

SECTION 3: PRODUCTION ECONOMICS

An understanding of your production cost is essential for the financial viability of your farm. This chapter will provide the tools to make informed, financial decisions through collecting, organizing, and understanding your financial data.

3.1 KEY FACTORS FOR SUCCESS

Key factors for success vary according to the type of operation. These factors are common to any hog operation whether producing weaners, finishing market hogs, farrow-to-finish, or selling cuts of meat.

1. Goal Setting:

- Begin with the final result or goal, then create smaller targets or steps to achieve the larger goal.
- Make goals SMART: Specific, Measurable, Attainable, Relevant, and Time Bound.
- Write goals down and post them where they will be seen frequently as a constant reminder.

2. Accurate and Consistent Record-keeping: is crucial to achieve profitability.

- **Production Records:** Select a data collection and record-keeping system that is simple and works for your farm. This could include written production logs, a paper-based record filing system, or a computerized system if there is a large amount of data. Key records to calculate Costs of Production (COP) include:

<ul style="list-style-type: none"> – Piglets born per litter – Days to weaning – Days on each feed type ⁽¹⁾ – Daily feed intakes ⁽²⁾ – Average daily gain (ADG) ⁽³⁾ 	<ul style="list-style-type: none"> – Piglets weaned per litter – Litters per sow per year – Days to market weight – Feed conversion ⁽⁴⁾ – Mortalities ⁽⁵⁾
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- ⁽¹⁾ **Days on each feed type:** Reflects overall production system and husbandry practices (e.g., colostrum intakes, supplementary heat lamps, type and quality of feed fed by production stage, genetics, herd health, housing, vaccinations, supplemental iron, disease control, breed of pig).
- ⁽²⁾ **Daily feed intakes:** Feed cost constitutes the largest expense item of swine production. Feed intake drives growth rate and days to market weight. Poor and/or erratic feed intakes may be an indicator of health issues and/or an improperly balanced diet. Collect for each production (age) group.
- ⁽³⁾ **Average daily gain (ADG):** ADG is a key performance indicator and can vary with management style, production system, stage of production, herd health, breed, and type and quality of feed fed. Data can be gathered on a small operation with the help of a sling scale and weekly weighing.
- ⁽⁴⁾ **Feed conversions:** Tracking herd feed consumption at each production stage is critical to calculating feed conversion ratios and assisting decision-making when assessing feed options and practices. Feed conversion has a significant impact on total feed costs and COP to market weight.
- ⁽⁵⁾ **Mortalities:** Mortality rates vary by production system (e.g., confinement housing, intensive grazing) and stage of production (e.g., pre-weaning, finishing). Recording mortalities and observations about the circumstances will assist in reducing mortality rates by evolving swine management.

3.2 RECORD-KEEPING BASICS

- **Financial Records:** Frequent, regular tracking of expenses is important to identify potential cost-saving measures, and ways to improve herd productivity, performance, and profitability. The following list of expenses should be recorded for each batch and production group of pigs:

<ul style="list-style-type: none"> – Feed purchases (e.g., starter, grower) – Livestock purchases (e.g., feeders, boars) – Trucking (e.g., hauling feed, animals) – Processing (e.g., slaughter, cut & wrap) 	<ul style="list-style-type: none"> – Homegrown feeds fed – Herd health (e.g., vet, medicine) – Sanitation (e.g., cleaners, scrubbers) – Marketing (e.g., advertising, website)
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3. Monitoring and Evaluation

- Essential to Goal Setting and demonstrates progress.
- Implement a data tracking and record-keeping protocol for the farm operation, and consistently utilize it from batch to batch.
- Regular analysis of production and expenses is critical to short and long-term farm profitability, thus allowing informed management decisions to align with the farm's financial goals.

3.2 RECORD-KEEPING BASICS

“If you can measure it, you can manage it.”

- View the Annual Enterprise Budget Worksheet in the Appendix for examples of data to collect.
- Only collect data relevant to the farm operation and that supports the calculation of production and financial performance indicators, and subsequent decision-making.
- Organization is important to record-keeping. Select a secure place to work with a filing cabinet, set of binders or a storage box to keep farm records separate, secure, and easily accessible.
- For larger farms with many animals and lots of data, a computerized system can assist to streamline data storage and facilitate subsequent performance analyses.
- Allocate a regular time (e.g., weekly) to update and analyze production and financial records. Compare current to past figures to identify changes and assess factors impacting change. This information will support continued improvements in herd performance and profitability.
- Many farms have diverse production lines, or enterprises, which contribute to farm income. Enterprise budgeting is achieved by monitoring each aspect of the operation separately (e.g., a farrow-to-finish operation whose primary income is from pork sales, but raises its own replacement sows, should be monitoring each aspect of the operation separately).

3.3 WHAT IS AN ENTERPRISE BUDGET?

An **Enterprise Budget** is an estimate of the costs and economic returns (profit) to produce and sell a specific product over a set period of time.

