price in the coming months, use those prices.

Notes for Case Farm (*Worksheet1*):

1. 40 Bred heifers will be bought on September 1st
2. Milk production will be 2 percent high than last year, slightly less than the increases experienced in the last few years.
3. 70 acres normally used for wheat production will be used for corn and hay silage.
4. An addition to the free stall and a new bunk silo will be put in to accommodate the bred heifers purchased.
5. The skid steer, manure spreader, and forage harvester are going to be replaced.
6. Milk prices as projected by the Cornell Program on Dairy Markets and Policy will be as follows on the sheet.

Worksheet 1. BASIC DATA FOR MONTHLY CASH FLOW PLANNING
_____

Major deviations in Operating Expenses from this year

	Item		Dollar Change
1.	Add 40 cows to start milking Oct. 1	1.	0
2.	Decrease Wheat acreage by 70 acres	2.	0
3.	Increase corn silage and hay crop silage by 35 acres each	3.	0
4.	Milk Production two percent higher	4.	0
5.	0	5.	0
6.	0	6.	0
7.	0	7.	0

Capital Purchases Planned Next Year

	Item		Cost less trade-in
1.	Addition to free stall barn	1.	40000
2.	Bunk Silo	2.	24000
3.	Skid Steer Loader	3.	17000
4.	Manure Spreader	4.	15000
5.	Forage Harvester	5.	33000
6.	40 Bred Heifers	6.	48000
7.	0	7.	0

Livestock Prices to be Used for Next Year

Livestock is Cows
Product is milk
Price is per cwt.

Dec.	12.55	Mar.	12.55	June	12.6	Sept.	13.23
Jan.	12.11	Apr.	12.66	July	12.67	Oct.	13.67
Feb.	12.35	May	12.69	Aug.	12.85	Nov.	14.13

_____

Worksheet 2A – Estimation of Cash Farm Receipts: Livestock Product and Livestock Sales

The left side of this worksheet is for livestock products and the right side is for livestock sales. If livestock sales are very important, or a separate listing of various categories is desired, use Supplemental Worksheet 1.

Enter the average number of animals expected for each month and their production per unit in that month for the coming year. Many herds have a cyclical change in the number of animals during the year. Using actual numbers for the base year as a starting point will usually give more realistic numbers that using 100 cows each month for what is thought of as a 100 cow farm. Adjust base year numbers for explicitly planned changes. Last year's monthly production per animal can be obtained by dividing the number of animals into the monthly production. For example, January production of 469,712 from 248 cows implies 1,894 pounds per cow. Be sure that production and price are entered in the same units. For example, if price is entered in per hundredweight, then production should be entered in hundredweights (not pounds). For Oak Park, production levels are based on last year's average production per animal times 1.02 since there is a planned 2% increase in production.

Livestock product price will appear from the numbers entered in Worksheet 1 and receipts will automatically be calculated as number of animals times production per animal times price. Notice that the months of production start with December and end in November. This is designed to handle the normal milk payment system where milk produced in one month is not paid for until the next month. If there is no such delay, use the month received column and ignore the month produced column.

If all livestock sales for your farm are comprised of one or two types of similar animals, you can enter last year's total sales in the "this" year column of this worksheet. Enter the projected changes for next year in percentage change and/or whole dollar change from the base year.

If you have substantial livestock sales that involves different types of animals, go to **Supplemental Worksheet 1**. On that worksheet, separate planned year animal sale numbers and prices for different livestock types can be entered. Enter there sales not included on Worksheet 2A. Be sure not to double count by including animal sales in Worksheet 2A <u>and</u> supplemental Worksheet 1. If sales of a particular type of livestock can be estimated easier in dollars than number and price, enter the total sales under price and enter 1 under quantity. Be sure to enter prices in supplemental Worksheet 1 in projected year dollars. They will not be inflated by the price change listed on Worksheet 2A.

Notes for Case Farm (*Worksheet 2A*):

1. The number of cows in milk production will be the same as last year until October when the 40 bred heifers are expected to freshen.
2. Production per cow will be 2% high than last year.
3. The 40 bred heifers are not expected to decrease herd production averages since they will be freshening and producing peak amounts.
4. Livestock sales (cull cow and bull calves) will be the same as last year until October when the 40 heifers freshen. Then the cull rate is expected to be 10% higher for the rest of the year.

Livestock prices are expected to be 20% higher in the coming year.

Notes for Case Farm *(Supplemental Worksheet 1):*

1. It is expected that 18 additional bull calves will be sold in October. The price of bull calves was $90 this year, which implies a price of $108 in the planned year when the 20 percent higher prices is factored in.

