

Lincoln University

**FINANCIAL
BUDGET MANUAL
2016**

EDITORS:

**David Askin B. Ag. Sc. (Hons), Ph D
Virginia Askin B. C.M. (Accounting)**

*"Manual Sales"
Faculty of Agribusiness and Commerce
P. O .Box 85084
Lincoln University
Lincoln 7647
New Zealand*

ISBN 978-0-86476-985-5
ISBN 978-0-86476-986-2 available on CD-ROM
ISBN 978-0-86476-987-9 available directly on line
ISSN 0113-1397

PREFACE

The "Financial Budget Manual 2016" is an invaluable reference book for farmers and growers, consultants and students. It contains a wealth of up to date information on farm and orchard costs and prices, the profitability of different enterprises, and income taxation. Following its successful introduction in 1999, the manual is now available on the web. However, many users find having the information in a book is the most convenient and efficient format, and this manual is the result of the University's commitment to the wide readership.

Information is available in sections on the web, for individual purchase as pdf's or you can purchase the complete book as a pdf. www.aginfo.lincoln.ac.nz.

Unless stated otherwise, data contained in the Manual are current mid-2016 and are exclusive of GST. Prices do not remain stationary so the Manual should be used as a guide only. Market movements and exchange rate changes are just two of the factors which can rapidly alter costs and prices. The availability of discounts for bulk purchases, and deferred payment arrangements, may also affect final costs for budgeting purposes. In addition, some commodity price information is becoming increasingly sensitive and remains confidential between the client and the supplier and/or buyer. It is therefore unavailable for publication in this Manual.

Information quoted has been gathered from hundreds of sources throughout New Zealand, but some variation may occur between regions. Trade names have been used for clarity and convenience; no preferential endorsement by the University is intended, nor is any criticism implied of any product which does not appear in the Manual. If you as a supplier would like your products listed – please use the website as your point of contact.

Please note that each of the sections is pagged individually, and comprehensive index provided.

Our sincere thanks to staff at Lay Associates Ltd., who contributed updates for Section 4 on Tax. Thanks also to all the individuals, organisations and commercial firms who have provided information for our use. Without their co-operation, the production of the Financial Budget Manual would not be possible, and we sincerely appreciate the willingness of all those who have contributed. We wish to express our appreciation to the Assistant Editor Annmarie Baldwin for her efforts in gathering and collating the information.

This Manual has been prepared in good faith and is published with the condition that it and its owners, authors and editors disavow and exclude any liability in any way for any costs, claims, demands or actions arising from its use. In no event shall Lincoln University be liable for any direct, indirect, incidental or consequential damages of any kind whatsoever arising from the use of the Manual. This disclaimer includes, but is not limited to, all implied warranties of fitness for a particular purpose, merchantability or non-infringement. While every effort has been made to ensure that the information in this publication is accurate, no responsibility can be taken by Lincoln University for any error or omission in these pages, nor for any loss or damage resulting from the reliance on, or the use of information or opinions contained in this Manual. Lincoln University does not accept any liability for the accuracy, currency, reliability or correctness of any information provided by third parties.

The inclusion of advertisements in the text does not necessarily imply the University's endorsement of those advertised products/services.

Any suggestions for the improvement of the Manual would be welcomed.

For readers' information the Faculty of Agribusiness and Commerce at Lincoln University also produces a companion volume - the "Farm Technical Manual". It is a versatile reference book, which brings into one place all manner of essential technical information required by farmers and others involved in the farming industry.

David and Virginia Askin
EDITORS

September 2016

SECTION 3
LIVESTOCK, CROPPING and HORTICULTURE
INTRODUCING ENTERPRISE ANALYSIS

3. Introducing Enterprise Analysis and Gross Margins

3.1 INTRODUCTION

3.1.1 Background

Everything changes. Well maybe not everything, but much about farming and farming business is changing and changing dramatically. At one end of a scale Wendell Berry and others espouse a timeless view of community, land, ‘local vs global’ and husbandry, where change is slow and ordered, controlled by season and farmers in small operations work together in biologically complex ‘small’ farms. We suggest you take time to read him and others like him, as their ideas and proposals provide a useful counterpoint to farming as business only. This section, sits towards the other end of that ‘scale’. It is unabashedly about farming as business and the way farmers do business continues to change dramatically. Here are just two significant areas for consideration.

Firstly, pollution and secondly, the tools for farmers to manage, control and analyse their farm operations.

First let’s consider pollution. Nitrate leaching is a somewhat obscure term for pollution. For much of the last century most farming has been about maximising profitability around maximum productivity. Little thought and few regulations related directly to pollution. That has changed dramatically and more change is on the way. ‘Overseer’ is a computer based model that seeks to predict pollution once various variables are stated. It is based on research and best estimates. It is under continual development as research results are added and is set to assist regional councils manage pollution limits in agriculture. Rules are being established and at least in Canterbury they favour those with a history of pollution over those with very low pollution history! There is much for the next generation to cope with. Decisions made will affect our quality of life and economic well-being. No longer is productivity and profitability the end-game – now environmental quality is a game changer. The challenges are worth facing and new ways of doing things are required. It is a great time to be a student, a farmer or associated professional!

Secondly, the tools to analyse and manage enterprises are also rapidly changing. A range of local and international companies provide many tools and systems- we can’t offer advice as to which is best for you. The range is challenging to evaluate. But there are some principles to run with. First port of call would be to talk with others in our area, as well as with your accountant. Unless you are willing to change accountant, you may need to follow their advice. But,

Home
Series 1 - Organisation
Series 2 - Financial
2.1 - Partial Budgeting
2.2 - Decision Routine
2.3 - Gross Margin Analysis
2.4 - Price and Yield Calculator
2.5 - Spreadsheets
2.6.1 - Cash Flow Budgeting - Part 1
2.6.2 - Cash Flow Budgeting - Part 2
2.7.1 - Borrowing Money
2.7.2 - Types of Loans
2.7.3 - Table Mortgage Decision Tool
2.8 - The Importance of Recording
2.9 - Raw Data to Information
Series 3 - Decision Tools
Series 4 - Strategic

From I.AGRI – Resources freely available.
<http://www.howtofarm.co.nz>

accountants also need to keep up with the times and with the tools available for farmers to use. There is no shortage of options - Cash Manager, FARMAX, FarmIQ, iAGRI, MINDA, Xero, MYOB to name some – and with add-ons and work together options the accountants and manager’s roles continue to change! One farmer recently reported 6 different mapping systems on their property – and they were looking at an Australian farm management product. There’s considerable challenge in this area.

Cash Manager Rural is perhaps the most widely used farm financial package in New Zealand. In recent years it has provided users with an ability to store their data online. Recording farm activities is made easy with smart phone apps- and recording for compliance purposes is increasingly important- particularly around Farm Environment Plans.

The MINDA suite from LIC (Livestock Improvement Corporation LTD) may well be the product of choice for the dairy industry as it provides many practical tools specifically targeted at the day to day management and analysis of a New Zealand dairy farm.

ProductionWise is likely to be the tool of choice for intensive cropping farmers and this section’s cropping component relies heavily on output from ProductionWise.

Enterprise analysis starts with inputs and outputs and the primary tool is still a spreadsheet like Excel. This manual provides a number of simple examples based in Excel spreadsheets and linked worksheets. We believe it is important to understand first principles and a farm budget or gross margin presented in excel with each cell’s information and where it came from (calculations/ linked cells etc) allows students and others to understand the farm’s finances from first principles.

Kale area required	Enter green values	Area to plant depending on percentage wastage and Yield kg/ha																															
Kale offered per cow per day (kg)	12 kg	<table border="1"> <thead> <tr> <th rowspan="2">Yield, kg/ha</th> <th colspan="5">Percentage wastage</th> </tr> <tr> <th>44.9</th> <th>5</th> <th>10</th> <th>15</th> <th>20</th> </tr> </thead> <tbody> <tr> <td>10000</td> <td>51.5</td> <td>53.9</td> <td>56.4</td> <td>58.8</td> </tr> <tr> <td>12000</td> <td>42.9</td> <td>44.9</td> <td>47.0</td> <td>49.0</td> </tr> <tr> <td>14000</td> <td>36.8</td> <td>38.5</td> <td>40.3</td> <td>42.0</td> </tr> <tr> <td>16000</td> <td>32.2</td> <td>33.7</td> <td>35.2</td> <td>36.8</td> </tr> </tbody> </table>	Yield, kg/ha	Percentage wastage					44.9	5	10	15	20	10000	51.5	53.9	56.4	58.8	12000	42.9	44.9	47.0	49.0	14000	36.8	38.5	40.3	42.0	16000	32.2	33.7	35.2	36.8
Yield, kg/ha	Percentage wastage																																
	44.9		5	10	15	20																											
10000	51.5		53.9	56.4	58.8																												
12000	42.9		44.9	47.0	49.0																												
14000	36.8	38.5	40.3	42.0																													
16000	32.2	33.7	35.2	36.8																													
Total number of cows	430																																
Number of days grazing	95																																
Percentage wastage	10 %																																
Average yield	12000 kg/ha																																
Kale required before wastage allowed for	490,200 kg	<table border="1"> <thead> <tr> <th rowspan="2">Yield, kg/ha</th> <th colspan="5">Kale offered kg/cow/day</th> </tr> <tr> <th>44.9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> </tr> </thead> <tbody> <tr> <td>10000</td> <td>44.9</td> <td>49.4</td> <td>53.9</td> <td>58.4</td> </tr> <tr> <td>12000</td> <td>37.4</td> <td>41.2</td> <td>44.9</td> <td>48.7</td> </tr> <tr> <td>14000</td> <td>32.1</td> <td>35.3</td> <td>38.5</td> <td>41.7</td> </tr> <tr> <td>16000</td> <td>28.1</td> <td>30.9</td> <td>33.7</td> <td>36.5</td> </tr> </tbody> </table>	Yield, kg/ha	Kale offered kg/cow/day					44.9	10	11	12	13	10000	44.9	49.4	53.9	58.4	12000	37.4	41.2	44.9	48.7	14000	32.1	35.3	38.5	41.7	16000	28.1	30.9	33.7	36.5
Yield, kg/ha	Kale offered kg/cow/day																																
	44.9		10	11	12	13																											
10000	44.9		49.4	53.9	58.4																												
12000	37.4	41.2	44.9	48.7																													
14000	32.1	35.3	38.5	41.7																													
16000	28.1	30.9	33.7	36.5																													
Kale required with wastage allowed for	539,220 kg																																
Therefore ha to sow =	44.9 ha																																
With data above - how wide is my break?																																	
Width of paddock your data here -	200																																
Calculated Break size required m/day	23.7																																
Kale calculator, showing area to plant and break size for user with sensitivity analysis tables, showing varying areas required at drilling.																																	

The question above (how much kale or fodder beet to sow) may not be important to you, but you may wish to use the spreadsheet on-line as a way of learning how cells and calculations work in Excel. You will need to visit the web site (www.aginfo.lincoln.ac.nz) and download the example spreadsheet.

NZ is well served by our private and government lead industry bodies eg Beef and Lamb New Zealand, DairyNZ, the Foundation for Arable Research etc provide a number of worthwhile interactive tools. Many are provided by the commercial agents. Ask your agent for tools their company provides.

Adequate financial analysis of perennial crops (grapes, apples, citrus etc) requires a development budget that covers (normally) 10-15 years, showing very significant expenditure in the first years and increasing annual profitability later in the cycle. A simple gross margin may be helpful to compare a situation where differing proportions of cultivars are being considered. Apple profitability is at least in part built on the willingness to regularly change cultivar as market

If you don't measure it, you can't manage it... and if you don't record it you can't report on it!
Who said farming was simple!?

preferences change and new cultivars become available. This means an averaged price over 5-6 or more cultivars will not show a complete picture. The answer may mislead. Beware. Seek advice before you cultivate and plant.

Accurate enterprise analysis is built on a number of factors. Tools used must be appropriate, carrying calculations that make sense in the world of biology first and foremost. Information relating to prices and costs must be as up to date as possible. Finally, unique situations in the growers own enterprise or plans must be entered for the analysis to be helpful – and not misleading.

Banks don't just lend money to agri-businesses. They provide very useful information services – eg overleaf from ANZ's Agricultural Price Review.

3.1.2 Agricultural Price Review

AGRICULTURAL PRICE PREVIEW FOR 2015/16					
June Year End	2012/13	2013/14	2014/15p	2015/16f	% change
Finance					
Weighted Rural Interest Rate	5.95	5.85	6.25	6.30	NA
Dairy (\$ per kilogram of milksolid) after retentions					
Fonterra Milk Price	5.84	8.40	4.50-4.70	5.75	+25%
Dividend per share after retentions	0.32	0.10	0.30	NA	NA
Tatua	7.40	8.90	6.75	7.00	+4%
Westland	6.04	7.57	5.00	5.75	+15%
Open Country Dairy	5.90	8.40	4.50-4.70	5.75	+25%
Synlait	5.89	8.31	4.50-4.70	5.75	+25%
Wool (\$ per kilogram greasy, whole of clip net of costs)					
Fine (<24 micron)	11.05	10.35	9.30	9.70	+4%
Medium (25-31 micron)	6.45	5.55	5.60	5.90	+5%
Crossbred (>31 micron)	2.95	3.75	3.85	3.75	-3%
Sheep (\$ per head, weighted averages, GST exclusive and net levies at farm gate)					
Lamb (17.5 kg carcass)	83	94	92	95	+3%
Mutton (24.5 kg carcass)	60	74	65	67.5	+4%
Stores (LW 30-35 kg)	45-80	65-85	60-85	65-85	+3%
Beef (\$ per kilogram of carcass weight, weighted averages, GST exclusive and net levies at farm gate)					
Steer (296-320 kg carcass)	3.80	4.05	4.60	4.85	+5%
Heifer (195-220 kg carcass)	3.70	3.95	4.45	4.70	+6%
Bull (296-320 kg carcass)	3.75	3.90	4.40	4.60	+5%
M Cow (160-195 kg carcass)	2.80	2.75	3.10	3.25	+5%
Deer (\$ per kilogram of carcass weight, weighted averages, GST exclusive and net levies at farm gate)					
Stag (60 kg carcass)	6.70	6.35	6.35	6.05	-5%
Hind (50 kg carcass)	6.60	6.25	6.25	5.95	-5%
Velvet (\$ per kg)	96	100	125	115	-8%
Grains (\$ per tonne, AgriHQ prices grower bids delivered nearest store or mill, net levies and freight to this point)					
Milling Wheat	410 to 430	410 to 450	400 to 450	410 to 440	Unchanged
Feed Wheat	350 to 380	380 to 440	370 to 445	360 to 390	-8%
Feed Barley	340 to 380	370 to 435	360 to 445	350 to 390	-8%
Maize Grain	400 to 440	440 to 500	400 to 460	380 to 420	-7%
Palm Kernel	290 to 350	300 to 370	230 to 310	260 to 280	Unchanged
Kiwifruit (\$ per tray OGR, crop year)					
Zespri™ Green	4.62	5.23	5.96	5.25	-12%
Zespri™ Gold	10.45	12.91	9.78	7.00	-28%
Apples (Weighted FOB returns \$ per TCE, crop year, % change 2014 to 2015 crop)					
Braeburn	18.3	22.4	24.4	21.0	-14%
Royal Gala	26.2	27.4	24.7	25.0	+1%
Fuji	23.5	26.4	32.0	30.5	-5%
Jazz™	21.6	28.5	31.4	31.0	-1%
Pacific Rose	33.5	36.8	38.2	36.0	-6%
Grapes (\$ per tonne, national average, vintage year, % change 2014 to 2015 vintage)					
Sauvignon Blanc	1,151	1,231	1,605	1,675	+4%
Merlot	1,517	1,510	1,768	1,800	+2%
Pinot Noir	2,429	2,754	2,931	3,000	+2%
Chardonnay Mendoza	1,014	1,089	1,692	1,700	Unchanged
Chardonnay Other	1,122	1,177	1,690	1,700	+1%
Pinot Gris	1,306	1,239	1,530	1,550	+1%



ANZ. Feature article, Ag Price Review 2015/16.

3.1.3 Resources

There are many more useful resources than we can highlight. We are bound to have missed some and apologise to those who have missed out in being mentioned here. Let us know for next time (david.askin@lincoln.ac.nz).

Key starting points are your own industry's web site(s) but remember also, to check bank web sites. These also provide tools for farmers and analysis of trends. A few examples have been chosen to highlight and encourage the reader to pursue the internet resources directly.

<https://apps.farmax.co.nz/pasture/BeefLambNZ> pasture calculator - payment required for personalised service.

<http://www.dairynz.co.nz/people/employee-turnover-cost-calculator/> - Losing staff, high staff turnover? The calculator helps you understand how expensive that process really is. DairyNZ provide further useful tools and suggestions to improve staff retention.

Dairy NZ provide a practical pdf document with screen shots to help you with your first and subsequent budgets.

http://www.dairynz.co.nz/media/502536/quick_cash_budget_guide.pdf

A more detailed annual budget with cash flow is available – complete with hints regarding access to unlock the budget to personalise it for your needs.

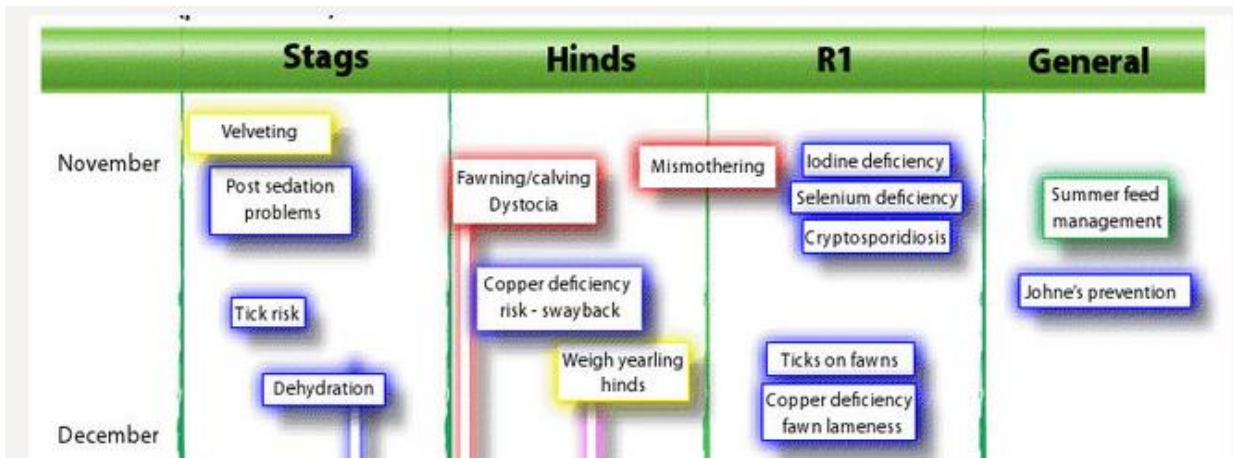
<http://www.dairynz.co.nz/farm/financial/budgets/annual-cash-budgets>



<https://apps.farmax.co.nz/pasture/BeefLambNZ>

DeerNZ provides useful information and a calendar that can be printed and used as a reminder for managers, owners and a learning tool for new staff.

<http://bit.ly/1uxavfr>



Useful tables showing daily feed requirements for particular gain required of various livestock and their current liveweight.

<http://bit.ly/1mHzbix>

The NZ Ministry of Primary Industries (MPI) monitoring reports have been ‘must have’ information for anyone seeking to understand New Zealand’s agricultural enterprises. Keep an eye on the link below – hopefully they continue to update these - eg.

<https://www.mpi.govt.nz/news-and-resources/open-data-and-forecasting/agriculture/>

3.1.4 Use of Gross Margins

Gross Margins may be used as a first step in comparing the profitability of different enterprises. The direct or variable costs associated with a particular enterprise are subtracted from the total income from that enterprise. The gross margin result is then normally expressed in terms of dollars per stock unit or per hectare. In some instances it may be worth also comparing enterprises against other limits to production – eg water.

Direct or variable costs include items such as animal health costs, and harvesting costs. They do not include costs common to all enterprises, such as rates and interest payments (fixed costs).

Care must be taken when interpreting results of Gross margin analysis. It is important to note that gross margins make the assumption that each enterprise is independent of all other farm or orchard activities, both technically and financially. This is seldom the case, with enterprises competing for labour and other resources, and unaccounted for synergies (eg the nitrogen fixed by a white clover seed crop is not accounted for in a gross margin analysis). Gross margins also assume that each additional unit of production is worth as much as, and costs as much as, each preceding unit. Note also that different properties are likely to show differing gross margin returns for identical enterprises, because yields, costs and various environmental variables will differ according to each individual property.

In many instances, the farmer or grower will find it necessary to prepare partial or full budgets in order to further compare alternative enterprises. For example, the price of irrigation is underestimated in the analyses that follow. Using water is expensive¹, not only in terms of pivots or canals, but also in the compliance costs around managing pollution, as well as costs in obtaining finance. For some farmers many thousands are spent in environment courts seeking permissions... and when given, consents may be withdrawn due to changing rules. That makes for a very tough environment in which to farm.

¹ For those in Canterbury able to join Central Plains water, fees in the order of \$1800/ha to join and annual fees of \$650/ha mean that high production and low pollution requirements will be a challenging marriage.

There is general agreement that gross margins are helpful with arable crops – but even so there are a multitude of factors – timing of expenditure and income stream, weather, length of time in the ground, difficulty with harvest (lodging, damp weather) that can dramatically change expected outcomes. Relatively new crops, for example hybrid carrots/radish may look attractive – but if pollination fails the crop may be a very expensive loss and if another crop is too close then purity standards may mean payments drop to zero. Some crops leave behind useful nitrogen and remove few nutrients (white clover) whereas others (eg wheat, maize) remove large amounts of nutrient and don't enhance soil fertility.

Barley and wheat normally require extra labour at harvest due to the large tonnage / ha to manage – and all of those tonnes need on-farm storage and (expensive) trucking to market. Feed barley is dependent on the fortunes of dairy farmers who have been buying large quantities of barley to encourage ever greater milk production.

In other words- there's much more to consider than just the figures presented in this section. Complexity abounds also in terms of the choices confronting a farmer. There are many options relating to controlling insect and weed pests. Various companies provide their own best bet chemicals. This manual does not seek to endorse any one company's products, but rather provides you with information around options and a framework for decision making.

Although gross margins have a number of limitations – there are some good reasons for starting with a gross margin, particularly when enterprises that have fundamental similarities are to be compared. Once a gross margin has been created – comparison within an enterprise as various factors are changed becomes very straight forward using the power of spreadsheets as a starting point.

Note that the examples presented do not try to cover all enterprises. The intent is to provide some examples that will assist you in creating your own analysis, uniquely fitting your own situation. Cost, price and yield estimates for the stock and crop enterprises are based largely on Canterbury figures as of mid-year 2016.

Interest and Supplementary Feed Costs:

Interest and supplementary feed costs are normally excluded from gross margins when comparing enterprises (in particular livestock enterprises) for the same property.

However a partial budgeting approach may be adopted with livestock enterprises, including estimates of interest and feed costs in order to provide a more accurate indication of actual returns. The interest cost takes account of the high capital requirements of some enterprises, and the fact that in many instances borrowed capital is involved. Feed costs can be ignored where there is no change in the supplementary feed required to change from one stock enterprise to another. Where there is a change however, all additional supplementary feed costs, should be included.

NOTE: ALL FIGURES USED IN THE CALCULATIONS ARE GST EXCLUSIVE.

3.1.5 Beef and Lamb Information tools and portal

The screenshot displays the 'Bencharking Tool Analysis' section of the Beef and Lamb Information portal. It includes a navigation menu with 'Tools', 'Have Your Say', 'What's New', and 'Feedback'. Below the navigation, there are tabs for 'Benchmarking', 'About', and 'Definitions'. A filter section allows users to select 'All Classes' and 'All New Zealand'. A text box prompts users to 'Select the dataset to view the past, provisional and forecasted data relevant to your region and farm class.' The main content area is titled 'Performance Indicators Per Farm Analysis' and includes sub-tabs for '\$ Per Farm Analysis' and '\$ Per Heclare Analysis'. A table shows data for 'All New Zealand Region, All Classes' for the years 2013-2014, 2014-2015 (Provisional), and 2015-2016 (Forecast). The table lists physical indicators such as Effective Area, Labour Total Units, Total Stock Units at Open, and Stocking Rate.

	UNITS	2013-2014	2014-2015 (PROVISIONAL)	2015-2016 (FORECAST)
PHYSICAL INDICATORS				
Effective Area	Ha	634	634	634
Labour Total Units	No.	1.70		
Total Stock Units at Open	su	4,066	4,207	4,085
Stocking Rate	su/ha	6.4	6.6	6.4

The screen shot above lets you know of some of the tools for analysis and comparison (benchmarking) available at <http://portal.beeflambnz.com/tools/benchmarking-tool/>

3.2 LIVESTOCK GROSS MARGINS

Prices and costs used are those ruling in mid-2016.

Assistance in the preparation of these gross margins was given by a number of industry sources as well as staff from the Faculty of Commerce, Farm Management Division. Their assistance is gratefully acknowledged.

3.2.1 Sheep Gross Margins

Animal health expenses have been estimated on a per stock unit (SU) basis, given a 'normal' animal health programme. There is a wide range of costs that contribute to this expenditure including scanning, drenching, vaccinating, dipping, tailing, tags and vet expenses. Accurate gross margins can only be calculated if specific programmes are costed out. Care is required when costs per head and per SU are used in gross margins. As performance increases per head, the SU conversion may alter and introduce some anomalies if not adjusted accordingly.

As with the comments for the dairy industry a gross margin is only a starting point. Full farm budgets are considerably more useful and needed when significant decisions are being made.

However the ability to make quick comparisons across enterprises ensures an on-going role for gross margins.

No liability (whether as a result of negligence or otherwise) is accepted for any loss of any kind that may arise from actions based on the examples in this section.

3.2.2 Sheep – Intensive Breeding Ewe Flock focussed on meat production

SHEEP GROSS MARGIN						
Crossbred Ewe Flock Breeding Own Replacements						
(High Performance)						
Texel, East Friesian, Coopworth (meat and fecundity focussed)						
Capital Stock Wintered:						
		<u>No.</u>			<u>Total</u>	<u>SU</u>
						<u>Total SU</u>
Breeding Ewes (MA 68kg lw)	1100	@	\$160		\$176,000	1.35
2 th Ewes approx 62kg to ram	275	@	\$175		\$48,125	1.3
Hoggets	344	@	\$125		\$42,969	1.2
Rams	14	@	\$800		\$11,000	1.1
Totals	1,733				\$278,094	2,270
Dollar Investment in sheep per stock unit					\$122.50	
Production Parameters:						
Ewe to ram ratio			100		Other	
Ewe replacement rate (2th vs MA ewes)			25 %		Wool bale	190 kg/bale
% of hoggets that are culled			20 %			
Ram replacement %			35 %			
Lambing % Ewes			155 %	(survival to sale)		
Lambing % Hoggets			95 %		No. dead resulting fr mortality %	
Death rate (ewes/hoggets)			4 %		Ewes/2Th	55
Lamb kill carcass weight			18 kg		Hgts	14
Productivity			kg	% shorn	Total wt of wool	
Wool clip (kg/ewe)			5	96	6,600	
kg/hogget & % shorn			3	96	990	
kg/lamb & % of lambs shorn			1.2	50	1,416	
Total Wool weight					9,006	kg wool
Lamb price/kg (\$/kg carcass weight)			\$ 5.50			
Income:						
(Revenue per head net of freight and levies, wool net of selling charges)						
Ewe and 2Th Lambs sold	1702.25	@	\$99.00		\$168,523	
Hogget's lambs	314	@	\$99.00		\$31,037	
Cfa ewes	220	@	\$80.00		\$17,600	
Wool (kg)	9005.7	@	\$5.00	/kg	\$45,029	
TOTAL INCOME						\$262,188

All Prices are GST exclusive – please check all prices

Expenditure:							
Shearing -							
Sheep		1,320	@	\$370	per 100	\$4,884	
Hoggets		330	@	\$370	per 100	\$1,221	
Lambs		1,180	@	\$360	per 100	\$4,247	
Total shorn		2,830					
Wool shed expenses, packs				\$60.00	per 100	\$1,698	
							\$12,050
Animal Health /SUnit		2,270	@	\$5.00			\$11,351
Cartage							
Wool - bales		47	@	\$13.00			\$616
Ram Purchase		5	@	\$800			\$3,850
TOTAL DIRECT COSTS							\$27,867
TOTAL GROSS MARGIN (before interest)							\$234,321
GROSS MARGIN per dollar invested in sheep							\$0.84
GROSS MARGIN per Stock Unit							\$103.22
Interest Costs:							
Interest on Capital Stock Value:							
	\$278,094	@		7.00%			\$19,467
RETURN per Stock Unit (after interest)							\$95

All Prices are GST exclusive – please check all prices

3.2.3 Bull Beef

Please note prices can change rapidly in this industry. Check your local market conditions, rather than just taking the values here at face value.

BULL GROSS MARGIN

Friesian Bulls purchased as 100 kg weaners as early as possible in Spring
 sold at 19 to 24 months of age, when reach target weight
 (70% killed at 20 months)

Buy each Spring 100 calves weighing 100 kg

Stock Wintered:

	No.	Value	Total	SU	Total SU
Rsg 1 yr Friesian Bulls	98 @	\$840	\$82,320	3.6	353
Rsg 2 yr Friesian Bulls	29 @	\$1,230	\$36,162	6	176
Total stock wintered	127		\$118,482		529

Dollar Investment in beef per stock unit \$224

Production Parameters:

Death rate. 2 %

		No. less mortality able to be sold
Sales		
Percent sold at 19-21 months, between March and May	70.00 %	67
Residual sold at about two years old in Oct/Nov	30.00 %	29
Sell majority at 19 to 21 months of age between March and May, retain balance until Oct/Nov (sell at 24 months of age).	Total to sell	96

Income:

Bulls 19-24 months, slaughtered as they reach target weight

	No.	Wt	\$ /kg	
Carcase Wt at sale	96	275 kg	\$ 5.10 /kg	\$ 134,640

TOTAL INCOME \$134,640

All Prices are GST exclusive – please check all prices

Expenditure:		(Weaner prices very variable, check local market)			
Weaner Bulls (100 kg)	100	@	\$3.50 / kg		\$35,000
Animal Health					
Anthelminitics (4x)	400	@	\$2.00 / dose	\$800	
Pour on	100	@	\$1.22 / head	\$122	
Cobalt injection	100	@	\$0.75 / dose	\$75	
Copper Bullet	100	@	\$2.78 / dose	\$278	
Five in One vacc (2x)	200	@	\$1.30 /head	\$260	\$1,535
Transport based on 50km					
Weaners to Farm	100	@	\$8.00 / head	\$800	
Finished Bulls to Works	96	@	\$28.60 / head	\$2,746	\$3,546
Levies - AHB, M&WNZ	96	@	\$16.00 / head		\$1,536
NAIT	96	@	\$1.40 / head		\$134
TOTAL DIRECT COSTS					\$41,751

TOTAL GROSS MARGIN (before interest)	\$92,889
--------------------------------------	----------

GROSS MARGIN per dollar invested in cattle	\$0.78
--	--------

GROSS MARGIN per Stock Unit	\$175.53
------------------------------------	-----------------

Interest Costs:

Interest on Capital Stock Value:

\$118,482	7.00%	\$8,294
-----------	-------	---------

RETURN per stock unit (after interest)	\$159.85
---	-----------------

All Prices are GST exclusive – please check all prices

3.2.4 Dairy cow enterprise analysis


Dairying is the most important component of New Zealand's agricultural output, earning in excess of \$13 billion annually.

<http://www.dcanz.com/about-nz-dairy-industry/dairying-today> →

'With annual exports in excess of NZ\$13.7 billion, the dairy industry is New Zealand's biggest export earner, accounting for more than 29% by value of the country's merchandise exports. Around 95% of New Zealand's milk is exported.'

The empowering tools available for enterprise analysis continue to be developed. There is something really mind sharpening about the way milk in the vat tells an important story on a daily basis. Little wonder then, that the dairy industry is managed with some very powerful tools to inform management.

Key players provide their clients with excellent tools. DairyNZ is a good starting point- refer below:-

This workbook contains (as per sheet tabs): <ul style="list-style-type: none">- Annual Cash Budget- Sensitivity Table- Appendix A - Detail Expense Sheet- Appendix B - Graph- Helpful Tips	NOTE: This workbook has been locked, if you want to unlock the cells use the password 'budget' to unprotect the sheet	Red triangles, in the corners of cells, indicate further instructions. Hover your mouse over the cell to reveal the tip. 
---	--	---

Step 1 - Annual Cash Budget

- Cash budget for one season calculating a cash surplus or deficit
- Complete the Farm details at the top of the budget as well as your share of milk income
- These are cash budgets but to estimate tax you need to consider depreciation, see the formula for estimating tax at the bottom of the

Step 2 - Sensitivity Table

- The sensitivity table automatically calculates changes to the cash surplus (or deficit) from the Annual Cash Budget.

Appendix A - Detail Expense Sheet

• You can use the this worksheet to calculate your expenses in greater detail. Appendix A does not automatically update the Annual Cash Budget sheet. However you can link the sheets if you wish to.

Appendix B - Graph Sheet

• Pie graph of total working expenses

Tips

- Some additional help for getting the most out of the budgets and troubleshooting
- If you need further help contact 0800 4 DAIRYNZ

From <http://www.dairynz.co.nz/farm/financial/budgets/annual-cash-budgets/>

This section is divided broadly into two. The first provides the reader with resources relating directly to budgeting and points towards management tools that owners and managers/milkers use on a daily, to monthly and yearly basis to hone their business and pasture/cow management. A whole industry sits alongside the dairy farm or milking platform. These farmers are often referred to as dairy grazers, providing winter feed in the form of kale and fodder/sugar beet to allow the milking platform to accumulate enough feed to start a new milking season in the spring. A view of the dairy grazers' income as a cash flow with a downloadable spreadsheet is explained later in this section.

With the very significant rise in the importance of Dairy to NZ's economy has also come a significant cost in terms of downstream pollution – often referred to as Nitrate leaching. Those issues will become more important as both society and markets demand more attention is put on environmental (and animal welfare) issues.