- It is comprised of listing income and expenses, based on a set of assumptions.
- Formats for enterprise budgets vary in complexity, layout, and assumptions.
- An enterprise budget has several components:
 - **Income:** The total income expected from the sale of product for a specific period of time.
 - **Direct expenses:** Associated with production inputs which change in proportion to the level of production.
 - **Contribution margin:** Calculated by subtracting total direct expenses from total income. Remainder pays for indirect (or fixed) expenses, interest, and capital expenses (e.g., depreciation, investment).
 - **Indirect expenses:** Also referred to as fixed costs or overhead costs, these are expenses that are incurred independent of production level (e.g., property taxes, insurance premiums).
 - **Operating expenses:** Total of all direct and indirect expenses plus interest on operating costs.
 - **Capital expenses:** Associated with longer term investments in land, buildings, equipment, machinery, and livestock, which do not change with production level changes (e.g., depreciation, investment).
 - **Net Income:** Calculated by subtracting total operating and capital expenses from total income. This amount represents return to labour management and taxes.
- Enterprise budgets are used to examine the input, labour, and machinery required to produce each product as it relates to total income from sales. This guides management decisions regarding changes to reduce expenses and/or increase net income.
- It is imperative that enterprise budgets within an operation be consistent in their structure and inclusions to ensure they are portrayed on the same basis.
 - When reviewing or analyzing enterprise budgets, focus on key expenses.
 - A 20% reduction in a key expense that is 70% of your total cost will have a dramatic effect on total expenses whereas a 20% reduction in an expense that is 10% or less will have little effect on return to management.

3.4 DIRECT EXPENSES (VARIABLE COSTS)

The **Contribution Margin** provides a figure permitting comparisons of alternative production enterprises on a consistent basis (e.g., raising and selling only weanling pigs compared to only market hogs). The contribution margin pays indirect (or fixed) expenses, interest, capital expenses, and return to management labour and taxes.

3.4 DIRECT EXPENSES (VARIABLE COSTS)

Direct Expenses are also known as **Variable Costs**:

1. Compared to fixed expenses, direct (or variable) expenses are related to production activities and change in direct proportion to the level of production.
2. Tracking direct (or variable) expenses for each production cycle is important. It provides critical information for decisions to change practices resulting in reduced costs and increased profits.

Feed – the largest direct expense of pork production, it includes purchasing commercial starter, grower, finisher, gestation, and lactation rations OR growing and milling on-farm rations.

- Farms which grow and mill their own rations need to calculate production crop costs and include the cost of purchasing, farm delivery, protein supplements, and vitamin/mineral mixes, as well as the labour involved in handling, mixing, and milling.

Livestock Purchases – direct expenses should include purchasing or raising and maintaining both boars and replacement sows, and may include the purchase of weaners to raise as market hogs.

- Purchase of replacement boars and sows may not occur annually, however, a portion of the cost should be factored in on an annual basis.
- If raising replacement stock, calculate associated rearing costs for this element of the operation.

Herd Health – veterinarian visits, medications and treatments, vaccinations, and farm biosecurity.

- Total annual costs are allocated on a per animal basis: to the sows in a farrow-to-finish or weaner operation, or to the market hogs, or to finished carcasses or pork sales in a finishing operation.

Traceability – livestock ID tags, applicators, paper or electronic records, and other measures required by the processing facility. NOTE: registration in the B.C. Premises ID program is currently free and voluntary.

3.4 DIRECT EXPENSES (VARIABLE COSTS)

Sanitation – sanitizers, cleaning agents, and scrubbers or cleaning brushes for pails, feeding pans and troughs, pens, crates, trailers, truck boxes, and/or other transportation equipment.

Pasture Management – for operations providing access to and utilizing pastures.

- Include expenses for fencing, pasture renovation or re-seeding, pasture shelter repair and maintenance.
- Track operating labour involved in moving field feeders and waterers as well as training and moving swine in a rotational grazing system.

Heat and Electricity – heat lamp bulb replacement and the quantity and cost of kilowatt hours. An allocation of fixture cost should be included based on the lifetime of the fixture at replacement value.

Deadstock Disposal* – include cost of composting, incineration, burial on-farm, or transportation delivery to an approved waste disposal site, an approved anaerobic digester, or delivery to a veterinarian for post-mortem and subsequent disposal. Also include the cost of collection and refrigerated or frozen storage where immediate disposal options are not available.

Trucking – cost of replacement animals delivered to the farm, shipping finished animals to market, and trucking of feed supplies.

Processing – includes slaughter cost per animal.

- Cut and wrap costs depending on sales price agreement.
- Both slaughter and cut and wrap are direct (variable) expenses; however, cut and wrap costs may be passed directly to customers when selling carcasses (e.g., whole, half, quarter).

Marketing – packaging and labelling costs, marketing fees, meat product deliveries, and sales time.