WORKSHEET 2A. ESTIMATION OF CASH FARM RECEIPTS: LIVESTOCK PRODUCT AND LIVESTOCK SALES

| | Livestock Products Sales: Milk or Eggs | | | | | Livestock Sales: % change* = | | | 20 |
Month Produced	No. of Cows	Production Per Cow	Total Milk Production	Price per Cwt.	Month Received	Receipts	This Year	Planned Change Dollars	Percent	Next Year & Sup Wkst 1
		Cwt. / Month								
Dec.	252	19.19	4835.88	12.55	Jan.	60690	4570	0	0	5484
Jan.	248	19.32	4791.36	12.11	Feb.	58023	2420	0	0	2904
Feb.	249	18.91	4708.59	12.35	Mar.	58151	6340	0	0	7608
Mar.	247	18.45	4557.15	12.55	April	57192	5510	0	0	6612
April	243	18.59	4517.37	12.66	May	57190	3050	0	0	3660
May	239	18.38	4392.82	12.69	June	55745	3530	0	0	4236
June	236	18.28	4314.08	12.6	July	54357	6520	0	0	7824
July	235	17.71	4161.85	12.67	Aug.	52731	2630	0	0	3156
Aug.	252	18.03	4543.56	12.85	Sept.	58385	3460	0	0	4152
Sept.	253	18.37	4647.61	13.23	Oct.	61488	3210	265	0	6114
Oct.	294	18.87	5547.78	13.67	Nov.	75838	3560	308	0	4642
Nov.	292	19.03	5556.76	14.13	Dec.	78517	2490	193	0	3220
Total/Ave.	253.333333	223.13	56574.81	12.8383333		728307	47290			59612

SUPPLEMENTAL WORKSHEET 1. ESTIMATION OF RECEIPTS FROM LIVESTOCK SALES (not entered on work sheet 2A)

| Month | Animal: Calves | | Animal: Cull Cows | | Animal: | 0 | Animal: | 0 | Total |
	Quantity	Price*	Quantity	Price*	Quantity	Price*	Quantity	Price*	Sales
Jan.									0
Feb.									0
Mar.									0
April									0
May									0
June									0
July									0
Aug.									0
Sept.									0
Oct.	18	108							1944
Nov.									0
Dec.									0
Total/Ave.	18	108	0		0		0		1944

*Planned year price

Worksheet 2B – Estimation of Cash Farm Receipts: Crop and Other Income

Income from crop sales is entered on the left side of Worksheet 2B and on Supplemental Worksheet 2. If crop sales are modest, or only one crop is sold in any month, enter crop sales on Worksheet 2B. If you have crop sales of two or more different kinds in a month, enter the additional crop sales in Supplemental Worksheet 2.

When entering information in **Supplemental Worksheet 2**, place crop production information (crop, # of acres, and yield/acre) for the coming year in the left section of the sheet and your marketing plan to the right. To fill out the right section, enter the month in number format (January = 1 and December = 12) and the quantity and price information in the appropriate column. A number of different crops can be sold in the same month. The program will include each crop sale in the appropriate month in Worksheet 2B (if you remember to enter the month number for each entry). For example, if corn were sold in several months including $4,000 in December, and wheat were sold in several months including $3,000 in December, and soybeans were sold in several months including $2,000 in December, the program would add the total $9,000 in crop sales from Supplemental Worksheet 2 to the total crops sales for December in Worksheet 2B.

Other Farm Income includes all income that is expected to be received that is not entered on the prior worksheets. Thus, all income except livestock product, livestock sales and crop sales income is entered here. Enter a percentage (20 not .2) in the cell to the right of % change to indicate the rate of inflation, or rate of change in price, expected for other income. The projected next year value is calculated as the sum of the base year value and the dollar change multiplied by 1 plus the inflation rate.

For example, Oak Park does not project any change in other farm income so they entered 0 in the percentage change column at the top and 0 for all months in the dollar columns. If the base year income were 1000, planned change was $500 and % change was–20, the next year figure would be $1,200 (($1,000 + $500) x .8).

Notes for Case Farm (*Worksheet 2B)*:

1. 40 tons of baled hay will be sold in November for $100/ton

Other farm income will be the same as last year's occurrence

WORKSHEET 2B. ESTIMATION OF CASH FARM RECEIPTS: CROP AND OTHER INCOME

Month	Crop	This Year Quantity	This Year Price	This Year Value	Next Year Quantity	Next Year Price	Next Year Value	TOTAL CROPS Sum of Wkst. 2B & Sup.Wks.1	Other Farm Income This Year	Change (dollars)	Next Year	Total Cash Farm Operating Receipts
Jan.		0	0	0	0	0	0	0	4054	0	4054	70228
Feb.		0	0	0	0	0	0	0	2513	0	2513	63440
Mar.		0	0	0	0	0	0	0	1865	0	1865	67624
April		0	0	0	0	0	0	0	3324	0	3324	67128
May		0	0	0	0	0	0	0	1557	0	1557	62407
June		0	0	0	0	0	0	0	7054	0	7054	67035
July		0	0	0	0	0	0	0	2230	0	2230	64411
Aug.		0	0	0	0	0	0	0	2603	0	2603	58490
Sept.		0	0	0	0	0	0	0	1751	0	1751	64288
Oct.		0	0	0	0	0	0	0	2603	0	2603	72149
Nov.	Hay	35	90	3150	40	100	4000	4000	2084	0	2084	86564
Dec.		0	0	0	0	0	0	0	12180	2343	0	2343	96260
TOTAL				3150			4000	16180	33981		33981	840024

Notes for Case Farm (*Supplemental Worksheet 2):*

1. They plan on harvesting 60 acres of wheat with an expected yield of 70 bushels/acre.
   All wheat will be sold in December for $2.90/bu.