All Prices are GST exclusive – please check all prices

3.2.5 DairyNZ Annual Cash Budget

From <http://www.dairynz.co.nz/farm/financial/budgets/annual-cash-budgets/>

Annual Cash Budget										
Name:	Example Farm Budget of Average NZ Owner Operator				Budget Period	1/6/20XX	to	31/5/20XX		
Farm Details	150,000 kgMS	400 cows	145.0 ha		375 kgMS/cow	1,034 kgMS/ha	2.8 cows/ha			
Income					\$ Total	\$/kgMS	\$/cow	\$/ha		
Dairy Cash Income	Share of milk cheque received		100%							
Milk Solids advance	150,000 kgMS	x \$	4.00 /kgMS		\$600,000	\$4.00	\$1,500	\$4,138		
Milk Solids retrospective	155,000 kgMS	x \$	0.50 /kgMS		\$77,500	\$0.52	\$194	\$534		
Milk Solids dividend	155,000 shares	x \$	0.40 /share		\$62,000	\$0.41	\$155	\$428		
Milk Solids Previous season May production and advance on season					\$25,000	\$0.17	\$63	\$172		
Net livestock sales (calves + culls + other - purchases)					\$70,000	\$0.47	\$175	\$483		
Other dairy income (incurring GST) e.g. colostrum					\$6,000	\$0.04	\$15	\$41		
Other dairy income (tax paid) e.g. farm cottage rent, rebates										
Net Dairy Cash Income					\$840,500	\$5.60	\$2,101	\$5,797		
Other Income (incurring GST) e.g. contracting, non-dairy income					\$25,000	\$0.17	\$63	\$172		
Other tax paid income e.g. off-farm salaries or wages					\$20,000	\$0.13	\$50	\$138		
Total Income					\$885,500	\$5.90	\$2,214	\$6,107		

[Use the Detail Expense Worksheet in the Appendix if you prefer \(note this will not update the expenses sheet below\)](#)

Expenses	\$ Total	\$/kgMs	\$/cow	\$/ha
Wages	\$80,000	\$0.53	\$200	\$552
Animal health	\$30,000	\$0.20	\$75	\$207
Breeding and herd improvement	\$20,000	\$0.13	\$50	\$138
Farm dairy	\$9,000	\$0.06	\$23	\$62
Electricity (farm dairy, water supply)	\$17,500	\$0.12	\$44	\$121
Supplements made (incl. Contractors)	\$100,000	\$0.67	\$250	\$690
Supplements purchased				
Young and dry stock grazing	\$40,000	\$0.27	\$100	\$276
Winter cow grazing	\$10,000	\$0.07	\$25	\$69
Support Block lease	\$10,000	\$0.07	\$25	\$69
Fertiliser (incl. N)	\$65,000	\$0.43	\$163	\$448
Irrigation	\$5,000	\$0.03	\$13	\$34
Regrassing and cropping	\$6,000	\$0.04	\$15	\$41
Weed and pest	\$3,800	\$0.03	\$10	\$26
Vehicles and fuel	\$19,000	\$0.13	\$48	\$131
R&M (land, buildings, plant, machinery)	\$32,000	\$0.21	\$80	\$221
Freight and general farm expenses	\$7,500	\$0.05	\$19	\$52
Administration e.g. accountant, consultant, phone	\$14,000	\$0.09	\$35	\$97
Insurance	\$10,000	\$0.07	\$25	\$69
ACC	\$3,700	\$0.02	\$9	\$26
Rates	\$15,000	\$0.10	\$38	\$103
Total Farm Working Expenses	\$497,500	\$3.32	\$1,244	\$3,431

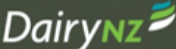
All Prices are GST exclusive – please check all prices

Other expenses e.g. non-dairy expenses, off-farm expenses				
Rent e.g. milking, land lease (excludes run-off), cow lease	\$20,000	\$0.13	\$50	\$138
Overdraft Interest	\$10,000	\$0.07	\$25	\$69
Term Interest (mortgage)	\$195,000	\$1.30	\$488	\$1,345
Principal Repayments				
Tax * Ask accountant or see estimate formula below	\$10,000	\$0.07	\$25	\$69
Drawings	\$75,000	\$0.50	\$188	\$517
Capital transactions (purchases less sales e.g. land, shares, machinery)				
Total Expenses	\$807,500	\$5.38	\$2,019	\$5,569

[Click here to view a pie chart of Total Expenses](#)

Cash Surplus / Deficit	\$78,000	\$0.52	\$195	\$538
-------------------------------	-----------------	---------------	--------------	--------------

*** Estimating Tax**
 Taxable profit / loss = Total Income - FWE - other expenses - rent - interest - depreciation
 Estimated tax payment / refund = Taxable profit / loss x estimated tax rate
 Ask your accountant as this is an estimate only. It does not allow for other adjustments e.g. livestock valuation.



Cash surplus / deficit sensitivity table

		<i>Payout</i>								
		-\$2.00	-\$1.50	-\$1.00	-\$0.50	\$0.00	\$0.50	\$1.00	\$1.50	\$2.00
Production	10%	-192,000	-109,500	-27,000	55,500	138,000	220,500	303,000	385,500	468,000
	5%	-207,000	-128,300	-49,500	29,300	108,000	186,800	265,500	344,300	423,000
	0	-222,000	-147,000	-72,000	3,000	78,000	153,000	228,000	303,000	378,000
	-5%	-237,000	-165,800	-94,500	-23,300	48,000	119,300	190,500	261,800	333,000
	-10%	-252,000	-184,500	-117,000	-49,500	18,000	85,500	153,000	220,500	288,000

Based on Annual Cash Budget changes to production and payout. Table displays Cash surplus or deficit scenarios. **Tax is not taken into account and will vary.**

		<i>Payout</i>								
		-\$2.00	-\$1.50	-\$1.00	-\$0.50	\$0.00	\$0.50	\$1.00	\$1.50	\$2.00
Farm working expenses	-10%	-172,300	-97,300	-22,300	52,800	127,800	202,800	277,800	352,800	427,800
	-5%	-197,100	-122,100	-47,100	27,900	102,900	177,900	252,900	327,900	402,900
	0	-222,000	-147,000	-72,000	3,000	78,000	153,000	228,000	303,000	378,000
	5%	-246,900	-171,900	-96,900	-21,900	53,100	128,100	203,100	278,100	353,100
	10%	-271,800	-196,800	-121,800	-46,800	28,300	103,300	178,300	253,300	328,300

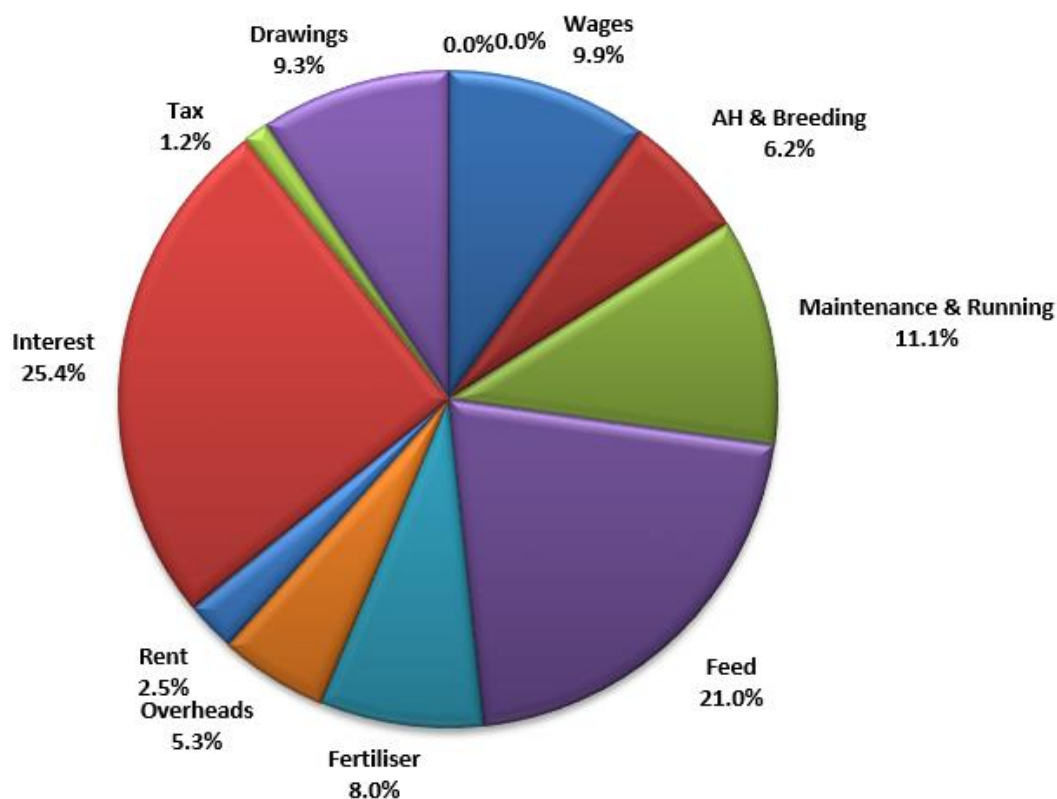
Based on Annual Cash Budget changes to FWEs and payout. Table displays Cash surplus or deficit scenarios. **Tax is not taken into account and will vary.**



From previous tables, the starting point in these tables is a payout of \$4/kg MS.

All Prices are GST exclusive – please check all prices

Total working expenses Budgeted % of total expenses



Graph from DairyNZ Annual cash budget example at

<http://www.dairynz.co.nz/farm/financial/budgets/annual-cash-budgets/>

The tools available for dairy farmers to manage their business of water, soil and soil fertility/losses, pasture, cow and milk production are continuing to develop. It is beyond the scope of this manual to do more than point users to tools worth considering.

The MINDA suite:

MINDApro

Herd Management Software

The smart way to manage your herd information

MINDApro provides powerful reporting features, as well as incorporating all of the functions of MINDAlink for easy herd recording. Have your herd information how you want it, when you want it, without complexity.

MINDA Mobile

MINDA Mobile is the latest in on farm technology for recording animal events and viewing animal information, right then and there when you need it.

MINDA Apps

Available for both Apple and Android operating systems, MINDA apps will turn your smartphone into an efficient and easy-to-use farming tool.

MINDA Milk

MINDA Milk is a web based tool that uses your herd test data to give you easier, better and more timely information to help you make better, more informed decisions. In MINDA Milk, all the analysis of your herd test data is done for you.

MINDA Land & Feed

A free and simple tool for recording pasture levels and creating a feed wedge.

MINDA Weights

Liveweight analysis tools for rearing young stock to their full potential.

http://www.lic.co.nz/lic_MINDA.cfm

Lincoln University Dairy Farm and the Southland Demonstration farm

All Prices are GST exclusive – please check all prices

The Lincoln University Dairy Farm and the Southland Demonstration farm are both run as commercial demonstrations of best practice. Each year they generate a comprehensive budget and financial records that provide an excellent starting place to generate whole farm budgets. Follow them on facebook - they update regularly.

Refer→

<http://www.siddc.org.nz>.

This url² provides the budgeted (and actual) values for the season with analysis that assists with comparisons – eg cash farm working expenses per kg milksolids and cash operating surplus \$/ha.

3.2.6 Dairy support / Dairy grazing enterprise analysis

Dairy farmers have formed strong relationships with Dairy Grazers who have become crucial members of the dairy team nationwide. During the winter the dairy platform (dairy farm) grows grass to calve and start milking on. That farm rests for about 10-14 weeks with minimal stock. Cows and often young stock are grazed by specialist dairy grazers. These are farmers who have planted kale and fodder/sugar beet for winter cow grazing and have pasture for the young stock to grow on. These ‘dairy grazers’ may also sell the necessary barley straw from their cash cropping enterprises.

A cash flow for one such enterprise is provided below – data from Mid-Canterbury. Information in the table below is used in the next two pages – showing young stock and mixed age cows, with payments for grazing occurring in the month after grazing.

Here are some points worth noting→

The business is paid for example 20 c/kg DM of kale fed to the cows. That means the estimation of yield – amount offered- is very important. Various independent companies provide a yield estimating service.

Losses /yr (%) Cattle	2	
Calf Grazing Rate	\$7.50	/hd/week
Rising 1 yr old	\$12.50	/hd/week
Rising 2 yr old	\$12.50	/hd/week
Average kale yield kg/ha	13000	
Kale sale price	0.2	\$/kg DM kale sold standing
kg DM/cow/day as kale	11.00	
% Wastage in kale	10.00	
kg DM/cow/day as r/g straw	3	
kg in bale of r/g straw	300	
Cost of bale of r/g straw	\$62.00	Medium square

Variables (above) stored in a Key Data Worksheet, driving calculations in subsequent worksheets. Changing any value in these green cells, will change many values in the linked worksheet – overleaf.

Note animal numbers in each month decline based on the mortality set.

² <http://www.siddc.org.nz/files/LUDF%20Budget%202011%202012%20Season.pdf>

All Prices are GST exclusive – please check all prices

Dairy Grazing cash flow and income calculator where calves, growing stock and the dairy herd are grazed.

Notes to bear in mind-

1. Breeding bulls are not included, but could be as 'dairy support' operators may be paid for them also. To include them it would be easy to upset the flow of deaths that are calculated automatically in the Calves and the R1 and R2 sections. Deaths are not calculated for the dairy cows.
2. In the live excel spreadsheet, green cells expect your input and red cells are 'leave alone' cells as they calculate for you.
3. This spreadsheet is used as part of Farm Management teaching at Lincoln University.

(Intend to make it available on www.aginfo.lincoln.ac.nz).

A further calculator takes relevant information from the budget to calculate the area of winter forage (kale or fodder beet) required.

Kale production required		
Kale intake per cow per day (kg)	11.00	kg
Total number of cow grazing days	27040	
Number of days grazing (not used directly - refer above)	92	
Percentage wastage	10.00	%
Kale required before wastage allowed for	297,440	kg
Kale required with wastage allowed for	327,184	kg
Average yield	13000	kg/ha
Therefore ha required	25.17	ha

All Prices are GST exclusive – please check all prices

Income expected and received for a Dairy grazing enterprise, grazing calves, R1/R2's and Dairy cows.

Year	2016	2016	2016	2016	2016	2016
Month	Jun	Jul	Aug	Sep	Oct	Nov
	30	31	31	30	31	30
Classification						
Number						
Age						
\$/hd/week						
Income expected						
Paid/received	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Classification	R'ing 1 y	R'ing 1 y	1 y	R'ing 2 y	R'ing 2 y	R'ing 2 y
Number	510	509	508	507	507	506
Age (months)	10	11	12	13	14	15
\$/hd/week	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50
Income expected	\$ 27,321.43	\$28,185.09	\$28,138.11	\$27,185.05	\$28,044.40	\$27,094.51
Paid/received	\$ -	\$27,321.43	\$28,185.09	\$28,138.11	\$27,185.05	\$28,044.40
	June	July	August			
Classification	MA Cows	MA Cows	MA Cows			
Number	0	320	320			
Days grazing	30	31	31	30	31	30
Total kg required (intake)	n/a	109120	109120	0	0	0
\$/kg DM	0.2	0.2	0.28	0.2	0.2	0.2
Income /mth expected for	\$0.00	\$21,824.00	\$30,553.60	\$0.00	\$0.00	\$0.00
Income paid for cow	\$0.00	\$0.00	\$21,824.00	\$30,553.60	\$0.00	\$0.00
Ryegrass straw kg/cow	2.5	2.5	2.5	2.5	2.5	2.5
\$/kg of ryegrass straw	0.21	0.21	0.21	0.21	0.21	0.21
Cost / month for ryegrass straw over all cows	0	\$5,125.33	\$5,125.33	\$0.00	\$0.00	\$0.00
	June	July	August	September	October	November
Income expected (Over all stock classes)	\$27,321.43	\$50,009.09	\$58,691.71	\$27,185.05	\$28,044.40	\$27,094.51
Income paid	\$0.00	\$27,321.43	\$50,009.09	\$58,691.71	\$27,185.05	\$28,044.40

Total for the year - \$440,504 (Refer next page also).

All Prices are GST exclusive – please check all prices

2016	2017	2017	2017	2017	2017	2017	2017
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
31	31	28	31	30	31	30	31
Calves	Calves	Calves	Calves	Calves	R'ing 1 y	R'ing 1 y	R'ing 1 y
400	399	399	398	397	397	396	395
4	5	6	7	8	9	10	11
\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$12.50	\$12.50	\$12.50
\$13,285.71	\$13,263.57	\$11,960.03	\$13,219.40	\$12,771.64	\$21,958.95	\$21,215.18	\$21,885.81
\$0.00	\$13,285.71	\$13,263.57	\$11,960.03	\$13,219.40	\$12,771.64	\$21,958.95	\$21,215.18
R'ing 2 y	R'ing 2 y	R'ing 2 y	R'ing 2 y	R'ing 2 y	(in-calf heif)		
505	504	503	502	502	0		
16	17	18	19	20			
\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	20		
\$27,951.00	\$27,904.41	\$25,161.98	\$27,811.47	\$26,869.47	\$0.00		
\$27,094.51	\$27,951.00	\$27,904.41	\$25,161.98	\$27,811.47	\$26,869.47	\$0.00	
							Cow grazing day:
					MA cows	MA Cows	
					0	240	27040
31	31	28	31	30	31	30	
0	0	0	0	0	0	79200	
0.2	0.2	0.2	0.2	0.2	0.2	0.2	
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,840.00	
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,840.00
2.5	2.5	2.5	2.5	2.5	2.5	2.5	
0.21	0.21	0.21	0.21	0.21	0.21	0.21	
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,720.00	
December	January	February	March	April	May	June	
\$41,236.71	\$41,167.98	\$37,122.01	\$41,030.87	\$39,641.11	\$21,958.95	\$37,055.18	\$21,885.81
\$27,094.51	\$41,236.71	\$41,167.98	\$37,122.01	\$41,030.87	\$39,641.11	\$21,958.95	\$37,055.18

NB

Note that grazing earns money in the month following the grazing- but the realised or actual cash flow will depend on agreements between the owner and grazer and payments being made in a timely manner.

The July column is outside the budget year (for this property), but has money earned in this year (from June grazing), and paid in the following year.

All Prices are GST exclusive – please check all prices

3.2.7 Deer

The limitations with gross margins discussed elsewhere apply in the deer industry. Some comparisons are provided, with the starting point being evaluation of costs of dry matter used. Calculations are provided below.

Baleage info calculated with help from Beef and Lamb's information, linked provided.						
Bale weight (kg)	700					
	% DM	\$/tonne		Price/bale		Price cents/kg DM
at	35	\$ 110.00		\$ 77.00		31
or	40	\$ 110.00		\$ 77.00		28
or	45	\$ 110.00		\$ 77.00		24
	35	\$ 120.00		\$ 84.00		34
	40	\$ 120.00		\$ 84.00		30
	45	\$ 120.00		\$ 84.00		27
	35	\$ 130.00		\$ 91.00		37
	40	\$ 130.00		\$ 91.00		33
	45	\$ 130.00		\$ 91.00		29
Barley	85	\$ 260.00				31
	85	\$ 260.00				31
	85	\$ 260.00				31
Kale	Based on current charges for kale as standing crop					20

Note the particularly challenging price for barley (arable farmer perspective) which may have changed by the time you read this!

Values – Wapiti cross bulls with a meat perspective – approx value \$3-4,000. If high velvet genetics that value can rise to \$6-10,000.

RED DEER GROSS MARGIN SELLING HYBRID WEANER STAGS AND SURPLUS WEANER HINDS

Capital Stock Wintered:

	No.		Total	SU	Total SU
6 Month Hinds	25 @	\$280	\$6,930	1.5	37
18 Month Hinds	24 @	\$560	\$13,444	2	48
M.A. Hinds	165 @	\$500	\$82,500	2.2	363
Breeding Stags	5 @	\$6,000	\$28,351	3.5	16.5
	218		\$131,225		465

Dollar Investment in deer per stock unit

\$282.40

Production Parameters:

One stag to how many hinds?	1:	40	
Fawning - survival to sale		85	%
Death rate.		3	%
Rising 2 year hinds entering herd each year		15	% of MA hinds
Days during year when supplementary feeding needed		60	
Surplus weaner hinds and stags sold on the farm			
All Breeding stock TB tested every second year			

All Prices are GST exclusive – please check all prices

RED DEER GROSS MARGIN SELLING HYBRID WEANER STAGS AND SURPLUS WEANER HINDS

Income: (Net of commission and levies)

Breeding hinds produce how many fawns?				161	
Weaner Stags (58 kg LW)	80	58	@	\$5.00 /kg	\$23,295
Weaner Hinds (52 kg LW)	56	52	@	\$4.50 /kg	\$13,005
Works Hind (60 kg CW)	25	60	@	\$7.80 /kg	\$11,583
Works Stag (85 kg CW)	1	85	@	\$7.00 /kg	\$595
					\$48,478
Velvet (6-10 kg/hd)	5	6	@	\$120.00 / kg	\$3,402
Velvet very dependent on quality of stags.					
TOTAL INCOME					\$51,881

Expenditure:

Sire Stag	1	@	\$8,000	\$8,000
Animal Health	218	@	\$12.00	\$2,622
Annual vet inspect			\$250.00	
Velvet removal	5	@	\$6.00	\$28
Freight selling stock to works	26	@	\$0.00	\$0
TB Test (some areas, once/2yr)	218	@	\$6.00	\$1,310.90
Supplements	60	Days/yr feeding	kg DM/head/day	
Barley	31	c/kg DM	0	\$0
Baleage	30	c/kg DM	0	\$0
Kale	25	c/kg DM	3	\$9,832
Straw - not normally fed to deer				

TOTAL DIRECT COSTS	\$21,793
TOTAL GROSS MARGIN (before interest)	\$30,088
GROSS MARGIN per dollar invested in deer	\$0.23
GROSS MARGIN per Stock Unit	\$64.75

Interest Costs:

Interest on Capital Stock Value:	\$131,225	@	7	% interest	\$9,185.77
RETURN per Stock Unit (after interest)					\$44.98

All Prices are GST exclusive – please check all prices

DEER GROSS MARGIN - VELVET PRODUCTION, RED DEER

Capital Stock Wintered:

Desired total flock	400	No.	Total	SU	Total SU
Spikers	65 @	\$700	\$45,161	1.7	110
Rsg 2 yr Stags	59 @	\$850	\$50,452	2.3	136.5
Rsg 3 yr Stags	57 @	\$950	\$53,935	3.0	170
M.A. Stags	219 @	\$1,050	\$230,323	3.0	658
	400		\$379,871		1,075
Dollar Investment in deer per stock unit			\$353.51		

Production Parameters:

Cull percentage, on ma stags	15 %
Death rate.	3 %

Velvet yields, ranges and prices are extremely variable. The following yield assumptions have been made for this gross margin.

	Value/kg
Spiker	0.7 kg Spiker grade
2 yr	2.8 kg Korean grades
3 yr	3.5 kg Korean grades
M.A. Stags	5 kg Korean grades
Percent second cut velvet	30 %
(Third cut is built into the percent second cut rate)	
Days during year when supplementary feeding needed	60 days

Income: (net of commission and levies)

Velvet Price - Grade -	\$ 110 /kg	Super A Grade	
Velvet Yields plus the % second cut, with no second cut from spikers			
Spiker	63 @	0.7 kg	57 kg
2 yr Stags	58 @	2.8 kg	210 kg
3 yr Stags	55 @	3.5 kg	251 kg
M.A. Stags	213 @	5 kg	1383 kg
Total Velvet Sold			1900 kg
Average weight of velvet / stag			4.90 kg/stag
Cull stags sold	32 @	120 kg	7.00 /kg CW
			\$4,819
			\$17,733
			\$21,202
			\$117,026
			\$160,780
			\$26,810
TOTAL INCOME			\$187,589

All Prices are GST exclusive – please check all prices

DEER GROSS MARGIN - VELVET PRODUCTION, RED DEER

EXPENDITURE

Weaner stags	65 @	\$350			\$22,581
Velvetting by accredited farmer					
Velvet assessment costs - one off fee				\$200.00	
1st cut	388 @	\$6		\$2,328	
2nd cut	116 @	\$6		\$698	
Animal health	388 @	\$15 /hd		\$5,820	\$9,046
Supplements	60 Days/yr feeding		kg DM/head/day		
Barley	27 c/kg DM		0	\$0	
Baleage	30 c/kg DM		0	\$0	
Kale	20 c/kg DM		5	\$24,000	\$24,000
TOTAL DIRECT COSTS					\$55,627
TOTAL GROSS MARGIN (before interest)					\$131,962
GROSS MARGIN per dollar invested in deer					\$0.35
GROSS MARGIN per Stock Unit					\$122.80

Interest costs:

Interest on Capital Stock Value:

\$379,871 @ 7 % interest \$26,591

RETURN per Stock Unit (after interest)

\$98.06

All Prices are GST exclusive – please check all prices

3.2.8 Pig Gross Margins

Information kindly provided by Fresh Pork Farms Ltd (Note significant change in profitability between 2014 and this edition).

PIG GROSS MARGIN - WEANER BUYER

Purchase Weaners and Finish - Canterbury
(95% bacon, 5% pork)

Capital Stock:

Weaners	5200	@	\$115.00	\$598,000
---------	------	---	----------	-----------

Production Parameters

Mortality rate				
Pork			2 %	
Bacon			2.5 %	
Carcass Weight				
Pork			55 kg	
Bacon			75 kg	
Feed used to Pigmear sold (kg Dwt) (FCR)			2.94	FCR = Feed Conversion Ratio
Meal cost as a percentage of income			36%	
Buying 20kg weaners				
Purchase to Finish 13.4 weeks				Grading Penalty
Pork Schedule			\$4.15	-\$0.02
Bacon Schedule			\$3.75	\$0.09

Income

Porkers	255	@	\$229.35	\$58,438.38
Baconers	4817	@	\$274.50	\$1,322,129
	5071			

TOTAL INCOME				\$1,380,568
---------------------	--	--	--	--------------------

All Prices are GST exclusive – please check all prices

EXPENDITURE

Stock purchase (delivered)				
Weaners	5200	@	\$115 each	\$598,000
Purchased Feed (delivered)				
Grower Diet (t)	598	@	\$570 per tonne	\$340,860
Finisher Diet (t)	304	@	\$510 per tonne	\$155,182
	902			\$496,042
			Average feed price per tonne	\$550
Animal Health		@	\$3 per pig	\$15,600
R & M		@	\$3 per pig	\$15,600
Electricity		@	\$2 per pig	\$10,400
Labour		@	\$5 per pig	\$26,000
Freight				
-weaners		@	\$2 per pig	\$10,400
-baconers		@	\$4 per pig	\$20,285
Sundries		@	\$7.47 per pig	\$38,844
TOTAL DIRECT COSTS				\$1,231,171
TOTAL GROSS MARGIN (before interest)				\$149,397
<u>GROSS MARGIN per weaner</u>				<u>\$28.73</u>

Gross Margin per Weaner at Various Baconer Prices and Feed Costs

	Bacon price per head (\$)			
		218	275	274
Feed cost per tonne (\$)	522	-\$13.69	\$13.18	\$40.06
(Average)	550	-\$24.05	\$28.73	\$29.70
	638	-\$34.41	-\$7.54	\$19.34

Interest Cost:

Interest on Capital Stock Value:	\$598,000	@	11.00% per annum (13.4 weeks)	\$16,951.00
Return per weaner after interest				\$25.47

All Prices are GST exclusive – please check all prices

Information kindly provided by Fresh Pork Farms Ltd.

PIG GROSS MARGIN - WEANER PRODUCER

Indoor Sows Selling 20 kg Weaners - Canterbury

Capital Stock:

Sows	200	@	\$480.00	
Boars*	7	@	\$1,850.00	\$108,950

*(in combination with Artificial Insemination)

Production Parameters

Weaners sold per sow per year			26
Sow Replacement rate			45
Boar replacement rate			50
Meal cost as a percentage of income			35%
Litters per sow per year			2.35
Feed/sow/yr (t)			1.30
High health herd (minimal disease)			

INCOME

Weaners at 20 kg	5200	@	\$115.00	\$598,000
Chopper Sows	70	@	\$248.00	\$17,360
Chopper Boars	3.5	@	\$175.50	\$614

TOTAL INCOME	\$615,974
---------------------	------------------

All Prices are GST exclusive – please check all prices

EXPENDITURE

Replacement breeding stock (delivered)

Gilts	90	@	\$480 each	\$43,200
Boars	3.5	@	\$1,850 each	\$6,475

Purchased Feed (delivered)

Lactating Diet (t)	117	@	\$571.00 per tonne	\$66,807
Gestating Diet (t)	143	@	\$501.00 per tonne	\$71,643
Creep Diet (t)	31	@	\$1,044.00 per tonne	\$32,573
Weaner Diet (t)	65	@	\$705.00 per tonne	\$45,825
	<u>356</u>			<u>\$216,848</u>

Average feed price per tonne \$609

Genetic Costs (semen doses)	1000	@	\$18.00 per dose	\$18,000
Animal Health		@	\$50.00 per sow	\$10,000
R & M		@	\$60.00 per sow	\$12,000
Electricity		@	\$100.00 per sow	\$20,000
Labour		@	\$450.00 per sow	\$90,000
Sundries		@	\$50.00 per sow	\$10,000

TOTAL DIRECT COSTS \$426,523

TOTAL GROSS MARGIN (before interest) \$189,451

GROSS MARGIN Per Sow \$947.26

GROSS MARGIN Per Weaner \$36

Gross Margin per Sow at Various Weaner Prices and Feed Costs

	Weaner price per head \$			
		95	100	105
Feed cost per tonne (\$)	556	\$345.10	\$465.10	\$585.10
(Average)	618	\$237.37	\$947.26	\$477.37
	679	\$129.64	\$249.64	\$369.64

Interest Cost:

Interest on Capital Stock Value	\$108,950	@	11.00% per annum (13.4 weeks)	\$3,088.31
Return per sow after interest				\$931.82

All Prices are GST exclusive – please check all prices

3.3 CROP GROSS MARGINS AND ASSOCIATED FINANCIAL ANALYSIS

The following gross margins relate to an intensive cropping farm in Canterbury, on a medium soil type. Gross margins are a start to financial analysis. There are other analyses to assist in developing thoroughly profitable operations.

Profitability has a new bedfellow – called environmental management – best practice. Some will argue this has always been the case. It may have been, but most farmers need to be more aware of the complexities around yield, caring for the environment and profitability.

Take care when interpreting the Gross Margins in this section, as estimates of both yield and costs will differ according to each farm.

Various organisations eg FAR and IAGRI produce tools for farmer analysis. Online systems tend to hide the calculations – for ease of use. Particularly for the students who will use this manual, we have provided excel output with the actual spreadsheets available at www.aginfo.lincoln.ac.nz. The worksheets are linked so that key inputs – eg tractors, irrigation, chemicals and fertiliser costs are changed once in preliminary worksheets and a gross margin uses those key items as needed.

3.3.1 Foundation for Arable Research

The editors of this manual are convinced of the value of the industry having an independent research and advisory body working on behalf of arable farmers. The ProductionWise on-line system, managed by FAR, not only provides useful information for farmers individually, but the database is able to be analysed across farms to provide useful comparisons and more robust advice.

FAR have very kindly provided Gross margins for the cropping component of this section. These gross margins add a very useful timeliness component, assisting the reader with any cash flow budgeting they may need to do.

Please remember that a static screen shot does not do justice to the power of ProductionWise. All growers paying a levy with FAR have access to their software and that allows sensitivity analysis and reporting for traceability purposes.

3.3.2 iAgri and MINDA

The team at iAgri have spent years both farming and teaching at Lincoln University. Their tools allow gross margins to be created and the gross margins then contribute directly to a whole farm budget. Drag and drop features, smart phone apps and integration with MYOB and XERO make theirs a worthwhile contribution, particularly for cropping, beef and sheep farmers.

MINDA may well be the product of choice for the dairy industry, providing many specific tools for analysis and management.

3.3.3 Tractor costs/assumptions

Tractor costs were previously calculated by the editors – they are now built into the assumptions and Gross Margins kindly provided by Foundation for Arable Research.

3.3.4 Irrigation calculations

Irrigation is expensive. For example, Central Plains Water in Canterbury is likely to be sold to farmers at \$650/ha (per year) following approx. \$1850/ha joining fee. Note those joining that scheme have many other additional costs to factor in to their farm budgets.

All Prices are GST exclusive – please check all prices

Farmers can't just consider irrigation costs as though irrigation has no other effects other than increasing yield and fertiliser demands. There is a game changer in the form of limits on pollution (nitrate losses) set by regional councils and in most instances determined by the Overseer Model.

*1 mm = 1 litre/m²
and there are
10,000 m² in a ha, so
1 mm irrigation (or
rainfall) =
10,000 litres (10 cu m;
10 tonne of water) on
each ha*

There is therefore underlying complexity that each farmer must consider. Presently there are many unknowns around the productivity that will be allowed, given that highly productive, irrigated systems tend to pollute more / leach more nitrogen. To get started with analysis we must put those considerations aside and establish what we do know. Putting some considerations aside does not minimise those issues. They are game changers, but the starting point in analysis is to gain clarity around what can be made clear.

Firstly, direct costs of irrigating. The costs tend to be in two parts – the electricity required to run pumps on a daily and night/weekend basis AND the pump capacity charges that apply. Please note that costs associated with wells and set up are not included – so profitability is being overstated. These too will change for the farmers on irrigation schemes were gravity will provide pressure in pipe lines, dramatically reducing the present costs of pumping water. There is some good news in this story!

Options for purchase of electricity have recently changed. In the past some contracts were available without a pump capacity charge. Now, the key element for farmers wishing to make their dollars go as far as possible is to realise the value of irrigating at night and weekends. If a farmer's irrigation is 80% at night/weekends (and they pay a flat fee for pump capacity charge) their cost is \$1.20/mm/ha. However if they are only able to water 50% of the time in night/weekend rates the cost rises to \$1.43. (Refer tables below).


Note these costs are based on the table below – none of the key and very large set up costs are included, so it is clear that farmers are paying well in excess of the costs stated here. Indeed in the gross margins, kindly supplied by FAR, their estimate of irrigation cost is \$2.15 per mm, which is likely to include fixed costs. What these calculations show is how seasonal costs can be reduced by careful management of contracts.

