LUCERNE SEED COST OF PRODUCTION TEMPLATE

Tips for entering data into spread sheets.

INDEX OF SHEETS

DATA

Enter most of your general data into the yellow cells

INFRASTRUCTURE DETAILED

Enter most of your Infrastructure data into the yellow cells

RESULTS

Shows the results of your inputs, both as a \$/ha and cents/kg

PRINT A4

Is a one page printable snapshot of each of the input categories in cents/kg clean.

SUMMARY

Is a summary of the inputs you can print so that when you look at the "Print A4" you are able to see what each of the inputs are that created the results.

GRAPHS

Shows your COP snapshot in picture format given the data you have entered.

DATA SHEET INPUTS

AREA

Enter the figures for the area you are using in this cost of production (COP). Enter a zero in any of the areas that are not being used in this COP. You must enter a figure for the area, number of pumps and a yield figure to achieve a result for each type.

You may use the template for a single area or a total farm COP. You may want to adjust the number of employees used in the COP when a single paddock is used compared to a total farm area.

AREA FLOOD	Area Flood Electric Pumps	40	ha	99 acres
	No of pumps electric	1		
	Area Flood Diesel Pumps	40	ha	99 acres
	No of pumps diesel	1		
	Total area under Flood	80		198 acres
	Area under Electric Pivot	40	ha	99 acres
	No of Pivots Electric	1		
AREA PIVOT	Area under Diesel Pivot	40	ha	99 acres
	No of Pivots Diesel	1		
	Total area Under Pivot	80		198 acres
AREA DRYLAND	Dry Land for Seed	-		-acres
TOTAL AREA	Total area under Lucerne	160	ha	395 acres

AREA FLOOD

When entering data here please remember to consider the length of channel and number of flood bays within the area you are costing. Enter the number of Ha you are focusing on and the number of bores that are including in the area. Should an area have a combination of electric and diesel pumps, proportion the area applicable to each pump type. For example if 75ha with one electric and two diesel pumps enter 25ha with one electric pump and 50ha along with 2 diesel pumps. The proportioned areas will reflect more accurate average price in the end results.

AREA PIVOTS

Enter the area under each type of pump system. Always adjust the number of Pivot spans that are used in the area you are costing. In the scenarios of towable pivots, enter the area, the number of bores for that area and the combined total of physical spans used over the area. For example two circles of 30ha each using one 5 span pivot, you would enter 60ha, 2 pumps and 5 spans total. This then gives a true average cost of infrastructure per ha.

AREA DRY LAND

It is preferred that you cost the dry land areas in a separate COP to the irrigated areas. The reason being is the chemical applications, fertiliser inputs and harvesting costs are usually very different to the irrigated areas. You can include the dry land areas if you wish as a whole farm scenario, but remember to adjust the percentages of chemicals and fertiliser used in the irrigated areas to a percentage you believe would reflect a true estimate of comparable input amounts.

WATER

FLOOD	11.00	WAP/ML/Ha	880			
Av flow rate flood pump	450	KL/hr				
Bought in temporary water	0	ML	\$0	\$ / ML		
Temporary water used	0.00	ML/ha	0.00	ML/ha available		
ML / Ha used on seed crop	9.00	ML/ha	720	ML Used Flood		
PIVOT	8.00	WAP/ML/Ha	640			
Av flow rate pivot irrigation	180	KL/hr				
Bought in temporary water	0	ML	\$0	\$ / ML		
Temporary water used	0.00		0.00	ML/ha available		
ML / Ha used on seed crop	4.50	ML/ha	360	ML Used Pivot	Balance of ML	
				ML Used Total	available	Allocation used
Total Water Licence	1 520	MI	1520	1.080	440	71%

WATER FOR FLOOD AREAS

- 1. Enter the ML/ha allocated from your WAP for flood areas.
- 2. Enter the average flow rate of the pumps used in the area of this COP.
- 3. Enter the ML/ha of water expected too, or have used for the season under flood.
- 4. Enter the ML of temporary water bought in if required. It will include this in the pricing if you use it or not. Enter also the ML/ha of temporary water used to be included in the pumping costs. The sheet will also give you the amount of ML/ha available to use by dividing the irrigated area by the bought in ML/Ha.

WATER FOR PIVOT AREAS.