2. These sales could have been included on worksheet 2B, but are listed here for expository purposes.

SUPPLEMENTAL WORKSHEET 2. ESTIMATION OF RECEIPTS FROM CROPS (not entered on Worksheet 2B)

| | Production | | | | Sales | | | |
Crop	Acres	Yield	Total Production	Month Number	Quantity		Expected Price	Amount of sale
Wheat	60	70	4200	12	4200		2.9	12180
								0
0	0	0	0	0			0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
								0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
								0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
								0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0						0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0
0	0	0	0	0	0		0	0

Worksheets 3A – 3F

These worksheets are designed to enter all operating expenses connected with operation of the business. Base year expenses are entered in the "this year" column. Enter the expected changes either in dollar or percent form. The dollar change should be entered in "this" year dollars, because it will be increased by the inflation rate in the upper right corner of the form. The two change columns are independent. That is values entered in the dollar column will not be increased by the percent change in the percent column. For example, if "this year" expense is $5,000, the dollar change is $3,000, the percent change for that month is 30 and the top of the worksheet percent change (inflation rate) is 5, the projected expense will be $9,975 ((5,000 + 3,000 + 1,500 (5,000 x .3)) x 1.05). For our Oak Park Dairy case, last year's May labor costs were $6,905, they plan on adding another worker for $2000/month, and will increase wages by 3% for all workers, so next year's projection of May labor cost is $9,172 (($6,905 + $2,000) x 1.03).

When doing inflation projections, it is best to uses inflation projections from accredited sources like the USDA (http://www.ers.usda.gov/briefing//baseline/) or ask local suppliers for price projections.

If you do not plan on repeating last year's cost patterns for a particular item, do not enter the base year's values in the "this" year column but enter the planned purchases in the "planned change: dollars"

16

column. For example, if you plan purchase the entire fertilizer and seed inventory for the year in April, leave the "this year" column blank and enter the planned purchases in the "planned change: dollars" column. The values entered will be changed by the inflation rate entered in the percent change line at the top of the Worksheet. If the entered values are already in next year's dollars, just enter a zero in the inflation percent change line. Whenever the historical data are not used for an item, be sure to compare the projected values with the historical totals to ensure that the projected value s are consistent with historical performance of this farm.

Keep in mind the importance of basing projections on actual occurrences of the business. Table 1 provides ideas for causal projections.

Be sure that all operating expenses of the business except interest are included in Worksheets 3A through 3F. Various accounting systems use different categories for expense items. Some allow the farmer to establish his/her own chart of accounts. Be sure that all expense categories of expenses for this farm are included in one of the Worksheets. For example, include phone expenses as well as electricity in utility expenses. Also, livestock expenses may have separate categories for bST, bedding, milking supplies, custom boarding or hoof trimming. All of these categories should be included in one of the categories on Worksheet 3C.

Notes for Case Farm (*Worksheets 3A-F*):

1. Inflation projections as acquired from the USDA and local suppliers are as follows on the sheets.

2. An employee will be added in May at a cost of $2,000/month (that number includes social security and other taxes and all benefits).

3. Feed concentrate use is expected to increase three percent to sustain the two percent increase in milk production. Feed use will increase in proportion to herd size.
    For feed and other costs (except milk hauling) connected to the increased herd size, use the average increase in herd size 16.3% (40/246). Remember that the change due to herd size and production level are multiplicative, so a 3 percent increase on 16.3 percent more cows equals 20 percent more use (1.03 x 1.163 = 1.198).

4. No purchases of forage are planned for the year.

5. Custom work is for wheat harvest and will change in proportion to wheat acreage
    –54 % (60/130 – 1).

6. Machinery repairs, auto expense, and petroleum expenses are expected to increase next time about 50 percent on the 35 acre that are shifted from wheat to corn silage and 40 percent on the acres that are shifted from wheat to hay crop silage. The increase from changes in the crop mix will be 5% ((.5 x 35 + .4 x 35) / 630 total acres). The 16 percent increase in herd size will result in a 16% increase in dairy related expenses. Since these three items are used both for cows and acres and assuming a cow requires as much as an acre of land, the increase in expenses for these items will be as follows: May-August – 4% (630 acres x .05 / 630acres + 246cows). September – December 8% (630 x .05 + .16 x 246) / (630 + 246).

7. Breeding costs will be the same as last year until December when the new heifers are bred back. Their cost will be the average cost to breed a cow (1999 breeding expense / average number of cows that year) times the number of new cows.

8. Vet expenses will increase in proportion to milk production. Remember that the increase in milk production is the sum of new cows percentage and herd productivity increases 19% (1.163 x 1.02).

9. Other livestock expense will increase in proportion to herd size.

10. All replacements are raised and there are no additional purchases. The 40 bred heifer herd addition is a capital expenditure.

11. The change in crop mix will result in changes in crop expenses proportional to the change in acres. Crop costs per acre and the months they were incurred for 1999 were as follows:

	Hay Crop Silage	Corn Silage	Wheat
Fertilizer	18　June	55　May	30　Sept
Seed	15　April	38　May	26　Sept
Chemicals and Spray	5　June	14　June	2　June
Other Crop Expense	11　June	6　June	3　July

With wheat acreage decreasing by 70 acres and Corn and Hay both increasing 35 acres, the effect on the budget will be as follows on the worksheets.

12. Rent expenses will not change.

13. Building repair costs and insurance are expected to increase in proportion to herd size starting September.

14. There will be no changes to property taxes due to the freestall addition and new bunk silo because there is a property tax exemption on new buildings.

15. Utilities, mostly electricity to cool milk, will increase in proportion to milk production.

16. Marketing costs to haul milk will increase in proportion to milk sold but will not be incurred until one month afterward since marketing costs are deducted from the milk check.

17. Miscellaneous expenses are projected to increase 4% from the change in the crop mix and an additional 4% from the herd increase.