Machinery Costs – fuel, oil, and lubrication, including the cost of oil changes and filter replacement.

Repairs and Maintenance – equipment and machinery repairs and maintenance.

- These MAY be treated as direct enterprise expenses (see Note on next page for exceptions).
- There are several ways to allocate total costs of annual equipment and machinery repairs and maintenance to each enterprise (e.g., hourly use, area involved, ratio of total income).

* Does not include the cost of humane euthanasia equipment (e.g., captive bolt stun gun) which falls under Fixed Costs in the category of Small Tools.

3.5 INDIRECT EXPENSES (FIXED COSTS)

Note: Building repairs and maintenance costs MAY be included as direct (or variable) expenses in an enterprise budget; however, it depends on appreciable wear and tear caused by animals on an annual basis. Building repairs and maintenance costs are normally regarded as indirect (fixed) expenses for the whole farm Income and Expense Statement.

DIRECT EXPENSE LINE ITEMS	FARROW-TO-FINISH	WEANER PRODUCTION	MARKET HOGS/ MEAT SALES
Feed	✓	✓	✓
Livestock Purchases	✓	Maybe	Maybe
Herd Health	✓	✓	✓
Pasture Management	Maybe	Maybe	Maybe
Repairs & Maintenance	✓	✓	✓
Machinery Costs	✓	✓	✓
Heat & Electricity	✓	✓	Maybe
Trucking	✓	Maybe	✓
Processing	✓	✗	✓
Marketing	✓	✓	✓

3.5 INDIRECT EXPENSES (FIXED COSTS)

Indirect Expenses are also known as **Fixed Costs** or **Overhead Costs**. These are expenses that remain unchanged regardless of production level.

- Property Taxes
- Water Fees and Licences
- Building Repairs and Maintenance
- Insurance Premiums
- Legal and Accounting Fees
- Office and Telephone
- Shop Supplies and Small Tools
- Interest on Operating Loans
- Interest on Term Loans

3.6 CAPITAL EXPENSES (DEPRECIATION & INVESTMENT)

INDIRECT EXPENSE LINE ITEMS	FARROW-TO-FINISH	WEANER PRODUCTION	MEAT SALES
Property Taxes	✓	✓	✓
Water Fees & Licences	✓	✓	✓
Building Repairs & Maintenance	✓	✓	✓
Insurance Premiums	✓	✓	✓
Legal & Accounting Fees	✓	✓	✓
Shop Supplies & Small Tools	✓	✓	✓
Legal & Accounting	✓	✓	✓
Interest on Loans	Maybe	Maybe	Maybe

3.6 CAPITAL EXPENSES (DEPRECIATION & INVESTMENT)

Capital Expenses are calculated and reported as Depreciation Expenses and Investment Expenses. Each refers to a different type of expenditure. With capital assets, their costs have already been incurred even if there is zero production.

1. **Depreciation Expenses:** Depreciation measures the loss of value of a capital asset over time. This expense is calculated based on its total original cost, salvage value, and useful life. The most common method for calculating depreciation expenses on capital assets for enterprise budgets is the straight-line depreciation method. The formula is as follows:

$$\text{Depreciation Expenses} = (\text{Original Cost} - \text{Salvage Value}) / \text{Useful Life}$$

2. **Investment Expenses:** This expense measures the opportunity cost of money spent to purchase capital assets. It's a calculation of interest income foregone when a capital asset is purchased using one's own capital, which otherwise could have been earning interest income if invested in such things as interest-bearing bonds.

$$\text{Investment Expenses (Capital)} = [(\text{Original Cost} + \text{Salvage Value}) / 2] \times \text{Investment Rate}$$

There is also an investment expense to owning livestock. To calculate this requires using the total value of all sows and boars, plus the total value of market hogs sold per year adjusted for days of age at market.

$$\text{Investment Expenses (Livestock)} = \{(\text{Total Value of Sows} + \text{Boars}) + [(\text{Total Value of Market Hogs Sold per Year}) \times (\text{Days of Age at Market}/365)]\} \times \text{Investment Rate}$$

3.7 LABOUR EXPENSES

Capital Asset Requirements May Vary by Scale & Type of Operation

CAPITAL REQUIREMENTS	FARROW-TO-FINISH	WEANER PRODUCTION	MEAT SALES
Farrowing Pens	✓	✓	✗
Barn/Swine Housing	Maybe	Maybe	Maybe
Pasture Shelters	Maybe	Maybe	Maybe
Fencing & Gates	Maybe	Maybe	Maybe
Water System	✓	✓	✓
Irrigation System	Maybe	Maybe	Maybe
Feed Storage	✓	✓	✓
Grain Handling	Maybe	Maybe	Maybe
Animal Handling/Loading	✓	Maybe	✓
Weigh Scale	Maybe	Maybe	Maybe
Tractor/Loader	Maybe	Maybe	Maybe
Truck	✓	✓	✓
Stock Trailer	✓	✓	✓

3.7 LABOUR EXPENSES

Tracking labour costs should be done according to labour category, which includes operating labour and management labour.