Follow the same steps as for flood.

ADDING PERMANENT WATER PURCHASED.

This can be entered at the bottom of the "Infrastructure Detailed" spread sheet.

The total amount of water available should equal your water licence allocation if using your total farm area.

TIP

When comparing the number of pumps to use on an area to see how it affects the COP, adjust the ML/ha applied for the seed crop season to reflect the increased efficiencies from more pumps creating more push down the flood bays.

SEED YIELD

SEED YIELD		Off Header		Clean / Ha
	Seed yield dirty off Flood Irrigation	550	kg/ha	429
	Seed yield dirty off Pivot Irrigation	500	kg/ha	390
	Seed yield dirty off Dry Land Paddocks	0	kg/ha	-
	Clean out	22%		
	Expected \$ / kg	\$4.00		

This is one of the most influential impacts on the COP apart from price received. The average price calculated at the end of the COP template is specific to the yields you enter in each COP you create. All of the graphs COP average $\frac{1}{2} \log \frac{1}{2} \log \frac{1$

The yield should be what you think is a realistic yield for the area you are calculating. Given that there are costs you outlay regardless of if you get a yield of zero or a bumper crop.

Other variables for quick comparisons

No of labour units on lucerne	1	Windrowing			
Desiccating	80	160 Ha Total	80	ha	

When all data fields are entered, sometimes you may want to compare different scenarios. Given that the chemical and fertiliser and most other costs further down the data page won't vary much per ha, these two items are near the top of the data page to save you scrolling through the sheet when bouncing around comparisons.

Adjust the number of labour units to reflect the area and number of employees who are involved with lucerne seed production. For larger areas or all of farm COP more employees would be included, compared to a single paddock where you may only enter one to give a more accurate figure for labour inputs.

The area desiccated should be adjusted to the number of ha used in the COP or part thereof if also windrowing.

The COP template will automatically default to windrowing if you enter zero area for desiccating.

If the area desiccated is more than the total area in the COP, the area windrowed will show up in red. When the total area is desiccated the windrowed area should equal zero.

INFRASTRUCTURE (DATA PAGE)

FLOOD COSTS

				\$	kWh	\$	L Diesel
Size of electric motor kW	55		74 hp		44,000		
Cents per kWh	\$0.24		1	0,560			
Cost of power to ALL Flood pumps	\$0						
Litres of Diesel used per Hr	11.00						8,800
Diesel cents/L after FTC rebate	\$1.20					10,560	
Distance of Channel in km's	2.0	km					
No of flood Bays	80						
Gates per bay	2						
Width of Bays	25	Μ					
Use Set up cost of Flood Irrigation	0	(insert a number 1 here if using new area set up costs)					
Use maintenance costs for	1						

ELECTRIC

Enter the average size of the electric pumps in the area you are costing along with an average price per kWh.

On the right hand side compare the totals for the year to reflect your power bill.

You will have to play with the figures here until the cost of pumping is reflective of your power bill.

The reason being is the COP template is calculated on the full motor output in kWh when in reality the motor(s) draw only what is required.

DIESEL

Enter the average litres of diesel you think you are using per hour and the net price of the diesel after the fuel tax credit .

Again compare the totals figures to the right of the page to reflect your fuel bill and litres used.

FLOOD INFRASTRUCTURE

Always adjust these inputs when comparing different amounts of area.

- 1. Enter the length of the channel applicable to the areas you are costing.
- 2. Enter the number of bays in the area you are costing.
- 3. When entering the average bay width include another meter to allow for check banks. The template uses this to calculate the cost of maintaining or building the check banks (e.g. grading)
- 4. Enter the number one if calculating a brand new area to flood irrigate. Or enter a number one in the area for maintenance if the area is already set up. All of the infrastructures build and maintenance costs can be adjusted to suit under the "Infrastructure Detail" sheet for new area, existing maintenance of an area and the cost of power to new bores for the electric pumps.

INFRASTRUCTURE (DATA PAGE)

PIVOT COSTS

No of Pivots No of spans including all Pivots	2 12			
Size of electric motor kW	37 \$0.24	50 hp \$8 880	37,000 kW	
Cost of power to ALL Pivot pumps	\$0	\$0,000		
Litres of Diesel used per Hr	11 00			11 000 L

Number of Pivots and Spans.