18

WORKSHEET 3A. ESTIMATION OF CASH FARM EXPENSES: LABOR AND FEED

	LABOR Percent change= 3				FEED - CONCENTRATE Percent change= 5				FEED - ROUGHAGE Percent change= 0			
Month	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year
Jan.	5943	0	0	6121	17491	0	3	18917	0	0	0	0
Feb.	5649	0	0	5818	17258	0	3	18665	0	0	0	0
Mar.	6128	0	0	6312	15635	0	3	16909	0	0	0	0
April	6427	0	0	6620	14251	0	3	15412	0	0	0	0
May	6905	2000	0	9172	14040	0	3	15184	0	0	0	0
June	5784	2000	0	8018	15875	0	3	17169	0	0	0	0
July	5478	2000	0	7702	17061	0	3	18451	0	0	0	0
Aug.	6588	2000	0	8846	16315	0	3	17645	0	0	0	0
Sept.	7343	2000	0	9623	15893	0	20	20025	0	0	0	0
Oct.	8643	2000	0	10962	17347	0	20	21857	0	0	0	0
Nov.	7195	2000	0	9471	17759	0	20	22376	0	0	0	0
Dec.	6817	2000	0	9082	18717	0	20	23583	0	0	0	0
Total	78900			97747	197642			226193	0			0

WORKSHEET 3B. ESTIMATION OF CASH FARM EXPENSES: MACHINERY

	CUSTOM WORK Percent change= 2				REPAIRS Percent change= 3				AUTO AND PETROLEUM Percent change= 20			
Month	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year
Jan.	0	0	0	0	6669	0	0	6869	1207	0	0	1448
Feb.	0	0	0	0	6045	0	0	6226	786	0	0	943
Mar.	0	0	0	0	4282	0	0	4410	1352	0	0	1622
April	0	0	0	0	9452	0	0	9736	2008	0	0	2410
May	0	0	0	0	3172	0	4	3398	1262	0	4	1575
June	0	0	0	0	2975	0	4	3187	1392	0	4	1737
July	0	0	0	0	725	0	4	777	1458	0	4	1820
Aug.	4120	0	-54	1933	867	0	4	929	1261	0	4	1574
Sept.	0	0	0	0	1799	0	8	2001	1642	0	8	2128
Oct.	0	0	0	0	2274	0	8	2530	2030	0	8	2631
Nov.	0	0	0	0	201	0	8	224	1587	0	8	2057
Dec.	0	0	0	0	2382	0	8	2650	1883	0	8	2440
Total	4120			1933	40843			42937	17868			22385

WORKSHEET 3C. ESTIMATION OF CASH FARM EXPENSES: LIVESTOCK

	BREEDING Percent change= 2				VETERINARY Percent change= 3				OTHER LIVESTOCK Percent change= 1			
Month	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year
Jan.	418	0	0	426	3852	0	2	4047	3794	0	0	3832
Feb.	526	0	0	537	2309	0	2	2426	2967	0	0	2997
Mar.	387	0	0	395	2143	0	2	2251	2888	0	0	2917
April	318	0	0	324	2265	0	2	2380	4880	0	0	4929
May	742	0	0	757	2356	0	2	2475	3418	0	0	3452
June	361	0	0	368	1566	0	2	1645	2954	0	0	2984
July	708	0	0	722	2039	0	2	2142	4630	0	0	4676
Aug.	223	0	0	227	3400	0	2	3572	3753	0	0	3791
Sept.	525	0	0	536	1273	0	19	1560	4920	0	16	5764
Oct.	563	0	0	574	2525	0	19	3095	3934	0	16	4609
Nov.	1477	0	0	1507	3306	0	19	4052	3351	0	16	3926
Dec.	342	1072	0	1442	2947	0	19	3612	4156	0	16	4869
Total	6590			7815	29981			33257	45645			48746

19

WORKSHEET 3D. ESTIMATION OF CASH FARM EXPENSES: CROPS

	LIME AND FERTILIZER Percent change= 6				SEEDS, SPRAYS AND OTHER CROP EXPENSE Percent change= 3				Total Crop Expense	LAND REINT Percent change= 0			
Month	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year	Next Year	This Year	Planned Change: Dollars	Percent	Next Year
Jan.	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb.	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar.	0	0	0	0	0	0	0	0	0	0	0	0	0
April	439	0	0	465	11329	525	0	12210	12675	0	0	0	0
May	13830	1925	0	16700	5391	1330	0	6923	23623	4061	0	0	4061
June	575	630	0	1277	3537	1120	0	4797	6074	1218	0	0	1218
July	0	0	0	0	391	-210	0	186	186	1218	0	0	1218
Aug.	452	0	0	479	65	0	0	67	546	919	0	0	919
Sept.	4516	-2100	0	2561	3625	-1820	0	1859	4420	2417	0	0	2417
Oct.	0	0	0	0	68	0	0	70	70	1740	0	0	1740
Nov.	0	0	0	0	313	0	0	322	322	387	0	0	387
Dec.	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	19812			21482	24719			26434	47916	11960			11960

