

## WHAT IS MY COST OF PRODUCTION?

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### WHAT IS YOUR COST OF PRODUCTION?

Cost of production information is an essential ingredient for farm level decision making. Knowing your cost of production is the first step in controlling them. Good cost of production information starts with good farm records. This presentation will outline the process and use of COP budgeting for farm-level decision-making.

### ANATOMY OF A COP BUDGET

While the format of COP budgets can vary they typically include the following sections.

- **Revenue:** the gross revenue from crop or livestock sales before any expenses have been deducted.
- **Direct Variable Costs:** expenses for the production of a specific commodity. These change depending on the level of production (i.e. feed, livestock purchases, vet/medicine, crop inputs).
- **Indirect Variable Costs:** expenses used in producing all commodities on the farm (i.e. fuel, labour and utilities). These also change depending on the level of production.
- **Fixed Costs:** expenses that remain the same regardless of the level of production (i.e. property taxes, fire insurance and depreciation).
- **Net Profit (loss):** revenue minus all variable and fixed costs.

### THREE STEPS TO COP

#### Step # 1 - Turn Cash Records into Accrual Records

This is a critical first step in developing accurate COP. The main goal of accrual adjustments is to match the revenue you received with the expenses you incurred to generate that revenue.

#### What Will You Need to Turn Cash into Accrual?

- Cash income and expenses (including prepaid expenses) for the year
- Beginning and ending crop and livestock inventories and their \$ values
- Beginning and ending accounts receivable – what people owe you
- Beginning and ending accounts payable – what you owe to other people

## **Step # 2 - Break it Down by Enterprise**

Identify your enterprises. Pick the enterprise(s) that mean the most to you - usually those are the ones you expect to make a profit from. These are sometimes referred to as profit centres. There are some enterprises, like home-grown feed crops, that are used by other enterprises and are not intended to be sold for profit.

The difficulty many farmers have in COP budgeting is allocating costs to the specific enterprise. And the more enterprises there are, the more difficult the allocation process.

Common allocation methods:

- Percent of enterprise gross margin
- Percent of sales
- Percent of total expenses
- Number of Hectare (Acre)-trips per crop
- Hours spent in an enterprise

An allocation worksheet taken from the OMAFRA Factsheet “Guide to Cost of Production Budgeting” has been provided at the end of this presentation summary.

## **Step # 3 – Concentrating on individual or groups of costs**

Once you have the COP by enterprise you can start to concentrate on individual or groups of costs that affect it. For example, livestock enterprises can focus on purchased and home-grown feed costs, or with machinery you can start to drill down to the individual field operations within each crop.

## **THREE MAIN AREAS TO LOOK FOR COP IMPROVEMENTS**

Focusing on costs is obviously concentrating on the cost side of the equation but COP budgeting has to consider both sides: cost and revenue. Do not do anything on the cost side that will negatively affect the revenue side. Cost of production, as the term implies, is driven by **production**. Maintaining or increasing your production is one of the best defences against rising COP.

### **Direct Costs**

In cases where decreasing costs also decreases revenue it is usually a result of a loss in production but it could also be a lower price due to lower quality. This depends largely on the direct inputs used. The costs of each input should be weighed against their potential benefits. As a risk management strategy, if you are ready to lock in prices for inputs you should also be looking at locking in market prices to cover it. In the short term direct input costs can be the easiest to address and are addressed by many of the topics at this conference!

**Feed costs.** Feed costs play a big role in swine profitability. Purchased feed is relatively straightforward to allocate to the different livestock enterprises. Knowing what your home-grown feed costs are can be more challenging since the costs can be embedded across several expense lines like seed, fertilizer, fuel, repairs, interest and depreciation.

With calculating the home-grown feed cost for your swine operation, or any livestock enterprise for that matter, there are two common approaches; using your actual cropping costs or using a market value approach. The first has you keeping all the cropping costs you had for the crops that were fed in the livestock enterprise budget. Using your own on-farm records will also accurately reflect the actual costs on your farm.

The second method extracts all your crop costs out of the livestock enterprise and then “sells” the home-grown feed crops back to the livestock at market value. Transferring the crop costs at market value back to the swine operation can be fairly abstract to wrap your head around. It introduces the concept of opportunity cost which can be equally mind numbing. What this transfer value represents is the value for the crop that you could have received if you sold it instead of fed it. Opportunity cost is what you could have earned with those crops in the next best alternative.

The transfer method is helpful if you have crops that are grown for cash crops as well as crops to be fed. Allocating all the crop costs (feed and cash crops) out and then adding only those costs for the crops that are fed back into the livestock enterprise can give you a purer glimpse of the home-grown feed costs.

Feed costs are a significant percent of the total costs. So regardless of the method you use for your operation it is well worth the effort of pencilling it out.

### **Capital Costs**

Longer term investment decisions in capital like land, machinery and buildings need to be made with COP in mind. For many farms there is more room for improvement in COP on the capital cost side, especially machinery costs, than the direct costs. One approach is to calculate all your other costs so you know what you can afford to pay for capital items like land and machinery.

### **Overhead Costs**

Overhead costs like utilities, accounting, office and motor vehicle expenses, etc. are not directly attributable to a single enterprise, but all enterprises share the cost. One thing to keep in mind is that there are no home runs; it can take incremental changes in many areas to add up to significant savings. This area would not be where you start to look for cost savings as the other areas have the potential to have a greater impact on your COP.