Costs of pumping and effect of day and night rates

Baseline information for calculations

Baseline expected irrigation for season (mm)		200	mm
Pump capacity	Pump power rating (kW)	120	kW
	Pumping capacity (l/s)	60	l/sec
Irrigation season	Start date	1/10/2016	Days
	End date	31/03/2017	182
			(ha)
Irrigated area	Pivot length ie radius (m)	700m	153.9
	Amount in tracks/not cropped (%)	4%	6.2
	Net area of crop irrigated (ha)		147.8

All Prices are GST exclusive – please check all prices

Electricity costs belong in four categories:-			Irrigation costs	
1	Company A	Night/Wkend (c/unit)	8.89	c/unit
2	Plus Network charges	Night/Wkend (c/unit)	1.31	c/unit
3	And Company A	Day (c/unit)	10.88	c/unit
4	Plus Network charges	Day (c/unit)	9.59	c/unit
		Total for Night Weekend (c/unit)	10.2	c/unit
		Total for Day (c/unit)	20.5	c/unit
		% of pumping at Night-Weekend rate	60%	
		Pump capacity charge (\$/kW/day)	0.59	

Irrigation Cost Calculation

Irrigation rate- time to put one mm on one ha

Time to apply 1mm to 1 ha ie 10m³ (minutes) 2.78

Variable power cost

Cost (\$/unit) based on % night & day rates chosen \$0.14

Variable cost (\$/mm/ha) \$0.79

Capacity charge (\$/mm/ha)

Capacity charge for season for this pump 120 kW \$12,938

**Capacity charge -
\$/mm/ha \$0.44**

Total cost (\$/mm/ha) \$1.23

(NB - none of the installation costs, consents etc included in costs)

Cost for irrigation - 148 ha, 200 mm \$36,432

From the spreadsheet above the table below can be produced, showing that for a fortunate irrigator with plenty of pump capacity, \$5000 can be saved by moving from 50% pumping at night and weekend rates to 80% of pumping done at night and weekend rates- for one pivot over the season, delivering 200 mm water to 148 ha.

Percent of pumping done at night/weekend rates	\$/mm/ha	\$/season per pivot (148 ha)	Savings as more irrigation is done in night/weekends (50% as base line)
50	\$1.29	\$38,118	0
60	\$1.23	\$36,432	\$1686
70	\$1.18	\$34,745	\$3373
80	\$1.12	\$33,059	\$5059

All Prices are GST exclusive – please check all prices

3.3.5 Wheat

The Foundation for Arable Research has results of independent research and a number of fact sheets available.

Refer for example –

http://www.far.org.nz/mm_uploads/C196_Disease_Control_in_Cereals_Using_SDHI_Fungicides.pdf

and http://www.far.org.nz/mm_uploads/FAR_strategy_issue_3_cereal_fungicide.pdf for information and photos provided by FAR researchers relating to appropriate/best choice fungicides in a range of winter and spring barley and wheat crops. The research results are focused on providing growers with economic analysis of treatments chosen. They provide advice in clear and straight forward terms – if that is ever possible given vagaries of climate, soil and plant responses!

Gross Margin Analysis for Wheat							
Crop	Starfire (KWW46) Wheat	Start Date	1/03/2015				
Sowing Area	1.00 ha	End Date	10/02/2016				
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total
Grain Harvest	10/02/2016	11.50 t/ha	My Paddocks	\$289.00 /t	\$3,323.50	1.00	\$3,323.50
Forage Harvest		0.00 t/ha		\$0.00 /t	\$0.00	1.00	\$0.00
Grazing		0.00 lwt kg/ha		\$0.00 /lwt kg ²	\$0.00	1.00	\$0.00
Operation	Date Occurred			Performed By	Cost Per ha	Area (ha)	Total Cost
Cultivation	1/03/2015				\$75.00	1.00	\$75.00
Spraying	20/03/2015				\$20.00	1.00	\$20.00
Cultivation	25/03/2015				\$35.00	1.00	\$35.00
Cultivation	30/03/2015				\$35.00	1.00	\$35.00
Sowing	17/04/2015				\$50.00	1.00	\$50.00
Spraying	24/04/2015				\$20.00	1.00	\$20.00
Spraying	7/06/2015				\$20.00	1.00	\$20.00
Fertiliser Application	20/08/2015				\$15.00	1.00	\$15.00
Spraying	28/08/2015				\$20.00	1.00	\$20.00
Fertiliser Application	8/10/2015				\$15.00	1.00	\$15.00
Spraying	9/10/2015				\$20.00	1.00	\$20.00
Fertiliser Application	8/11/2015				\$15.00	1.00	\$15.00
Spraying	9/11/2015				\$20.00	1.00	\$20.00
Spraying	10/12/2015				\$20.00	1.00	\$20.00
Grain Harvest	10/02/2016				\$250.00	1.00	\$250.00

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research
 FAR disclaimer at start of section refers to this and all crop gross margins.

Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Adjuvant	20/03/2015	Pulse Penetrant	0.15	L/ha	\$26.91	\$4.04	1.00	\$4.04
Herbicide	20/03/2015	Roundup Transor	3	L/ha	\$16.10	\$48.30	1.00	\$48.30
Seed	17/04/2015	Starfire (KWW46	110	kg/ha	\$1.20	\$132.00	1.00	\$132.00
Herbicide	24/04/2015	Firebird	0.5	L/ha	\$5.00	\$2.50	1.00	\$2.50
Herbicide	7/06/2015	Trimec	3.5	L/ha	\$14.00	\$49.00	1.00	\$49.00
Insecticide	7/06/2015	Karate Zeon	40	mL/h	\$0.30	\$12.00	1.00	\$12.00
Fertiliser	20/08/2015	Sulphate of Amn	150	kg/ha	\$0.86	\$129.00	1.00	\$129.00
Herbicide	28/08/2015	Simplicity	0.5	L/ha	\$100.00	\$50.00	1.00	\$50.00
Insecticide	28/08/2015	Transform	100	mL/h	\$0.30	\$30.00	1.00	\$30.00
Fertiliser	8/10/2015	Urea	300	kg/ha	\$0.60	\$180.00	1.00	\$180.00
Fungicide	9/10/2015	Opus	1	L/ha	\$38.08	\$38.08	1.00	\$38.08
Growth Regulator	9/10/2015	Moddus	0.2	L/ha	\$105.62	\$21.12	1.00	\$21.12
Growth Regulator	9/10/2015	Cycocel 750	1	L/ha	\$9.00	\$9.00	1.00	\$9.00
Irrigation	1/11/2015	Water	35	mm/l	\$2.15	\$75.25	1.00	\$75.25
Fertiliser	8/11/2015	Urea	150	kg/ha	\$0.60	\$90.00	1.00	\$90.00
Fungicide	9/11/2015	Aviator Xpro	1	L/ha	\$125.00	\$125.00	1.00	\$125.00
Irrigation	27/11/2015	Water	35	mm/l	\$2.15	\$75.25	1.00	\$75.25
Fungicide	10/12/2015	Opus	0.5	L/ha	\$55.48	\$27.74	1.00	\$27.74
Fungicide	10/12/2015	Comet	0.4	L/ha	\$28.60	\$11.44	1.00	\$11.44
Irrigation	12/12/2015	Water	35	mm/l	\$2.15	\$75.25	1.00	\$75.25
Irrigation	22/12/2015	Water	50	mm/l	\$2.15	\$107.50	1.00	\$107.50
Irrigation	12/01/2016	Water	50	mm/l	\$2.15	\$107.50	1.00	\$107.50
No Miscellaneous								
						Per ha	Area (ha)	Total
					Total Income	\$3,323.50	1.00	\$3,323.50
					Cost of Production	\$2,029.97	1.00	\$2,029.97
					Gross Margin	\$1,293.53	1.00	\$1,293.53

DISCLAIMER:-

This report is intended to provide accurate and adequate information relating to the subject matter contained in it. It has been prepared and made available to all persons and entities strictly on the basis that FAR, its researchers and authors are fully excluded from any liability for damages arising out of any reliance in part or in full upon any of the information for any purpose.

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research
 FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.6 Barley

With the current downturn in dairy and other factors, barley prices are looking particularly unattractive to growers.

Gross Margin Analysis for Barley								
Crop	Sanette Barley	Start Date	14/09/2015					
Sowing Area	1.00 ha	End Date	8/02/2016					
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total	
Grain Harvest	8/02/2016	9.50 t/ha	My Paddocks	\$267.00 /t	\$2,536.50	1.00	\$2,536.50	
Forage Harvest	8/02/2016	1.80 t/ha	My Paddocks	\$116.00 /t	\$208.80	1.00	\$208.80	
Operation	Date Occurred			Performed By	Cost Per ha	Area (ha)	Total Cost	
Cultivation-Heavy Cultivation	14/09/2015				\$75.00	1.00	\$75.00	
Cultivation-Light Cultivation	18/09/2015				\$35.00	1.00	\$35.00	
Sowing-Disc Seeder	20/09/2015				\$75.00	1.00	\$75.00	
Fertiliser Application	13/10/2015				\$15.00	1.00	\$15.00	
Spraying	26/10/2015				\$20.00	1.00	\$20.00	
Fertiliser Application	11/11/2015				\$15.00	1.00	\$15.00	
Spraying	13/11/2015				\$20.00	1.00	\$20.00	
Spraying	28/11/2015				\$20.00	1.00	\$20.00	
Grain Harvest-Conventional Harvester	8/02/2016				\$250.00	1.00	\$250.00	
Forage Harvest-Large Square Baler	8/02/2016				\$105.00	1.00	\$105.00	
Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
		Sulphur Gain						
Fertiliser	20/09/2015	20S	350 kg/ha		\$0.35	\$122.15	1.00	\$122.15
Seed	20/09/2015	Sanette	125 kg/ha		\$1.18	\$147.50	1.00	\$147.50
Fertiliser	13/10/2015	Urea	130 kg/ha		\$0.60	\$78.00	1.00	\$78.00
Herbicide	26/10/2015	Starane	0.6 L/ha		\$46.00	\$27.60	1.00	\$27.60
Herbicide	26/10/2015	Trimec	2.75 L/ha		\$14.00	\$38.50	1.00	\$38.50
Insecticide	26/10/2015	Mavrik Aquaflo	100 mL/ha		\$0.15	\$14.50	1.00	\$14.50
Fertiliser	11/11/2015	Urea	80 kg/ha		\$0.60	\$48.00	1.00	\$48.00
Irrigation	11/11/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
Fungicide	13/11/2015	Delaro	300 mL/ha		\$0.12	\$36.00	1.00	\$36.00
Irrigation	26/11/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
Fungicide	28/11/2015	Proline	0.4 L/ha		\$128.00	\$51.20	1.00	\$51.20
Fungicide	28/11/2015	Acanto	0.35 L/ha		\$131.00	\$45.85	1.00	\$45.85
Growth Regulator	28/11/2015	Terpal	0.7 L/ha		\$55.63	\$38.94	1.00	\$38.94
Irrigation	11/12/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
Irrigation	26/12/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
Irrigation	10/01/2016	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
No Miscellaneous								
						Per ha	Area (ha)	Total
						Total Income	1.00	\$2,745.30
						Cost of Production	1.00	\$1,708.24
						Gross Margin	1.00	\$1,037.06

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.7 White clover

Remember there will be residual N of value to the farming system (but may impact N losses estimated by Overseer).

Gross Margin Analysis for White Clover Seed								
Crop	Grasslands Bounty White Clover	Start Date	20/02/2015					
Sowing Area	1.00 ha	End Date	10/02/2016					
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total	
Grain Harvest	10/02/2016	0.70 t/ha	My Paddocks	\$5400.00 /t	\$3,780.00	1	\$3,780.00	
Forage Harvest		0.00 t/ha		\$0.00 /t	\$0.00	1	\$0.00	
Grazing		0.00 lwt kg/ha		\$0.00 /lwt kg	\$0.00	1	\$0.00	
Operation	Date Occurred				Cost Per ha	Area (ha)	Total Cost	
Cultivation - Light Cultivation	20/02/2015				\$35.00	1	\$35.00	
Cultivation - Light Cultivation	25/02/2015				\$35.00	1	\$35.00	
Sowing - Disc Seeder	6/03/2015				\$75.00	1	\$75.00	
Spraying	7/03/2015				\$20.00	1	\$20.00	
Spraying	15/04/2015				\$20.00	1	\$20.00	
Spraying	21/05/2015				\$20.00	1	\$20.00	
Spraying	5/07/2015				\$20.00	1	\$20.00	
Spraying	8/09/2015				\$95.00	1	\$95.00	
Spraying	21/12/2015				\$20.00	1	\$20.00	
Spraying	1/02/2016				\$20.00	1	\$20.00	
Spraying	5/02/2016				\$20.00	1	\$20.00	
Grain Harvest - Conventional Harvester	10/02/2016				\$250.00	1	\$250.00	
Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Seed	6/03/2015	Grasslands Bounty	3	kg/ha	\$15.00	\$45.00	1	\$45.00
Adjuvant	7/03/2015	Pulse Penetrant	0.15	L/ha	\$26.91	\$4.04	1	\$4.04
Herbicide	7/03/2015	Roundup Ultra Max	2	L/ha	\$9.50	\$19.00	1	\$19.00
Adjuvant	15/04/2015	Uptake Spraying Oil	1	L/ha	\$12.87	\$12.87	1	\$12.87
Herbicide	15/04/2015	Preside	50	g/ha	\$0.50	\$25.10	1	\$25.10
Herbicide	21/05/2015	Jaguar	1.5	L/ha	\$36.00	\$54.00	1	\$54.00
Herbicide	5/07/2015	Kerb 500F	2	L/ha	\$88.00	\$176.00	1	\$176.00
Herbicide	8/09/2015	Vixen	4	L/ha	\$33.00	\$132.00	1	\$132.00
Irrigation	15/10/2015	Water	40	mm/ha	\$2.15	\$86.00	1	\$86.00
Irrigation	15/11/2015	Water	40	mm/ha	\$2.15	\$86.00	1	\$86.00
Irrigation	15/12/2015	Water	40	mm/ha	\$2.15	\$86.00	1	\$86.00
Insecticide	21/12/2015	Karate Zeon	40	mL/ha	\$0.35	\$13.84	1	\$13.84
Irrigation	11/01/2016	Water	30	mm/ha	\$2.15	\$64.50	1	\$64.50
Herbicide	1/02/2016	Reglone	3	L/ha	\$23.00	\$69.00	1	\$69.00
Herbicide	5/02/2016	Reglone	3	L/ha	\$23.00	\$69.00	1	\$69.00
Miscellaneous						Cost Per ha	Area (ha)	Total Cost
Beehives						\$200.00	1	\$200.00
Seed Processing (\$0.38/kg)						\$266.00	1	\$266.00
Freight (\$60/t)						\$42.00	1	\$42.00
						Per ha	Area (ha)	Total
						Total Income	\$3,780.00	1 \$3,780.00
						Cost of Production	\$2,080.34	1 \$2,080.34
						Gross Margin	\$1,699.66	1 \$1,699.66

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

C-36

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.8 Perennial Ryegrass as a seed crop

FAR are in the process of enhancing the manner in which ProductionWise manages grazing animals in their gross margins. Note that at the date of printing, grazing is a total value, entered as that value – in this case \$600 worth of grazing is estimated to arise from this crop.

That grazing value is important! There are substantial costs involved in growing perennial ryegrass and substantial risk at harvest, particularly as wet and or windy weather can knock out a lot of seed.

Damp weather at harvest can make it very hard to pick up after windrowing (cutting), as the crop will grow green leaf straight after cutting that will interfere with heading.

Gross Margin Analysis for Perennial Ryegrass Seed							
Crop	Grasslands Nui Perennial Ryegrass	Start Date	8/03/2015				
Sowing Area	1.00 ha	End Date	4/02/2016				
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total
Grain Harvest	8/01/2016	2.00 t/ha	My Paddocks	\$1900.00 /t	\$3,800.00	1.00	\$3,800.00
Forage Harvest	9/01/2016	3.60 t/ha	My Paddocks	\$66.66 /t	\$239.98	1.00	\$239.98
Grazing		1.00 lwt kg/ha	User Defined	\$600.00 /lwt kg	\$600.00	1.00	\$600.00
Operation	Date Occurred				Cost Per ha	Area (ha)	Total Cost
Cultivation - Light Cultivation	8/03/2015				\$35.00	1.00	\$35.00
Cultivation - Light Cultivation	11/03/2015				\$35.00	1.00	\$35.00
Sowing - Disc Seeder	3/04/2015				\$75.00	1.00	\$75.00
Spraying	5/04/2015				\$20.00	1.00	\$20.00
Fertiliser Application	6/04/2015				\$15.00	1.00	\$15.00
Grazing (Cost Covered by Labour)	25/05/2015				\$0.00	1.00	\$0.00
Spraying	17/06/2015				\$20.00	1.00	\$20.00
Spraying	8/07/2015				\$20.00	1.00	\$20.00
Fertiliser Application	12/08/2015				\$15.00	1.00	\$15.00
Cultivation - Heavy Roll	30/08/2015				\$40.00	1.00	\$40.00
Grazing (Cost Covered by Labour)	13/09/2015				\$0.00	1.00	\$0.00
Fertiliser Application	5/10/2015				\$15.00	1.00	\$15.00
Spraying	3/11/2015				\$20.00	1.00	\$20.00
Fertiliser Application	5/11/2015				\$15.00	1.00	\$15.00
Spraying	2/12/2015				\$20.00	1.00	\$20.00
Spraying	18/12/2015				\$20.00	1.00	\$20.00
Cutting - Mower	3/01/2016				\$35.00	1.00	\$35.00
Grain Harvest - Conventional Harvester	8/01/2016				\$250.00	1.00	\$250.00
Forage Harvest - Large Square Baler	9/01/2016				\$180.00	1.00	\$180.00
Fertiliser Application	11/01/2016				\$15.00	1.00	\$15.00
Grazing (Cost Covered by Labour)	4/02/2016				\$0.00	1.00	\$0.00

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost	
Seed	3/04/2015	Grasslands Nui		8 kg/ha	\$12.00	\$96.00	1.00	\$96.00	
Adjuvant	5/04/2015	Pulse Penetrant		0.15 L/ha	\$26.91	\$4.04	1.00	\$4.04	
Herbicide	5/04/2015	Roundup Ultra Max		2 L/ha	\$9.50	\$19.00	1.00	\$19.00	
Herbicide	5/04/2015	Nortron		2 L/ha	\$29.26	\$58.52	1.00	\$58.52	
Fertiliser	6/04/2015	Cropmaster 20		100 kg/ha	\$0.85	\$85.00	1.00	\$85.00	
Herbicide	17/06/2015	Jaguar		1.5 L/ha	\$36.00	\$54.00	1.00	\$54.00	
Herbicide	8/07/2015	Puma S		0.75 L/ha	\$72.87	\$54.65	1.00	\$54.65	
Fertiliser	12/08/2015	Urea		100 kg/ha	\$0.60	\$60.00	1.00	\$60.00	
Fertiliser	5/10/2015	Urea		125 kg/ha	\$0.60	\$75.00	1.00	\$75.00	
Irrigation	12/10/2015	Water		40 mm/ha	\$2.15	\$86.00	1.00	\$86.00	
Irrigation	23/10/2015	Water		40 mm/ha	\$2.15	\$86.00	1.00	\$86.00	
Fungicide	3/11/2015	Opus		0.5 L/ha	\$38.17	\$19.09	1.00	\$19.09	
Growth Regulator	3/11/2015	Moddus		1.6 L/ha	\$105.62	\$168.99	1.00	\$168.99	
Fertiliser	5/11/2015	Urea		125 kg/ha	\$0.60	\$75.00	1.00	\$75.00	
Irrigation	9/11/2015	Water		40 mm/ha	\$2.15	\$86.00	1.00	\$86.00	
Irrigation	20/11/2015	Water		40 mm/ha	\$2.15	\$86.00	1.00	\$86.00	
Fungicide	2/12/2015	Proline		0.4 L/ha	\$128.00	\$51.20	1.00	\$51.20	
Fungicide	2/12/2015	Protek		0.5 L/ha	\$18.19	\$9.10	1.00	\$9.10	
Fungicide	2/12/2015	Seguris Flexi		0.6 L/ha	\$95.60	\$57.36	1.00	\$57.36	
Irrigation	4/12/2015	Water		40 mm/ha	\$2.15	\$86.00	1.00	\$86.00	
Irrigation	16/12/2015	Water		40 mm/ha	\$2.15	\$86.00	1.00	\$86.00	
Fungicide	18/12/2015	Protek		0.5 L/ha	\$18.19	\$9.10	1.00	\$9.10	
Fertiliser	11/01/2016	Urea		100 kg/ha	\$0.60	\$60.00	1.00	\$60.00	
Irrigation	12/01/2016	Water		40 mm/ha	\$2.15	\$86.00	1.00	\$86.00	
Miscellaneous						Cost Per ha	Area (ha)	Total Cost	
Seed Processing (\$0.30/kg)						\$600.00	1.00	\$600.00	
Freight (\$60/t)						\$120.00	1.00	\$120.00	
						Per ha	Area (ha)	Total	
						Total Income	\$4,639.98	1.00	\$4,639.98
						Cost of Production	\$3,123.04	1.00	\$3,123.04
						Gross Margin	\$1,516.94	1.00	\$1,516.94

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

C-38

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.9 Field Peas

Peas enhance soil fertility. This is the case with both peas harvested as dry seed (field peas) and those harvested as vining peas (when the seed is ready for human consumption as a freezer or vining pea).

However when dry about 85% of the nitrogen held in the crop is removed as seed, whereas only 50% is harvested and removed from a vining pea crop.

This means there are substantial, unquantified gains in soil fertility to be had when harvesting peas as vining crops.

The vining crops are harvested some weeks earlier, allowing the possibility of establishment of autumn feed for livestock or a late (watch frost!) barley crop for example.

Gross Margin Analysis for Field Peas								
Crop	Canty 14 Pea	Start Date	11/09/2015					
Sowing Area	1.00 ha	End Date	13/02/2016					
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total	
Grain Harvest	10/02/2016	3.00 t/ha	My Paddocks	\$960.00 /t	\$2,880.00	1.00	\$2,880.00	
Forage Harvest	13/02/2016	1.50 t/ha	My Paddocks	\$233.00 /t	\$349.50	1.00	\$349.50	
Operation	Date Occurred				Cost Per ha	Area (ha)	Total Cost	
Cultivation - Heavy Cultivation	11/09/2015				\$75.00	1.00	\$75.00	
Cultivation - Heavy Cultivation	24/09/2015				\$75.00	1.00	\$75.00	
Cultivation - Light Cultivation	28/09/2015				\$35.00	1.00	\$35.00	
Sowing - Disc Seeder	5/10/2015				\$75.00	1.00	\$75.00	
Spraying	12/10/2015				\$20.00	1.00	\$20.00	
Spraying	6/11/2015				\$20.00	1.00	\$20.00	
Spraying	8/12/2015				\$20.00	1.00	\$20.00	
Grain Harvest - Pea Harvester	10/02/2016				\$270.00	1.00	\$270.00	
Forage Harvest - Large Square Baler	13/02/2016				\$150.00	1.00	\$150.00	
Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Seed	5/10/2015	Canty 14		250 kg/ha	\$1.72	\$430.00	1.00	\$430.00
Herbicide	12/10/2015	Terb 500		2 L/ha	\$10.39	\$20.78	1.00	\$20.78
Herbicide	6/11/2015	MCPB		3 L/ha	\$14.00	\$42.00	1.00	\$42.00
Irrigation	11/11/2015	Water		30 mm/ha	\$2.15	\$64.50	1.00	\$64.50
Fungicide	8/12/2015	Kocide Opti		500 g/ha	\$0.05	\$23.95	1.00	\$23.95
Fungicide	8/12/2015	Tazer		400 mL/ha	\$0.05	\$21.80	1.00	\$21.80
Insecticide	8/12/2015	Karate Zeon		40 mL/ha	\$0.35	\$13.84	1.00	\$13.84
Irrigation	15/12/2015	Water		30 mm/ha	\$2.15	\$64.50	1.00	\$64.50
Irrigation	13/01/2016	Water		30 mm/ha	\$2.15	\$64.50	1.00	\$64.50
Miscellaneous						Cost Per ha	Area (ha)	Total Cost
Freight (\$60/t)						\$180.00	1.00	\$180.00
						Per ha	Area (ha)	Total
					Total Income	\$3,229.50	1.00	\$3,229.50
					Cost of Production	\$1,665.87	1.00	\$1,665.87
					Gross Margin	\$1,563.63	1.00	\$1,563.63

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.10 Vining Peas

Gross Margin Analysis for Vining Peas								
Crop	Sherwood Pea	Start Date	14/07/2015					
Sowing Area	1.00 ha	End Date	30/11/2015					
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total	
Grain Harvest	26/11/2015	1.00 t/ha	My Paddocks	\$2591.00 /t	\$2,591.00	1.00	\$2,591.00	
Forage Harvest	30/11/2015	3.00 t/ha	My Paddocks	\$125.00 /t	\$375.00	1.00	\$375.00	
Grazing		0.00 lwt kg/ha		\$0.00 /lwt kg ²	\$0.00	1.00	\$0.00	
Operation	Date Occurred			Performed By	Cost Per ha	Area (ha)	Total Cost	
Cultivation	14/07/2015				\$75.00	1.00	\$75.00	
Cultivation	23/07/2015				\$35.00	1.00	\$35.00	
Sowing	27/07/2015				\$125.00	1.00	\$125.00	
Spraying	6/08/2015				\$20.00	1.00	\$20.00	
Spraying	10/10/2015				\$20.00	1.00	\$20.00	
Grain Harvest (included in contract price)	26/11/2015				\$0.00	1.00	\$0.00	
Raking	29/11/2015				\$20.00	1.00	\$20.00	
Forage Harvest	30/11/2015				\$75.00	1.00	\$75.00	
Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Seed	27/07/2015	Sherwood	295 kg/ha		\$2.17	\$640.15	1.00	\$640.15
Fertiliser	6/08/2015	Sodium Molybdate	0.15 kg/ha		\$44.00	\$6.60	1.00	\$6.60
Herbicide	6/08/2015	Terb 500	2 L/ha		\$10.39	\$20.78	1.00	\$20.78
Herbicide	10/10/2015	Tropotox Plus	3.5 L/ha		\$12.40	\$43.40	1.00	\$43.40
Irrigation	12/10/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
Irrigation	25/10/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
Irrigation	8/11/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
Irrigation	21/11/2015	Water	40 mm/ha		\$2.15	\$86.00	1.00	\$86.00
						Per ha	Area (ha)	Total
					Total Income	\$2,966.00	1.00	\$2,966.00
					Cost of Production	\$1,424.93	1.00	\$1,424.93
					Gross Margin	\$1,541.07	1.00	\$1,541.07

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

C-40

FAR disclaimer at start of section refers to this and all crop gross margins.

Notes from Foundation for Arable Research- water use in peas

Any water stress reduced yield in the marrowfat peas and the best yields and returns were obtained by applying the maximum applied of almost 380 mm. Note at these water rates, the potential for loss of nutrient to ground water increases, but given that FAR have shown little yield response to fertiliser, it would be advisable for growers to increase water and decrease fertiliser use – in peas. Increasing water will increase disease problems – there’s that complexity and need for careful husbandry again. These are just some of the complexities farmers face in each of the crops they grow. Tools in this section start a process of establishing base level profitability and choice – then further analysis will be required.

Table 12. Influence of irrigation treatments on yield in a marrowfat pea trial (f = weeks of full irrigation, n = weeks of no irrigation) and the resulting return per ha assuming two costs per mm of water applied (Value of seed \$1000/t)

Trt	Increased yield over nil irrigation (t/ha)	Extra value of seed (\$/ha)	Water applied mm	Return over cost of water applied (\$/ha)		Kg/seed per mm water applied
				\$1.50/mm	\$2.00/mm	
3f+9n	0.58	580	108	418	364	5.4
9f+3n	0.94	940	248	568	444	3.8
3n+9f	0.93	930	216	606	488	4.3
9n+3f	0.51	510	84	384	342	6.1
Full	1.18	1180	379	611	422	3.1

http://www.far.org.nz/mm_uploads/Making_Peas_Pay_final_191213.pdf

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

COST:BENEFIT

Assess the cost:benefit by estimating (a) the cost per mm of irrigation (including infrastructure and operating costs) and (b) the value per kg of extra yield, then (c) look up the economic return value in Table 13. The values in the table were calculated assuming a 50mm application per irrigation. The economic return is more likely to be positive when the cost of irrigation is lower, for a crop with higher yield potential and / or higher seed value. Therefore priority should be given to crops with high seed yield and / or value as economic returns from irrigating are higher.

Table 13. Economic return (\$ / ha) from a 50mm irrigation

Potential Yield (t/ha)	Irrigation Cost (\$/mm)	Seed value (\$/t)			
		400	600	800	1000
3.0	1.50	57	123	189	255
	2.00	32	98	164	230
	3.00	-18	48	114	180
	4.00	-68	-2	64	130
4.0	1.50	101	189	277	321
	2.00	76	164	252	340
	3.00	26	114	202	290
	4.00	-24	64	152	240
5.0	1.50	145	255	365	475
	2.00	120	230	340	450
	3.00	70	180	290	400
	4.00	20	130	240	350

Source - http://www.far.org.nz/mm_uploads/Making_Peas_Pay_final_191213.pdf

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.11 Oil Seed Rape (cv Visitive)

Gross Margin Analysis for Oil-Seed Rape							
Crop	Vistive Oil Seed Rape	Start Date	13/03/2015				
Sowing Area	1.00 ha	End Date	20/02/2016				
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total
Grain Harvest	20/02/2016	4.50 t/ha	My Paddocks	\$650.00 /t	\$2,925.00	1	\$2,925.00
Operation	Date Occurred				Cost Per ha	Area (ha)	Total Cost
Spraying	13/03/2015				\$30.00	1.00	\$30.00
Cultivation - Heavy Cultivation	20/03/2015				\$75.00	1.00	\$75.00
Sowing - Airseeder	24/03/2015				\$120.00	1.00	\$120.00
Spraying	9/05/2015				\$20.00	1.00	\$20.00
Spraying	12/05/2015				\$30.00	1.00	\$30.00
Fertiliser Application	31/05/2015				\$15.00	1.00	\$15.00
Spraying	20/06/2015				\$30.00	1.00	\$30.00
Fertiliser Application	4/08/2015				\$15.00	1.00	\$15.00
Fertiliser Application	14/08/2015				\$15.00	1.00	\$15.00
Fertiliser Application	7/09/2015				\$30.00	1.00	\$30.00
Spraying	18/09/2015				\$30.00	1.00	\$30.00
Spraying	18/09/2015				\$30.00	1.00	\$30.00
Fertiliser Application	1/10/2015				\$15.00	1.00	\$15.00
Fertiliser Application	7/10/2015				\$15.00	1.00	\$15.00
Spraying	8/10/2015				\$30.00	1.00	\$30.00
Spraying	27/10/2015				\$30.00	1.00	\$30.00
Spraying	30/12/2015				\$45.00	1.00	\$45.00
Grain Harvest - Conventional Harvester	20/02/2016				\$250.00	1.00	\$250.00

Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Herbicide	13/03/2015	Treflan Nf		2 L/ha	\$11.00	\$22.00	1.00	\$22.00
Herbicide	13/03/2015	Magister Cs		0.3 L/ha	\$125.04	\$37.51	1.00	\$37.51
Seed	24/03/2015	Vistive		2 kg/ha	\$35.00	\$70.00	1.00	\$70.00
Seed Treatment	24/03/2015	Gaucho		0 L/ha	\$0.00	\$0.00	1.00	\$0.00
Molluscicide	9/05/2015	Slug Out		5 kg/ha	\$5.40	\$27.00	1.00	\$27.00
Adjuvant	12/05/2015	Agpro Crop Oil		1 L/ha	\$12.13	\$12.13	1.00	\$12.13
Herbicide	12/05/2015	Gallant Ultra		0.25 L/ha	\$222.43	\$55.61	1.00	\$55.61
Fertiliser	31/05/2015	Urea		90 kg/ha	\$0.60	\$54.00	1.00	\$54.00
Herbicide	20/06/2015	Polka		2 L/ha	\$67.00	\$134.00	1.00	\$134.00
Fertiliser	4/08/2015	Muriate of Potash		150 kg/ha	\$0.68	\$101.25	1.00	\$101.25
Fertiliser	14/08/2015	Ammo 31		150 kg/ha	\$0.58	\$87.00	1.00	\$87.00
Fertiliser	7/09/2015	Ammo 31		150 kg/ha	\$0.58	\$87.00	1.00	\$87.00
Fungicide	18/09/2015	Folicur 430Sc		0.6 L/ha	\$40.00	\$24.00	1.00	\$24.00
Fertiliser	18/09/2015	Molybor SL		1.5 L/ha	\$14.00	\$21.00	1.00	\$21.00
Fertiliser	1/10/2015	Urea		150 kg/ha	\$0.60	\$90.00	1.00	\$90.00
Fertiliser	7/10/2015	Urea		130 kg/ha	\$0.60	\$78.00	1.00	\$78.00
Fertiliser	8/10/2015	Molybor SL		1.5 L/ha	\$14.00	\$21.00	1.00	\$21.00
Fungicide	8/10/2015	Folicur 430Sc		0.5 L/ha	\$40.00	\$20.00	1.00	\$20.00
Insecticide	8/10/2015	Pirimor 50		0.15 kg/ha	\$64.17	\$9.63	1.00	\$9.63
Fungicide	27/10/2015	Prosaro		1 L/ha	\$69.51	\$69.51	1.00	\$69.51
Insecticide	27/10/2015	Mavrik Aquaflor		100 mL/ha	\$0.15	\$15.00	1.00	\$15.00
Adjuvant	30/12/2015	Agpro Crop Oil		1 L/ha	\$12.13	\$12.13	1.00	\$12.13
Herbicide	30/12/2015	Roundup Ultra Max		2 L/ha	\$9.50	\$19.00	1.00	\$19.00
						Per ha	Area (ha)	Total
					Total Income	\$2,925.00	1.00	\$2,925.00
					Cost of Production	\$1,891.77	1.00	\$1,891.77
					Gross Margin	\$1,033.24	1.00	\$1,033.24

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

C-43

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.12 Kale and Fodder Beet

The increase in dairy cows across New Zealand in the last 25 years has meant a very great rise in the amount of winter feed grown by specialist dairy grazers. Kale was the main feed grown, but fodder and sometimes sugar beet has made big inroads in Kale's dominance.

Once used to the feed, cows perform very well on them and fodder beet copes with snow better than kale, while providing a high quality feed.

There are challenges feeding these crops and full discussion is outside the scope of this manual.

Care must be taken with changing diets and particularly with sugar and also fodder beet, the high sugar content can lead to acidosis and rapid death.

There are plenty of options for farmers to choose from in terms

DDT and Beets?

DDT is a very long lived organo-phosphate insecticide used by earlier generations to control grass grub.