WORKSHEET 3E. ESTIMATION OF CASH FARM EXPENSES: REAL ESTATE EXPENSES

	LAND AND BUILDING EXPENSE Percent change= 3				INSURANCE Percent change= 2				Building and Ins. Expense	TAXES Percent change= 3			
Month	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year	Next Year	This Year	Planned Change: Dollars	Percent	Next Year
Jan.	763	0	0	786	0	0	0	0	786	5067	0	0	5219
Feb.	939	0	0	967	0	0	0	0	967	0	0	0	0
Mar.	1599	0	0	1647	8956	0	0	9135	10782	0	0	0	0
April	2331	0	0	2401	0	0	0	0	2401	0	0	0	0
May	4088	0	0	4211	0	0	0	0	4211	0	0	0	0
June	3363	0	0	3464	0	0	0	0	3464	0	0	0	0
July	809	0	0	833	0	0	0	0	833	0	0	0	0
Aug.	757	0	0	780	0	0	0	0	780	0	0	0	0
Sept.	771	0	16	921	0	0	16	0	921	10389	0	0	10701
Oct.	633	0	16	756	0	0	16	0	756	0	0	0	0
Nov.	1371	0	16	1638	0	0	16	0	1638	0	0	0	0
Dec.	1319	0	16	1576	342	0	16	405	1981	0	0	0	0
Total	18743			19980	9298			9540	29520	15456			15920

WORKSHEET 3F. ESTIMATION OF CASH FARM EXPENSES: UTILITIES, MARKETING AND MISCELLANEOUS

	UTILITIES Percent change= 2				MARKETING Percent change= 3						MISCELLANEOUS Percent change= 2			
Month	This Year	Planned Change: Dollars	Percent	Next Year	This Year	Assessment This Yr.	Assessment Next Yr.	Planned Change: Dollars	Percent	Next Year	This Year	Planned Change: Dollars	Percent	Next Year
Jan.	1639	0	2	1705	2981	0	0	0	2	3132	685	0	0	699
Feb.	1494	0	2	1554	2937	0	0	0	2	3086	826	0	0	843
Mar.	1547	0	2	1609	2494	0	0	0	2	2620	405	0	0	413
April	1410	0	2	1467	2534	0	0	0	2	2662	522	0	0	532
May	1333	0	2	1387	2491	0	0	0	2	2617	1503	0	4	1594
June	1354	0	2	1409	2368	0	0	0	2	2488	958	0	4	1016
July	1272	0	2	1323	2246	0	0	0	2	2360	678	0	4	719
Aug.	1264	0	2	1315	2682	0	0	0	2	2818	202	0	4	214
Sept.	1455	0	2	1514	2657	0	0	0	2	2791	296	0	8	326
Oct.	1539	0	19	1868	2813	0	0	0	2	2955	117	0	8	129
Nov.	1568	0	19	1903	2753	0	0	0	19	3374	498	0	8	549
Dec.	1692	0	19	2054	2941	0	0	0	19	3605	305	0	8	336
Total	17567			19106	31897					34508	6995			7370

Note: The percent change in marketing charge is applied to this year marketing costs minus this year assessment.
     Inflation (percent change) is not applied to assessment charges.

20

Worksheet 4 – Summary of cash farm expenses

This worksheet summarizes all the expenses from Worksheets 3A through 3F. No entries are made on this worksheet. It will be automatically calculated. It is useful to look at this worksheet to be sure there are no zeros in locations where values should be entered. Also, check to be sure that exceedingly large numbers are not listed in any column.

WORKSHEET 4. SUMMARY OF CASH FARM EXPENSES

Month	Labor (3A)	Feed (3A)	Machinery (3B)	Livestock (3C)	Crop (3D)	Rent (3D)	Insurance and Buildings (3E)	Taxes (3E)	Utilities (3F)	Marketing (3F)	Misc (3F)	Total Cash Farm Expenses
Jan.	6121	18917	8317	8305	0	0	786	5219	1705	3132	699	53201
Feb.	5818	18665	7169	5960	0	0	967	0	1554	3086	843	44062
Mar.	6312	16909	6032	5563	0	0	10782	0	1609	2820	413	50240
April	6620	15412	12146	7633	12675	0	2401	0	1467	2662	532	61548
May	9172	15184	4973	6684	23623	4061	4211	0	1387	2617	1594	73506
June	8018	17169	4924	4997	6074	1218	3464	0	1409	2488	1016	50777
July	7702	18451	2597	7540	186	1218	833	0	1323	2360	719	42929
Aug.	8846	17645	4436	7590	546	919	780	0	1315	2818	214	45109
Sept.	9623	20025	4129	7860	4420	2417	921	10701	1514	2791	326	64727
Oct.	10962	21857	5161	8278	70	1740	756	0	1868	2955	129	53776
Nov.	9471	22376	2281	9485	322	387	1638	0	1903	3374	549	51786
Dec.	9082	23583	5090	9923	0	0	1981	0	2054	3605	336	55654
Total	97747	226193	67255	89818	47916	11960	29520	15920	19108	34508	7370	647315

Worksheet 5 – Capital purchases planned

Worksheet 5 is used to enter all the capital purchases planned for the year. Enter the expected cost without consideration for how the cost will be financed. For example, Oak Park Dairy expects to purchase a bunk silo in April for $24,000. The entire $24,000 is entered on this worksheet regardless of whether some of it is expected to be paid for out of cash flow, or whether some or all will be financed.

When trade-ins are involved, enter the amount of cash to be paid. For example, the Skid Steer Loader to be purchased in April has a price of $20,000 and $3,000 is the expected trade-in value received for the old one, so its cost is $17,000.

Combine similar types of items purchased in the same month. If Oak Park Dairy were to purchase the Manure Spreader and Skid Steer in the same month, they would enter "manure spreader, skid steer" in the Item column and $32,000 ($15,000 + $17,000) in the Cost column.