Operating labour recognizes time spent on operational activities such performing daily chores (e.g., feeding, watering, herd health checks) and less frequent activities (e.g., shelter moves, fence repairs). Operating labour is treated as a direct expense item in an enterprise budget.

Management labour includes time spent managing higher level decision-making tasks such as analyzing herd production and farm financial records, meeting with financial advisor to discuss herd expansion plans, securing financing, altering the farm's pork marketing strategy, or changing the breed of pigs. Net farm income is what pays management labour, commonly referred to as return to labour.

When tracking labour, tasks that are done frequently (e.g., daily) should be recorded in separate categories, whereas labour for less frequent tasks (e.g., monthly) can be lumped together in one category.

3.8 FOCUSING ON THE RIGHT INFORMATION

When reviewing or analyzing financial statements, enterprise budgets, or other financial information, centre on the important items:

- For whole farm income statements, concentrate on those expenses and income categories which have the greatest contribution to the entire farm.
- Focus on the largest expense categories in an enterprise budget.
- Budgets are only as good as the quality of information collected and used for analyses. Wherever possible, use information based on your farm's records and resist the temptation to be too optimistic with estimated figures (e.g., piglets weaned per litter, litters per year, days to market weight).
- Enterprise budgets provide an excellent tool to support management decision-making.

The Annual Enterprise Budget Worksheet for Small Lot Pork Producers located in Section 3.9 provides an excellent overview of the types of herd production, marketing and financial parameters that are typically collected by farmers seeking to get a handle on their farm's operation.

3.9 INSTRUCTIONS – ENTERPRISE BUDGET WORKSHEET

These worksheets are designed to be flexible for use by a wide range of farm sizes and types (e.g., farrow-to-finish, farrow-to-weaning, feeder-to-finish, direct meat sales, or any combination). Therefore, anyone contemplating or currently raising pigs will benefit from examining this enterprise budget worksheet.

Each worksheet section is described below along with how to use instructions. How extensively it is completed is up to the user. Small pig farmers with only a few pigs may want to browse through the worksheet to familiarize themselves with typical expenses related to pork production. Taking time to complete the budget worksheet will provide a clear indicator of projected revenues, expenses, and net income, especially for those with significantly larger farms or those planning to expand.

Worksheet sections are identified by **Roman numerals** (e.g., I, II, III, IV). Within Sections V to XIII, key financial parameters, which are labelled as **letters** ranging from A (Total Income) to N (Net Farm Income), provide the user with a clear path to record and track the progression of calculations.

3.9 INSTRUCTIONS – ENTERPRISE BUDGET WORKSHEET

Key components of the enterprise budget worksheet and user instructions are as follows:

- **Section I:** Gathering and recording data relevant to your operation. Accuracy of data collection is one of the most critical steps in the budgeting exercise. If certain parameters are unknown, refer to a reliable source to acquire a realistic estimate.
- **Section II:** Four formulas are provided to complete budget worksheet calculations: Interest on Operating Expenses, Depreciation Expenses, and Investment Expenses.
- **Section III:** Suggested figures for salvage value and useful life when calculating depreciation and investment expenses for buildings, manure storage, equipment, machinery, and livestock.
- **Section IV:** Approximate daily feeding levels by animal type and by type of feed in both lb and kg/head/day. Caution: these are only rough estimates for budgeting purposes. More precise figures should be obtained from a swine nutritionist to tailor ration formulation by animal type, quality of feed source, environmental conditions, breed of animal, and marketing objectives.
- **Section V:** INCOME sources and corresponding calculations. Complete only those lines that pertain to the farm or farm plan.
- **Section VI:** DIRECT EXPENSES is divided into two subsections: one examines the direct expenses of 'Feed', while the second includes all 'Other Direct Expenses'. It also illustrates how to handle expenses that are known for the whole farm and accumulated across multiple farm enterprises (e.g., fuel, oil & repairs), but need to be allocated on a percentage (%) basis to individual enterprises (e.g., 25% allocation to the swine enterprise). The section concludes with a TOTAL DIRECT EXPENSES figure.
- **Section VII:** The calculation of CONTRIBUTION MARGIN, which is Total Income less Total Direct Expenses from figures generated in Sections V and VI.
- **Section VIII:** INDIRECT EXPENSES. How to handle expenses that are known for the whole farm and accumulated across multiple farm enterprises (e.g., property taxes), which need to be allocated on a percentage (%) basis to individual enterprises (e.g., 40% allocation to the swine enterprise). The section concludes with a TOTAL INDIRECT EXPENSES figure.
- **Section IX:** TOTAL OPERATING EXPENSES: the sum of 'Total Direct Expenses' and 'Total Indirect Expenses', and an adjustment for 'Interest on Operating Expenses'.
- **Section X:** TOTAL CAPITAL (DEPRECIATION) EXPENSES on buildings, manure storage, equipment, and machinery. Methodology described in Tables of Sections II and III, and footnotes to Table of Section X.
- **Section XI:** TOTAL CAPITAL (INVESTMENT) EXPENSES on buildings, manure storage, equipment, machinery, and livestock. Methodology described in Tables of Sections II and III, and footnotes to Table of Section XI.