Those farms with high levels of DDT are likely to prefer kale against beet as stock grazing beet tend to ingest soil (along with DDT) which may show up in milk samples

of cultivation, herbicide, insecticide and fertiliser. Generally 10 kg N are required for each tonne of dry matter. Very high levels of dry matter may be achieved through large amounts of fertiliser and irrigation – over 20 t DM/ha, but lodging and heavy stalks (kale) reduce utilisation. Very high yield targets, based on heavy fertiliser use and irrigation are rapidly becoming a 'thing of the past!' Why? Pollution limits imposed by regional councils are changing the way farmers operate – and in the process creating a range of new challenges. In Canterbury, ECAN's rules mean those who have been polluting heavily are allowed to continue and their land is more valuable than those who have been 'good' with minimal pollution – dryland sheep or forestry are in the good category and those properties cannot shift to dairy with irrigation and expect to pollute in the same manner as their neighbours who have been polluting for years. Interesting times.

The methodology to measure pollution is a process of modelling and estimation, with some measurements driving the model – known as Overseer.

With these new rules in mind, fifteen t DM/ha seems a reasonable target-where much of the DM grown is of high quality and well utilised.

Most of the costs are borne in the first four months of crop growth.

Insect control at the seedling stage and later in the season is critical to ensure high crop yields. Over-use of insecticides reduces the chances of a natural balance being established, but given the mono-cultural nature of the landscape, natural balances in insect and birds are unlikely.

Kale is often grown after run out pasture. Spraying with a high rate of roundup (up to 5 l/ha of Roundup 360) followed a month later by a low rate ensures a good kill of most weeds and allows some breakdown of the turf in the old pasture, but if cultivation is chosen the turf may need ploughing under to ensure a high quality seed bed.

Herbicide is normally Roundup with perhaps added Granstar or Versatil for flat weeds and a surfactant to increase effectiveness. The pesticide companies provide many opportunities for decisions!

However when soil structure has deteriorated sufficiently during (wet) winter grazing, direct drilling is abandoned in favour of cultivation. Most farmers would view the ease and cost of herbicide favourably compared with costs of cultivation- fuel, running costs and labour.

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

Given the deterioration in soil conditions that often occurs during winter forage grazing, it may be sensible to cost extra cultivation required when moving out of winter forage crops, against those crops' gross margins.

Sugar / fodder beet requires specialist lifting/harvesting equipment as a high proportion of the root is below grazing height in ground. That cost is approximately 2-3 c/kg.

Kale and beets are susceptible to insect damage as seedlings. Care must be exercised to protect it from being 'wiped out' by insects, but excessive use of insecticides can reduce chance of natural balance controlling, for example, white butterfly. Fertiliser requirements increase with increasing growth potential and potential is driven by water. Dryland crops can be expensive to grow, especially in dry years as insect damage requires continual inputs – while yield potential declines with water stress.

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.13 Fodder beet

Gross Margin Analysis for Fodder Beet								
Crop	SF Brigadier Fodder Beet	Start Date	11/10/2015					
Sowing Area	1.00 ha	End Date	1/06/2016					
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total Income	
Grain Harvest		t/ha		\$/t	\$0.00	1.00	\$0.00	
Forage Harvest	1/06/2016	t/ha	My Paddock	\$/t	\$4,300.00	1.00	\$4,300.00	
Grazing		lwt kg/ha		\$/lwt kg	\$0.00	1.00	\$0.00	
Operations	Date Occurred				Cost Per ha	Area (ha)	Total Cost	
Spraying	11/10/2015				\$20.00	1.00	\$20.00	
Cultivation-Plough	17/10/2015				\$130.00	1.00	\$130.00	
Cultivation-Heavy Roll	18/10/2015				\$40.00	1.00	\$40.00	
Fertiliser Application	18/10/2015				\$18.00	1.00	\$18.00	
Cultivation-Disc Chain Harrow	19/10/2015				\$40.00	1.00	\$40.00	
Cultivation-Grubber	20/10/2015				\$60.00	1.00	\$60.00	
Fertiliser Application	24/10/2015				\$18.00	1.00	\$18.00	
Sowing-Precision Seeder	25/10/2015				\$150.00	1.00	\$150.00	
Cultivation-Heavy Roll	26/10/2015				\$40.00	1.00	\$40.00	
Spraying	30/10/2015				\$20.00	1.00	\$20.00	
Spraying	2/12/2015				\$20.00	1.00	\$20.00	
Fertiliser Application	2/12/2015				\$18.00	1.00	\$18.00	
Forage Harvester	1/06/2016				\$20.00	1.00	\$20.00	
Inputs	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Adjuvant	11/10/2015	Highway	0.2	L/ha	\$20.97	\$4.19	1.00	\$4.19
Herbicide	11/10/2015	Glyphosate 360	5	L/ha	\$12.17	\$60.85	1.00	\$60.85
Fertiliser	18/10/2015	Lime	5,000.00	kg/ha	\$0.03	\$142.00	1.00	\$142.00
Fertiliser	24/10/2015	DAP	620	kg/ha	\$0.69	\$426.56	1.00	\$426.56
Seed	25/10/2015	SF Brigadier	0.92	kg/ha	\$363.00	\$333.96	1.00	\$333.96
Herbicide	30/10/2015	Magister Cs	0.15	L/ha	\$125.04	\$18.76	1.00	\$18.76
Herbicide	30/10/2015	Claw	2	L/ha	\$22.53	\$45.06	1.00	\$45.06
Insecticide	30/10/2015	Attack	0.5	L/ha	\$33.70	\$16.85	1.00	\$16.85
Herbicide	2/12/2015	Nortron	1.47	L/ha	\$29.26	\$43.01	1.00	\$43.01
Herbicide	2/12/2015	Mitron 70Wg	1.47	L/ha	\$79.59	\$117.00	1.00	\$117.00
Herbicide	2/12/2015	Betanal Forte	1.47	L/ha	\$115.88	\$170.34	1.00	\$170.34
Fertiliser	2/12/2015	Urea	150	kg/ha	\$0.60	\$90.00	1.00	\$90.00
Fertiliser	2/12/2015	Potassium Chloride	50	kg/ha	\$0.86	\$43.18	1.00	\$43.18
Irrigation	20/12/2015	Water	15	mm/ha	\$2.15	\$32.25	1.00	\$32.25
Irrigation	2/02/2016	Water	15	mm/ha	\$2.15	\$32.25	1.00	\$32.25
						Per ha	Area (ha)	Total
						Total Income	1.00	\$4,300.00
						Cost of Production	1.00	\$2,170.26
						Gross Margin	1.00	\$2,129.74

Yields and price per kg may be considered conservative. Cultivation practices vary widely.

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.14 Kale

Gross Margin Analysis for Kale

Sown Crop	Sovereign Kale	Start Date	2/12/2015					
Sowing Area	1.00 ha	End Date	26/06/2016					
Income	Date Occurred	Yield		Yield Source	Price	Per ha	Area (ha)	Total Income
Grain Harvest		0.00 t/ha			\$0.00 /t	\$0.00	1.00	\$0.00
Forage Harvest	26/06/2016	8.83 t/ha		My Paddocks	\$200.00 /t	\$1,766.00	1.00	\$1,766.00
Grazing		0.00 lwt kg/ha			\$0.00 /lwt kg	\$0.00	1.00	\$0.00
Operations	Date Occurred					Cost Per ha	Area (ha)	Total Cost
Cultivation - Disc Chain Harrows	2/12/2015					\$120.00	1.00	\$120.00
Sowing - Conventional Seeder	3/12/2015					\$80.00	1.00	\$80.00
Cultivation - Disc Chain Harrows	3/12/2015					\$120.00	1.00	\$120.00
Fertiliser Application	3/12/2015					\$15.00	1.00	\$15.00
Spraying	5/12/2015					\$17.67	1.00	\$17.67
Fertiliser Application	16/03/2016					\$15.00	1.00	\$15.00
Forage Harvest - Forage Harvester	26/06/2016					\$20.00	1.00	\$20.00
Inputs	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Seed	3/12/2015	Sovereign	4.4	kg/ha	\$22.50	\$99.00	1.00	\$99.00
Fertiliser	3/12/2015	Cropzeal DAP boron	200	kg/ha	\$1.02	\$204.60	1.00	\$204.60
Fertiliser	3/12/2015	Potassium Chloride	50.00	kg/ha	\$0.86	\$43.18	1.00	\$43.18
Fertiliser	3/12/2015	Urea	200	kg/ha	\$0.60	\$120.00	1.00	\$120.00
Herbicide	5/12/2015	Solvo 360Cs	0.35	L/ha	\$89.60	\$31.36	1.00	\$31.36
Insecticide	5/12/2015	Chlorpyrifos 500 Ec	1.2	L/ha	\$14.25	\$17.10	1.00	\$17.10
Fertiliser	16/03/2016	Urea	150	kg/ha	\$0.60	\$90.00	1.00	\$90.00
						Per ha	Area (ha)	Total
						Total Income	1.00	\$1,766.00
						Cost of Production	1.00	\$992.91
						Gross Margin	1.00	\$773.10

Editors note – These are conservative values for both yield and price per tonne reflected in the gross margin. Modify values to suit your unique situation.

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.15 Hybrid Carrot Seed Production

Canterbury produces a surprisingly large proportion of the world’s hybrid carrot seed requirements.

The Gross Margin below shows that under present methods, seed crops are heavily reliant on a wide range of pesticides.

Risks are high. Crops may fail in terms of seed quality – germination must reach at least 87%, purity standards are high and it is quite possible to spend thousands of dollars and have a total yield failure. When it all works, the returns are high.

The yield in the Gross margin below (200 kg/ha or 0.2 t/ha) is conservative, but grower beware, carrots are in the ground for almost a year, require continual care and that means chemicals and pollinations is often very challenging. The two lines have to flower together for optimum pollination, and bees get very little out of pollinating carrots. Other more attractive pollinators will draw the bees away. Bad weather at harvest can reduce germination and suddenly prices for the crop can plummet.

Gross Margin Analysis for Carrot Seed							
Crop	Carrot	Start Date	28/01/2015				
Sowing Area	1.00 ha	End Date	28/03/2016				
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total
Grain Harvest	28/03/2016	0.20 t/ha	My Paddocks	\$45000.00 /t	\$9,000.00	1.00	\$9,000.00
Forage Harvest		0.00 t/ha		\$0.00 /t	\$0.00	1.00	\$0.00
Operation	Date Occurred				Cost Per ha	Area (ha)	Total Cost
Cultivation - Subsoiler	28/01/2015				\$120.00	1.00	\$120.00
Cultivation - Heavy Cultivation	1/02/2015				\$75.00	1.00	\$75.00
Cultivation - Heavy Roll	2/02/2015				\$40.00	1.00	\$40.00
Cultivation - Heavy Cultivation	3/02/2015				\$75.00	1.00	\$75.00
Cultivation - Light Cultivation	6/02/2015				\$35.00	1.00	\$35.00
Sowing - Precision Seeder	11/02/2015				\$150.00	1.00	\$150.00
Spraying	16/02/2015				\$20.00	1.00	\$20.00
Fertiliser Application	1/05/2015				\$15.00	1.00	\$15.00
Spraying	7/06/2015				\$20.00	1.00	\$20.00
Spraying	11/08/2015				\$20.00	1.00	\$20.00
Spraying	20/09/2015				\$20.00	1.00	\$20.00
Fertiliser Application	8/10/2015				\$15.00	1.00	\$15.00
Spraying	24/10/2015				\$20.00	1.00	\$20.00
Spraying	30/10/2015				\$20.00	1.00	\$20.00
Spraying	5/11/2015				\$20.00	1.00	\$20.00
Cutting - Topper	5/11/2015				\$35.00	1.00	\$35.00
Spraying	2/12/2015				\$20.00	1.00	\$20.00
Spraying	15/12/2015				\$20.00	1.00	\$20.00
Spraying	24/12/2015				\$20.00	1.00	\$20.00
Cutting - Male Mulching	25/01/2016				\$45.00	1.00	\$45.00
Spraying	21/02/2016				\$20.00	1.00	\$20.00
Spraying	22/03/2016				\$20.00	1.00	\$20.00
Windrowing	23/03/2016				\$70.00	1.00	\$70.00
Grain Harvest - Conventional Harvester	28/03/2016				\$250.00	1.00	\$250.00

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.3.16 Maize

Please note the maize gross margin is provided by ProductionWise, ex FAR with thanks.

Gross Margin Analysis for Maize								
Crop	P0021 Maize	Start Date	5/10/2015					
Sowing Area	1.00 ha	End Date	2/05/2016					
Income	Date Occurred	Yield	Yield Source	Price	Per ha	Area (ha)	Total	
Grain Harvest	2/05/2016	12.50 t/ha	My Paddocks	\$330.00 /t	\$4,125.00	1.00	\$4,125.00	
Operation	Date Occurred				Cost Per ha	Area (ha)	Total Cost	
Spraying	5/10/2015				\$20.00	1.00	\$20.00	
Sowing - Direct Drill	6/10/2015				\$50.00	1.00	\$50.00	
Spraying	1/11/2015				\$20.00	1.00	\$20.00	
Fertiliser Application	25/11/2015				\$15.00	1.00	\$15.00	
Grain Harvest - Conventional Harves	2/05/2016				\$250.00	1.00	\$250.00	
Input	Date Occurred	Product	Rate/ha	Unit	Cost Per Unit	Cost Per ha	Area (ha)	Total Cost
Herbicide	5/10/2015	Corral	7 L/ha		\$11.70	\$81.90	1.00	\$81.90
Insecticide	5/10/2015	Karate Zeon	40 mL/ha		\$0.35	\$13.84	1.00	\$13.84
Fertiliser	6/10/2015	Cropmaster 15	250 kg/ha		\$0.87	\$217.50	1.00	\$217.50
Seed	6/10/2015	P0021	80000 seeds/ha		\$0.00	\$350.40	1.00	\$350.40
Herbicide	1/11/2015	Atraflow	3 L/ha		\$6.91	\$20.73	1.00	\$20.73
Fertiliser	25/11/2015	Urea	250 kg/ha		\$0.60	\$150.00	1.00	\$150.00
Miscellaneous						Cost Per ha	Area (ha)	Total Cost
Drying (\$27/t)						\$337.50	1.00	\$337.50
Freight (\$10/t)						\$125.00	1.00	\$125.00
						Per ha	Area (ha)	Total
						Total Income	1.00	\$4,125.00
						Cost of Production	1.00	\$1,651.87
						Gross Margin	1.00	\$2,473.13

There's also an online, free interactive tool worth working with, at:

<http://www.pioneer.co.nz/maize-grain/tools/maize-grain-economics/>.

All Prices are GST exclusive – please check all prices

Information kindly provided by Foundation for Arable Research

FAR disclaimer at start of section refers to this and all crop gross margins.

3.4 ENTERPRISE ANALYSIS IN HORTICULTURE

A simple gross margin doesn't do justice to the analysis required to make wise decisions. What is needed is a detailed development budget that spans start-up right through to full production (and beyond for crops lasting several years). The process of thinking and gaining information is intense and wide ranging. Expert opinion will be sought from many areas, including other growers willing to share their experiences. For some crops (eg strawberry) the time frame may be just 1-3 years, while apples may require a budget process spanning 15 years. Inputs (costs) are heavily loaded during set up. Growers should expect to spend at least \$50,000/ha (often well in excess of this figure) in some or all of the following→

- Council consents,
- Design issues / advice – block layout,
- Equipment – some of the expenditure may be delayed until crops are yielding, or through the use of contractors,
- Trellis design, posts and other structures,
- Soil tests and fertilisers including start up fertiliser for major soil amelioration – eg Sulphur required as part of lowering pH for blueberry,
- Pest and Disease control,
- Weed Control,
- Irrigation including design, pumps, main lines, laterals, sprinklers, drippers,
- Netting including posts – height, size, layout, wire supports, bracing and style of netting,
- Packing sheds, cooler facilities, storage facilities, transport
- Pollination.

A key issue is timeliness - when does expenditure and income occur? Cash flow is critical.

The result is total expenditure climbing for the first few years with normally no income and increasing mortgage interest costs. Risks add to the challenge of creating a profitable enterprise and include snow / frost, wind, disease / insect attack and for crops focussed on export – NZ currency fluctuations can markedly affect profitability. Market preferences may change quickly and an apple cultivar that was preferred at the start of orchard development may no longer be preferred a few years later – just when trees of that cultivar are reaching maximum yield.

A useful analysis will incorporate many separate 'calculators' taking information and decisions and placing them appropriately into the 10+ year process indicating cash flow, mortgage and labour requirements. Some of these separate calculators may relate to fencing, trellising, irrigation, etc. Each component will have various possibilities and the calculators will assist growers in making wise decisions.

It is clear by now, that the analysis of perennial crops like grapes, apples etc requires considerable detail over time. This is normally done on an annual basis.

For annual crops, a more in-depth analysis will include the cash flow – expense and income, month by month.

Although there is a need for detailed analysis over years, relatively simple comparisons – of varying cultivars, for example, within an enterprise mean that Gross Margin analysis remains a useful, but limited tool.

Some very useful and detailed information continues to be available on the Ministry of Primary Industries web site. The information presented from there is gratefully acknowledged.

All Prices are GST exclusive – please check all prices

Note that many of the crops of interest in NZ horticulture are not covered, and that information is increasingly hard to come by as it is deemed commercially sensitive. Vegetable production in particular fits into that category.

3.4.1 Grapes

Information kindly supplied by Ministry of Primary Industries (Refer disclaimer notice overleaf, applying to all MPI supplied information in this section).

Marlborough vineyard model grape prices					
	2006-15	2011-15	2015	2016	2017 budget
Year ended 30 June	(\$/t)	(\$/t)	(\$/t)	(\$/t)	(\$/t)
Sauvignon Blanc	1 765	1 490	1 710	1 805	1 840
Pinot Noir - Table	3 030	2 980	3 220	3 085	3 210
Pinot Gris	1 815	1 780	1 830	1 885	1 915
Chardonnay - Mendoza and Clone 15	1 995	1 950	2 200	2 130	2 250
Chardonnay - all other clones	1 785	1 715	1 830	2 000	1 910
Riesling	1 705	1 620	1 785	1 775	1 775
Weighted average	1 830	1 605	1 810	1 900	1 940
Notes					
Figures may not add to totals due to rounding.					

Marlborough vineyard model production and income details for 2016							
	Area	Production	Total	Gross yield	Brix	Return	Revenue
Grape variety	(ha)	per hectare	production	(%)	(%)	(\$/t)	(\$)
	(ha)	(t/ha)	(t)	(%)	(%)	(\$/t)	(\$)
Sauvignon Blanc	23.0	16.5	380	84%	21.6	1 805	685 000
Pinot Noir - Table	3.0	8.6	26	6%	23.2	3 085	79 600
Pinot Gris	1.5	11.8	18	4%	22.5	1 885	33 400
Chardonnay - Mendoza and Clone 15	1.5	10.6	16	4%	22.0	2 130	33 900
Chardonnay - all other clones	0.5	14.0	7	2%	19.2	2 000	14 000
Riesling	0.5	11.5	6	1%	20.9	1 775	10 200
Total/average	30.0	15.1	452	100%		1 900	856 100
Notes							
Figures may not add to totals due to rounding.							
Table is sorted by variety with highest to lowest producing area.							

All Prices are GST exclusive – please check all prices

3.4.2 Model Budget for Grapes

Marlborough vineyard model budget		
	2015	2016
Total area	33 ha	33 ha
Planted area	30 ha	30 ha
Producing area	30 ha	30 ha
Total crop (tonne)	324	452
% change		39%
avge vines per planted hectare	2 180	2 180
Notes		
Figures may not add to totals due to rounding.		

Disclaimer

The information in this report by the Ministry for Primary Industries is based on the best information available to the Ministry at the time it was drawn up and all due care was exercised in its preparation. As it is not possible to foresee all uses of this information or to predict all future developments and trends, any subsequent action that relies on the accuracy of the information in this report is the sole commercial decision of the user and is taken at his/her own risk. Accordingly, the Ministry for Primary Industries disclaims any liability whatsoever for any losses or damages arising out of the use of this information, or in respect of any actions taken.

For more information please contact
annette.carey@mpi.govt.nz

© 2015 Crown Copyright - Ministry for Primary Industries

All Prices are GST exclusive – please check all prices

Marlborough vineyard model budget						
Year ending 30 June	2015		2016			
Revenue	Whole Vineyard (\$)	% change	Whole Vineyard (\$)	producing hectare (\$)	per tonne gross (\$)	per vine (\$)
Income from grapes	587 300	46%	856 100	28 535	1 895	13.10
Other direct vineyard income	4 700		12 700	425	28	0.19
Net cash income	592 000	47%	868 800	28 960	1 924	13.29
Vineyard working expenses	291 600	7%	313 300	10 445	694	4.79
Cash operating surplus	300 400	85%	555 500	18 515	1 230	8.50
Interest	65 000	-6%	61 200	2 040	136	0.94
Rent &/or leases	8 200	0%	8 200	275	18	0.13
Depreciation	44 000	-6%	41 400	1 380	92	0.63
Net nonfruit cash income	0		0	0	0	0.00
Vineyard profit before tax	183 200	143%	444 700	14 820	985	6.80
Tax	129 500	-100%	0	0	0	0.00
Vineyard profit after tax	53 700	728%	444 700	14 820	985	6.80
Allocation of funds						
Add back depreciation	44 000	-6%	41 400	1 380	92	0.63
Drawings/living expenses ¹	61 100	18%	72 200	2 405	160	1.10
Vineyard surplus for reinvestment ²	36 600	1031%	413 900	13 795	916	6.33
Reinvestment						
Net capital purchases	30 900	-34%	20 400	680	45	0.31
Development	50 900	-83%	8 400	280	19	0.13
Principal repayments	47 900	-5%	45 500	1 515	101	0.70
Vineyard cash surplus/deficit	- 93 100		339 600	11 320	752	5.19

Other cash sources						
Indirect cash income	24 000	13%	27 000	900	60	0.41
New borrowings	41 880		0	0	0	0.00
Introduced funds	0		0	0	0	0.00
Net cash position	- 27 220		366 600	12 220	812	5.61
Assets & liabilities						
Land and building ³	4 927 830	16%	5 706 630	190 200	12 635	87.29
Plant and machinery	145 200	-6%	136 600	4 555	302	2.09
Total vineyard assets (closing)	5 073 030	15%	5 843 230	194 775	12 938	89.38
Total vineyard liabilities (closing)	1 073 300	-4%	1 027 800	34 260	2 276	15.72
Total equity	3 999 730	20%	4 815 430	160 515	10 662	73.66

Figures may not add to totals due to rounding.

1 Drawings refers to living expenses. Figures may not match with previous years due to the revision of interpretation of drawings.

2 Vineyard surplus for reinvestment is the cash available from the vineyard business, after meeting living costs, which is available for investment on the vineyard or for principal repayments.

It is calculated as the vineyard profit after tax less depreciation less drawings.

3 Land and building asset value includes the value of owned land, vines and supports, other improvements, vineyard buildings and dwellings on the property as at 30th June.

All Prices are GST exclusive – please check all prices

Marlborough vineyard model expenditure						
Year ending 30 June	2015		2016			
Vineyard working expenses	Whole Vineyard (\$)	% change	Whole Vineyard (\$)	producing hectare (\$)	per tonne gross (\$)	per vine (\$)
Hand harvesting	6 400	9%	7 000	233	15	0.11
Pruning (and tying down)	66 800	6%	70 700	2 357	157	1.08
Canopy/Crop management	34 800	19%	41 300	1 377	91	0.63
Other wages	47 500	7%	50 600	1 687	112	0.77
ACC - employees	800	0%	800	27	2	0.01
Total labour expenses	<u>156 300</u>	<u>9%</u>	<u>170 400</u>	<u>5 680</u>	<u>377</u>	<u>2.61</u>
Weed & pest control	25 600	9%	27 900	930	62	0.43
Fertiliser & lime	7 500	8%	8 100	270	18	0.12
Electricity	6 900	16%	8 000	267	18	0.12
Vehicle	2 300	-13%	2 000	67	4	0.03
Fuel	7 300	-25%	5 500	183	12	0.08
Repairs & maintenance	23 800	3%	24 600	820	54	0.38
General	4 100	7%	4 400	147	10	0.07
Frost protection	3 400	0%	3 400	113	8	0.05
Contract machinery work	2 700	7%	2 900	97	6	0.04
Machine harvesting	18 900	3%	19 500	650	43	0.30
Total other working expenses	<u>102 500</u>	<u>4%</u>	<u>106 300</u>	<u>3 545</u>	<u>235</u>	<u>1.63</u>

Rates	6 700	13%	7 600	253	17	0.12
Water rates	2 700	11%	3 000	100	7	0.05
General insurance	3 800	3%	3 900	130	9	0.06
Crop insurance	0		0	0	0	0.00
ACC - owners	6 100	-13%	5 300	177	12	0.08
Communication	1 400	14%	1 600	53	4	0.02
Accountancy	3 700	11%	4 100	137	9	0.06
Legal & consultancy	1 900	32%	2 500	83	6	0.04
Levies & subscriptions	4 500	40%	6 300	210	14	0.10
Other administration	2 000	15%	2 300	77	5	0.04
Total overhead expenses	<u>32 800</u>	<u>12%</u>	<u>36 600</u>	<u>1 220</u>	<u>81</u>	<u>0.56</u>
Total vineyard working expenses	<u>291 600</u>	<u>7%</u>	<u>313 300</u>	<u>10 445</u>	<u>694</u>	<u>4.79</u>
Wages of management	75 000	0%	75 000	2 500	166	1.15
Interest	65 000	-6%	61 200	2 040	136	0.94
Rent &/or leases	8 200	0%	8 200	275	18	0.13
Depreciation	44 000	-6%	41 400	1 380	92	0.63
	192 200	-3%	185 800	6 195	411	2.84
Total vineyard operating expenses	<u>483 800</u>	<u>3%</u>	<u>499 100</u>	<u>16 635</u>	<u>1 105</u>	<u>7.63</u>
Calculated ratios						
Economic Vineyard Surplus (EVS)¹	<u>181 400</u>		<u>439 100</u>	<u>14 635</u>	<u>972</u>	<u>6.72</u>

All Prices are GST exclusive – please check all prices

Year ending 30 June	2015	2016
	Whole Vineyard	Whole Vineyard
Vineyard working expenditure/NCI ²	49%	36%
EVS/Total vineyard assets	3.6%	7.5%
EVS less interest & lease/equity	2.7%	7.7%
Interest+rent+lease/NCI	12.4%	8.0%
EVS/NCI	30.6%	50.5%
EBIT ³ (\$)	248 200	505 900
EBIT/Total Capital	4.9%	8.7%
EBIT/Total Equity	6.2%	10.5%

1 Economic Vineyard Surplus (EVS) is calculated as follows: Net cash income less vineyard working expenses less depreciation less wages of management (WOM)

WOM is calculated as \$31000 for labour input plus 1 percent of opening total vineyard assets to a maximum of \$75000.

2 Net cash income.

3 Earnings before interest and tax.

All Prices are GST exclusive – please check all prices

3.4.3 MPI Pipfruit financial analysis

Key parameters, financial results and budgets for the pipfruit orchard models

Year ended 31 December	2013	2014	2015 Budget
Hawke's Bay model			
Planted area (ha)	40.0	40.0	40.0
Owned area (ha)	24.0	24.0	24.0
Leased area (ha)	16.0	16.0	16.0
Total TCE ¹	145 925	127 390	148 575
Export TCE	96 615	92 200	93 015
Weighted average return (\$/export TCE) ²	24.45	26.80	29.45
Net cash income (\$) (at FAS) ²	2 646 400	2 631 000	2 966 100
Orchard gate return (OGR \$)	1 585 300	1 602 900	1 906 000
Orchard working expenses (to orchard gate \$) ³	1 026 400	1 008 900	1 059 100
EBIT (\$) ⁴	514 900	538 000	788 900
Orchard profit before tax (\$)	377 700	410 000	666 900
Orchard cash surplus/deficit (\$)	251 700	136 000	334 900
Orchard working expenses / OGR	65%	63%	56%
EBIT / Total orchard assets	19.1%	18.2%	25.6%
Percentage equity	60%	70%	75%
Nelson model			
Planted area (ha)	40.0	40.0	40.0
Owned area (ha)	32.0	32.0	32.0
Leased area (ha)	8.0	8.0	8.0
Total TCE	129 340	123 135	123 340
Export TCE	97 565	96 350	85 775
Weighted average return (\$/export TCE)	25.50	25.65	26.70
Net cash income (\$) (at FAS)	2 607 800	2 532 000	2 491 400
Orchard gate return (OGR \$)	1 545 400	1 572 500	1 597 700
Orchard working expenses (to orchard gate \$)	1 060 000	1 132 700	1 158 600
EBIT (\$)	425 400	379 800	379 100
Orchard profit before tax (\$)	289 000	251 800	261 100
Orchard surplus/deficit (\$)	149 000	41 800	76 100
Orchard working expenses / OGR	69%	72%	73%
EBIT / Total orchard assets	11.8%	9.4%	9.2%
Percentage equity	56%	63%	67%

© 2015 Crown Copyright - Ministry for Primary Industries

All Prices are GST exclusive – please check all prices

Notes
The pipfruit orchard models are representative of export pipfruit orchards and based on a company structure.
The pipfruit orchard models were modified substantially in 2013 following a review of the MPI pipfruit monitoring programme. Hence direct comparisons with prior models are not recommended.
Figures may not add to totals due to rounding.
1 Tray carton equivalent is a measure of apple and pear weight. A TCE is defined as 18.6 kg packed weight which equates to 18.0 kg sale weight.
2 Returns per export TCE are expressed at free alongside ship (FAS return). This is the value of the product at the ship's side net of commission, additional packaging costs and controlled atmosphere or SmartFresh™ costs.
3 Orchard working expenses include wages of management.
4 EBIT = earnings before interest and tax. The lease arrangements in the orchard models are permanent leases of land. Because of this, lease expenses are treated like interest expenses (i.e. cost of capital) for reporting purposes.

Background

The MPI pipfruit monitoring programme was reviewed in 2013 leading to modifications to the Hawke's Bay and Nelson pipfruit orchard models for 2013 and 2014 actual and 2015 budget years. Direct comparison with previous years' models is not advised.

Disclaimer

The information in this report by the Ministry for Primary Industries is based on the best information available to the Ministry at the time it was drawn up and all due care was exercised in its preparation. As it is not possible to foresee all uses of this information or to predict all future developments and trends, any subsequent action that relies on the accuracy of the information in this report is the sole commercial decision of the user and is taken at his/her own risk. Accordingly, the Ministry for Primary Industries disclaims any liability whatsoever for any losses or damages arising out of the use of this information, or in respect of any actions taken.

For more information please contact
annette.carey@mpi.govt.nz

All Prices are GST exclusive – please check all prices

Table 2: Hawke's Bay pipfruit orchard model FAS¹ export returns										
Year ended 31 December	2006 (\$/TCE²)	2007 (\$/TCE)	2008 (\$/TCE)	2009 (\$/TCE)	2010 (\$/TCE)	2011 (\$/TCE)	2012 BUDGET (\$/TCE)	2013 (\$/TCE)	2014 (\$/TCE)	2015 BUDGET (\$/TCE)
Variety										
Braeburn	19.38	15.15	25.25	16.00	17.15	18.05	19.50	22.85	20.20	21.30
Cripps Pink / Pink Lady™	28.52	26.31	29.50	24.00	22.45	21.55	22.50	27.00	27.00	27.50
Envy™	...	...	...	...	...	25.50	28.00	33.60	37.45	41.50
Fuji	25.14	26.81	26.90	25.60	26.20	22.40	22.00	25.20	30.00	30.50
Granny Smith	19.13	17.52	21.40	20.80	22.45	21.25	22.00	22.10	25.00	25.85
Jazz™	35.13	30.26	30.30	21.65	21.85	19.70	22.00	24.70	25.55	26.90
Pacific Beauty™	21.53	21.30	24.35	33.00	27.30	25.70	25.25	28.30	...	...
Pacific Queen™	23.86	22.89	27.00	35.80	30.75	31.80	32.85	32.90	35.80	51.40
Pacific Rose™	22.44	21.24	24.10	29.70	28.45	28.50	31.25	31.15	31.40	37.00
Royal Gala	20.31	19.71	22.25	20.80	22.00	20.55	20.25	24.70	25.50	26.30
Weighted average	20.72	19.63	24.55	21.60	22.00	21.50	22.05	25.45	26.80	29.45
Notes										
The pipfruit orchard models were modified substantially in 2013 following a review of the MPI pipfruit monitoring programme. Hence direct comparisons with prior models are not recommended.										
1 Free alongside ship.										
2 Tray carton equivalent.										

All Prices are GST exclusive – please check all prices

Hawke's Bay pipfruit orchard model budget (two pages)

	2013			2014	
	Whole orchard (\$)	Whole orchard (\$)	Per planted ha (\$)	Per TCE ¹ gross (\$)	Per TCE export (\$)
Revenue					
Pipfruit income (at FAS)	2 624 400	2 607 000	65 175	20.46	28.28
Other orchard income	22 000	24 000	600	0.19	0.26
Net cash income	2 646 400	2 631 000	65 775	20.65	28.54
Less post-harvest expenses	1 061 100	1 028 100	25 703	8.07	11.15
Orchard gate return (OGR)	1 585 300	1 602 900	40 072	12.58	17.39
Orchard working expenses (to orchard gate)	1 026 400	1 008 900	25 223	7.92	10.94
Cash operating surplus	558 900	594 000	14 850	4.66	6.44
Depreciation	44 000	56 000	1 400	0.44	0.61
EBIT²	514 900	538 000	13 450	4.22	5.84
Interest	70 000	60 000	1 500	0.47	0.65
Rent and/or lease	67 200	68 000	1 700	0.53	0.74
Orchard profit before tax	377 700	410 000	10 250	3.22	4.45
Tax	55 000	150 000	3 750	1.18	1.63
Orchard profit after tax	322 700	260 000	6 500	2.04	2.82
Allocation of funds					
Add back depreciation	44 000	56 000	1 400	0.44	0.61
Orchard surplus for reinvestment	366 700	316 000	7 900	2.48	3.43
Reinvestment					
Net capital purchases	40 000	50 000	1 250	0.39	0.54
Development	25 000	30 000	750	0.24	0.33
Principal repayments	50 000	100 000	2 500	0.78	1.08
Orchard cash surplus/deficit	251 700	136 000	3 400	1.07	1.48
Assets and liabilities³					
Land and buildings (<i>Estimated opening market</i>)	2 520 000	2 760 000	115 000	21.67	29.94
Plant and machinery (<i>Opening book value</i>)	180 000	195 000	8 125	1.53	2.11
Total orchard assets	2 700 000	2 955 000	123 125	23.20	32.05
Total liabilities (<i>Opening book value</i>)	1 080 000	900 000	37 500	7.06	9.76
Total equity	1 620 000	2 055 000	85 625	16.13	22.29

Information kindly supplied by Ministry of Primary Industries. These were not publically available at time of publication, but are likely to be online 'now'.