Notes for Case Farm (*Worksheet 5*):

1. The contractor for the free stall addition is to be paid $40,000 upon completion in August.
2. The bunk silo will be constructed in April for a projected cost of $24,000.
3. Final cost of replacement machinery (after trade in and rebates) will be:
    March manure spreader - $15,000
    April skid steer – $17,000
    May forage harvester – $33,000

4. 40 bred heifers will be purchased in August for $48,000.

WORKSHEET 5. CAPITAL PRUCHASES PLANNED

Month	Land and Buildings Item		Machinery Cost Item		Livestock Cost Item	Cost	Total Capital Purchases
Jan.		0	0	0	0	0	0	0
Feb.		0	0	0	0	0	0	0
Mar.		0	0 Manure Spreader	15000	0	0	0	15000
April	Bunk Silo	24000 Skid Steer Loader	17000	0	0	0	41000
May		0	0 Forage Harvester	33000	0	0	0	33000
June		0	0	0	0	0	0	0
July		0	0	0	0	0	0	0
Aug.	Freestall Barn addition	40000	0	0	0	0	40000
Sept.		0	0	0	0 Bred Heifers	48000	48000
Oct.		0	0	0	0	0	0	0
Nov.		0	0	0	0	0	0	0
Dec.		0	0	0	0	0	0	0
Total		64000		65000		48000	177000

Worksheet 6 – Cash inflow and outflow for next year

This worksheet summarizes all cash flows except for credit transactions. The only entries to be made in this worksheet are Net Cash Non-farm Income. Enter the amount of non-farm cash that will be used by the business or used to cover part of the living expenses entered on Supplemental Worksheet 3. If expenses are connected with the generation of the income, they should be subtracted and only the net cash income entered. If you have off-farm income but do not plan on contributing it to the farm, do not include it here.

If non-farm income is used for family living expenses, it is suggested that total family living expenses be entered on Supplemental Worksheet 3 and net non-farm income be entered on Worksheet 6. However, it is also possible to exclude non-farm income from the calculations and list only the net withdrawals from the business under family living expenses in Supplemental Worksheet 3. For example, Oak Park Dairy had $1,800 in non-farm income in December and total family living expenses were $5,500. It would be possible to exclude non-farm income from Worksheet 6 and list December family living expenses as $3,700. In that case, family living expenses are the amounts withdrawn from the farm business for family living.

Notes for Case Farm (*Worksheet 6*):

1. The only non-farm income contributed to the business is $1,800 in December for serving on a cooperative board.

22

WORKSHEET 6. CASH INFLOW AND OUTFLOW FOR NEXT YEAR: INCLUDING NONFARM, EXCLUDING CREDIT (borrowing and loan payments)

Month	Cash Farm Receipts	Net cash Non-farm Income	Total Cash Inflow (excluding borrowing)	Cash Farm Expenses	Capital Purchases	Family Living Expenses (Supp. wks. 3)	Total Cash Outflow (ex. loan Payments)
Jan.	70228	0	70228	53201	0	5500	58701
Feb.	63440	0	63440	44062	0	5500	49562
Mar.	67624	0	67624	50240	15000	5500	70740
April	67128	0	67128	61548	41000	5500	108048
May	62407	0	62407	73506	33000	5500	112006
June	67035	0	67035	50777	0	5500	56277
July	64411	0	64411	42929	0	5500	48429
Aug.	58490	0	58490	45109	40000	5500	90609
Sept.	64288	0	64288	64727	48000	5500	118227
Oct.	72149	0	72149	53776	0	5500	59276
Nov.	86564	0	86564	51786	0	5500	57286
Dec.	96260	1800	98060	55654	0	5500	61154
Total	840024	1800	841824	647315	177000	66000	890315

Supplemental Worksheet 3 – Family living expenses – is designed for entry of the funds to be withdrawn from the business for family living. If data are available, individual living expense items can be entered as planned for next year. Such entries provide a basis for monitoring family living expenses throughout the year and encourage the family to consider the amount spent on individual items.

Alternately, the total planned withdrawal of funds from the business for family living for each month can be entered in the left column. This is particularly useful when a checking account or accounts are maintained for family living, separate from the business. The amounts entered on this worksheet are then the amounts withdrawn from the business and a clear separation of business from family expenses is maintained.   The withdrawal or total family living expenses column can also be used when the operator(s) are paid a salary.

Notes for Case Farm: (*Supplemental Worksheet 3*):

The owners withdraw a set $5,500 each month.

23

Month	Withdrawal or Total Family Living Expenses*	Food	Clothing	Property & Income Taxes	Life, Medical & Hospital Insurance Payments	Electric, Telephone & Auto Expense	Recreation, Church, Gifts & Personal Care	Educa-tion	Savings & Invest-ments	Car & Other Credit Payments	Total Family Living Expense
Jan.	5500	0	0	0	0	0	0	0	0	0	5500
Feb.	5500	0	0	0	0	0	0	0	0	0	5500
Mar.	5500	0	0	0	0	0	0	0	0	0	5500
April	5500	0	0	0	0	0	0	0	0	0	5500
May	5500	0	0	0	0	0	0	0	0	0	5500
June	5500	0	0	0	0	0	0	0	0	0	5500
July	5500	0	0	0	0	0	0	0	0	0	5500
Aug.	5500	0	0	0	0	0	0	0	0	0	5500
Sept.	5500	0	0	0	0	0	0	0	0	0	5500
Oct.	5500	0	0	0	0	0	0	0	0	0	5500
Nov.	5500	0	0	0	0	0	0	0	0	0	5500
Dec.	5500	0	0	0	0	0	0	0	0	0	5500
Total	66000	0	0	0	0	0	0	0	0	0	66000

* Complete only this column if a withdrawal is used or if family living
   expenses are to be entered as totals for each month (ie. no break
   of expenses by category is to be entered).