3.9 INSTRUCTIONS – ENTERPRISE BUDGET WORKSHEET

- **Section XII:** Calculation of NET FARM INCOME using figures from Sections V (INCOME), VI (DIRECT EXPENSES), VII (CONTRIBUTION MARGIN), VIII (INDIRECT EXPENSES), IX (TOTAL OPERATING EXPENSES), X (DEPRECIATION EXPENSES), and XI (INVESTMENT EXPENSES).
- **Section XIII:** Use figures generated from the Enterprise Budget Worksheet to calculate income and cost of production (COP) figures on a PER UNIT BASIS.

**Please refer to the footnotes under the Table in Section XIII
before attempting any calculations.**

- **Per Sow:** 100% of weaner pigs must be sourced from sows managed on-farm for an accurate calculation.
- **Per Weaner:** Applies to farms that sell weaner pigs originating from sows managed on-farm. (See footnote below.)
- **Per Market Hog:** Includes all pigs sold as market hogs. These hogs may have been reared from feeders originating from sows managed on-farm and/or from feeders purchased off-farm. (See footnote below.)
- **Per lb or kg Meat:** Includes all market hogs that are sold directly to customers as meat (e.g., whole/half/quarter and/or as cuts of meat). (See footnote below.)

Footnote: For farms ‘selling a combination’ of weaners, market hogs, and/or meat cuts, Section XIII of the Enterprise Budget Worksheet allows allocations of income and expenditures for each category based on % of TOTAL INCOME that each category generates. Example: If Total Income of \$100,000/year with weaner sales (\$20,000), market hog sales (\$70,000), and meat cut sales (\$10,000), then input 20%, 70%, and 10% under the PER WEANER, PER MARKET HOG, and PER LB OR KG MEAT columns respectively on the line designated as *% Allocation of Total Income*.

An **interactive, enterprise budget calculator for small lot and commercial pork producers** is available for public use and downloading from B.C. Pork’s website (www.bcpork.ca) under Small Lot Pork Producers. This interactive spreadsheet enables users to run different production system scenarios and compare impacts on income, expenses, net farm income, and income and costs of production on a per unit basis.

LEGAL DISCLAIMER: Neither B.C. Pork nor any of its funding partners shall be held liable for any direct, indirect, incidental, special, exemplary, or consequential damages that any individual or business may incur from the use of information generated from the small lot pork budget worksheet in this Section. This worksheet is to be regarded as a guide to users in conducting a financial assessment of their current or planned small lot pork enterprise. It is the responsibility of the user to obtain professional financial management advice before making a farm management decision and not rely solely on the outputs of this Section’s budget worksheet.

3.9 ANNUAL ENTERPRISE BUDGET WORKSHEET

**ANNUAL ENTERPRISE BUDGET WORKSHEET
SMALL LOT PORK PRODUCER**

Farm Name: _____ Budget Year: _____

I. Herd Production, Marketing & Financial Parameters

# Breeding sows	_____ sows	Weaners - Days on nursery/starter feed	_____ days
# Litters per sow per year	_____ /year	- Nursery or starter fed/hd/day	_____ lb or kg
# Piglets weaned per litter	_____ /litter	Growers - Days on grower feed	_____ days
# Total weanlings per year	_____ /year	- Grower feed fed/hd/day	_____ lb or kg
# Weanlings sold	_____ /year	Finishers - Days on finisher feed	_____ days
# Market hogs sold	_____ /year	- Finisher feed fed/hd/day	_____ lb or kg
# Market hogs sold (as carcass sales)	_____ /year	Gestating - Days on gestation feed	_____ days
Weanling sales price	\$ _____ /head	- Gestation feed fed/hd/day	_____ lb or kg
Market hog weight	_____ lb or kg	Lactating - Days on lactation feed	_____ days
Market hog price	\$ _____ /lb or kg	- Lactation feed fed/hd/day	_____ lb or kg
Carcass price (whole, half, quarter)	\$ _____ /lb or kg	Boars - Feed fed/hd/day	_____ lb or kg
Days of age at market hog weight	_____ days	# Breeding boars	_____ boars
# Cull sows sold	_____ /year	# Breeding boars sold (culls)	_____ /year
Cull sow weight	_____ lb or kg	Breeding boar sales price (culls)	\$ _____ /head
Cull sow price	\$ _____ /lb or kg	# Preweaned piglet mortalities	_____ /year
Market value of breeding sow	\$ _____ /sow	# Grower/finisher mortalities	_____ /year
Market value of breeding boar	\$ _____ /boar	# Breeding sow mortalities	_____ /year
# Weanlings purchased for growers	_____ /year	# Breeding boar mortalities	_____ /year
Slaughter charge	\$ _____ /hog	Interest rate on operating expenses	_____ %
Cut & wrap charge	\$ _____ /lb or kg	Investment rate on capital and livestock	_____ %