2015 BUDGET			
Whole orchard (\$)	Per planted ha (\$)	Per TCE¹ gross (\$)	Per TCE export (\$)
2 866 100	71 653	19.29	30.81
100 000	2 500	0.67	1.08
2 966 100	74 153	19.96	31.89
1 060 100	26 502	7.14	11.40
1 906 000	47 650	12.83	20.49
1 059 100	26 478	7.13	11.39
846 900	21 172	5.70	9.11
58 000	1 450	0.39	0.62
788 900	19 722	5.31	8.48
50 000	1 250	0.34	0.54
72 000	1 800	0.48	0.77
666 900	16 672	4.49	7.17
120 000	3 000	0.81	1.29
546 900	13 672	3.68	5.88
58 000	1 450	0.39	0.62
604 900	15 122	4.07	6.50
60 000	1 500	0.40	0.65
80 000	2 000	0.54	0.86
130 000	3 250	0.87	1.40
334 900	8 372	2.25	3.60
2 880 000	120 000	19.38	30.96
200 000	8 333	1.35	2.15
3 080 000	128 333	20.73	33.11
780 000	32 500	5.25	8.39
2 300 000	95 833	15.48	24.73

Notes

Figures may not add to totals due to rounding.

1 Tray carton equivalent

2 EBIT = earnings before interest and tax. The lease arrangements in the orchard models are permanent leases of land. Because of this, lease expenses are treated like interest expenses

3 Land and building asset value includes the value of owned land, trees and supports, other improvements, orchard buildings and dwellings on the property. Asset and liability values per planted hectare are based on owned planted area of 24 hectares; not owned and leased planted area of 40 hectares.

Data kindly supplied by Ministry of Primary Industries.

Hawke's Bay Pipfruit orchard model expenditure (two pages)

	2013			2014	
	Whole orchard (\$)	Whole orchard (\$)	Per planted ha (\$)	Per TCE ¹ gross (\$)	Per TCE export (\$)
Packing	415 455	393 700	9 843	3.09	4.27
Packaging	400 960	395 500	9 888	3.10	4.29
Cool storage (incl freight from coolstore to port)	186 470	185 300	4 632	1.45	2.01
Freight (orchard to packhouse)	35 025	30 550	764	0.24	0.33
Levies and compliance	23 190	23 050	576	0.18	0.25
Total post harvest expenses	1 061 100	1 028 100	25 703	8.07	11.15
Wages of management	90 000	92 000	2 300	0.72	1.00
Hand harvesting	283 100	259 800	6 495	2.04	2.82
Pruning	83 200	94 800	2 370	0.74	1.03
Thinning	124 400	110 400	2 760	0.87	1.20
Other wages	113 800	114 400	2 860	0.90	1.24
ACC - employees	8 400	8 600	215	0.07	0.09
Total labour expenses	702 900	680 000	17 000	5.34	7.38
Weed and pest control	116 600	115 600	2 890	0.91	1.25
Pollination	2 900	2 900	73	0.02	0.03
Fertiliser and lime	5 200	7 400	185	0.06	0.08
Electricity	7 800	7 400	185	0.06	0.08
Vehicle	16 800	17 000	425	0.13	0.18
Fuel	34 600	30 400	760	0.24	0.33
Repairs and maintenance	42 600	46 000	1 150	0.36	0.50
General expenses	20 600	25 800	645	0.20	0.28
Contract machine work	7 800	8 400	210	0.07	0.09
Orchard operating expenses	254 900	260 900	6 523	2.05	2.83
Rates	10 800	11 200	280	0.09	0.12
Water and related charges	2 800	3 400	85	0.03	0.04
General insurance	9 400	9 400	235	0.07	0.10
Crop insurance	18 800	20 600	515	0.16	0.22
Communication	4 600	4 200	105	0.03	0.05
Accounting	7 200	7 000	175	0.05	0.08
Legal and consulting	3 200	3 000	75	0.02	0.03
Other administration	11 800	9 200	230	0.07	0.10
Total overhead expenses	68 600	68 000	1 700	0.53	0.74
Total on-orchard working expenses	1 026 400	1 008 900	25 223	7.92	10.94
Calculated ratios					
EBIT ²	514 900	538 000	13 450	4.22	5.84
Orchard working expenses ³ /OGR ⁴	65.0%	63%			
EBIT/Total Orchard Assets	19.1%	18.2%			
EBIT less interest & lease/Equity	23.3%	20.0%			
Interest + rent + lease/OGR	8.7%	8.0%			
EBIT/OGR	32.5%	33.6%			

All Prices are GST exclusive – please check all prices

2015 BUDGET			
Whole orchard (\$)	Per planted ha (\$)	Per TCE ¹ gross (\$)	Per TCE export (\$)
415 750	10 394	2.80	4.47
399 950	9 999	2.69	4.30
186 950	4 674	1.26	2.01
34 200	855	0.23	0.37
23 250	581	0.16	0.25
1 060 100	26 502	7.14	11.40
92 000	2 300	0.62	0.99
286 700	7 168	1.93	3.08
89 800	2 245	0.60	0.97
121 600	3 040	0.82	1.31
133 000	3 325	0.90	1.43
8 600	215	0.06	0.09
731 700	18 293	4.92	7.87
114 800	2 870	0.77	1.23
3 000	75	0.02	0.03
7 000	175	0.05	0.08
7 800	195	0.05	0.08
16 000	400	0.11	0.17
30 800	770	0.21	0.33
50 000	1 250	0.34	0.54
26 200	655	0.18	0.28
5 600	140	0.04	0.06
261 200	6 530	1.76	2.81
11 600	290	0.08	0.12
2 400	60	0.02	0.03
9 800	245	0.07	0.11
19 000	475	0.13	0.20
4 200	105	0.03	0.05
6 800	170	0.05	0.07
3 200	80	0.02	0.03
9 200	230	0.06	0.10
66 200	1 655	0.45	0.71
1 059 100	26 478	7.13	11.39
788 900	19 722	5.31	8.48
56%			
25.6%			
29.0%			
6.4%			
41.4%			

1 Tray carton equivalent.

2. 2 EBIT = earnings before interest and tax. The lease arrangements in the orchard models are permanent leases of land. Because of this, lease expenses are treated like interest expenses (i.e. cost of capital) for reporting purposes.

3 Orchard working expenses includes wages of management.

4 Orchard gate return.

Refer - <https://www.mpi.govt.nz/document-vault/11057>

SECTION 5

INDEX

INDEX

A

A.B. (Artificial Breeding), cost of	B-	23
Access crossings, cost of	B-	253
Accident Compensation Levy	B-163,D-	80
, rates - employer/employee	D-	105
- 2016/2017.....	D-	81
Accountancy fees.....	B-	151
Accrual, (invoice) basis for taxation	D-	75
, rules for expenditure (taxation)	D-	103
Acid detergent, cost of.....	B-	30
Acid-free tissue (flower wrapping), cost of.....	B-	132
Adjustments, depreciation	D-	41
Adjuvants (spray oil), cost of	B-	119
Administration expenses.....	B-	156
, bank and stock company charges	B-	160
, courier charges.....	B-	158
, internet charges.....	B-	157
, postage	B-	157
, subscriptions	B-	160
, telephone calls	B-	157
, travelling expenses	B-	160
Advance payments, milksolids	A-	25
Adverse Event Income Equalisation Scheme.....	D-	46
Advisory services, charges	B-	152
Aerators, soil - cost of	B-	224
Aerial, agricultural services - oversowing - cost of	B-	65
, spraying - cost of	B-	120
, spreading of fertiliser - costs	B-	84
Aeroplanes, economic rate of depreciation	D-	107
, 'old' schedule rate of depreciation	D-	119
Agricultural, chemicals - cost of	B-	113
, industry - ACC levies	D-	106
, lime - cost of	B-	75
, lime flour – cost of	B-	39
, plant and equipment - rate of depreciation (economic).....	D-	107
- rate of depreciation ('old' schedule).....	D-	119
, salt - cost of	B-	39
, workers - wages/salaries	B-	5
A.I. cost of - see Artificial Breeding		
Air freight rates, cost of.....	B-	89

Aircraft, economic rate of depreciation	D-107, D-	114
, 'old' schedule rate of depreciation	D-	119
Alder trees, cost of	B-	259
Algaecides, cost of	B-	117
Alkaline detergents, cost of	B-	30
Almond trees, cost of	B-	108
Alpaca, feed cost	B-	40
, fibre prices	A-	50
, livestock value/prices	A-	50
Alsike clover, dressing and store handling charges	B-	130
Amaranthus, cost of seed	B-	102
Amenity trees, cost of	B-	259
Ammonium fertilisers, cost of	B-	79
Amortisation rates for listed horticultural plants	D- 57, D-	129
Amortised loans, repayments on	B-	171
Anemone, bulb - cost of	B-	105
Angora goats, average market values (Taxation)	D- 91, D -93, D-	95
, bucks - cost of	A-	44
, fibre price trends	A-	43
, fibre sale prices	A-	44
, livestock prices	A-	44
, standard costs (Taxation)	D-	87
Angus bull, cost of	B-	27
Animal, crushes - (cattle) cost of	B-	243
, crushes - (deer) cost of	B-	244
, drawn vehicles - economic rate of depreciation	D-	114
, feed and nutrition - cost of	B-	37
, feeders - cost of	B-	35
, health - cost of	B-	9
, equipment - cost of	B-	16
, recording and data processing systems - cost of	B-	266
, shelters - cost of	B-	251
, waterers - cost of	B-	35
Annual, certification of dairy sheds - cost of	B-	33
, clover - cost of seed	B-	93
, ryegrass - price paid to producers	A-	63
Anthelmintics, cost of	B-	10
Antibiotics, cost of	B-	13
Antirrhinum, seed cost	B-	105
Antifreeze, cost of	B-	148
ANZ Agricultural Price Review 2015/16	C-	4
Antler, prices - see velvet		
Apicultural products, price paid to producers	A-	79
Apple(s), cider (animal health) - cost of	B-	14
, gross margin (export) (refer pipfruit)	C-	57
, growers - ACC levies	D-	105
- drawings (personal expenditure)	B-	8

, packing costs.....	B- 133
, picking - wage rates	B- 7
, prices paid to grower - export.....	A- 65
- domestic market	A- 66
, transport costs	B- 88
, trays - cost of	B- 132
, trees - amortisation rates (taxation)	D- 130
- cost of	B- 107
Application costs, of fertilisers	B- 84
, of sprays.....	B- 120
Appreciation of currency, impact on farm revenue	A- 3
Apricot(s), levy	B- 126
, trees - amortisation rates (taxation)	D- 130
- cost of	B- 107
Apron, dairy - cost of.....	B- 32
Aquaculture, ACC levies	D- 106
, improvements - diminishing value depreciation	D- 84
, economic rate of depreciation on equipment.....	D- 107
, 'old' schedule rate of depreciation on equipment	D- 120
Arable farms, ACC levies.....	D- 106
, accounting fees	B- 151
, cost of leasing	B- 165
, cultivation costs	B- 64, B- 143
, drawings (personal expenditure)	B- 8
, soil testing	B- 86
Artificial Breeding fee (dairy), cost of	B- 22
Asparagus, levy.....	B- 128
, plants - amortisation rates (taxation)	D- 130
Assessable income, farmers (taxation)	D- 36
, individuals (taxation).....	D- 23
Assessment of, taxation	D- 19
Asset sale, taxation of	D- 43
Aster, seed cost	B- 105
Auction sales, in relation to GST.....	D- 79
Auger, grain - cost of.....	B- 232
Automatic, drench gun - cost of	B- 16
, teat sprayer - cost of.....	B- 32
, vaccinator - cost of	B- 16
Average market values of livestock, 2016 income year	D- 90
, 2015 income year.....	D- 92
, 2014 income year.....	D- 94
Average prices for farm, equipment	B- 207
, vehicles	B- 207
, vintages, grapes 2015	A- 69
, vintages 2014.....	A- 70
Avocado, fertiliser - cost of	B- 79
, packing charges	B- 133

, levies	B- 128
, price paid to producers	A- 67
, trees - amortisation rates (taxation)	D- 130

B

Backfat, scanner - cost of.....	B- 59
Backfill, gravel, Shingle Products - cost of	B- 257
Baconers, gross margin.....	C- 26
, returns from	A- 47
, schedule price	A- 47
Bactericides, cost of.....	B- 118
Bags, planter - cost of	B- 110
Bails, dairy shed - per bail cost.....	B- 238
, head - cost of	B- 243
Balance date, and tax payments	D- 82
Bale, clamp - cost of	B- 215
, fork - cost of	B- 215
, hay/straw - contract charges	B- 62
- cost of	B- 43
- feeder, cost of	B- 215
, stencils (wool) - cost of	B- 49
, wrap - cost of	B- 137
, wrappers - cost of	B- 215
Baleage, cost of.....	B- 43
Baleage, contract charges	B- 62
Baleage wrapper, cost of.....	B- 214
Baler, conventional - cost of.....	B- 214
, large round - cost of.....	B- 214
, large square - cost of.....	B- 214
, rate of depreciation (economic).....	D- 107
, rate of depreciation ('old' schedule).....	D- 121
Baling, contracting rates	B- 62
, tractor fuel consumption for	B- 143
, twine - cost of	B- 215
, wrap - cost of	B- 137
Ball valves, cost of.....	B- 182
Banana tree, cost of.....	B- 107
Bank, charges/fees	B- 168
, financial packages.....	B- 168
, services	B- 168
Barbed wire, cost of	B- 198
Barges, economic rate of depreciation	D- 114
Bark, cost of	B- 111
Bark control collars (dogs), cost of	B- 59

Barley, contract prices	A-	53
, crushed - cost of	B-	41
, dressing and store handling charges	B-	130
, drying charges	B-	130
, feed - contract price	A-	55
, gross margin	C-	35
, malting - contract price.....	A-	53
, price paid to growers	A-	53
, prices 1973 to 2016 actual and "real"	A-	54
, seed - contract price paid to growers	A-	53
Barns, cost of	B-	251
, depreciation of (economic).....	D-	111
, depreciation of ('old' schedule).....	D-	119
Battens, cost of.....	B-	198
Battery powered energisers, cost of.....	B-	204
Beans, dressing and store handling charges	B-	130
, seed cost.....	B-	101, B- 102
Bed formers - cost of	B-	230
Bedding sand, cost of.....	B-	257
Beef, see also Cattle, Bull beef		
, average prices	A-	19
, breeding cattle.....	A-	19
, calf skin skins	A-	17
, export schedule	A-	16
, farm - ACC levies,	D-	105
- drawings (personal expenditure).....	B-	8
- input price trends	B-	3
- repairs and maintenance costs	B-	140
- vehicle expenses.....	B-	142
- wage rates.....	B-	5
- weed and pest control budget figures.....	B-	112
, gross margins.....	C-	12
, price trends (export).....	A-	16
, prices - impact of exchange rates	A-	3
, prime stock prices	A-	18
, schedule	A-	16
, stock prices/values	A-	19
, T.B. compensation.....	A-	22
Beef + Lamb NZ Pasture growth forecaster.....	C-	5
Beef + Lamb NZ Benchmarking tools	C-	8
Beehives, rate of depreciation ('old' schedule).....	D-	119
Beekeeping, ACC levy	D-	106
, equipment, economic rate of depreciation.....	D-	107
Bees, cost of.....	B-	138
, hive hire	B-	138
, live - price paid to apiculturists	A-	80
Beeswax, price paid to producers	A-	79

Beet, fodder analysis.....	C- 46
Beetroot, seed cost.....	B- 101
Belly crutching rates.....	B- 47
Bends, pipe - cost of.....	B- 180
Beneficiaries (Trusts), income tax.....	D- 34
Bentonite, cost of.....	B- 38
Berryfruit, growing - ACC levies.....	D- 105
, levies.....	B- 126
, plants - amortisation rates (taxation).....	D- 129
, pollination cost.....	B- 138
, plants - cost of.....	B- 109
, workers' wages.....	B- 7
Big balers, cost of.....	B- 207
Bike (farm) - see Motor Bikes	
Bike trailers, cost of.....	B- 210
Bin tipper, cost of.....	B- 220
Binder twine, cost of.....	B- 133
Bio-blend soil conditioner, cost of.....	B- 111
Bird, netting - cost of.....	B-136
- deductibility of (taxation).....	D- 58
, repellents - cost of.....	B- 118
, scarers - cost of.....	B- 136
Bird-proof meal bar, cost of.....	B- 35
Birth tag applicator, cost of.....	B- 54
Biscuits (dog), cost of.....	B- 40
Blackberry, plants - amortisation rates (taxation).....	D- 129
- cost of.....	B- 109
Blackcurrants, levies.....	B- 126
, plants - amortisation rates (taxation).....	D- 129
- cost of.....	B- 109
, picking rates.....	B- 7
, pollination - cost of.....	B- 138
Bloat, control - cost of.....	B- 12
, mix dispenser - cost of.....	B- 17
, knife - cost of.....	B- 16
Block, salt lick - cost of.....	B- 39
Bloodmeal, cost of.....	B- 42
Bloodstock, taxation of.....	D- 54
Blowers, cost of.....	B- 233
Blowfly treatment, cost of.....	B- 13
Bluebells (bulbs), cost of.....	B- 106
Blueberries, picking rates.....	B- 7
, plants - amortisation rates (taxation).....	D- 129
- cost of.....	B- 109
Board and lodging, as taxable income.....	D- 36
Boars, average market value of (taxation).....	D- 90
Boats, economic rate of depreciation.....	D- 114

Boer goats, cost of	A-	45
Bobby calf, prices 2011 to 2015	A-	35
, calf prices 2014/2015.....	A-	35
, yard fees.....	B-	121
Boluses, cost of.....	B-	13
Bonus issues (shares), taxation of.....	D-	31
Boom sprayer, cost of.....	B-	217
Boots, cost of	B-	135
Border Leicester/Borderdale ram, cost of.....	B-	27
Borderdyke , scheme charges	B-	189
Bores and wells, rate of depreciation (economic)	D-	111
, rate of depreciation (‘old’ schedule).....	D-	119
Boron fertiliser, cost of	B-	76
Bottle feeders (calf), cost of	B-	35
Boxes, (flower packing), cost of.....	B-	132
Boysenberry(ies), levies	B-	126
, picking rates.....	B-	7
, plants - amortisation rates (taxation)	D-	129
Brands, tattoos - cost of	B-	55
Brassica seed, cost of.....	B-	97
, fertiliser - cost of.....	B-	79
, levy	B-	125
, pollination cost	B-	138
, price paid to grower	A-	64
Breeding cow - see also Beef; Cattle		
, expenses.....	B-	22
, fees (A.I.).....	B-	22
, stock prices –beef cattle.....	A-	20
- dairy cattle.....	A-	33
Bridge crossings (systems), cost of	B-	253
Bridges, cost of	B-	253
, depreciation of (economic).....	D-	111
, depreciation of (‘old’ schedule).....	D-	119
Bridles, cost of.....	B-	60
Broad Bean, seed cost.....	B-	100
Broadband internet charges	B-	157
Broccoli, price paid to growers.....	A-	76
, seed cost.....	B-	101
Brodiaea (bulbs), cost of.....	B-	103
Broiler chicken, feed cost	B-	41
Brokers charges (wool).....	B-	122
Bromus, price paid to producers.....	A-	63
, seed cost.....	B-	95
Broodmare formula (feed), cost of	B-	41
Broom, woolshed - cost of.....	B-	49
Browntop, dressing and store handling charges	B-	130
, price paid to grower	A-	63

, seed cost.....	B- 100
Brushcutters/Trimmers, cost of	B- 234
Brushweed spraying, cost of.....	B- 120
Brussel Sprouts, seed cost.....	B- 101
Bucket, cost of	B- 32
, (front end loaders), cost of.....	B- 219
Bucks, value/cost of.....	A- 44
Budgeting software (feed/cash), cost of	B- 266
Builders mix, cost of.....	B- 258
Building, consent charges	B- 238
, materials - cost of	B- 257
, Research Authority levy	B- 238
, Societies - as a source of finance.....	B- 170
Buildings, cost of.....	B- 238
, depreciation of (economic).....	D- 111
, depreciation of ('old' schedule).....	D- 119
, insurance of.....	B- 162
, repairs and maintenance of.....	B- 141
Bulb(s), air freight rates	B- 90
, cost of	B- 106
Bulk, bee - price paid for	A- 80
, lime spreaders - rate of depreciation ('old' schedule).....	D- 120
, wool measurement	B- 50
Bull , cost of	B- 27
, evaluation - cost.....	B- 24
, leads - cost of.....	B- 58
, prodders - cost of	B- 59
, rings and applicators - cost of.....	B- 59
, semen collection - cost of	B- 24
Bull beef, gross margin.....	C- 11
, schedule price (export)	A- 16
Bullbars (motor bike), cost of.....	B- 211
Bulldozer, cost of.....	B- 232
, rate of depreciation ('old' schedule).....	D- 120
Bumble bees, cost of.....	B- 138
Bunkers, economic rate of depreciation	D- 111
Buoys, economic rate of depreciation	D- 114
Bus, economic rate of depreciation	D- 114
Bush cutters, economic rate of depreciation.....	D- 107
Butter Beans, seed cost	B- 102
Buttercup squash (kabocha), levy.....	B- 128
Buttonholing (crutching) rates.....	B- 47
Butter making equipment, economic rate of depreciation.....	D- 109

C

Cabbage, pollination cost.....	B-	138
, seed cost.....	B-	101
Cable logging (forestry), cost of.....	B-	261
Calcium, ammonium nitrate - cost of	B-	79
, chloride - cost of.....	B-	38
, nitrate - cost of.....	B-	77
Calf, bobby - prices.....	A-	35
, chains - cost of.....	B-	57
, covers - cost of.....	B-	58
, debudders - cost of.....	B-	36
, dehorner - cost of	B-	36
, feed - milk replacers, cost of	B-	37
, feeding equipment - cost of	B-	34
, heifer (dairy) - prices	A-	33
, meal - cost of	B-	40
, milk supplement - cost of	B-	37
, pullers - cost of	B-	58
, rearing - cost of.....	B-	30
, shelters - cost of.....	B-	252
, slink skin prices	A-	17
Calfeteria, cost of.....	B-	36
Calla Lily (Zantedeschia), packing material - cost of	B-	132
Calving, aids - cost of.....	B-	58
, chains - cost of.....	B-	58
, straps/ropes - cost of.....	B-	58
Cambridge roller, cost of.....	B-	227
Camelids, fibre prices	A-	52
, livestock prices	A-	52
Campanula seed, cost of	B-	105
Canvas covers, cost of	B-	137
Capital gains, exemption from income tax	D - 3, D-	25
Capsicum, price paid to growers	A-	76
Captive bolt slaughter device, cost of.....	B-	58
Car, economic rate of depreciation	D-	116
, expenses in relation to taxation	D-	38
, 'old' schedule rate of depreciation	D-	121
, licensing fee - cost of.....	B-	146
, operating cost (total).....	B-	146
, repairs and maintenance	B-	146
Carnations, sleeves - cost of	B-	132
Carrot(s), pollination cost	B-	138
, seed cost	B-	101
, seed production.....	C-	48
Cartage Rates	B-	88

, of logs	B- 261
Cartons, egg - cost of	B- 132
, flower - cost of.....	B- 132
Cash flow – calculator – dairy grazing on kale/fodder beet.....	C- 20
Cash Manager	C- 1
Cashbook software, cost of.....	B- 266
Casks and barrels, rate of depreciation ('old' schedule)	D- 123
Castration, equipment - cost of.....	B- 54
Casual wages, horticultural workers.....	B- 7
, taxation of (codes and rates).....	D- 7
Cattle - see also Beef; Dairy	
, animal health cost	B- 9
, average prices for stock - 2008 to 2016e.....	A- 19
, beef schedule	A- 16
, beef breeding stock prices	A- 18, A- 19
, bull beef schedule	A- 16
, cartage rates	B- 88
, castrators - cost of.....	B- 58
, commission on sale.....	B- 121
, cow beef schedule.....	A- 16
, crates - economic rate of depreciation	D- 107
, crush - cost of	B- 243
, dairy grazing enterprise	C - 14
, dairy live heifer export	A- 36
, dairy stock - prices.....	A- 33
, DairyNZ Annual Cash Budget	C - 15
, de-horning equipment - cost of.....	B- 57
, dips - rate of depreciation ('old' schedule).....	D- 122
, drenching costs	B- 9
, embryo transfer - cost of.....	B- 23
, farming - ACC levies.....	D- 105
, feed - cost of	B- 37
, grazing fees.....	B- 44
, gross margin - beef	C- 12
- bull beef.....	C- 12
- dairy.....	C - 14 , C- 19
- dairy grazing on kale (cash flow calculator).....	C- 20
, head bail - cost of.....	B- 243
, health costs	B-9, C- 15
, levies	B- 123
, national standard costs (taxation)	D- 50, D- 87
, pregnancy test - cost of.....	B- 14, B- 66
, prime cattle prices (local market)	A- 18
, prodders - cost of	B- 59
, sale prices	A- 19
, scales - cost of.....	B- 52
, selling charges	B- 121

, stops - cost of.....	B- 200
, store and breeding stock prices.....	A- 19
, T.B. compensation	A- 22
, valuation of for taxation	D-48, D- 87
, veterinary fees.....	B- 14
, weighing systems (electronic) - cost of.....	B- 52
, yard fees.....	B- 121
, yards - cost of	B- 242
- rate of depreciation ('old' schedule).....	D- 122
Cauliflower, pollination cost	B- 138
, seed cost.....	B- 101
Celery, seed cost	B- 101
Cell trays, cost of	B- 111
Celosia, seed cost.....	B- 105
Cement, cost of	B- 257
Centre pivot irrigation, cost of.....	B- 174
Centrifugal pumps, cost of.....	B- 176
Centrifuge, economic rate of depreciation	D- 107
Cereals, cost of seed	B- 99
, levy	B- 125
Certificate of Exemption (taxation).....	D- 9
Certification of, dairy sheds - annual cost	B- 33
, seeds - charges	B- 129
Cervical insemination (deer) - cost of	B- 25
Chaff, cost of	B- 41
, cutter - cost of.....	B- 222
Chain harrows, cost of	B- 226
Chain(s), calf - cost of	B- 57
Chainsaw(s), chaps - cost of	B- 135
, cost of	B- 233
, depreciation of (economic).....	D- 107
, trousers - cost of	B- 135
Chaps (chainsaw), cost of	B- 135
Charolais bull, cost of.....	B- 27
Cheese making plant/systems, economic rate of depreciation	D- 109
Chelates, cost of.....	B- 38
Chemical spray coveralls, cost of	B- 135
Chemicals, agricultural/horticultural - cost of.....	B- 113
Cherry(ies), levy	B- 126
, picker - economic rate of depreciation	D- 107
, trees - amortisation rates (taxation)	D- 130
- cost of	B- 107
Chestnut trees, amortisation rates (taxation)	D- 129
, cost of	B- 108
Chevon, prices	A- 42
Chicken - see Poultry	

Chicory, seed - cost.....	B-	95
- price paid to producers	A-	64
Child taxpayer	D-	26
Chinball and fluid, cost of	B-	55
Chinese greens, seed cost	B-	101
Chives, seed cost.....	B-	101
Choppers (pigs), price of	A- 47,A -	49
Choppers, maize - cost of	B-	222
Chromium potassium sulphate, cost of.....	B-	38
Chrysanthemum, sleeve cost	B-	132
Cider vinegar (feed supplement), cost of.....	B-	38
Citrus fruit, fertiliser - cost of.....	B-	80
, growing - ACC levies	D-	105
, levies	B-	126
, trees - amortisation rates (taxation)	D-	129
- cost of	B-	107
Civil penalties, taxation	D-	20
Classification of, income for trusts	D-	34
, trusts	D-	34
Classing, goat fibre	B-	122
, wool	B-	122
Claws (dairy shed), cost of	B-	31
Clay tiles, cost of	B-	191
Cleansers, dairy - cost of	B-	30
Cleaning machinery, economic rate of depreciation	D-	107
Clearing sales, commission payable	B-	121
Cloches, cost of.....	B-	247
Cloth, shelter/windbreak/shade - cost of	B-	262
Clover seed, cost of.....	B-	93
, contract harvesting.....	B-	65
, dressing and store handling charges	B-	130
, gross margin	C-	36
, pollination cost	B-	138
, price paid to grower	A-	63
Coated seed, cost of	B-	100
Cobalt, fertiliser - cost of	B-	77
, injection - cost of	B-	13
Cocksfoot, coated seed cost.....	B-	94
, dressing and store handling charges	B-	130
, price paid to grower	A-	63
, seed cost.....	B-	94
Colostrometer, cost of.....	B-	35
Colostrum keeper, cost of	B-	37
Colour measurement testing, wool - charges.....	B-	50
Comb, shearing - cost of.....	B-	47

Combine harvester, cost of	B- 231
, licensing - cost of.....	B- 150
, running cost	B- 150
Commercial buildings, cost of.....	B- 251
Commission, real estate.....	B- 153
, stock sales and plant	B- 121
, velvet	B- 122
Commodity Levies.....	B- 125
Companies, taxation of	D- 29
, taxation rates	D- 83
Compensation T.B. (beef).....	A- 22
Compost, cost of	B- 111
Computer(s), farmers' requirements.....	B- 263
, general guidelines	B- 264
, guide for purchasing	B- 263
, hardware prices.....	B- 265
, internet charges.....	B- 157
, labels - cost of.....	B- 110
, programs - cost of	B- 266
, software - prices.....	B- 266
- rate of depreciation.....	D- 43
Concentrates, cost of.....	B- 40
Concrete, cost of	B- 257
, killing sheds - cost of.....	B- 256
, tanks - cost of.....	B- 175
, water troughs - cost of	B- 174
Conditioners, hay - cost of.....	B- 212
, mower - cost of.....	B- 213
Consents, building - cost of	B- 238
, water and discharge permits - cost	B- 185
Consolidated dressing and store handling charges	B- 130
Consultancy charges (Farm Advisory Services)	B- 152
Consultation, veterinary - cost of	B- 14
Consumable aids, as a tax deduction (valuation of)	D- 47
Consumer Price Index 1891 to 2016	B- 4 B- 269
Containers (insulated), economic rate of depreciation	D- 114
Contract, aerating.....	B- 64
, baleage making, cost of	B- 62
, barley prices.....	A- 53
, cultivation	B- 64
, dehorning/disbudding	B- 14
, dipping	B- 65
, fencing	B- 195
, gorse cutting	B- 67
, haymaking	B- 62
, heading.....	B- 65
, hedge/shelterbelt cutting.....	B- 67

, milkers - remuneration.....	B-	5
, oat prices.....	A-	56
, oversowing.....	B-	65
, packing (horticultural produce)	B-	133
, pregnancy diagnosis	B-	66
, shearing.....	B-	47
, silage making.....	B-	63
, tailing, drenching, dagging	B-	66
, weed spraying charges.....	B-	120
, wheat prices	A-	51
, windrowing	B-	62
, workers' wage rates.....	B-	5
Contracting charges	B-	62
Controlled Atmosphere bins – apples transport	B-	88
Controllers, glasshouse - cost of.....	B-	246
Cool storage, rates	B-	134
Coolers, milk - cost of	B-	31
Coopworth rams, cost of.....	B-	27
Copper, capsules - cost of.....	B-	13
, fertiliser - cost of.....	B-	78
, sulphate - cost of.....	B-	77
Copra meal, cost of.....	B-	38
Core provisions (taxation)	D-	22
Core testing, wool.....	B-	50
Coriander, seed cost.....	B-	101
Corriedale, ram - cost of	B-	27
, wool price	A-	13
Cottages, cost of.....	B-	251
Council (District and Regional), rates	B-	163
Couplings (irrigation pipe), cost of.....	B-	180
Courier charges.....	B-	158
Cover, comb - cost of.....	B-	48
, hay and silage - cost of	B-	137
, stock - cost of.....	B-	58
Covered yards, cost of	B-	241
, rate of depreciation ('old' schedule).....	D-	122
Covering film, greenhouse - cost of	B-	247
Cow, beef - see also Beef or Cattle		
- price trends	A-	16
, covers - cost of.....	B-	57
, dairy - see Dairy Cattle or Cattle		
, lifter - cost of	B-	57
, pregnancy testing - cost of.....	B-	66
, prices - prime stock.....	A-	18
- store and breeding stock.....	A-	19
, sling - cost of	B-	57
C.P.I. (Consumer Price Index), 1891 to 2016	B-4, B-	269

Cranberries, cost of plants	B- 109
Crate (egg), economic rate of depreciation	D- 107
Crate (fruit), cost of (hire)	B- 132
Crate, rate of depreciation (economic)	D- 107
Crayons (marker), cost of	B- 55
Craypots, economic rate of depreciation	D- 110
Credit, cost of.....	B- 168
Crested Dogstail, dressing and store handling charges	B- 130
Criminal penalties, taxation	D- 21
Crocus bulbs, cost of.....	B- 106
Crop , enterprise analysis (in Horticulture – refer C 51).....	C- 1,C- 51
, farms - see Arable Farms	
, gross margins	C- 33 to C- 50
, prices - see individual crops	
, protection	B- 136
, spraying - cost of	B- 120
, sundry expenses	B- 129
Cropmaster fertiliser, cost of	B- 78
Cropping, sundry expenses	B- 129
Crossbred, wool prices.....	A- 13
, ewe flock - gross margin	C- 9
Crossing system- fence, irrigator, cost of	B- 187
Crowbar, cost of.....	B- 203
Crown Land	B- 167
Crumbles/crumb (meal), cost of	B- 40
Crush, cattle/deer - cost of.....	B-243, B- 244
Crushers, grain - cost of.....	B- 222
Crutching costs	B- 47
Cucumber, seed cost	B- 101
Cuff (sheep), cost of	B- 53
Cultivation, contracting	B- 64
, costs for arable farms.....	B- 64, B-143
, diesel consumption	B- 143
, equipment - cost of	B -224
Cultivators, cost of.....	B- 225
, depreciation of	D- 107
, rotary - cost of.....	B- 225
Culverts, cost of	B- 239
, repairs and maintenance of	B- 141
Currency, exchange rates to NZ dollar - monthly rates – 2015/16	A- 4
Cut flower(s), ACC levies	D- 105
Cutters (shearing), cost of.....	B- 48
, plasma, cost of	B- 235
Cymbidium - see orchid	
Cyprus trees, cost of	B- 259