Worksheet 7 – Projected cash flow

Worksheet 7 combines financial arrangements with the cash receipt and expense data previously entered to determine the feasibility of the generated cash flows. It automatically calculates the short-term line of credit needed under the projected cash flow plan. To determine the short-term credit needs, the seven items at the top of the worksheet must be completed.

Initial short-term principal balance is the outstanding balance on the line of credit (or operating credit loan) at the beginning of the projected year. This will be particularly important when the line of credit is zeroed out during the middle of the year or for cases where the line of credit will not be at zero anytime during the projected year. This credit balance will be incorporated into the short-term credit balance and interest on the balance will be charged.

Initial short-term interest balance is the total amount of interest that has accrued and is unpaid on the existing line of credit (short-term debt) as of the first of the projected year. It is the interest that will have had to be paid if the loan is paid off in the first month of the planned year. It is assumed that this interest will have to be paid whenever any payments are made on the loan.

Minimum borrowed amount is minimum amount that can be borrowed at one time. It is used to keep the borrowed amounts from being small amounts that would be a hassle for the lender to deal with. Borrowed amounts will automatically be limited to $1,000 increments.

Short-term interest rate is the rate of interest that will be charged on the line of credit or short-term debt. Enter the interest rate as a percent, not a decimal (enter 8, not .08).

Minimum short-term debt repayment amount is the minimum amount of principal that would be repaid in any one month. This value is used to determine if the checkbook balance is high enough to consider repayment of principal. For many cases farmers do not want to repay small amounts when they may need to reborrow it again soon. Since the program borrows and repays principal in $1,000 multiples, setting this value to less than $1,000 is not recommended.

Initial checkbook balance is the amount in the checkbook as of the first of the projected year. It is the cash balance with which the business starts the year.

Minimum checkbook balance is the lowest level that the checkbook is to reach for planning purposes. Because cash flows cannot be exactly projected, the minimum checkbook balance is a cushion to handle differences between projected and actual cash flows. It is recommend that this level be set higher than the actual minimum desired check book balance.

The left most column titled "Cash Inflow Less Outflow Excluding Credit Transactions" represents the net cash flow position of the business before credit is considered and is calculated by subtracting total outflows from total inflows from Worksheet 6. The second column "Scheduled Debt Payments: Principal and Interest" is total term debt payments from Supplemental Worksheet 4.

Supplemental Worksheet 4 includes all term debt payments, those committed to in prior years and those resulting from expected purchases in the planned year. One column is used for each loan. If a large number of loans are involved, all existing term loans that will not be changed during the year can be listed in one column. Then the scheduled payments for all the loans combined in the "existing loans" group will be added together and entered in that column.

Enter the planned term borrowing for next year in the other columns. If a level of planned borrowing is unknown, start by assuming that all capital purchases in Worksheet 5 will be financed. If that is more borrowing than necessary, changes can be made after a first draft of Worksheet 7 is completed. Base payments on expected loan terms. Remember that the first payment on most loans occurs one month (or one year) after the loan funds are advanced.

The new loans in this worksheet may be changed after the first draft of Worksheet 7 is completed. In fact, many changes to the planned loans may be made before an acceptable cash flow plan is completed. Once the cash flow plan has been completed, Supplemental Worksheet 4 indicates the needed term borrowing for the planned year.

After completing Supplemental Worksheet 4, return to Worksheet 7. The second column (Scheduled Debt Payments, P &I) will be completed. Enter the amount of principal to be borrowed on term loans in column 3 (Capital Purchase Loans). These data come from Supplemental Worksheet 4 "loan amount" row. Remember, if changes are made in Supplemental Worksheet 4 at a later date, changes must also be made in this column, so that the amount borrowed is consistent with the payments listed.

Once the capital purchase loans are entered, the program will calculate the "Uncommitted cash flow." Uncommitted cash flow indicates the monthly change in the checking account balance that would take place if no line of credit (short term borrowing or operating credit) were used.

The program automatically calculates the short-term line of credit. In calculating the line of credit, the program will borrow sufficient funds to maintain the minimum checkbook balance. Funds are borrowed in multiples of $1,000. Interest is calculated on a simple interest basis (no monthly compounding) from the date obtained until the date repaid. Whenever a payment is made on the line of credit (short-term credit) interest to date on all borrowed short-term funds is paid. Effectively, interest is paid first and any remaining cash flow is then applied to the principal. However, the program will not pay off interest unless it can also pay back at least $1,000 of principal in the same month. Principal is repaid in multiples of $1,000 with the minimum amount of payment set at the input "minimum short-

term debt repayment amount" level. Only funds above the minimum checkbook balance are considered available for debt repayment.

Summary numbers for the short-term credit (line of credit) appear at the bottom of Worksheet 7. "Maximum" indicates the maximum short-term credit principal balance during the year. This would be the size of line of credit needed to handle the short-term debt needs of the business for the year. This amount, plus some "cushion" for unusual occurrences would be the amount requested from the lender for the short-term line of credit.