II. Formulas to Calculate Interest on Operating Expenses, Depreciation Expenses & Investment Expenses

1. Interest on Operating Expenses: charged on subtotal operating expenses. Interest on Operating Expenses = [(Subtotal Operating Expenses/12) / 2] x Interest Rate on Operating
2. Depreciation Expenses: to be applied on buildings, manure storage, equipment & machinery. Depreciation Expenses = (Original Cost – Salvage Value) / Useful Life
3. Investment Expenses: to be applied on buildings, manure storage, equipment & machinery. Investment Expenses (Capital) = [(Original Cost + Salvage Value) / 2] x Investment Rate
4. Investment Expenses: to be applied on livestock. Investment Expenses (Livestock) = {(Total Value of Sows + Boars) + [(Total Value of Market Hogs Sold per Year) x (Days of Age at Market/365)]} x Investment Rate

III. Suggested Figures for Salvage Values & Useful Life

SALVAGE VALUE		USEFUL LIFE	
ITEM	%	ITEM	YEARS
Buildings	10	Buildings	20–25
Manure Storage	0	Manure Storage	20–25
Equipment/Machinery	10	Equipment/Machinery	10–15



IV. Approximate Daily Feeding Quantities When Estimating Feed Amounts & Expenses⁽¹⁾

ANIMAL TYPE	FEED TYPE	DAYS OF AGE	DAYS ON FEED	APPROXIMATE DAILY FEEDING LEVELS	
				lb/hd/day	kg/hd/day
Pre/Post Weaning	Nursery/Starter	21–45	25	3.0–4.0 lb	1.4–1.8 kg
Feeders	Grower	45–75	30	4.0–5.7 lb	1.8–2.6 kg
Finishing	Finisher	75–130	55	6.0–7.3 lb	2.7–3.3 kg
Gestating sows	Gestation	—	290–300 days/year	5.0–8.0 lb	2.3–3.6 kg
Lactating sows	Lactation	—	65–75 days/year	14.0–16.0 lb	6.4–7.3 kg
Breeding Boars	Boar Diet	—	365 days/year	5.0–6.0 lb	2.3–2.7 kg

(1) Contact a swine nutritionist for precise ration formulations. Rations and daily feeding levels can vary widely depending on breed, feed ingredients, herd health, and the environment. The above figures are only for preliminary budgeting purposes.

V. INCOME

INCOME ITEM	SALES		AVG WEIGHT (lb / kg)	PRICE PER		INCOME \$/YR
	#	UNITS		\$	UNITS	
Weanlings		head			head	
Market Hogs		head	(4)		lb / kg	
Cull Sows		head			lb / kg	
Breeding Boars (culls)		head			head	
Carcass – Whole	(1)	(3)	whole	(4)	lb / kg	
Carcass – Half	(1)	(3)	half	(4)	lb / kg	
Carcass – Quarter	(1)	(3)	quarter	(4)	lb / kg	
Carcass – Cuts	(total weight of carcass cuts)		(2)	(5)	lb / kg	
A. TOTAL INCOME						

- (1) Input the respective # Whole, Half and/or Quarter Carcasses sold.
- (2) Input the total # lb or kg of annual carcass cuts sold.
- (3) Calculate and input the # Market Hog Equivalents. These are calculated as follows: 1 Whole Carcass = 1 Market Hog Equivalent; 2 Half Carcasses = 1 Market Hog Equivalent; 4 Quarter Carcasses = 1 Market Hog Equivalent.
- (4) Input the # lb or kg for average market hog weight.
- (5) Use the following formula to calculate and input the # Market Hog Equivalents from total carcass cuts sold.

$$\left[\frac{\text{Total weight of carcass cuts sold}}{0.75} \right] / \text{Average weight of a whole carcass}$$

SECTION 3 | PRODUCTION ECONOMICS

3.9 ANNUAL ENTERPRISE BUDGET WORKSHEET

VI. DIRECT EXPENSES

DIRECT EXPENSES	FEED FED (lb or kg/hd/day)	DAYS FED (#)	TOTAL FEED (lb or kg/hd)	FEED EXPENSE (\$/lb or kg)	TOTAL HEAD (#/yr)	EXPENSES \$/YR
Feed – Pigs						
Nursery/Starter						
Grower						
Finisher						
Feed – Sows						
Gestation						
Lactation						
Feed – Boars						
Breeding Boars		365				
B. Total Feed Expenses						