D

Dagging, contract rate.....	B-	66
, shear	B-	49
Dairy, aprons - cost of	B-	32
, beef calves - prices	A-	34
, beef weaner - prices	A-	37
, cattle - animal health costs	B-	9
- breeding/insemination costs	B-	21
- commissions on sale.....	B-	121
- grazing (cash flow, income).....	C-	20
- national standard cost (taxation)	D- 50, D-	87
- sale prices, calves/heifers/cows/herds.....	A-	33
- shed costs per cow.....	B- 30, C-	15
- T.B. compensation	A-	22
- valuation of for taxation.....	D- 48, D-	90
- values.....	A-	33
- yard fees	B-	121
- milk payments	A-	25
, company shares - cost of	B-	124
, farm - ACC levies	D-	106
- drawings (personal expenditure)	B-	8
- electricity cost	B-	68
- leasing costs	B-	165
- managers, wages/salaries	B-	5
- repairs and maintenance.....	B-	140
- vehicle expenses.....	B-	142
- wages/salaries.....	B-	5
- weed and pest control budget figures.....	B-	112
, farming expenditure in relation to taxation	D-	36
, grazing fees	B-	44
, grazing enterprise	C-	18
, heifers - cost of	A-	33
, heifers live export	A-	36
, over trousers - cost of	B-	32
, plant and equipment - economic rate of depreciation	D-	107
, produce - see also Milksolids (Milkfat)		
- milksolids (milkfat) price	A-	25
- milksolids (milkfat) price trends	A-	30
, shed - annual certification fees	B-	33
- cost of	B-	238
- depreciation of	D-	107
- effluent, discharge permits - cost	B-	185
- disposal - cost of.....	B-	193
- equipment, cost of	B-	31
- expenses	B-	30

- wash down pumps, cost of	B-	33
, support/grazing analysis	C-	18
, total working expenses percent	C-	17
DairyNZ - Annual Budget	C-	15
- tools information available.....	C-	1
Dam(s), storage pond, cost of.....	B-	190
, economic rate of depreciation	D-	112
, liners - cost of	B-	180
Dangerous goods shed, cost of	B-	256
DAP fertiliser, cost of.....	B-	76
Debt servicing charges.....	B-	171
Debudders (calf), cost of.....	B-	36
, contracting charge.....	B-	14
Decanters, economic rate of depreciation.....	D-	109
Deductions, tax	D-	26
Deer, animal health - cost of.....	B-	9
, breeding expenses	B-	25
, commission on sale.....	B-	121
, crush - cost of	B-	244
, deleveting cost	B-	14
, embryo transfer costs.....	B-	25
, farmers - ACC levies	D-	106
- drawings (personal expenditure)	B-	8
, feed - cost of	B-	40
, fence - cost of	B-	195
, gates - cost of	B-	200
, gross margin - breeding herd	C-	22
- velveting (dependent on vet or farmer seek quote).....	C-	23, C- 24
, Industry New Zealand - levies.....	B-	124
, livestock prices/value	A- 39, C-	22
, loading race – cost of.....	B-	244
, national standard cost (taxation).....	D-	50, D- 87
, netting - cost of.....	B-	195
, nuts - cost of	B-	40
, posts - cost of.....	B-	201
, pregnancy testing - cost of.....	B-	25
, sale prices	A-	39
, schedule price	A-	38
, shed - cost of.....	B-	241
, stags - gross margin	C-	21
- prices of.....	A- 39, B-	28
, TB testing - cost of	B-	14
, troughs - cost of	B-	174
, valuation of for taxation	D-	47, D- 87
, velvet - price paid to producer.....	A-	40
- price trends	A-	40

, venison - price paid to producer	A-	38
- schedule.....	A-	38
- gross margin.....	C-	22
- price trends.....	A-	38
, veterinary charges.....	B-	14
, wapiti - livestock prices.....	A-	40
- velvet prices	A-	40
, weaner prices	A - 39,A-	40
, yards - cost of	B-	244
Deer Industry New Zealand levies	B-	124
DeerNZ	C-	5
De-horner, cost of.....	B-	57
Delphinium, seed cost.....	B-	105
Demerit points, milk payment	A-	30
Department of Building and Housing levy.....	B-	238
Depreciation, of assets (tax)	D-	41
, changing between methods of calculating.....	D-	42
, of currency - impact on farm revenue	A-	3
, schedule rates - economic.....	D-	107
- 'old' schedule.....	D-	119
, special rules	D-	43
, summary of methods	D-	44
Detergents, dairy shed - cost of	B-	30
Desktop computers, cost of	B-	264
Desludging of effluent ponds, cost of.....	B-	178
Development, expenditure - farming (allowable deductions)	D-	40
- fish farming (allowable deductions)	D-	61
Develveting cost (deer).....	B-	14
Dextrose, cost of.....	B-	38
Diammonium phosphate, cost of	B-	77
Dianthus, seed cost	B-	105
Diaphragm pumps, cost of.....	B-	176
Diesel, cost of	B-	148
, tanks - cost of.....	B-	256
, tractor consumption rates.....	B-	143
Diggers (vegetable), cost of.....	B-	231
Digital farm mapping, cost of.....	B-	267
Diminishing Value (DV), depreciation of livestock.....	D-	53
, method of depreciation	D-	41
, rates of depreciation.....	D-107,D-	119
Dip, pour-on - cost of.....	B-	12
, rate of depreciation (schedule)	D-	122
, repairs and maintenance	B-	141
, sprays and dressings - cost of.....	B-	12
Dipping, contract cost.....	B-	65
, materials - cost of	B-	16
Direct drilling, cost of - contract	B-	64

Directors' fees, withholding payments (taxation)	D-	8
Disc, plough - cost of.....	B-	224
Discharge rights, permit cost	B-	185
Discing, contract rates	B-	64
Discounted, goods or services - Fringe Benefits Tax liability	D-	65
, selling price (valuing nursery stock) - taxation	D-	58
Discounts, farm inputs	B-	3
Disease control, crops - cost of.....	B-	112
Disinfectants, cost of	B-	13
Disk, drive (computer) - cost of.....	B-	263
Dispensers, bloat/zinc - cost of.....	B-	17
Disposal of assets, depreciation provisions	D-	43
Dispositions of Relationship Property	D-	64
Distance licences	B-	149
District Council, rates	B-	163
, stock and rural domestic water charges.....	B-	184
Dividends, taxation of.....	D-	25
Docking cradle, cost of.....	B-	54
Docking iron, cost of	B-	53
Does (goats), sale price.....	A-	44
Dog, feeds - cost of.....	B-	40
, kennels/motels - cost of.....	B-	253
, registration - cost of.....	B-	19
, trainers - cost of.....	B-	59
Dogstail, dressing and store handling charges.....	B-	130
Dolomite, cost of	B-	83
Domestic water, supply charges	B-	184
, testing charges	B-	86
Donations, as tax rebates	D-	26
Dorset Down rams, cost of	B-	27
Douglas Fir, cost of seedlings.....	B-	259
Downpipe, cost of.....	B-	257
Drainage, tiles/pipes/moles - cost of.....	B-	191
Draw bar hitch, cost of.....	B-	227
Drawings (personal expenditure), level of	B-	8
Drenches (anthelmintics), cost of	B-	10
Drenching, costs for cattle/sheep.....	B-	9
, guns - cost of.....	B-	16
, systems - cost of	B-	18
Dressing charges, seed.....	B-	130
Drilling, contract cost	B-	64
, tractor fuel consumption for	B-	143
, wells - cost of.....	B-	179
Drill, and seed boxes - cost of	B-208, B-	228
, direct - cost of.....	B-	229
, precision/air seeders - cost of	B-	229
Drippers, cost of.....	B-	188

Drivers (post), cost of	B- 202
Driveways, economic rate of depreciation	D- 112
Droppers (fencing), cost of	B- 198
Droving work, withholding payments (taxation)	D- 8
Drum mowers, cost of.....	B- 207
Dry cow therapy, cost of.....	B- 13
Dry matter evaluation, deer	C- 22
Dryers, economic rate of depreciation.....	D- 109
Drying charges grain and seed.....	B- 130
Due dates for, annual returns (taxation)	D- 18
, tax payments (provisional and terminal)	D- 82
Dust mask, cost of.....	B- 135
Dwarf Beans, seed cost.....	B- 101
D.V. (Diminishing Value), method of depreciation	D- 41
, rates of depreciation.....	D-107, D- 119
Dwellings, costs of.....	B- 251
, insurance of.....	B- 162
, repairs and maintenance of	B- 141
Dykes, economic rate of depreciation	D- 112

E

Ear markers, cost of	B- 53
Earnotching pliers, cost of	B- 53
Ear-muffs, cost of	B- 135
Earners levy (ACC).....	D- 80
Eartag(s), applicator - cost of	B- 54
, cost of	B- 54
Earthing equipment (electric fencing), cost of	B- 206
Earthworks, borderdyke irrigation - cost of.....	B- 189
East Friesian rams, cost of	B- 27
Echinacea, seed cost	B- 105
Eco wool, mulch mats - cost of	B- 262
"Economic" rates of depreciation	D- 107
Eczema (facial), tolerance testing fees (rams).....	B- 15
Effluent, discharge rights - costs	B- 185
, disposal systems - cost of	B- 239
, hoses - cost of	B- 179
, hydrants - cost of	B- 179
, irrigator - cost of.....	B- 179
, plant - economic rate of depreciation	D- 107
, pond stirrer - cost of.....	B- 193
, ponds - cost of.....	B- 194
, pumps - cost of	B- 178
, spreader - cost of.....	B- 179

, sumps - cost of.....	B- 178
Egg, cartons/crates/trays - cost of.....	B- 132
, crates - economic rate of depreciation.....	D- 107
Egg Plant, seed cost of.....	B- 101
Elbows, pipe - cost of	B- 182
Electric, de-horners - cost of.....	B- 57
, fence - components, cost of	B- 204
- cost per metre/km.....	B- 198
- outriggers, cost of.....	B- 205
- rate of depreciation (schedule).....	D- 120
- test equipment - rate of depreciation ('old' schedule)	D- 120
- tester, cost of	B- 206
- underground cable, cost of.....	B- 205
, grinders - cost of.....	B- 48
, prodders (cattle) - cost of.....	B- 59
, water blasters - cost of.....	B- 233
Electricity, cost of.....	B- 68
, installation cost.....	B- 74
, irrigation - cost of	B- 73
, regional charges - examples	B- 71
, Small Scale Renewable Generation.....	B- 69
, total farm costs.....	B- 68
Electrolyte, cost of	B- 13
Electronic, dog trainers - cost of.....	B- 59
, scales - cost of.....	B- 52
- 'old' schedule rates of depreciation	D- 120
, systems (fishing boats) - economic rate of depreciation	D- 110
Elk, average market value of (taxation).....	D- 90
Emasculators, cost of.....	B- 58
Embryo, freezing/splitting/surgical transfer/transfer - costs	B- 23
Emery papers, cost of	B- 48
Emollient (teat), cost of	B- 30
Employee (agricultural and horticultural), remuneration	B- 5
Employers, ACC levy	D- 80,D- 105
, liability insurance - cost of	B- 161
Endectocides, cost of	B- 11
Endive, seed cost	B- 103
Endophyte testing, cost of.....	B- 129
Energisers, electric fencing - cost of	B- 204
Energy drench, cost of	B- 13
Engines, economic rate of depreciation.....	D- 110
, small - cost of	B- 236
Ensilage - see silage	
Enterprise analysis	C- 1
, Horticulture.....	C- 51
Environment controllers, cost of	B- 249
Epsom salts, cost of	B- 37

Equipment, farm average prices of.....	B- 207
Estate agent charges.....	B- 153
Eucalyptus trees, cost of.....	B- 260
Evaporators, economic rate of depreciation.....	D- 109
Evasion of tax, penalties.....	D- 20,D- 21
Evening Primrose, price paid to producers.....	A- 61
Ewes - see also Breeding Ewe, Mutton, Sheep	
, average purchase prices - breeding stock 1996 to 2016e.....	A- 12
, export schedule.....	A- 9
, gross margin.....	C- 9
, mutton price trends.....	A- 9
, store and breeding stock prices.....	A- 11
Exchange rate, \$US to \$NZ (1974 to 2016).....	A- 4
, impact on product prices.....	A- 3
, fluctuations - impact on farm input prices.....	B- 3
, major currencies and TWI - monthly (2015/6).....	A- 4
Exempt income, taxation.....	D- 25
Expenditure, taxation considerations - see Taxation	
Export, apples - gross margin (refer pipfruit).....	C- 57
- payments to growers 2013 to 2015.....	A- 65
Export, live dairy heifers.....	A- 36
Export prices/schedules, refer to specific products	
Express freight cost.....	B- 89,B- 158
Extinguishers (fire), cost of.....	B- 135
Extraction fans, cost of.....	B- 250
Eye protection, cost of.....	B- 135

F

Fabric, weed control - cost of.....	B- 262
Facial eczema tolerance testing fee (rams).....	B- 15
Faecal egg/spore counting service, cost of.....	B- 15
Falling number (wheat) testing fees.....	B- 131
Fallow deer - also see Deer	
, crush - cost of.....	B- 244
Family Assistance and Support Tax Credits.....	D- 27,D- 124
Family, partnerships - taxation of.....	D- 33
, trust - legal fees.....	B- 153
Family Support Tax Credits.....	D- 27
Fans, ventilation/heating - cost of.....	B- 250
Farm, ACC levies.....	D- 105
, advisory services - fees.....	B- 152
, FARMAX.....	C- 2
, bikes - cost of.....	B-207,B- 210
, bike trailers - cost of.....	B- 211

, buildings - cost of	B- 251
- depreciation allowance (tax)	D- 41, D-107, D- 119
- insurance, cost of.....	B- 162
- repairs and maintenance	B- 141
, consultancy charges	B- 152
, dogs - registration cost.....	B- 19
, equipment - average prices	B- 207
- insurance, cost of.....	B- 162
, expenses.....	B- 3
- (taxation)	D- 36
, forestry - see also Forestry	
- taxation of.....	D- 55,D- 85
, Gate Prices effect of exchange rate changes	A- 3
, IQ – software	C 2
, income - see also Farm revenue	
- assessable for taxation.....	D- 36
- equalisation scheme	D- 45
- price movements	B- 3
, insurance - cost of.....	B- 162
, managers - wages/salaries	B- 5
, product prices	A- 3
, repairs and maintenance	B- 140
, Revenue,	
- apicultural production	A- 79
- camelids.....	A- 50
- cattle	A- 16
- crops	A- 51
- dairy.....	A- 25
- deer	A- 38
- fruit.....	A- 65
- goats	A- 42
- impact of exchange rate on	A- 3
- logs	A- 81
- pig.....	A- 46
- sheep.....	A- 5
- small seeds	A- 63
- vegetables	A- 76
- wool.....	A- 13
, vehicles - average prices.....	B- 207
- running expenses	B- 142
, wages/salaries - dairy farms	B- 5
- sheep and beef farms	B- 5
, work - PAYE (withholding payments).....	D- 8
, workshops - cost of.....	B- 252
Farming, ACC levies	D- 105
, depreciation of land improvement.....	D- 84
FBT (Fringe Benefits Tax)	D- 65

Fee(s), bank	B- 168
, dairy shed certification	B- 33
, grazing	B- 44
, land transfer	B- 152
, legal	B- 152
, professional.....	B- 151
, seed testing	B- 129
, subdivision.....	B- 154
, surveying	B- 154
, yard	B- 121
Feed, barley - price paid to growers	A- 55
- price trends	A- 55
- seed cost	B- 99
, concentrates - cost of	B- 40
, crops - seed cost.....	B- 96
, grains - cost of	B- 41
, grazing fees.....	B- 44
, hay - cost of	B- 43
, mixers - cost of	B- 222
, pellets - cost of.....	B- 40
, quality analysis - cost of	B- 87
, silos - cost of.....	B- 254
, wagons - cost of.....	B- 221
, wheat - price paid to growers	A- 51
Feed and nutrition (stock), cost of	B- 37
Feeding pads, cost of	B- 240
Feedout, equipment - rate of depreciation (economic).....	D- 107
, wagons (silage), cost of	B- 221
Feedstuffs, nutritional testing - cost of	B- 87
Feijoa, levies	B- 128
, plants - amortisation rates (taxation)	D- 130
, price paid to producer	A- 68
Fence crossing systems, cost of	B- 187
Fencing, contractor charges	B- 195
, costs - examples.....	B- 197
, equipment and materials - cost of.....	B- 196
, guide to cost.....	B- 195
, rate of depreciation (economic).....	D- 112
, rate of depreciation ('old' schedule).....	D- 120
, tools - cost of	B- 201
, wire - cost of	B- 201
Ferrous sulphate	B- 82
Ferry (inter-island), transport charges	B- 89
Fertiliser, cartage rate	B- 88
, cost of	B- 75
, horticultural - cost of	B- 80
, liquid - cost of.....	B- 80

, organic - cost of	B-	80
, spreaders - cost of	B-	222
, spreading - contract charges	B-	84
, works - economic rate of depreciation	D-	112
Fescue, dressing and store handling charges	B-	130
, endophyte testing - cost of	B-	131
, price paid to growers	A-	63
, seed - cost of	B-	95
Fibre, classing charges	B-	122
, diameter testing	B-	50
- wool testing, charges for	B-	50
, prices - alpacas and llamas	A-	50
- goats	A-	43
Fibreglass, posts (electric fencing) - cost of	B-	205
Field, peas - dressing and store handling charges	B-	130
- gross margin	C-	39
- prices paid for	A-	57
- price trends	A-	58
- seed, cost of	B-	100
, rollers - cost of	B-	227
, tiles (drainage) - cost of	B-	191
Fig trees, cost of	B-	107
Film (plastic), greenhouse - cost of	B-	247
Filter(s), dairy shed - cost of	B-	31
, socks and sleeves - cost of	B-	31
Financial recording software, cost of	B-	266
Fine wool, prices	A-	14
, shearing rates	B-	47
Fineness test, wool - charges for	B-	51
Finnish Landrace, ram cost	B-	27
Fire, extinguishers - cost of	B-	135
, fighter equipment, cost of	B-	135
, fighting equipment - rate of depreciation ('old' schedule)	D-	120
, insurance	B-	261
- forestry	B-	261
First aid kit, cost of	B-	136
Fish farming, ACC levies	D-	106
, depreciation allowances (economic)	D-	108
, depreciation allowances ('old' schedule)	D-	120
, development expenditure (taxation)	D-	61, D- 84
, taxation of	D-	61
Fish processing buildings and plant, 'old' schedule rate of depreciation	D-	120
Fishmeal, cost of	B-	42
Fishing, equipment - economic rate of depreciation	D-	107
- 'old' schedule rate of depreciation	D-	120
, industry - ACC levies	D-	106
, quotas - tax deductibility	D-	61

Fittings (pipe), cost of.....	B- 180
Five-in-one vaccines, cost of	B- 11
Fixed costs, combine harvesters	B- 150
, tractors	B- 144
Floating piers, economic rate of depreciation	D- 112
Floodlights, economic rate of depreciation	D- 110
Florist tissue, cost of	B- 132
Flower(s), air freight rates	B- 90
, boxes/cartons, cost of	B- 132
, food/preservative (liquid) - cost of	B- 132
, growers - ACC levies	D- 105
, packaging - cost of.....	B- 132
, seeds - cost of	B- 105
Fluorescence testing charges (seeds).....	B- 131
Fly dip, cost of	B- 13
Flystrike treatment, cost of	B- 12
Foam marking systems (spray), cost of	B- 218
Fodder beet financial analysis	C- 46
Foliage analysis, cost of.....	B- 86
Foodstuffs, air freight rates.....	B- 90
Footrot, control - cost of	B- 13, B- 18
, shears - cost of	B- 49
Forage, crops - seed cost.....	B- 96
, feeders - economic rate of depreciation.....	D- 107
, harvester - cost of	B- 221
, harvesting - tractor fuel consumption for	B- 143
Foreign trusts, taxation of	D- 34
Foreman, wage rates	B- 7
Forest development expenditure (tax provisions)	D- 55, D- 85
Forestry, costs of harvest	B- 261
, depreciation of land improvement.....	D- 55
, establishment costs	B- 260
, forecasts	A- 81
, growers' levy	B- 128
, income equalisation scheme	D- 45
, industry - ACC levies	D- 106
, insurance - cost of.....	B- 162, B- 261
, log prices - domestic.....	A- 81
- export.....	A- 81
, logging cost.....	B- 261
, market outlook.....	A- 81
, taxation of	D- 55
, tending costs	B- 260
Fork (tractor), for feed - cost of.....	B- 217
Forklifts, cost of.....	B- 219
, 'old' schedule rate of depreciation	D- 120
Formalin, cost of.....	B- 13

Fostering oil, cost of	B-	53
Foundation for Arable Research.....	C-	30
Fowl houses, economic rate of depreciation	D-	112
, ‘old’ schedule rate of depreciation	D-	120
Freesia(s),sleeves - cost of.....	B-	132
Freeze brands, cost of	B-	56
Freezer peas, price paid for.....	A-	58
Freezers, blast - economic rate of depreciation	D-	110
, dog meat – ‘old’ schedule rate of depreciation	D-	120
Freezing charges, cost of	B-	134
Freight rates, air	B- 89, B-	90
, inter-island ferry	B-	89
, rail	B-	89
, road	B-	88
Friesian cattle, sale prices	A-	33
Friesian (East), ram - cost of	B-	27
Fringe Benefits, definition of.....	D-	65
, valuation of	D-	66
Fringe Benefits Tax	D-	65
, calculation of	D-	67
Fritillaria (bulbs), cost of	B-	106
Front end loaders, cost of.....	B-	209
Front end loader fork, cost of	B-	217
Frost protection plant - rate of depreciation (‘old’ schedule).....	D-	120
Fruit, case - cost of.....	B-	132
- hire rates	B-	132
, cool storage charges.....	B-	134
, export apple financial analysis (refer pipfruit)	C-	57
, grower - ACC levies	D-	105
, levies	B-	126
, plants - cost of.....	B-	107
, prices paid to growers.....	A-	65
, pruning/thinning/picking/packing costs - orchard examples	C-	57
, tree prices.....	B-	107
, trees - cost of planting, tax rules.....	D-	57
Fuel, consumption - tractors	B-	143
, cost of	B-	148
, tanks – ‘old’ schedule rate of depreciation.....	D-	120
Fumigants, soil - cost of.....	B-	119
Fungicides, agricultural/horticultural - cost of	B-	116
, cost of application.....	B-	120

G

Galvanised, wire - see Wire	
Game Industry Board - see Deer Industry New Zealand	
Garages, cost of	B- 251
Garden peas, dressing and store handling charges	B- 130
, price paid for.....	A- 58
, seed cost	B- 102
Garlic, cost of (feed supplement)	B- 14, B- 38
Gas, cylinder containers – ‘old’ schedule rate of depreciation	D- 120
, water heaters – ‘old’ schedule rate of depreciation	D- 120
Gate(s), cost of.....	B-199, B- 200
Gear oil, cost of.....	B- 148
Generation, electricity – Small Scale Renewable.....	B- 69
Generators (portable), cost of	B- 236
Germination, seed test charge.....	B- 129
Glasses (safety), cost of	B- 135
Glasshouse, cost of	B- 246
, depreciation rates on - economic	D- 113
- ‘old’ schedule	D- 120
, equipment - cost of	B- 248
, soil test cost	B- 86
, workers' wages.....	B- 7
Gloves (protective), cost of	B- 135
Glycerine, cost of.....	B- 30
Goats, artificial breeding costs	B- 28
, chevon (meat) prices.....	A- 42
, commission on sale.....	B- 121
, embryo transfer fees	B- 26
, fibre - handling and classing charges	B- 122
- prices	A- 43
, livestock prices/value	A- 44
, meat prices	A- 42
, milk prices	A- 42
, mohair prices	A- 43
, national standard cost (taxation).....	D- 50, D- 87
, sale prices	A- 44
, shelter - cost of	B- 252
, valuation of for taxation	D- 48, D- 91
, veterinary fees - cost of	B- 14
Goggles (protective), cost of	B- 135
Goods and Services Tax, Act.	D- 3
, auction sales.....	D- 79
, exemptions.....	D- 74
, input tax	D- 77
, output tax	D- 76

, overview	D- 74
, rates	D- 74
, records	D- 77
, registration	D- 74
, returns and payment.....	D- 75
, returns and payment - worked example.....	D- 76
, tax invoices	D- 78
, zero rating	D- 74
Gorse control, aerial spraying costs.....	B- 120
GPS farm mapping software, cost of....	B- 139,B- 267
Grader, blade - cost of	B- 232
Grader (backfat), cost of.....	B- 59
- velvet	B- 122
, machinery - economic rate of depreciation	D- 107
Grain, bulk cartage rates	B- 88
, crushers/rollers - cost of	B- 222
, drying charges.....	B- 130
, drying plant/bins - rate of depreciation ('old' schedule).....	D- 121
, growers - ACC levies	D- 105
, pusher, cost of.....	B- 231
, seed prices.....	B- 99
, silos - cost of.....	B- 254
- rate of depreciation ('old' schedule)	D- 121
, storage charges	B- 130
, testing/screening charges.....	B- 131
Grandstands, economic rate of depreciation.....	D- 112
Granular chemical applicator - cost of	B- 222
Grape(s), grower - ACC levies	D-105
, financial analysis	C 52
, prices (for wine production 2015)	A- 69
, prices (for wine production 2014)	A- 70
, sprayer - cost of	B- 217
, table grapes - amortisation rates (taxation)	D- 129
- costs.....	B- 109
, wine - price paid to growers (2015)	A- 69
, wine - (2014)	A- 70
Grapefruit, levies	B- 126
, tree - amortisation rates (taxation).....	D- 129
- cost of.....	B- 108
Grass seed, contract harvesting	B- 65
, cost of	B- 91
, dressing and store handling charges	B- 130
, herbage seed levies	B- 125
, price paid to growers	A- 63
, (ryegrass) gross margin	C- 37
Gravel, backfill - cost of.....	B- 257
, extraction - resource consents	B- 185

, shingle products - cost of.....	B- 257
Grazing, brome - seed cost	B- 95
, fees	B- 44
Grease, cost of (cartridge).....	B- 148
Greenfeed, cost of seeds	B- 97
Greenhouse, cost of	B- 246
, film - cost of	B- 247
, sprayers - cost of.....	B- 250
Grinder, shearing - cost of	B- 48
Gross farm revenue, impact of exchange rate	A- 3
Gross Margins, apples (refer pipfruit)	C- 57
, barley	C- 35
, beet fodder	C- 46
, bull beef	C- 12
, clover (white).....	C- 36
, dairy enterprise analysis	C- 14
, deer - breeding	C- 22
- stags	C- 22
- velveting	C- 23
, field peas.....	C- 39
, fodder beet	C- 46
, kale – calculator.....	C- 18
, kale	C- 47
, maize	C- 50
, oil seed rape	C 43
, peas - field	C- 39
- vining.....	C- 40
, pig - breeding.....	C- 28
- finishing	C- 26
, ryegrass	C- 37
, sheep- high performance meat focussed.....	C- 9
, use of.....	C- 6
, wheat.....	C- 33
, white clover	C- 36
Ground, spraying - contract	B- 120
, spreading of fertiliser - cost of.....	B- 84
Growing, medium - cost of.....	B- 111
, tunnels - cost of.....	B- 247
- depreciation rate of ('old' schedule)	D- 122
Growth promotants, cost of	B- 12
Growth regulants, cost of.....	B- 118
GST - see Goods and Services Tax	
Guava plants, cost of.....	B- 107
Guide to fencing costs	B- 195
Gumboots, cost of.....	B-32,B- 135
Gun (bird scarer), cost of.....	B- 136
Gypsum, cost of	B- 77

H

Hail damage - compensation, taxation of	D-	58
Half Bred wool prices	A-	13
Halters and leads, cost of	B-	58
Hand shears (shearing) - cost of	B-	49
Handguns, sprayers - cost of	B-	218
Handling charges, goat fibre	B-	122
, velvet	B-	122
, wool	B-	122
Handpiece (shearers), cost of	B-	48
Hard hats (safety), cost of	B-	135
Hardstandings, economic rate of depreciation	D-	112
Hardware, computer - cost of	B-	263
Harnesses, chinball - cost of	B-	55
, horse - rate of depreciation (economic)	D-	107
- rate of depreciation ('old' schedule)	D-	121
Harrow, cost of	B-	225
Harrowing, contract cost	B-	64
Harvesters, combine - cost of	B-	231
- rate of depreciation (economic)	D-	107
- rate of depreciation ('old' schedule)	D-	121
- running costs	B-	150
, forage / silage - cost of	B-	222
, vegetable - cost of	B-	231
, wage rates - horticultural workers	B-	7
Harvesting, contracting rates	B-	63
Hay, bale - cost of	B-	43
, balers - cost of	B-	214
- rate of depreciation (economic)	D-	107
- rate of depreciation ('old' schedule)	D-	121
, barns - cost of	B-	251
- depreciation rates (economic)	D-	111
, conditioners - cost of	B-207, B-	213
, covers - cost of	B-	137
, feeders - cost of	B-	215
, handling equipment - cost of	B-	215
, making - contract	B-	62
- equipment, cost of	B-	214
, mower - cost of	B-207, B-	212
, preserves - cost of	B-	137
, trailer (motor bike) - cost of	B-	211
Hazelnut trees, amortisation rates (taxation)	D-	129
, cost of	B-	108
Headers, cost of	B-	231
, rate of depreciation (economic)	D-	107

, rate of depreciation ('old' schedule).....	D-	121
, running costs.....	B-	150
Heading, contract rates	B-	65
Health, animal - cost of - see Animal health		
Heat paint, cost of.....	B-	55
Heater pads (plant raising), cost of.....	B-	111
Heating systems (greenhouse), cost of	B-	248
, rate of depreciation ('old' schedule).....	D-	121
Heavy roller, cost of	B- 208, B-	227
Hedge, cutting – contractors' fees	B-	67
, mulching - contractors' fees	B-	67
Heifers - see also Beef, Cattle, Dairy		
, average prices	A-	21
, dairy - stock prices.....	A-	33
, grazing fees.....	B-	44
, live export	A-	36
, livestock prices	A-	20
Helianthus (sunflowers), seed cost	B-	104
Helicopters, contract rates	B- 85, B-	120
, rate of depreciation (economic).....	D-	115
, rate of depreciation ('old' schedule).....	D-	121
Herbage seed levy.....	B-	125
Herbicides, cost of	B-	113
Herd, manager - wage rates	B-	5
, testing services - dairy, cost of	B-	28
, Scheme - for taxation of livestock.....	D-	48
- examples.....	D-	99
- movement of stock to and from scheme	D-	49
, test bucket - cost of.....	B-	28
, testing - charges	B-	28
Hereford bull, cost of.....	B-	27
Herringbone, milking plants - rate of depreciation ('old' schedule).....	D-	121
, sheds - cost of	B-	239
High-priced livestock, taxation of	D-	53
High tensile wire, cost of.....	B-	198
Hinds, gross margin	C-	22
, live sale prices	A-	39
, schedule price	A-	39
Hip clamp, cost of.....	B-	57
Hitches, draw bar, cost of	B-	227
, (implement), cost of.....	B-	227
Hive (bee), cost of.....	B-	138
, depreciation of ('old' schedule).....	D-	119
, hire costs	B-	138
Hobbles, cow - cost of	B-	16
Hoes, rotary - cost of	B-	225
Hoggets, breeding stock prices.....	A-	11

, local meat market prices	A-	10
Home, cost of	B-	251
Homogenisers, economic rate of depreciation	D-	109
Honey, price paid to producers	A-	79
Hoof cutting equipment, cost of	B-	56
Hop, frames/kilns - rate of depreciation (economic)	D-	107
- rate of depreciation ('old' schedule)	D-	121
, growing - ACC levies	D-	105
, plants - amortisation rates (taxation)	D-	130
Hormones, root forming - cost of	B-	119
Horse(s), bridles - cost of	B-	60
, commission on sale	B-	121
, covers - cost of	B-	60
, feed concentrate - cost of	B-	41
, floats - economic rate of depreciation	D-	115
- Inter-Island freight charges	B-	89
, saddles - cost of	B-	60
, training track harrows - cost of	B-	226
, worming - cost of	B-	11
Horticultural, enterprise analysis	C-	51
, fertilisers - cost of	B-	80
, levies	B-	126
, product prices	A-	65
, properties - soil testing, cost of	B-	87
, wage rates	B-	7
Horticulture, industry - ACC levies	D-	105
, taxation of	D-	57
Hoses (irrigation), cost of	B-	187
Hot house - see glasshouse		
House, cost of	B-	251
, insurance - cost of	B-	162
Household contents, insurance of	B-	162
Hump and hollow irrigation, resource consents	B-	185
Hunting and trapping, ACC levies	D-	106
Hurdles - see Gates		
Hutch, calf/goat - cost of	B-	252
Hyacinths, bulb cost	B-	106
Hybrid, carrot seed production	C-	48
, ryegrass, price paid to producers	A-	63
Hydrant outlets, irrigation - cost of	B-	179
Hydrated lime, cost of	B-	83
Hydraulic, fluid - cost of	B-	148
, log splitter - cost of	B-	237
Hygiene test kit (dairy sheds), cost of	B-	32

I

iAGRI	C-1,C- 30
Ice pack (flower packing), cost of	B- 132
Icemaking machines (fishing industry), economic rate of depreciation.....	D- 110
Immature plants, discounted selling price of (taxation)	D- 59
Implement(s), commission on sale	B- 121
, hitches - cost of.....	B- 227
, sheds - cost of	B- 251
, repairs and maintenance of	B- 141
Improvements/Development expenditure, taxation of	D- 40
Imputation, system (taxation)	D- 29
, tax credits.....	D- 29
Incinerators,'old' schedule rate of depreciation	D- 121
Independent Earner Tax Credit (IETC)	D- 26
Income, definition	D- 23
, Equalisation Scheme,.....	D- 45
- adverse event.....	D- 46
- fishing.....	D- 61
, farm	A- 3
, returns of (tax)	D- 18
Income Tax Act 2007	D- 3
Income Taxation	D- 3
, accrual rules for expenditure	D- 103
, allowable deductions	D- 23
, assessable income	D- 23
, assessment	D- 19
, assessment notice.....	D- 19
, beneficiaries' income (trusts)	D- 34
, bloodstock.....	D- 54
, calculation of	D- 22
- worked examples.....	D- 12, D- 15
, certificate of exemption (withholding tax)	D- 9
, changes to the legislation.....	D- 3
, companies	D- 29, D- 83
, codes	D- 7
, core provisions.....	D- 22
, credits (family tax).....	D- 26
, dates for payment.....	D- 82
, dates for returns	D- 18
, debits.....	D- 30
, deductions - for employees.....	D- 26
, depreciation allowances.....	D- 41, D-107,D- 119
, development expenditure.....	D- 40
, dividends/dividend imputation credits	D- 29
, evasion - penalties	D- 20