Outstanding end of year principal and interest balance indicate the balances on the short-term credit (line of credit) as of the end of the year. Principal is the amount of principal that remains unpaid due to insufficient cash flow during the year. Interest indicates the interest on that unpaid balance that has not been repaid. If successive years of cash flows are being projected, these values should be entered as the beginning balances for the following year.

The short-term line of credit needs shown on Worksheet 7 and the term credit needs shown on Supplemental Worksheet 4 indicate the total credit needs of the business for the planned year.

It is rare that the first cash flow plan for a business will be completely acceptable in the sense that it:
    (1) avoids cash flow problems (a positive checkbook balance in every month),
    (2) provides for efficient use of capital
    (3) is acceptable to the farmer, and
    (4) is acceptable to the lender.

Most plans will need to be modified, maybe several times, to obtain an acceptable cash flow plan. Term borrowing or capital purchases may need to be modified, or the basic plan of operation may need to be changed.

The goal of effective cash management is to have enough cash on hand to avoid shortfalls (having a $3,000 minimum for Oak Park) and also to use all cash on hand so that it is not idle in the business. While some people may desire large cash reserves it is almost never the best use of business profitability. Generally it is better to pay off loans, invest the money back in the business, or withdrawal and invest it elsewhere, since checking and savings accounts pay nominal interest levels.

Notes for Case Farm: *(Supplemental Worksheet 4):*

1. The only current loans are a cattle and machinery loan and a mortgage with payments as follows:
    a. If needed they can finance the barn addition for five years and 8.0 percent interest with monthly payments of $20.28 per every $1,000 borrowed.
    b. If needed they can finance the bunk silo for seven years and 8.5 percent interest with monthly payments of $15.84 per every $1,000 borrowed.
    c. If needed they can finance machinery purchases for five years and 8.5 percent interest with monthly payments of $20.52 per every $1,000 borrowed.
    d. If needed they can finance the bred heifers for three years and 8.5 percent interest with monthly payments of $31.57 per every $1,000 borrowed.

Notes for Case Farm (*Worksheet 7*):

1. They would like to maintain a minimum $3,000 checking balance.
2. They can borrow on their operating line at 8.5 percent interest in $1,000 increments.
3. When the operating loan is paid back, all interest must be paid and then the principle can be repaid in increments of $1,000.
4. After evaluation of cash needs in the coming year, they are going to take out capital purchase loans for the purchase value of all capital items bought in the year.

WORKSHEET 7. PROJECTED CASH FLOW

Initial short-term principle balance	0					
Initial short-term interest balance	0		Minimum short-term debt repayment amt.			1000
Minimum borrowed amount	1000		Inital check book balance			3890
Short term interest rate	8.5		Minimum check book balance			3000

Month	Inflow less outflow Excluding credit	Scheduled Debt Payments P & I	Capital Purchase Loans	Un-committed Cash Flow	Short term Debt: Borrowing	Short term Debt: Payments	Net Cash Flow: This Month	Net Cash Flow: Balance 3890
Jan.	11527	5719	0	5808	0	0	5808	9.698
Feb.	13878	5719	0	8159	0	0	8159	17.857
Mar.	-3116	27057	15000	-15173	1000	0	-14173	3,684
April	-40920	6027	41000	-5947	6000	0	53	3,737
May	-49599	6756	33000	-23355	23000	0	-355	3.382
June	10758	7433	0	3325	0	3269	56	3,438
July	15982	7433	0	8549	0	8191	358	3,796
Aug.	-32119	7433	40000	448	0	1135	-687	3.109
Sept.	-53939	8244	32000	-30183	31000	0	817	3,926
Oct.	10929	9254	0	1675	0	2475	-800	3,126
Nov.	29278	9254	0	20024	0	19333	691	3,818
Dec.	36906	9254	0	27652	0	28198	-546	3,271
Total	-50435	109583	161000	982	61000	62601	-619	3271

Short-term debt:Maximum=   49000   Outstanding end of year: Principal =   0   Interest =   0

SUPPLEMENTAL WORKSHEET 4. SCHEDULED DEBT PAYMENTS

	1	2	3	4	5	6	7	8	9	10	Total
Loan ID	Mortgage	Barn Addition	Bunk Silo	Skid Steer	Spreader	Harvester	Bred Heifers	Cattle & Equi	0	0	Scheduled
Loan Amount	190210	40000	24000	17000	15000	33000	48000	56482	0	0	Debt
Payment	21338	811	380	349	308	677	1010	5719	0	0	Payments
Jan.	0	0	0	0	0	0	0	5719	0	0	5719
Feb.	0	0	0	0	0	0	0	5719	0	0	5719
Mar.	21338	0	0	0	0	0	0	5719	0	0	27057
April	0	0	0	0	308	0	0	5719	0	0	6027
May	0	0	380	349	308	0	0	5719	0	0	6756
June	0	0	380	349	308	677	0	5719	0	0	7433
July	0	0	380	349	308	677	0	5719	0	0	7433
Aug.	0	0	380	349	308	677	0	5719	0	0	7433
Sept.	0	811	380	349	308	677	0	5719	0	0	8244
Oct.	0	811	380	349	308	677	1010	5719	0	0	9254
Nov.	0	811	380	349	308	677	1010	5719	0	0	9254
Dec.	0	811	380	349	308	677	1010	5719	0	0	9254
Total	21338	3244	3040	2792	2772	4739	3030	68628	0	0	109583

28