OTHER DIRECT EXPENSES	QUANTITY	UNITS	EXPENSE \$/UNIT	EXPENSES \$/YR
Weanlings Purchased for Growers	# /yr	weaner		
Replacement Gilts	# /yr	gilt		
Replacement Boars	# /yr	boar		
Herd Health (vet, med) - sows	\$ /mo			
Herd Health (vet, med) - mkt hogs	\$ /mo			
Traceability (ear tags, applicator)	\$ /mo			
Trucking (animals, feed, supplies)	\$ /mo			
Sanitation (sanitizers, scrubbers)	\$ /mo			
Pasture Management	\$ /mo			
Fence Repairs/Main.	\$ /mo			
Marketing	\$ /mo			
Mortalities	\$ /mo			
Deadstock Disposal	\$ /mo			
Labour Hours (operating labour)	# /mo	hr		
Slaughter Charges	# /yr	market hog		
Cut & Wrap Charges	# /yr	lb or kg		
Other	\$ /mo			
Other	\$ /mo			

3.9 ANNUAL ENTERPRISE BUDGET WORKSHEET

OTHER DIRECT EXPENSES	TOTAL ANNUAL FARM DIRECT EXPENSES (\$)	% ALLOCATION OF DIRECT EXPENSES TO SWINE ENTERPRISE ⁽¹⁾	EXPENSES \$/YR
Mach & Equip Repairs/Main.			
Truck & Tractor Repairs/Main.			
Fuel, Oil & Lube			
Misc. (fees)			
Utilities (heating, electricity)			
Other			
C. Total Other Direct Expenses			
D. TOTAL DIRECT EXPENSES (B + C)			

(1) % Allocation of Direct Expenses to swine enterprise is based on the estimate of total farm generated revenue that is derived from the swine operation (e.g., if annual farm income = \$80,000 and swine contributed \$20,000, then % allocation = 25%).

VII. CONTRIBUTION MARGIN

E. CONTRIBUTION MARGIN (A–D)	
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VIII. INDIRECT EXPENSES

INDIRECT EXPENSES	TOTAL ANNUAL FARM INDIRECT EXPENSES (\$)	% ALLOCATION OF INDIRECT EXPENSES TO SWINE ENTERPRISE ⁽¹⁾	EXPENSES \$/YR
Property Taxes			
Water Fees & Licences			
Building Repairs/Main.			
Insurance Premiums			
Legal & Accounting Fees			
Office & Telephone			
Shop Supplies & Small Tools			
Interest on Term Loans			
Other			
Other			
F. TOTAL INDIRECT EXPENSES			

(1) % Allocation of Indirect Expenses to swine enterprise is based on the estimate of total farm generated revenue that is derived from the swine operation (e.g., if annual farm income = \$80,000 and swine contributed \$20,000, then % allocation = 25%).

IX. TOTAL OPERATING EXPENSES

TOTAL OPERATING EXPENSES	EXPENSES \$/YR
G. SUBTOTAL OPERATING EXPENSES (D + F)	
H. Interest on Operating Expense ⁽¹⁾	
I. TOTAL OPERATING EXPENSES (G + H)	

(1) Refer to Formulas Table under Section II for a description of the methodology in calculating 'Interest on Operating Expenses'.

3.9 ANNUAL ENTERPRISE BUDGET WORKSHEET

X. CAPITAL (DEPRECIATION) EXPENSES

CAPITAL (DEPRECIATION) EXPENSES	FARM CAPITAL VALUE OF ITEMS (\$) ⁽¹⁾	% ALLOCATION TO SWINE ENTERPRISE ⁽²⁾	ALLOCATION TO SWINE ENTERPRISE (\$)	SALVAGE VALUE (\$) ⁽³⁾	USEFUL LIFE (YR) ⁽³⁾	DEPRECIATION EXPENSES \$/YR ⁽⁴⁾
Buildings & Manure Storage						
Gestation Bldgs/Pens						
Farrowing Bldgs/Pens						
Nursery Bldgs/Pens						
Grower/Finish Bldgs/Pens						
Pasture Shelters						
Fencing						
Feed Storage						
Manure Storage						
Other						
Other						
J. Total Buildings & Manure Storage						
Equipment & Machinery						
Feed Handling						
Feeders						
Heated Waterers						
Gates & Partitions						
Animal Handling/Loading						
Weigh Scales						
Truck						
Stock Trailer						
Tractor						
Manure Spreader						
Other						
Other						
K. Total Equipment & Machinery						
L. TOTAL CAPITAL (DEPRECIATION) EXPENSES (J + K)						

- (1) The 'Capital Value' is the cost to replace the capital item. In most budgets, this would be the new cost for a building, equipment or machinery; however, price conscious buyers can get away with including values lower than new cost (e.g., buy a good used tractor).
- (2) % Allocation of Capital Values to swine enterprise is based on the estimate of total farm generated revenue that is derived from the swine operation (e.g., if annual farm income = \$80,000 and swine contributed \$20,000, then % allocation = 25%).
- (3) Refer to Table in Section III for suggested values for 'Salvage Values' and 'Useful Life'.
- (4) Refer to Formula Table under Section II for a description of the methodology in calculating 'Depreciation Expenses'.