, exempt income.....	D-	25
, family partnerships	D-	33
, family support/minimum income tax credit	D-	27
, farming.....	D-	36
, fishing industry	D-	61
, forestry/timber	D-	55
, fringe benefit taxes	D-	65
, horticulture.....	D-	57
, imputation tax credit/debits	D-	30
, income equalisation scheme - farming	D-	45
- fishing.....	D-	63
, individuals	D- 23,D-	83
, interest (use of money)	D-	20
, interest P.A.Y.E. - see Resident Withholding Tax		
, invoices - GST	D-	78
, in New Zealand.....	D-	3
, late payment.....	D-	20
, legislation.....	D-	3
, livestock - see stock		
, losses.....	D-	31
, relationship property.....	D-	64
, partnerships.....	D-	31
, partnerships - family.....	D-	33
, P.A.Y.E.....	D-	7
- offences/penalties	D-	21
, penalties	D-	21
, personal tax credits	D-	26
, property/land sales and revenues	D-	24
, provisional taxation	D-	10
- payment dates.....	D-	82
- worked example	D-	12
, rates for individuals and companies	D-	83
, rebates - personal tax	D-	26
, recent changes to legislation.....	D-	3
, Resident Withholding Tax.....	D-	9
, returns of income	D-	18
, salaries	D- 7, D-	23
, share bonus issue	D-	31
, shares (company repurchase)	D-	32
, stock (live) - valuation of	D- 49,D-	87
- valuation, worked examples.....	D-	96
, terminal tax	D-	10
- payment dates.....	D-	82
, trading stock - valuation of.....	D-	47
, trusts - qualifying/non qualifying	D-	34
, trustees income	D-	31
, use of money interest.....	D-	20

, withholding payments.....	D-	7
Individual Transferable Quota (ITQ) (fishing), tax deductibility		
,now called Transferable Term Fishing Quota.....	D-	61
Individuals, taxation of.....	D-	23
Inflation, farm costs.....	B-	4
, rate - 1891 to 2016.....	B-	269
Injection, drench - cost of.....	B-	10
, vaccine - cost of.....	B-	11
Injector, cost of.....	B-	16
Ink (tattoos and marking), cost of.....	B-	55
Input, prices - farm.....	B-	3
, tax.....	D-	76
Insect screen, cost of.....	B-	136
Insecticides, cost of.....	B-	116
, cost of application.....	B-	120
Insemination (artificial), cost of.....	B-	22
Inspection fees, dairy sheds (Annual Certification).....	B-	33
Instrumentation (fishing boats), economic rate of depreciation.....	D-	110
Insulated containers, economic rate of depreciation.....	D-	114
Insulators, electric fencing - cost of.....	B-	204
Insurance, farm/farm buildings - cost of.....	B-	161
, personal/personal liability - cost of.....	B-161, B-	162
, stock - cost of.....	B-	161
Internet charges.....	B-	157
Inter-Island, freight rates.....	B-	89
Inter-row cultivators, cost of.....	B-	225
Interest, charges - seasonal loans.....	B-	168
, taxation of.....	D-	9
, use of money.....	D-	20
International, air freight rates.....	B-	90
Intra-rumen injectors/needles, cost of.....	B-	16
Invoice, tax.....	D-	78
Iodine, cost of.....	B- 30,B-	39
IR3, 3B, 3F, 4, 6, 7, 9 tax return forms.....	D-	18
IR330, tax forms.....	D-	7
Iris , bulb cost.....	B-	106
Iron, mono / sulphate - cost of.....	B-	77
Irrigation, calculations, baseline.....	C-	30
, centre pivot - cost of.....	B-	174
, controllers, glasshouse - cost of.....	B-	250
, drip line - cost of.....	B-	188
, effluent spray system - cost of.....	B-179, B-	193
, electricity costs.....	B-	73
, equipment - cost of.....	B-	186
- economic rate of depreciation.....	D-	108
- horticultural - cost of.....	B-	188
, fence crossing system components, cost of.....	B-	187

, filters - cost of.....	B-	188
, hoses - cost of	B-	187
, mainline - cost of	B-	187
, ponds, earthworks	B-	190
, pumps - cost of	B	174
, scheduling service - charges	B-	190
, sprinklers - cost of	B-	174
, water charges	B-	189
Isolating transformers, economic rate of depreciation	D-	108
Italian ryegrass, price paid to producers	A-	63

J

Jap Band (flower packing).....	B	132
Jap Hooks (flower packing).....	B	132
Japanese Grade, log price	A-	81
Jersey cattle price.....	A-	33
Jet boats - economic depreciation of	D-	115

K

K-line irrigation, cost of	B-	174, B-	186
Kabocha (buttercup squash) - see Squash			
Kale , calculator – area to sow	C-	19	
, dressing and store handling charges	B-	130	
, gross margins	C-	47	
, seed, price paid to growers	A-	64	
, seed cost.....	B-	99	
Ked control, cost of.....	B-	12	
Kennels, cost of	B-	253	
, economic rate of depreciation	D-	108	
Ketosis treatment, cost of	B-	13	
Killing shed, cost of.....	B-	256	
Kiwifruit, export prices.....	A-	71	
, growers - ACC levies	D-	105	
- drawings (personal expenditure)	B-	8	
, packing charges	B	133	
, packing material - cost of	B-	133	
, plants - amortisation rates (taxation)	D-	130	
, pollination cost	B-	138	
, progress payments for 2014/2015 and 2015/2016	A-	71	
, soil analysis testing cost	B-	86	
, trays - cost of	B-	133	

Knapsack sprayer, cost of B- 218

L

Labels (plant), cost of	B-	110
Labour charges, farm	B-	5
, horticultural	B-	7
Lacing wire, cost of	B-	198
Lamb, cartage rates	B-	88
, docking cradle, cost of.....	B-	54
, docking iron, cost of	B-	53
, export - meat schedule.....	A-	5
, local meat prices	A-	10
, pelt price trends	A-	7
, price - impact of exchange rate	A-	3
, price trends	A-	5
, store prices	A-	11
, wool prices.....	A-	13
Lambing equipment, cost of	B-	52
Lamp posts, economic rate of depreciation	D-	112
Land Improvement, expenditure on - taxation/depreciation	D- 40, D-	84
Land Transfer Fees	B-	152
Land use consents, cost of	B-	186
Laparoscopic embryo transfer (deer), cost of.....	B-	25
Late payment of tax - penalties.....	D-	21
Lawnmowers, economic rate of depreciation.....	D-	108
Layer mash/pellets, cost of	B-	41
Lease rentals	B-	165
Leek, seed cost.....	B-	101
Leg, bands/straps (lambing) - cost of	B-	54
, splints - cost of.....	B-	16
Legacies, exemption from income tax.....	D-	25
Legal fees	B-	152
Legislation, Tax	D-	3
Legumes, price paid for seed.....	A-	63
Lemon(s), levies	B-	126
, trees - amortisation rates (taxation)	D-	129
- cost of.....	B-	107
Lentils, dressing and store handling charges	B-	130
, price paid to growers	A-	60
Lettuce,seed cost.....	B-	101
Levies, A.C.C.	D-	105
, apricots.....	B-	126
, asparagus	B-	128
, avocados	B-	128

, Beef + Lamb New Zealand.....	B- 123
, berryfruit.....	B- 126
, blackcurrants.....	B- 126
, blueberries.....	B- 126
, boysenberries.....	B- 126
, Building Research Authority.....	B- 238
, cherries.....	B- 126
, citrus fruit.....	B- 126
, Deer Industry New Zealand.....	B- 124
, Department of Building and Housing.....	B- 233
, feijoa.....	B- 128
, Forestry growers'.....	B- 128
, Foundation for Arable Research.....	B- 125
, grapefruit.....	B- 126
, herbage seed.....	B- 125
, horticultural.....	B- 126
, kabocha (squash).....	B- 128
, lemons/limes.....	B- 126
, livestock.....	B- 123
, mandarins.....	B- 126
, NAIT.....	B- 123
, nashi.....	B- 128
, nectarines.....	B- 126
, NZ Citrus Growers Incorporated.....	B- 126
, orange.....	B- 126
, orchard.....	B- 128
, peaches.....	B- 126
, persimmons.....	B- 128
, plums.....	B- 126
, pork industry.....	A- 46,B- 123
, potato.....	B- 128
, squash (kabocha).....	B- 128
, summerfruits.....	B- 126
, tangelos.....	B- 126
, tomatoes.....	B- 128
, United Wheatgrowers.....	B- 125
, vegetables.....	B- 128
, wheat.....	B- 125
Liability insurance, cost of.....	B -162,B- 261
L.I.C. - see Livestock Improvement Corporation	
Lice dip, cost of.....	B- 13, B- 65
Licensing fees for vehicles.....	B- 149
Licks (cattle), cost of.....	B- 40
Life insurance, companies - as a source of finance.....	B- 170
Life jackets/rafts, economic rate of depreciation.....	D- 110
Lifters (vegetable), cost of.....	B- 231
Lime, cartage rates.....	B- 88

, cost at works	B-	83
, hydrated - cost of	B-	83
, spreaders – ‘old’ schedule rate of depreciation	D-	121
, spreading costs.....	B-	84
, trees - amortisation rates (taxation)	D-	129
Limes, levies	B-	126
Limitation of tax losses from farming	D-	56
Lincoln University Dairy Farm (SIDDC).....	C-	18
Linear irrigation, cost of	B-	174
Lines company charges (electricity).....	B-	71
Linseed, price paid to producers	A-	61
Liquid, fertilisers - cost of	B-	80
, food/preservative (cut flowers) - cost of	B-	132
Lisianthus, seed cost	B-	105
Live bees, price paid for	A-	80
Live sheep and lamb exports	A-	7
Livestock - see also Stock		
, commission on sale.....	B-	121
, farming - ACC levy	D-	105
- drawings (personal expenditure)	B-	8
, gross margins	C-	9
, high-priced - taxation scheme	D-	53
, insurance of.....	B-	161
, levies	B-	123
, purchases	B-	27
, valuation of - for taxation purposes.....	D- 48, D-	90
- worked examples.....	D-	96
Livestock Improvement Corporation, charges	B-	28
, sire proving payments.....	A-	32
Livestock taxation - see Income Taxation		
, examples	D-	96
, values for Income Year - 2016	D-	87
- 2015.....	D-	88
- 2014.....	D-	87
Livestock values/prices, see Sections 1, 2 and 3		
Living expenses - see Wages of Management		
Llama, fibre prices	A-	50
, livestock value/prices	A-	50
Loader, forks - cost of	B-	215, B-217
, wagons (feed) - cost of	B-	221
Loading races/ramps, cost of	B-242, B-	244
Loans, cost of.....	B-	168
, Fringe Benefit Tax liability	D-	65
Log, prices - domestic.....	A-	81
- export.....	A-	81
, market outlook.....	A-	81
, splitter - cost of.....	B-	237

, transport costs	B- 261
Loganberry plants, amortisation rates (taxation)	D- 129
, cost of	B- 109
Logging, cost (forestry)	B- 261
, industry - ACC levies	D- 106
Look-Through Companies	D- 31
Loose tools, depreciation of	D- 43
Loquat trees, cost of	B- 107
Lopping shears, cost of	B- 236
Lotus, price paid to growers	A- 63
Louvres (glasshouse), cost of	B- 250
Low value assets, depreciation of	D- 43
Lucerne, seed - cost of	B- 96
, fertilisers - cost of	B- 77
, hay - cost of	B- 43
, price paid to growers	A- 63
Lupins, dressing and store handling charges	B- 130
, price paid to growers	A- 61
Lysine, cost of	B- 42

M

Machine dressing charges	B- 130
Machinery, farm - cost of	B- 207
, insurance - cost of	B- 161
, licensing - cost of	B- 149
, running costs	B-143, B- 150
Macrocarpa, cost of trees	B- 259
Magazines (farming), cost of	B- 160
Magnesium, feed supplement - cost of	B- 37
, fertiliser - cost of	B- 76
, oxide – cost of	B- 39
, sulphate - cost of	B-37, B- 77
, treatment of livestock - cost of	B- 37
Magnets (rumen), cost of	B- 16
Mail charges	B- 157
Main crop potato prices	A- 78
Maintenance - see Repairs and Maintenance	
Maize, choppers - cost of	B- 222
, drying charges	B- 130
, gross margin	C- 50
, harvesters - cost of	B- 222
, harvesting - contract	B- 65
, levy	B- 125
, planting - contract cost	B- 64

, price paid to growers (contract)	A-	59
, seed treatment cost.....	B-	100
, side dressing - contract cost.....	B-	64
, silage - purchase price	A-	59
Malting Barley - see also Barley		
, contract price	A-	53
, price trends 1973 to 2016	A-	54
Managers, salaries - dairy/sheep/beef farms.....	B-	5
- horticultural	B-	7
Mandarin(s), levies	B-	126
, trees - amortisation rates (taxation)	D-	129
Manganese, chelate - cost of.....	B-	81
, sulphate	B- 38, B-	77
Manholes, economic rate of depreciation.....	D-	112
Manuka honey, price paid to producers.....	A-	79
Manure spreaders, cost of	B-	223
Maple peas, price paid to producers	A-	57
Mapping software, cost of.	B-	267
Market, price forecasts - see Section 1		
, value of livestock (see also Sections 1 and 3)	D- 48, D-	90
Market garden, fertiliser - cost of	B-	80
, workers - wage rates	B-	7
Marking and tailing requisites, cost of	B-	53
Marking agents (spraying), cost of	B-	118
Marrowfat peas, price paid to growers	A-	57
Mash, cost of	B-	41
Masks, cost of	B-	135
Mastitis, control - cost of	B-	13
, detector - cost of	B-	32
, testing kit - cost of	B-	16
Mating management aids, cost of	B-	55
Matrimonial property - see Relationship property		
Meadow hay, cost of.....	B-	43
Meal, cost of	B-	40
Meat, cool storage cost	B-	134
, goat - price of - see Chevon		
, local prices - cattle (prime).....	A-	18
- pork	A-	46
- sheep (prime).....	A-	10
, Meat and Wool New Zealand levies – see Levies Beef+Lamb NZ		
Meat schedules, cattle.....	A-	16
, lamb	A-	5
, mutton	A-	9
, pork	A-	46
, venison.....	A-	38
Medullation measurement, wool - charges.....	B-	50
Melon, seed cost	B-	101

Merino, ram - cost of	B-	27
, wool prices.....	A-	13
Metabolics, cost of.....	B-	13
Metal (shingle), cartage rates.....	B-	88
, cost of	B-	257
Metal detectors, economic rate of depreciation.....	D-109, D-	115
Methionine, cost of	B-	42
Metricheck/Metricure, cost of	B-	24
Microlites, economic rate of depreciation	D-	115
Micron testing, wool - charges	B-	51
Milk, bar - cost of	B-	34
, coolers - cost of.....	B-	31
, fat - see milksolids		
, fever treatment - cost of.....	B-	13
, goat - price paid for	A-	42
, mixer/plunger (powder), cost of	B-	36
, payment basis	A-	25
, powder - cost of.....	B-	34
, powder whisk - cost of.....	B-	36
, price penalties (poor quality).....	A-	30
, prices and price trends	A-	30
, processing equipment - economic rate of depreciation	D-	108
, pumps - cost of	B-	31
, replacers - cost of.....	B-	37
, solids - payout.....	A-	25
- price trends	A-	30
, town supply - see winter milk contracts		
, warmer (electric) - cost of	B-	36
, whisk - cost of.....	B-	36
, winter contract prices.....	A-	30
Milking, cow minerals - cost of.....	B-	39
, goats - average livestock values (taxation).....	D-	91
- national standard cost (taxation)	D-	87
Milking, machine equipment - cost of.....	B- 31, B-	239
, machinery - economic rate of depreciation	D-	108
, sheds - cost of	B-	239
- rate of depreciation ('old' schedule)	D-	121
Milksolids, payout	A-	25
, price trends	A-	30
Milling wheat, contract prices	A-	51
, price trends	A-	52
MINDA	C - 17, C-	30
MINDA Herd Recording Service (Livestock Improvement), charges.....	B-	267
Mineral supplements, cost of.....	B-	37
Mineralised drench, cost of	B-	13
Minibuses, economic rate of depreciation.....	D-	115
Minimum Wage	B-	6

Misters, cost of.....	B- 233
Misting equipment, cost of	B- 233
Mixed cropping - see Cropping or Arable	
Mixers, economic rate of depreciation	D- 109
- cost of	B- 222
Mohair, price paid.....	A- 43
, price trends	A- 43
, warehouse charges	B- 122
Molasses, cost of.....	B- 38
Mole, drainage - costs.....	B- 191
Molluscicides	B- 116
Molybdate fertiliser, cost of.....	B- 78
Mortgage, interest charges.....	B- 171
Mothering, collar (calves) - cost of	B- 36
Motor, bike(s) - accessories, cost of	B- 210
- economic rate of depreciation	D- 116
- farm, cost of	B-207, B- 210
- insurance	B- 162
- licensing fees.....	B- 149
- trailers, cost of.....	B- 211
, launches - economic rate of depreciation	D- 116
, vehicles - economic rate of depreciation	D- 116
Motorised plant, commission on sale	B- 121
, repairs and maintenance	B- 141
Mouse poison, cost of.....	B- 117
Mower(s), conditioners - cost of.....	B-207, B- 213
Mowing, contractors' charges	B- 62
, equipment - economic rate of depreciation	D- 108
, tractor fuel consumption rates for.....	B- 143
MPI Ministry of Primary Industries Monitoring Reports.....	C- 52
Mudflap kits (motor bike), cost of.....	B- 211
Mulch, cost of	B- 111
Mulchers, cost of	B- 212
, economic rate of depreciation	D- 108
Mulching, hedges - contractors' charges.....	B- 67
Mulesing shears, cost of	B- 49
Muriate of potash, cost of	B- 76
Mushroom(s), growing - ACC levies	D- 106
Mutton, export schedule	A- 8
, price trends	A- 9
, prices - impact of exchange rate on.....	A- 3
Muzzles (dog), cost of	B- 60

N

NAIT Levies	B- 123
Narcissus bulbs, cost of	B- 106
Nashi (Asian Pear), levies.....	B- 128
, trays/packing materials - cost	B- 132
, trees - amortisation rates (taxation)	D- 130
National Average Market Values of livestock (taxation)	D- 90
National Standard Cost Scheme, livestock taxation	D- 50, D- 87
Native regeneration pack, cost of	B- 259
Neck bands (calves), cost of	B- 36
Nectarine(s), levies	B- 126
, trees - amortisation rates (taxation)	D- 130
- cost of	B- 107
Needles, cost of.....	B- 53
Netting, bird - cost of.....	B- 136
, depreciation of (taxation	D- 58
, wire - cost of	B- 201
Network capacity charges (electricity)	B- 70
Nitrate test - charge for	B- 86
Nitrogen, cost of	B- 79
Nominated Service (A.B.), cost of	B- 22
Non-cash benefits (as part of a remuneration package)	B- 6
Nose rings and applicators (bulls), cost of	B- 58
Nucleus hives, prices	A- 80
Nursery, ACC levies	D- 105
, stock (horticulture) valuation of (tax).....	D- 58
Nut trees, amortisation rates (taxation).....	D- 129
, cost of	B- 108
Nutrient solutions, testing/analysis of - charge for.....	B- 87
Nutrition, cost of.....	B- 37
Nutritional, supplements - cost of.....	B- 37
, value of feedstuffs - cost of testing.....	B- 87
Nuts/concentrates, cost of.....	B- 40
NZ Dollar, exchange rate.....	A- 4

O

Oak trees, cost of	B- 259
Oats, contract price	A- 56
, dressing and store handling charges	B- 130
, drying charges.....	B- 130
, price paid to producers	A- 56
, seed cost.....	B- 96

Obstetric equipment, cost of	B-	57
Office equipment, 'old' schedule rate of depreciation	D-	121
Oil, cost of	B-	148
, gear - cost of	B-	148
, olive - prices received (wholesale)	A-	74
, seed, analysis oilseed	C-	43
, vehicle use/cost	B-	146
Ointments, dairy - cost of	B-	30
Olive(s), fertiliser - cost of	B-	79
, price paid to producers	A-	74
, trees - amortisation rates (taxation)	D-	130
- cost of	B-	108
Onion(s), price paid to producers	A-	77
, price trends	A-	77
, seed cost	B-	102
Open shearing rates	B-	47
Operations manager (dairy farm) wage/salary	B-	5
Opossum control, cost of	B-	117
Opportunity cost (machinery replacement)	B-	144
Oral drench guns, cost of	B-	16
Orange(s), levies	B-	126
, trees - amortisation rates (taxation)	D-	129
Orchard, ACC levies	D-	105
, drawings (personal expenditure)	B-	8
, fertiliser - cost of	B-	80
, levies	B-	126
, repairs and maintenance cost	B-	140
, sprayer - cost of	B-	233
, workers' wage rates	B-	7
Orchids (Cymbidium), boxes - cost of	B-	132
Organic, fertiliser - cost of	B-	80
Output tax	D-	76
Outriggers, fence - cost of	B-	204
Overalls (protective), cost of	B-	135
(waterproof), cost of	B-	135
Overdraft, facilities - terms and charges	B-	169
Over-mature plants, discounted selling price of (taxation)	D-	59
Overpaid tax, interest payable on	D-	20
Overseer	C-	1
Oversowing of seed (aerial), cost of	B-	65
Over trousers, cost of	B-	135

P

Packaging, equipment - cost of.....	B- 132
Packhouse workers, wage rates	B- 7
Packing charges/costs, apples.....	B- 133
, avocados	B- 133
, kiwifruit	B- 133
, orchard examples.....	C- 51
Packing shed, cost of	B- 251
Paddock recording software, cost of.....	B- 267
Pallet, cost of	B- 132
, fork - cost of	B- 216
, rate of depreciation ('old' schedule).....	D- 121
Parcel, postage rates.....	B- 157
Parental Tax Credit (now Working for Families Tax Credit)	D- 124, D- 27
Parsley, seed cost	B- 102
Parsnips, seed cost	B- 102
Partnerships, taxation of	D- 33
, family - taxation of	D- 33
Passionfruit, plants - amortisation rates (taxation)	D- 130
Pasteurisers, economic rate of depreciation	D- 109
Pastoral, land - rental cost.....	B- 165
, Leases - rent.....	B- 165
Pasture, contract drilling - cost of.....	B- 64
, direct drilling cost.....	B- 64
, establishment expenses.....	B- 64
, meters - cost of	B- 225
, seed - cost of	B- 91
- oversowing (aerial), cost of.....	B- 65
- prices paid for seed.....	A- 63
, testing of - cost	B- 86
P.A.Y.E. taxation	D- 7
, offences - penalties	D- 20
Payroll, giving.....	D- 26
outsourcing - cost of	B- 160
, software - cost of	B- 266
Pea(s), dressing and store handling charges	B- 130
, gross margin - field.....	C- 39
- vining peas.....	C- 40
, water use in	C- 41
, prices paid to growers (contract)	A- 57
, seed cost	B-103, B- 99
Peach(es), levy	B- 126
, trees - amortisation rates (taxation)	D- 130
- cost of	B- 107
Pear, pollination cost	B- 138

, price paid to producers	A-	65
, trees - amortisation rates (taxation)	D-	130
- cost of	B-	107
Pellets (animal nutrition), cost of	B-	40
Pelts, price paid for	A-	7
, price trends (lambs)	A-	7
, (slink) - calves, price paid for	A-	17
- lambs, price paid for	A-	8
Penalties, milk quality	A-	30
, tax offences	D-	20
Penetrants, cost of	B-	118
Penicillin, cost of	B-	14
Pens, cost of	B-	245
Pepino trees, cost of	B-	107
Peppers (Capsicum), price paid to producers	A-	76
, seed cost	B-	101
Perendale ram, cost of	B-	27
Perennial ryegrass, price paid to producers	A-	63
Perlite, cost of	B-	111
Permit (consent), building - cost of	B-	238
Persimmons, levies	B-	128
, trees - amortisation rates (taxation)	D-	130
- cost of	B-	107
Personal, accident insurance - cost of	B-	161
, computers - cost of	B-	264
, drawings/expenditure (farmers and growers)	B-	8
, income tax	D-	23
, Independent Earner Tax Credit (IETC)	D-	26
, liability insurance - cost of	B-	161
, tax credits	D-	26
- children	D-	26
- donations	D-	26
- payroll giving	D-	26
Peurulus (crayfish) traps, economic rate of depreciation	D-	110
Pest control, cost of	B-	112
, services - ACC levies	D-	106
Petrol, cost of	B-	148
Phosphate, cost of	B-	76
Phosphorus availability in fertiliser	B-	82
Picking costs, fruit (labour only)	B-	7
, orchard examples	C-	57
Pig(s), commission on sale	B-	121
, crates - economic rate of depreciation	D-	107
, farmers - ACC levies	D-	106
, feed - cost of	B-	41
, feeding/watering equipment - economic rate of depreciation	D-	108
, gross margin - breeding	C-	28

- finishing.....	C- 26
, houses - economic rate of depreciation	D- 113
- rate of depreciation (schedule).....	D- 121
, levies	A- 46
, live sales	A- 49
, live sale price trends	A- 49
, meat returns 1987 to 2016	A- 47
, meat schedule prices.....	A- 47
, national standard cost (taxation).....	D- 50, D- 87
, rations - cost of	B- 41
, trough - cost of.....	B- 174
, valuation of for taxation	D- 49, D- 91
, veterinary costs	B- 14
, waterers - cost of.....	B- 60
, yard fees.....	B- 121
, repairs and maintenance - cost of	B- 141
Piglet management aids, cost of	B- 59
Pigtail standards, cost of.....	B- 205
Pine trees (see also Radiata pine)	
, cost of	B- 259
, log prices - domestic.....	A- 81
- export.....	A- 81
, spraying of - cost	B- 260
Pink-eye, patches - cost of.....	B- 12
Pinus radiata - see Radiata pine	
Pipelines, 'old' schedule rate of depreciation.....	D- 121
Pipes, and fittings - cost of	B- 181
, culverts - cost of	B- 253
Pipfruit, growers - ACC levies	D- 105
- drawings (personal expenditure).....	B- 8
, financial analysis	C- 57
, levies	B- 128
, pollination cost	B- 138
, price paid to growers	A- 65
, trees - amortisation rates (taxation)	D- 130
- cost of	B- 107
Pittosporum trees, cost of	B- 259
Plant and machinery, commission on sale.....	B- 121
, cost of	B- 207
, depreciation allowances.....	D- 41, D-107, D- 121
, insurance - cost of.....	B- 161
, repairs and maintenance - cost of	B- 141
Plant raising heating aids, cost of	B- 249
, labels, cost of	B- 110
Plant testing/analysis charges	B- 86
Plants in the ground, valuation of (taxation)	D- 60
Plantain, price paid to producers	A- 64

Plantation, see Forestry	
Planter (potato), cost of.....	B- 230
Planter bags, cost of.....	B- 110
Planting/Propagating materials, cost of.....	B- 110
Planting frame (trees), cost of.....	B- 261
Plantings – Native Regeneration pack, cost of.....	B- 259
Plasma cutter, cost of.....	B- 235
Plastering sand, cost of.....	B- 257
Plastic, covers - cost of.....	B -247
, pots (tomato growing) – ‘old’ schedule rate of depreciation	D- 121
, silage covers - cost of.....	B- 137
, tanks - cost of.....	B- 175
Platform (weighing), cost of.....	B- 52
Pliers (fencing), cost of.....	B- 203
Plough, cost of.....	B-207, B- 224
, chisel - cost of.....	B- 224
, disc - cost of.....	B- 225
, snow – cost of.....	B- 232
Ploughing, contract cost.....	B- 64
, tractor fuel consumption for	B- 143
Plum(s), levies	B- 126
, trees - amortisation rates (taxation)	D- 130
- cost of.....	B- 107
Pole saw, cost of.....	B- 237
Pollen, price paid for.....	A- 79
Pollination, cost of.....	B- 138
, return from hives	A- 80
Polytape, cost of.....	B- 205
Polythene, building - cost of.....	B- 247
, covers (hay) - cost of.....	B- 137
, film layers - cost of.....	B- 230
, piping - cost of.....	B- 181
- fittings, cost of.....	B- 180
Pond (effluent), cost of.....	B- 193
, irrigation, cost of.....	B- 178
, stirrer - cost of.....	B- 178
Ponies, feed cost	B- 41
, yard fees.....	B- 121
Pool method of depreciation.....	D- 42
Pool prices, velvet.....	A- 41
Poplars, cost of trees	B- 259
Pork Industry Board levies	B- 123
Pork prices	A- 46
Porker prices	A- 49
Portable, generator - cost of.....	B- 236
, sheep yards	B- 245
Possum - see opossum	

Post(s), cost of	B- 198
, drivers - cost of	B- 202
, hole - borers, economic rate of depreciation	D- 108
- diggers, cost of	B- 203
Postage costs	B- 157
Potassium, fertilisers - cost of	B- 78
, iodide / iodate - cost of	B- 39, B- 77
, nitrate - cost of	B- 77
Potato(es), harvesters - cost of	B- 231
, land - leasing cost	B- 165
, levies	B- 128
, planters - cost of	B- 230
, prices paid to growers	A- 78
Potting Machines, cost of	B- 230
Pots, seedling - cost of	B- 230
Poultry, ACC levies	D- 106
, farming - equipment, depreciation of (economic)	D- 108
, feed - cost of	B- 41
, feeder - cost of	B- 61
, fowl house - rate of depreciation (economic)	D- 112
- rate of depreciation ('old' schedule)	D- 121
Power, electric - cost of	B- 70
- installation cost	B- 74
, harrowing - contract cost	B- 64
, harrows - cost of	B-208, B- 225
Prairie grass, dressing and store handling charges	B- 130
, seed cost	B- 95
Precision drill, cost of	B- 229
Pregnancy, diagnosis (ultrasound) - cost of	B- 66
, tester - cost of	B- 59
Premier sire service (A.B), cost of	B- 22
Premium wheat, price paid for	A- 51
Premiums, for contract winter milk	A- 30
Premix, concrete - cost of	B- 257
, feeds - cost of	B- 41
Prepaid expenditure, taxation of	D- 38
Preservative (cut flowers), cost of	B- 132
Presses, butter/cheese - economic rate of depreciation	D- 109
, wool - cost of	B- 48
Pressure, pipes (PVC) - cost of	B- 181
, systems - cost of	B- 186
, pumps/tanks - cost of	B- 177
Price, discounts	B- 3
, index - consumer (CPI) 1891 to 2016	B-4, B- 269
- farm costs	B- 3
- farm income	A- 3
Price indicators (wool), trends Aug 2007 to May 2016	A- 14

Prices, impact of exchange rates.....	A-3, B-	3
Prill applicator, cost of.....	B-	222
Prillcote seed, cost of.....	B-	93
Prills, selenium - cost of	B-	82
Prime , cattle - local sale prices.....	A-	18
, lamb - cartage rates.....	B-	88
- meat schedules	A-	5
- price trends (export)	A-	5
, mutton schedule.....	A-	8
, sheep - local sales	A-	10
, stock - cartage rates	B-	88
Primrose (Evening), price paid to producers	A-	61
Principal repayments, table of payment rates	B-	171
Printers (computer), cost of	B-	264
Prize money, exemption from income tax.....	D-	25
Probes, pasture - cost of.....	B-	234
Process crops, land - rental rates	B-	166
, levies.....	B-	128
, price paid to producers - see individual fruit or vegetable		
, seed prices.....	B-	100
Prodders (cattle), cost of.....	B-	59
Product prices (farm/horticultural)	A-	3
Product Safety Programme (dairy farms).....	B-	33
Professional fees	B-	151
Propagating materials (horticulture), cost of	B-	110
Propagation cables (heating), cost of.....	B-	249
Property purchase, legal fees	B-	153
Propolis, price paid for	A-	79
Proprietary cultivars, price paid to producers for seed - legumes	A-	63
- ryegrasses	A-	63
Protection of crops (horticultural), cost of	B-	136
Protective clothing, tax deductibility	D-	39
Protective clothing/equipment, cost of	B-	135
Protein testing of grain, charges	B-	131
Provisional, tax payers - last date for payments	D- 15,D-	82
, taxation system	D-	10
Pruning, costs - forestry.....	B-	260
- orchard examples.....	C-	57
, equipment - cost of	B-	236
Prussian peas, price paid to growers.....	A-	57
Public, liability insurance - cost of	B-	161
Pulp (timber), price paid to producer.....	A-	81
Pulse crops, levy	B-	125
Pump (s), capacity charges irrigation	C-	31
, cost of	B- 174, B-	176
, firefighter, cost of	B-	135
Pumpkin, seed cost	B-	102

Punnets, cost of.....	B- 110
Purchase of land, development expenditure (tax)	D- 40
Purity and germination seed test, cost of.....	B- 129
Pusher, grain, cost of	B- 231
Purple wheat, price paid to growers	A- 51
PVC, covers - cost of.....	B- 137
, pipe - cost of	B- 181

Q

Qualifying Company,	D- 31
Queen bee, prices paid for	A- 80
Quercus oak, tree cost.....	B- 259
Quince trees, cost of	B- 107
Quota, fishing - tax deductibility status.....	D- 61

R

Rabbit, feed - cost of.....	B- 41
, poison - cost of	B- 117
Races, farm - repairs and maintenance cost	B- 141
Raddle, cost of	B- 55
Radiata pine, cost of harvesting.....	B- 261
, log prices - domestic.....	A- 81
- export.....	A- 81
, seedling cost	B- 259
Radish, pollination cost	B- 138
, seed cost.....	B- 102
Railway transport rates	B- 89
Rain gauge, cost of	B- 235
Rakes (hay), cost of	B-207, B- 214
Raking, contractors' charges	B- 62
Ram(s), cost of.....	B- 27
, facial eczema tolerance testing fee	B- 15
, insurance - cost of.....	B- 161
Rammers, post - cost of.....	B- 203
Ram pumps, cost of	B- 176
Ranunculus, bulbs - cost of.....	B- 105
Rape, dressing and store handling charges.....	B- 130
, forage - price paid to grower for seed	A- 64
, oilseed – price paid to grower for seed.....	A- 62
, oilseed, analysis.....	C- 43
, seed - cost	B- 97