## **KEY COST OF PRODUCTION MARGINS**

**Gross Margin = Gross Farm Revenue – Variable Costs**

Use the gross margin to determine if the variable inputs are being used effectively. Optimum efficiency realized from investment in variable inputs is a key factor to profitability. Gross margin is the dollars leftover to pay the ownership costs (or fixed costs) of your capital assets. It can help you decide if it makes sense to continue to invest in capital assets for this enterprise.

**Profit Margin = Gross Farm Revenue – Variable and Fixed Costs**

Without long-term profit, a farm business is not sustainable. Sustainability depends on every enterprise covering all costs and providing a return to management. It is possible to have farms that generate sustained and excellent margins over variable costs, but report unacceptable net profit. In these situations, it is likely that fixed costs as measured on a per unit of production basis are too high. Farm managers must either reduce the fixed costs, or increase production and therefore reduce the fixed costs per unit of production. Either tactic, or a combination of both tactics, should be explored as ways in which to increase profitability.

## **COP INFORMATION AND RESOURCES**

### **OMAFRA Factsheets**

- Guide to Cost of Production Budgeting, Order No. 08-055
- 2010 Field Crop Budgets – Publication 60
- Guide to Custom Farmwork and Short-Term Equipment Rental, Order No. 07-019  
(2009 rates coming soon)
- Leasing Farm Equipment, Order No. 01-003
- Budgeting Farm Machinery Costs, Order No. 01-075
- Lease Agreements for Farm Buildings, Order No. 03-095
- Cash Lease Agreements for Cropland, Order No. 01-071

### **Internet Resources**

#### **Swine Enterprise Budgets – OMAFRA Swine Team**

The monthly OMAFRA Swine Budgets provides a guide and format to estimate the cost of production for a swine enterprise.

[www.omafra.gov.on.ca/english/livestock/swine/finmark.html](http://www.omafra.gov.on.ca/english/livestock/swine/finmark.html)

#### **Ontario Enterprise Budgets – OMAFRA Business Management**

Enterprise budgets for crop and livestock enterprises in Ontario available in Excel and HTML format.

[www.omafra.gov.on.ca/english/busdev/bear2000/Budgets/oeb.htm](http://www.omafra.gov.on.ca/english/busdev/bear2000/Budgets/oeb.htm)

#### **Farm Business Decision Calculators – OMAFRA Business Management**

Downloadable computer spreadsheet tools to assess the costs of various management decisions, perform financial analysis and evaluate investment decisions.

[www.omafra.gov.on.ca/english/busdev/downtown.htm](http://www.omafra.gov.on.ca/english/busdev/downtown.htm)

**Canadian Farm Budget Database – Canadian Farm Business Management Council**

This database has over 2,000 budgets and financial data pages from across Canada.

[www.farmcentre.com/farmbudget/](http://www.farmcentre.com/farmbudget/)

**Budget Library – University of Minnesota**

The Budget Library includes current enterprise budget information and software throughout the United States.

[www.agrisk.umn.edu/Budgets/](http://www.agrisk.umn.edu/Budgets/)

<b>Farm Enterprise Allocation Record</b>				
<b>Farm Name:</b>		<b>Allocations: Year 20 (use \$ or %)</b>		
	<b>Whole Farm</b>	<b>Enterprise</b>	<b>Enterprise</b>	<b>Enterprise</b>
<b>REVENUE</b>				
Commodity sales	\$			
Program Payments	\$			
Other farming revenue	\$			
<b>Total Revenue:</b>	<b>\$</b>			
<b>VARIABLE EXPENSES</b>				
Seed, livestock, feed grain	\$			
Fertilizers and soil supplements	\$			
Pesticides and chemical treatments	\$			
Prepared feed, minerals and salts	\$			
Custom feeding	\$			
Vet fees, medicine, AI fees	\$			
Insurance premiums (production)	\$			
Other crop and livestock supplies	\$			
Labour	\$			
Agricultural Contract work	\$			
Freight and shipping	\$			
Commissions and levies	\$			
Machinery fuel	\$			
Machinery repairs	\$			
Motor vehicles expenses	\$			
Small tools	\$			
Containers and twine	\$			
Soil testing	\$			
Building and fence repairs	\$			
Utilities (electricity, telephone,	\$			
Storage/drying	\$			
Office expenses/legal and accounting	\$			
Advertising and promotion costs	\$			
Memberships/subscriptions/licenses/	\$			
Interest (operating)	\$			
<b>Total Variable Expenses</b>	<b>\$</b>			
<b>Gross Margin (Revenue minus Variable expenses)</b>	<b>\$</b>			
<b>FIXED EXPENSES</b>				
Property taxes	\$			
Rent (land, buildings, pastures)	\$			
Interest (term)	\$			
Machinery lease/rental	\$			
Motor vehicle interest and leasing	\$			
Depreciation (bldgs and mach)	\$			
Other insurance premiums	\$			
Other (specify):	\$			
<b>Total Fixed Expenses</b>	<b>\$</b>			
<b>Total Expenses (Variable + Fixed)</b>	<b>\$</b>			
<b>Profit (loss) Margin (Revenue minus Total expenses)</b>	<b>\$</b>			