3.9 ANNUAL ENTERPRISE BUDGET WORKSHEET

XI. CAPITAL (INVESTMENT) EXPENSES

CAPITAL (INVESTMENT) EXPENSES	ALLOCATION TO SWINE ENTERPRISE (\$) ⁽¹⁾	SALVAGE VALUE (\$) ⁽¹⁾	INVESTMENT RATE (YR) ⁽²⁾	INVESTMENT EXPENSES \$/YR ⁽³⁾
Buildings				
Manure Storage				
Equipment & Machinery				
Livestock ⁽⁴⁾				
M. TOTAL CAPITAL (INVESTMENT) EXPENSES				

- (1) These values were determined in Section X and transferred to Section XI.
- (2) Investment Rate (%) that was recorded in Table in Section I.
- (3) Refer to Formula Table under Section II for a description of methodology in calculating 'Investment Expenses'.
- (4) Livestock Value based on figures recorded in Table in Section I for sows and boars, plus an adjusted value for market hogs sold/yr.

XII. NET FARM INCOME

SUMMARY CALCULATION OF NET FARM INCOME	TOTAL \$/YR
A. TOTAL INCOME	
D. TOTAL DIRECT EXPENSES	
E. CONTRIBUTION MARGIN	
F. TOTAL INDIRECT EXPENSES	
G. SUBTOTAL OPERATING EXPENSES	
H. Interest on Operating Expenses	
I. TOTAL OPERATING EXPENSES	
Net Returns Over Operating Expenses⁽¹⁾	
L. TOTAL CAPITAL (DEPRECIATION) EXPENSES	
M. TOTAL CAPITAL (INVESTMENT) EXPENSES	
N. NET FARM INCOME [A - (I + L + M)]	

- (1) 'Net Returns Over Operating Expenses' is calculated by subtracting Total Operating Expenses (I) from Total Income (A).

SECTION 3 REFERENCE LIST

XIII. SUMMARY OF INCOME & COST OF PRODUCTION (COP) PER UNIT

PARAMETER ⁽¹⁾	Per Sow ⁽³⁾ (\$/sow)	Per Weaner ⁽²⁾ (\$/weaner)	Per Market Hog ⁽²⁾ (\$/market hog)	Per lb of kg Meat ⁽²⁾ (\$/lb or kg meat)
% Allocation of Total Income ⁽²⁾				
A. TOTAL INCOME				
D. TOTAL DIRECT EXPENSES				
E. CONTRIBUTION MARGIN				
F. TOTAL INDIRECT EXPENSES				
G. SUBTOTAL OPERATING EXPENSES				
H. Interest on Operating Expenses				
I. TOTAL OPERATING EXPENSES				
Net Returns Over Operating Exp.				
L. CAPITAL (DEPRECIATION) EXPENSES				
M. CAPITAL (INVESTMENT) EXPENSES				
N. NET FARM INCOME				

- (1) Per unit figures for these parameters are calculated by taking 'Enterprise Budget Worksheet' totals (Section XII) and dividing each by the respective # sows, # weaners sold, and/or # market hogs sold (Section I), and/or # lb or kg meat cuts sold (Section V).
- (2) For farms **SELLING A COMBINATION** of weaners, market hogs, and/or meat cuts, please input the **% Allocation of Total Income** attributed to each category. Example: If Total Income of \$100,000/year with weaner sales (\$20,000), market hog sales (\$70,000), and meat cut sales (\$10,000), then input 20%, 70%, and 10% under the PER WEANER, PER MARKET HOG, and PER LB OR KG MEAT columns respectively on the line designated as **% Allocation of Total Income**. Once these %'s are inputted, take the 'Enterprise Budget' totals from Section XII and multiple each by the % figure for each respective column (e.g., weaners, market hogs, meat cuts), then divide by the # weaners sold or # market hogs sold (from Section I) or by the # lb or kg of meat cuts sold (from Section V) to generate PER UNIT values.
- (3) 100% of weaner pigs must be sourced from sows managed on-farm for an accurate calculation of \$/sow.

SECTION 3 REFERENCE LIST

1. PennState Extension. Agricultural Alternatives. Swine Production (2016)
2. Agriculture and Horticulture Development Board. Pork. Costings and Herd Performance (2016)
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5. Guidelines for Estimating Swine Farrow-Finish in Manitoba, Manitoba Agriculture (2019/2020)
6. U.S. Pork Centre of Excellence (2020)
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8. Niche Pork Production – Peter Lammers, David Stender and Mark Honeyman. Iowa State University (2007)