Raspberries, plants - amortisation rates (taxation)	D- 129
- cost of	B- 109
Rat poison, cost of	B- 117
Rates (property charges)	B- 163
Reactive Phosphate Rock, cost of	B- 78
Real Estate charges	B- 153
Rebates, taxation	D- 22
Recording software (farm - paddock/livestock/cash etc), cost of	B- 267
Red Clover, dressing and store handling charges	B- 130
, price paid to grower	A- 63
, seed cost	B- 94
Red deer - see Deer	
Reels, electric fence - cost of	B- 204
Refrigeration equipment, dairy - economic rate of depreciation	D- 110
, fishing - economic rate of depreciation	D- 110
Regeneration pack – Natives, cost of	B- 259
Regional charges for electricity	B- 71
Regional Council rates	B- 163
Registration, dogs - cost of	B- 19
Regulants, growth - cost of	B- 118
Relationship, property - disposition of	D- 64
Remuneration, dairy farm employees	B- 5
, sheep and beef farm employees	B- 5
Renewable generation, electricity, Small Scale	B- 69
Rental, land	B- 165
Repairs and maintenance, buildings	B- 141
, effluent ponds	B- 193
, farm improvements	B- 141
, in relation to taxation	D- 36
, machinery/vehicles	B- 141
, plant	B- 141
, total farm costs	B- 140
Repellants, bird - cost of	B- 118
Replacement stock, cost of	B- 27
, dairy cattle - cost of	A- 33
Reproduction fees, deer	B- 25
Repurchase of shares by a company, taxation provisions	D- 32
Reservoir(s), cost of	B- 190
, economic rate of depreciation	D- 113
, liner - cost of	B- 180
Resident Withholding Tax	D-9, D- 29
Residual Portion levy, ACC	D- 70
Residual Income Tax	D- 11
Resource Consents, costs	B- 185
Resources, budgets and calculators	C- 54
Retaining walls, economic rate of depreciation	D- 113
Retorts, economic rate of depreciation	D- 110

Returns of income for taxation	D- 18
Revenue, farm.....	A- 3
, impact of exchange rate on.....	A- 3
Reversible plough, cost of	B- 224
Rifles, economic rate of depreciation	D- 108
RIT (Residual Income Tax).....	D- 11
Rising plate meter, cost of	B- 234
River protection work, resource consents.....	B- 185
Road transport rates	B- 88
Road user charges	B- 149
Roading cost, forestry	B- 261
Roads, tracks and culverts - repairs and maintenance of.....	B- 141
, economic rate of depreciation	D- 113
Rockmelon, seed cost	B- 101
Rodent control, cost of.....	B- 117
Roller, cost of.....	B-208, B- 227
, economic rate of depreciation	D- 108
, equipment - cost of	B- 227
, tractor fuel consumption for	B- 143
Romney ram, cost of.....	B- 27
Roofing materials, cost of.....	B- 257
Root forming hormones, cost of	B- 119
Rotary, cultivators - cost of	B- 225
- tractor fuel consumption	B- 143
, dairy sheds - cost of	B- 239
, mowers/slashers - cost of.....	B- 212
Round bale(s), cost of (hay)	B- 43
, balers - cost of.....	B-207, B- 214
, feeders - cost of.....	B- 215
, wrap - cost of	B- 137
Royalties, taxation of.....	D- 25
, wheat.....	B- 126
RPR fertilisers, cost of	B- 78
Rubber rings, docking - cost of	B- 53
Rubberware (dairy), cost of	B- 32
Rumen magnets, cost of.....	B- 16
Running costs, combine harvester	B- 150
, tractor.....	B- 143
Runways, economic rate of depreciation.....	D- 113
Rutbuster, rut filling machine, cost of	B- 221
RWT (Resident Withholding Tax)	D-9, D- 29
Ryecorn, dressing and store handling charges.....	B- 130
, price paid to growers	A- 60
Ryegrass, dressing and store handling charges	B- 130
, endophyte testing charges.....	B- 129
, gross margin	C- 37
, heading cost - contract.....	B- 65

, price paid to growers	A- 63
, seed coating - cost of	B- 100
, seed cost.....	B- 91
, testing - cost of	B- 128

S

Saddles and covers, cost of	B- 60
Saddlery/harnesses, rate of depreciation - economic	D- 108
- 'old' schedule	D- 121
Safety, equipment - cost of	B- 135
, equipment, firefighter, cost of	B- 135
, equipment (fishing) - economic rate of depreciation	D- 111
Salaries - see also wages	
, farm workers.....	B- 5
, horticultural workers.....	B- 7
, paid to relatives (in relation to Company tax)	D- 31
, PAYE tax on.....	D- 7
Sales commission, livestock	B- 121
, real estate	B- 153
Saleyard(s), fees.....	B- 121
, rate of depreciation (economic).....	D- 113
, rate of depreciation ('old' schedule).....	D- 121
Salt (agricultural), cost of	B- 39
Salt blocks, cost of	B- 39
Sand, cost of	B- 257
Sanitisers (dairy), cost of	B- 30
Savings Banks, finance costs.....	B- 168
Saw, chain - cost of.....	B- 233
- rate of depreciation (economic)	D- 107
- rate of depreciation ('old' schedule)	D- 122
, millers - rate of depreciation ('old' schedule)	D- 122
, pruning - cost of.....	B- 236
Sawdust, cost of	B- 252
Scales, animal - cost of	B- 52
, rate of depreciation ('old' schedule).....	D- 122
Scarecrow guns, cost of	B- 136
Schedule, meat - goat.....	A- 42
- lamb (export).....	A- 5
- mutton (export).....	A- 8
- pork	A- 46
- venison	A- 38
Scree, cost of	B- 257
Screening (grain) cost of.....	B- 131
Scrotal measuring tape, cost of.....	B- 16

Sealing liner (effluent pond), cost of	B- 180
Seaweed meal (nutritional supplement), cost of.....	B- 14
Second hand assets, depreciation rates	D- 43
Seed(s), air freight rates.....	B- 90
, carrot seed production	C- 48
, certification fees	B- 129
, coating - cost of	B- 100
, cost of - cereals.....	B- 99
- flowers,.....	B- 105
- forage.....	B- 96
- small/pasture	B- 91
- turf cultivars	B- 100
- vegetable	B- 101
, dressing charges.....	B- 130
, drill - cost of	B-208, B- 228
, drying charges.....	B- 130
, levies (herbage).....	B- 125
, oversowing (aerial) - cost of.....	B- 65
, store handling charges	B- 130
, testing fees	B- 131
Seedling, punnets - cost of.....	B- 110
, trees - cost of, forestry	B- 259
, fruit - cost of	B- 107
, nut - cost of	B- 108
, shelter - cost of	B- 259
, trays - cost of	B- 110
Selenium, drench - cost of	B- 13
, injections - cost of.....	B- 10
, fertiliser - cost of.....	B- 78
Self-assessed Cost (SAC) Scheme, livestock taxation	D- 52
Self-employed, ACC levy.....	D- 80
Selling charges, stock	B- 121
, goat fibre.....	B- 122
, velvet	B- 122
, wool	B- 122
Semen, cattle cost of.....	B- 22
, collection - cattle, cost of.....	B- 24
- deer, cost of	B- 25
- sheep, cost of.....	B- 26
, storage cost	B- 26
Separators, economic rate of depreciation.....	D- 110
Septic tanks, cost of	B- 194
, rate of depreciation ('old' schedule).....	D- 122
Serpentine super, cost of.....	B- 76
Shade, cloth - cost of	B- 262
, houses - economic rate of depreciation	D- 113

Sharemilker remuneration	B-	6
Shares (dairy company), cost of	B-	124
Shearer's, ACC levies	D-	106
, wages - taxation of.....	D-	8
Shearing, contract rates.....	B-	47
, equipment - economic rate of depreciation	D-	108
, machines - cost of.....	B-	48
, shed equipment - cost of.....	B-	48
, shed expenses	B-	49
, work - PAYE (withholding payments).....	D-	8
Shears, cost of.....	B-	49
Shed, cost of - calf/goat	B-251, B-	252
- dairy.....	B-	239
- dangerous goods.....	B-	256
- deer	B-	241
- hay/implement/packing	B-	251
- killing	B-	256
- wool.....	B-	241
, expenses - dairy	B-	30
- wool.....	B-	48
Shedhands, wage rates	B-	47
Sheep, animal health costs	B-	9
, artificial breeding costs.....	B-	26
, average prices 1996 to 2016e	A-	12
, cartage rates - road.....	B-	88
, commission on sale.....	B-	121
, counters - cost of.....	B-	49
, crates - rate of depreciation (economic)	D-	107
- rate of depreciation ('old' schedule)	D-	122
, crutching and shearing costs.....	B-	47
, cuff - cost of.....	B-	53
, dipping and chemical costs.....	B- 12, B-	65
, dips – 'old' schedule rate of depreciation.....	D-	122
, drenching costs	B-	9
, farm managers - wages/salaries.....	B-	5
, farming - ACC levies.....	D-	105
- drawings (personal expenditure).....	B-	8
, feed - cost of	B-	40
, fencing - cost per metre	B-	195
, grazing fees - cost of.....	B-	44
, gross margins - high performance meat focussed	C-	9
, lamb schedule	A-	5
, lamb skin price trends.....	A-	7
, levies	B- 121, B-	122
, live exports	A-	7
, mutton prices trends (export).....	A-	9
, mutton schedule	A-	8

, national standard cost (taxation)	D- 50, D- 87
, pelts - see Pelts/Slink skins	
, plan - see Animal Plan	
, pregnancy diagnosis	B-14, B- 66
, purchase price trends	A- 12
, revenue - export meat	A- 5, A- 8
- local prime stock prices.....	A- 10
- store and breeding stock prices	A- 11
- wool.....	A- 13
, sale prices	A- 10, A- 11
, scales - cost of.....	B- 52
, selling charges	B- 121
, shearing and crutching costs.....	B- 47
, skins - see Pelts/Slink skins	
, valuation of for taxation	D- 48, D- 90
, yard fees.....	B- 121
, yards - cost of	B- 245
- 'old' schedule rate of depreciation.....	D- 122
Sheep farm, input price trends	B- 3
, repairs and maintenance costs	B- 140
, vehicle expenses	B- 141
, workers' wage rates	B- 5
, weed and pest control budget figures	B- 112
Shellfish - see also Fish Farming	
, industry - ACC levies	D- 106
, nets/ropes/stakes - economic rate of depreciation.....	D- 110
, taxable income	D- 61
Shelter, belts - establishment costs	B- 259
- trimming, contract cost.....	B- 67
, cloth - cost of	B- 262
, trees - cost of.....	B- 259
Shelter, animal - cost of.....	B- 251
, trees - cost of.....	B- 259
Shepherd, wage rates/salaries	B- 5
Shepherd's crook, cost of	B- 53
Shingle/gravel, - cost of	B- 257
Ships, economic rate of depreciation.....	D- 111
Shotguns, economic rate of depreciation.....	D- 108
Shovels, cost of	B- 203
Show leads, cost of	B- 58
SIDDC South Island Dairying Development Centre.....	C- 18
Silage, bale wrappers - cost of.....	B- 215
, covers - cost of.....	B- 137
, feedout wagons - cost of.....	B- 221
, fork - cost of	B- 215
, grab - cost of	B- 215
, handling equipment - cost of	B- 215

, harvesters - cost of.....	B- 222
, loader wagon - cost of	B- 221
, making - contract rates	B- 63
, maize - price paid to producers	A- 59
, preservatives - cost of.....	B- 137
, wagons - cost of.....	B- 221
, wrap - cost of	B- 137
Sill, borderdyke irrigation - cost of	B- 189
Silo, grain/feed - cost of.....	B- 255
- rate of depreciation ('old' schedule)	D- 122
, dairy industry - economic rate of depreciation.....	D- 110
Silverbeet, seed cost.....	B- 102
Silvicultural costs.....	B- 259
Sinking fund factor, (tractor replacement)	B- 144
Sire proving payments	A- 32
Sire replacement cost.....	B- 27
Skim milk blend, cost of.....	B- 42
Skin prices - see Pelts and Slink skins	
Slashers, rotary - cost of	B- 212
Slaughter, device (captive bolt) - cost of.....	B- 58
, houses – 'old' schedule rate of depreciation	D- 122
, levies	B- 123
Sling, cow - cost of	B- 57
Slink skins, price paid for - calves.....	A- 17
- lambs	A- 8
Slurry (effluent) spreaders, cost of	B- 223
Small engines, cost of.....	B- 236
, goods, cartage rates.....	B- 88
Small seeds, contract harvesting.....	B- 65
, cost of	B- 91
, dressing and store handling charges	B- 129
, gross margins - see White Clover/Ryegrass	
, herbage levy.....	B- 125
, prices paid for	A- 63
, testing fees	B- 129
Snow plough, cost of	B- 232
Soaps (dairy), cost of	B- 30
Sodium, bicarbonate - cost of.....	B- 37
Soft wheat, price paid to growers	A- 52
Software (computer), cost of	B- 266
Soil, aerators - cost of	B- 224
, analysis - cost of	B- 86
, conditioners (compost) - cost of.....	B- 111
, cost of	B- 111
, fumigants - cost of	B- 119
, heating cables - cost of	B- 249
, looseners - cost of.....	B- 227

, testing - cost of	B-	86
Solar powered fence energisers, cost of	B-	204
Solicitors, charges.....	B-	152
Sorting machinery, economic rate of depreciation.....	D-	108
Sow, feed cost.....	B-	41
Soya, meal - cost of	B-	42
, oil - cost of.....	B-	42
Spade, tree planting- cost of	B-	261
Special rules, depreciation.....	D-	43
Specified livestock, values for.....	D-	87
Spiker, velvet prices.....	A-	40
Spinach, seed cost.....	B-	102
Spinners, fertiliser - cost of.....	B-	222
Splints (leg), cost of.....	B-	16
Spouting, cost of.....	B-	257
Spray, agricultural/horticultural - cost of	B-	113
, dips - cost of	B-	12
, equipment – cost of.....	B-	217
- rate of depreciation (economic)	D-	108
- rate of depreciation ('old' schedule)	D-	122
, gear (safety) - cost of.....	B-	135
, irrigation - effluent disposal system, cost of	B-	179
- equipment, cost of	B-	186
- water charges.....	B-	189
, knapsack - cost of	B-	218
, oil, (adjuvant) cost of.....	B-	119
Spraying, contractors' charges	B-	120
, tractor fuel consumption for	B-	143
Spreaders, fertiliser - cost of.....	B-	222
- economic rate of depreciation	D-	108
, slurry - cost of.....	B-	223
Spreading agents (sprays), cost of	B-	118
Spreading costs, fertiliser and lime.....	B-	84
Sprinklers (irrigation), cost of	B-	174
Square balers (big), cost of	B-	207, B-214
Squash, levy	B-	128
, seed cost.....	B-	102
Stags - see also Deer		
, cost of	A-	39, B- 28
Standard Value, for depreciation purpose	D-	119
, of livestock	D-	50, D- 87
Standards, electric fencing - cost of.....	B-	205
Standing, charges.....	B-	161
, hay - cost of	B-	43
Staple (wool), measurement of - charges	B-	50
Staples (fencing), cost of	B-	206
Statice, seed cost.....	B-	105

Stays (fencing), cost of	B- 198
Steers - see also Cattle, Beef	
, average prices	A- 19
Stencils, cost of.....	B- 49
Sticker (spray), cost of.....	B- 118
Stirrer (pond), cost of.....	B- 178
Stock, average prices 2008 to 2016e - cattle	A- 19
- sheep (2008 to 2016e).....	A- 11
, commission on sale of	B- 121
, crates - cost of.....	B- 211
- economic rate of depreciation	D- 107
, feed and nutrition.....	B- 37
, (flowers) - seed cost.....	B- 105
, food manufacturing plant – ‘old’ schedule rates of depreciation on.....	D- 123
, gross margins	C- 9
, identification - cost of.....	B- 54, B-123
, insurance	B- 161
, levies	B-123, B- 124
, lick blocks - cost of.....	B- 40
, management - cost of equipment.....	B- 52
, managers - wages/salaries	B- 5
, prices - alpacas.....	A- 50
- beef cattle	A- 18
- dairy cattle	A- 33
- deer	A- 39
- goats	A- 44
- llamas	A- 50
- pigs	A- 49
- sheep.....	A- 10
, recording and data processing systems - cost of	B- 266
, saddles - cost of	B- 60
, sales - see individual livestock types	
, scales - cost of.....	B- 52
, shelter - cost of	B- 252
, trading - valuation of for taxation.....	D- 47
, underpass, cost of	B- 239
, valuation of for taxation	D- 48, D- 87
- worked examples.....	D- 96
, water - analysis - cost of.....	B- 86
- supply charges.....	B- 184
, yards - cattle, cost of.....	B- 242
- deer, cost of	B- 244
- sheep, cost of.....	B- 245
- fees	B- 121
Stock (flowers), cost of seed.....	B- 105
Stock and Station Agents, as sources of finance	B- 170
, commission on sale of livestock.....	B- 121

Stomach feeder, lamb/kid - cost of.....	B-	52
Stonefruit, industry - ACC levies	D-	105
, levies	B-	126
, pollination cost	B-	138
Stopbanks, economic rate of depreciation.....	D-	113
Storage, building - cost of.....	B-	245
, cool - charges.....	B-	134
, increments - wheat.....	A-	51
, pond, irrigation, cost of.....	B-	190
, silos - cost of.....	B-	254
, tanks – ‘old’ schedule rate of depreciation.....	D-	123
Store, dressing and handling charges	B-	130
Store stock, cartage rates	B-	88
, commission on sales	B-	121
, prices - cattle.....	A-	19
- pigs	A-	49
- sheep/lambs	A-	11
Straight Line (SL), method of depreciation.....	D-	42
, rates of depreciation.....	D-107, D-	119
Strainer posts, cost of.....	B-	198
Straining equipment (fencing), cost of	B-	201
Straw, cost of	B-	43
Straw shorteners, (growth regulants) - cost of.....	B-	118
String/twine (haybaling), cost of	B-133, B-	215
Stud stock, commission on sales	B-	121
Stumpage - see timber		
Subdivision costs	B-	154
Subscriptions, farming magazines/organisation - cost of.....	B-	160
Subsidised transport, Fringe Benefits Tax liability	D-	70
Subsoiling, tractor fuel consumption for	B-	143
Subterranean clover, seed cost.....	B--	94
Subtropical plants - cost of	B-	107
Suffolk (South Suffolk) ram, cost of	B-	27
Sugar (Dextrose), cost of	B- 13, B-	38
Sulphate of Ammonia, cost of	B-	77
Sulphur, fortified fertiliser - cost of.....	B-	78
, prills - cost of.....	B-	77
Summerfruit, levies.....	B-	126
, trees - amortisation rates (taxation)	D-	130
Summerfruit New Zealand, registration fees.....	B-	127
Sump pumps, cost of.....	B-	178
Sunflowers, seed cost.....	B-	105
Superphosphate, cost of.....	B-	76
Supplements/concentrates, cost of.....	B-	40
, milk - cost of.....	B-	37
, mineral and vitamins - cost of	B-	37
, salt - cost of.....	B-	39

Surveying charges/fees	B- 154
Swedes, price paid to grower for seed.....	A- 64
, seed cost.....	B- 98
Sweet Chestnut, cost of trees.....	B- 108
Sweetcorn, planting - contract cost.....	B- 64
, seed cost.....	B- 102
Sweetfeed (horses), cost of	B- 41
Swimming pools (in ground), economic rate of depreciation	D- 113

T

Table, grapes - amortisation rates (taxation)	D- 129
, mortgage charges	B- 171
Tagasaste (tree Lucerne, chamaecytisus palmensis), cost of plants.....	B- 258
Tags, stock identification - cost of.....	B- 54
Tail, paint - cost of.....	B- 55
, tags - cost of	B- 55
Tailing, requisites - cost of	B- 53
Tall Fescue, endophyte testing charges	B- 129
, price paid to growers	A- 63
, seed cost.....	B- 95
Tallow, cost of	B- 42
Tally counters, cost of.....	B- 49
Tamarillo(s), plants - amortisation rates (taxation)	D- 130
Tangelo(s), levies.....	B- 126
, trees - amortisation rates (taxation)	D- 129
Tank(s), fuel (underground) 'old' schedule rate of depreciation	D- 120
, storage, 'old' schedule rate of depreciation.....	D- 123
, water - cost of	B- 175
Tanneries, economic rate of depreciation.....	D- 113
Tarpaulins, cost of	B- 137
, 'old' schedule rate of depreciation	D- 123
Tattoo equipment, cost of	B- 55
Tax - see Income Taxation	
Tax Administration Act (1994)	D- 3
Taxable income.....	D- 22
T.B., compensation (cattle).....	A- 22
, testing - cost of	B- 14
Teat, sprays - cost of.....	B- 30
Teats (lamb/kid), cost of.....	B- 52
Tedder (hay), cost of.....	B- 214
Tedding, contractors charges	B- 62
, tractor fuel consumption for	B- 143
Telephone charges	B- 157
Term mortgages	B- 168

Terminal, tax	D- 10
- payment dates.....	D- 82
, sires - cost of.....	B- 28
Testers, electric fences - cost of.....	B- 206
Testing fees, alpaca fibre	B- 50
, goat fibre.....	B- 50
, wool	B-50, B- 122
, seed	B- 129
, soils	B- 86
, T.B.	B- 14
Texel ram, cost of	B- 27
Thermal, covers - cost of	B- 57
Thermostats, glasshouses - cost of	B- 249
Thinning costs, forestry	B- 260
, orchard example	C- 57
Threshing plant, 'old' schedule rate of depreciation	D- 123
Tiles, field - cost of.....	B- 191
Timber, harvesting costs.....	B- 261
, prices - domestic	A- 81
- export.....	A- 81
, sales - taxation of	D- 55
, transport cost.....	B- 261
Timothy, dressing and store handling charges	B- 130
Tine, cultivators - cost of.....	B- 225
Tip trailer, cost of	B- 220
Tomato(es), growing equipment – 'old' schedule rate of depreciation.....	D- 123
, levies	B- 128
, seed cost.....	B- 102
, workers' - wage rates.....	B- 7
Tool(s), fencing - cost of	B- 203
, rate of depreciation (economic).....	D- 108
, rate of depreciation ('old' schedule).....	D- 123
Topdressers, cost of	B- 222
Topdressing costs.....	B- 84
Toppers/Mowers, cost of	B- 212
Towers (lighting), economic rate of depreciation	D- 113
Town Supply Milk - see Winter milk	
Trace elements, feed - cost of.....	B- 37
, fertiliser - cost of.....	B- 77
Tracks, farm - - repairs and maintenance of.....	B- 141
Traction engines, rate of depreciation (economic)	D- 117
, rate of depreciation ('old' schedule).....	D- 123
Tractor, contract work	B- 64
, cost of	B- 209
, drawn implements - economic rate of depreciation	D- 108
, drivers' wage rates.....	B- 5
, fuel consumption rates.....	B- 143

, insurance cost of	B- 161
, licensing fee - cost of.....	B- 144
, rate of depreciation - economic	D-108, D- 117
- 'old' schedule.....	D- 123
, repairs and maintenance	B- 144
, running costs.....	B- 144
, trays - cost of	B- 219
, tyres and tubes - cost of.....	B- 148
Trade Weighted Index (exchange rates).....	A- 4
Trading, Banks - farm packages	B- 168
, Society discount rates	B- 3
Trailer, cost of.....	B- 220
, farm bike - cost of.....	B- 211
, licence fee	B- 149
, rate of depreciation - economic	D- 117
- 'old' schedule.....	D- 123
, sprayer - cost of	B- 217
Trainers, electronic for dog - cost of	B- 59
Transferable Term Fishing Quota (TTQ)	D- 61
Transport, equipment - economic rate of depreciation.....	D- 114
, rates - air	B- 89
- inter-island ferry.....	B- 89
- railways	B- 89
- road.....	B- 88
Transportation costs, logs	B- 261
Traps (rabbit/opossum/ferret), cost of	B- 117
Travelling expenses, as farm expense	B- 160
Travelling irrigators, cost of	B- 179
Trays, propagating - cost of.....	B- 110
Tree - see also Log	
, establishment and tending costs	B- 260
, expenditure - taxation provisions	D- 55
, lucerne (<i>chamaecytisus palmensis</i>)- cost of	B- 259
, planting equipment - cost of.....	B- 261
, windbreak - cost of	B- 262
Trees (seedling), cost of - forestry	B- 259
- fruit.....	B- 107
- nut.....	B- 108
- shelter	B- 259
Trickle irrigation equipment, 'old' schedule rate of depreciation.....	D- 123
Trimmers/Brushcutters, cost of	B- 234
Triticale, price paid to growers.....	A- 60
, seed cost	B- 96
Trocar, cost of.....	B- 16
Troughs, cost of	B-35, B- 174
Truck, farm - cost of	B- 223
, licensing - cost of.....	B- 149

, rate of depreciation - economic	D- 116
- motor truck, 'old' schedule	D- 121
, repairs and maintenance costs	B- 141
Trustees income	D- 35
, rates of income tax	D- 83
Trusts, classification of	D- 34
, legal fees	B- 152
, liability for income tax	D- 34
, taxation of	D- 35
Tubes, tractor tyres - cost of	B- 148
Tulip(s), bulb cost	B- 106
Tunnel, houses - cost of	B- 246
- 'old' schedule rate of depreciation	D- 123
Tunnels, economic rate of depreciation	D- 113
Turf grasses, price paid to growers	A- 63
, seed cost	B- 100
Turnip, dressing and store handling charges	B- 130
, prices paid to growers (seed)	A- 64
, seed cost (crop)	B- 98
, seed cost (vegetable)	B- 102
Twine, baling - cost of	B- 215
Twisting tool (wire), cost of	B- 203
Two-Tooths, average prices store stock 1996 to 2016e	A- 12
Tyres and tubes, cost of	B- 148
Tyre chains, economic rate of depreciation	D- 118

U

Udder sprays and creams, cost of	B- 30
, sprayer - cost of	B- 31
Ultrafiltration plant, economic rate of depreciation	D- 110
Ultrasound, diagnosis (pregnancy sheep) - cost of	B- 14, B- 66
Underground, cable (electric) - cost of	B- 205
, silage pits – 'old' schedule rate of depreciation	D- 123
Underpaid tax, interest due on	D- 20
Underpass, stock, cost of	B- 239
Urea, cost of	B- 75
US Dollar, exchange rate	A- 4
Use of money interest (taxation) provision	D- 20
Ute tethers (for dogs), cost of	B- 60
Utilities (light commercial), cost of	B- 223
, insurance of	B- 161

V

Vaccinators, cost of	B- 16
Vaccines, cost of.....	B- 11
Vaginal tape/tape needles, cost of	B- 53
Valuation charges	B- 154
Valuation of, consumable aids.....	D- 47
, fringe benefits	D- 66
, livestock.....	D- 48, D- 90
, nursery stock (horticulture)	D- 58
, plants in the ground (taxation).....	D- 60
Valves (trough), cost of	B- 181
Variable costs, header	B- 150
, tractor	B- 144
Vat, cleaning chemicals - cost of.....	B- 30
, economic rate of depreciation	D- 110
, washer - cost of.....	B- 33
Vegetable(s), cool store charges	B- 134
, drills (seed) - cost of	B- 228
-vining peas	C- 40
, growers - ACC levies	D- 105
, harvesters - cost of	B- 231
, levies	B- 128
, plants - amortisation rates (taxation)	D- 130
, pollination cost	B- 137
, price paid to growers	A- 76
, seed costs	B- 101
Vehicle(s), average prices of	B- 207
, economic rate of depreciation	D- 118
, expenses.....	B- 142
, insurance - cost of.....	B- 161
, licensing/registration - cost of	B- 149
, prices.....	B- 223
, repairs and maintenance - cost of	B- 141
, running costs.....	B- 146
Velvet, gross margin.....	C- 24
, grading/selling charges.....	B- 122
, levies	B- 124
, pool price trends	A- 40
, pool prices.....	A- 40
Velveting, veterinary charges	B- 14
Venison, gross margins.....	C- 22
, levies	B- 124
, prices.....	A- 38
, price trends	A- 38
Ventilation fans, cost of.....	B- 250

Vermiculite, cost of	B- 111
Vessels, fishing - rate of depreciation (economic)	D- 111
Veterinary charges	B- 14
Vines, cost of	B- 109
Vintages, wineries	A- 69
, 2014	A- 70
Vitamin supplements, cost of	B- 38

W

Wages, agricultural workers	B- 5
, horticultural workers.....	B- 7
, orchard costs (contract)	C- 57
, minimum legal	B- 6
, paid to spouse - in relation to taxation.....	D- 39
, PAYE tax	D- 7
Wagons, feedout - cost of	B- 221
, 'old' schedule rate of depreciation	D- 123
Walnut tree, amortisation rates (taxation)	D- 129
, cost of	B- 108
Wapiti, average market values (taxation)	D- 90
, stag prices	A- 40
, velvet prices	A- 41
Waratahs, cost of	B- 204
Warming pads, seed raising.....	B-111, B- 249
Wash-down systems, milking plant - cost of.....	B- 33
Washers, economic rate of depreciation.....	D- 110
Water, analysis - cost of.....	B- 86
, blaster - cost of	B- 233
, discharge permits - application fee.....	B- 185
, domestic supply (rural) - supply charge	B- 184
, heater - cost of	B- 32
, permits - cost of	B- 185
, pipe - cost of	B- 191
, pumps - cost of	B- 176
, race charges	B- 189
, reservoirs (earth ponds) - cost of	B- 190
, rural - supply charge	B- 184
, stock - supply charge	B- 184
, supply costs - irrigation	B- 189
, rural domestic and stock.....	B- 184
, supply - repairs and maintenance	B- 141
, tanks - cost of.....	B- 175
, testing/analysis - cost of	B- 86
, towers – 'old' schedule rate of depreciation.....	D- 123

, troughs - concrete, cost of	B- 174
-plastic, cost of	B- 175
, use in peas.....	C- 41
, wells - cost of drilling.....	B- 179
Water Melon, seed cost.....	B- 101
Waterers (piglets), cost of.....	B- 60
Weaner, cattle - average prices 2008 to 2016e.....	A- 19
, deer - prices	A- 39
Weaners, cartage rate.....	B- 88
Weed, pest and disease control - application cost	B- 120
, chemical/spray cost.....	B- 113
, cloth - cost of	B- 262
, control expenses - crop.....	C- 33 to C- 50
- orchard.....	C- 57
, farm budget figures.....	B- 112
Weedmat, cost of	B- 262
Weigh bridge charges	B- 138
Weighing, crates - cost of	B- 52
, machines and scales - cost of.....	B- 52
- 'old' schedule rate of depreciation.....	D- 123
, platforms - cost of.....	B- 52
Weirs, borderdyke irrigation - cost of	B- 189
Welder, portable - cost of	B- 235
Well, drilling - cost of.....	B- 179
Wells and bores, 'old' schedule rate of depreciation	D- 123
Wetting agents, sprays - cost of.....	B- 118
Wharves, economic rate of depreciation	D- 113
Wheat, biscuit contracts.....	A- 51
, contract harvesting.....	B- 65
, dressing and store handling charges	B- 130
, drying charges.....	B- 130
, feed contract prices	A- 52
, gross margin	C- 33
, levies	B- 125
, prices - contract, milling.....	A- 51
, seed	A- 52
, trends	A- 52
, royalties	B- 126
, seed cost.....	B- 99
, testing charges	B- 131
Whistles (dog), cost of.....	B- 60
White clover, coated seed - cost of.....	B- 93
, contract harvesting cost	B- 65
, dressing and store handling charges	B- 130
, gross margin	C- 36
, herbage seed levy.....	B- 125
, price paid to growers	A- 63

, seed - certification charges	B- 129
- testing charges	B- 129
Windmills, cost of.....	B- 178
, 'old' schedule rate of depreciation	D- 123
Windrowers, cost of	B- 231
Windrowing, contracting rates	B- 62
Wind turbine, cost of	B- 136
Wine, grapes - price paid to producers	A- 69
, making equipment – 'old' schedule rate of depreciation	D- 123
, packing materials - cost of.....	B- 132
Winter milk contracts	A- 30
Wintering barns, cost of.....	B- 240
Wintering barns, 'old' schedule rate of depreciation	D-119, D- 123
Wire, cost of	B- 198
, electric - cost of	B- 204
, netting - cost of.....	B- 201
, reels - cost of.....	B- 204
, ropes – 'old' schedule rate of depreciation.....	D- 123
, straining equipment - cost of	B- 201
, twisting tool (fencing) - cost of	B- 203
Withholding, payments - tax.....	D- 7
, Tax (RWT)	D- 8
Woodlot, establishment and tending costs.....	B-260
, logging costs	B-261
Wood chips/pulp, market outlook.....	A- 81
Wood splitter, cost of.....	B-237
Wool, average auction price	A- 13
, brokers' charges.....	B-122
, cartage rates - road.....	B- 88
, charges	B-122
, classing - charges	B-122
, measurement - charges	B- 50
, pelt payments - lamb (trends)	A- 7
- sheep.....	A- 9
, press - cost of.....	B- 48
, pressers wage rates	B- 47
, price(s) – auction	A- 13
-impact of exchange rate	A- 3
-indicator, trends.....	A- 14
, selling charges	B- 122
, sweeps - cost of.....	B- 49
, testing - cost of	B- 50
Woolbale, hooks - cost of	B- 49
, stencils - cost of	B- 49
Woolshed, cost of	B- 241
, equipment and expenses	B- 48
Woolstore work (storage and classing), ACC levies.....	D- 106

Workers, wages/salaries - agricultural	B-	5
- horticultural	B-	7
Working, dogs - registration charges.....	B-	19
Worm drench, cost of	B-	9
Wrap, hay/silage - cost of	B-	137
Wrapped silage, contract cost.....	B-	63
Wrapping film, cost of.....	B-	137

Y

Yachts, rate of depreciation (economic).....	D-	118
Yard fees	B-	120
Yards, cost of - cattle	B-	242
- deer	B-	244
- sheep.....	B-	245
, portable - cost of.....	B-	245
, rate of depreciation ('old' schedule).....	D-	122
, repairs and maintenance - cost of	B-	141
Yearlings - see Cattle/Deer		
Yeast, cost of	B-	38
Yersiniosis vaccination, cost of	B-	12
Yield of wool, testing charges	B-	50
Yorkshire Fog, price paid to growers	A-	63
Young Farmers, subscription.....	B-	160

Z

Zantedeschia (Calla Lily), wrap - cost of	B-	132
Zero-rating of activities for G.S.T	D-	74
Zig Zag harrows, cost of.....	B-	226
Zinc, chelate - cost of.....	B-	37, B- 78
, dispenser - cost of	B-	17
, oxide - cost of	B-	78
Zucchini, cost of seed	B-	102