ALWAYS adjust the total number of spans across all circles in the current COP when adjusting the area under Pivots. This ensures the average cost per ha of infrastructure costs represents the number of spans.

For example if:

Two pivot circles are 30ha each with a 5 span pivot each; enter 60ha and ten spans.

Two pivot circles are 30ha each and share a towable pivot of 5 spans; enter 60ha and 5 spans.

ELECTRIC

Enter the average size of the electric pumps in the area you are costing along with an average price per kWh.

On the right hand side of the page check the totals for the year for the figures you have entered.

You will have to play with the figures here until the cost of pumping is reflective of your power bill.

The reason being is the COP template is calculated on the full motor output in kWh when in reality the motor(s) draw only what is required.

DIESEL

Enter the average litres of diesel used per hour and the net price of the diesel after the fuel tax credit

Again use the totals figures to the right of the page to reflect your fuel bill and litres used.

ESTABLISHMENT COSTS

Establishment Costs	Seeding rate	4.50	kg/ha
	\$ per kg	15.00	\$/kg
	Years harvested	6	yrs

Enter the seeding rate used when planted along with the \$/kg for the seed. You can adjust the years of expected harvests from the area. As the yield from a seedling crop is hit and miss it is assumed the first effective harvest is in the second year of the areas life. The template will add a year to what ever figure is entered here, then average the first year costs across the expected harvest life of the area. The template also averages across the harvest life 60% of the fertiliser, chemical and pest costs in the COP plus the harvesting costs.

FERTILISER COSTS

Granular	\$ / T	T or L used	Kg / ha		\$ / HA
Single Super	\$ 370.00	16.00	100	kg/ha	\$37.00
2 and 1	\$ 480.00	32.00	200	kg/ha	\$96.00
	\$ -	0.00	-	kg/ha	\$0.00
	\$ -	0.00	-	kg/ha	\$0.00
Liquid Fertiliser	\$/L				
	\$ -	-	-	L/ha	\$0.00
	\$ -	-	-	L/ha	\$0.00
	\$ -	-	-	L/ha	\$0.00
	\$ -	-	-	L/ha	\$0.00
% used on dryland compared to above	60.00%				

Enter the \$/T paid for each of the fertiliser types applied and the kg/ha. The same for the Liquid fertiliser, enter the \$/L and the L/ha applied.

DRYLAND – Use 100% of the rates entered if completing a Dryland COP only. Enter a lower figure if you want to have an estimate of the amount used on dryland compared to the irrigated areas if you would like to complete an irrigated and dryland COP in the one COP.

Cu- Mn is entered further down the page in with the insecticide applications.

FERTILISER CONTRACTOR RATES

	Applications	\$ / Ha	Freight / T
Applications Granular	2.0	\$5.00	\$30.00
Applications Liquid	0.0	\$11.00	

Enter the number of times the fertiliser is applied for the season, along with the \$/ha rate and \$/T to have it landed on farm. For the liquid applications enter the number of times liquid fertiliser is applied for the season. If using your own equipment you may wish to change the \$/ha rate or freight costs to suit your own situation.

CHEMICAL COSTS

WEED SPRAYING

Product	Drum Size	\$ Drum	\$ / L	rate/ha	\$ / Ha
Li 700	20	\$120	\$6.00	0.100	\$0.60
Diuron	15	\$125	\$8.33	0.830	\$6.92
Simazine	20	\$120	\$6.00	0.200	\$1.20
Dimethoate	20	\$170	\$8.50	0.150	\$1.28
Hammer	5	\$825	\$165.00	0.040	\$6.60
Sprayseed	20	\$195	\$9.75	2.500	\$24.38
Product	Drum Size	\$ Drum	\$/L	rate/ha	
Or enter total bill with ha in COP under drum size	160	\$6,555	\$40.97	1.000	\$40.97

Enter the individual products along with the size of drum, \$/drum and the rate/ha applied.

Alternatively you can add up and enter the total cost of the chemicals used in the \$/drum column, the number of Ha in the drum size column and an application rate of 1L/ha to get the same end result.

DRYLAND – Use 100% of the rates entered if completing a Dryland COP only. Enter a lower figure if you want to have an estimate of the amount used on dryland compared to the irrigated areas if you would like to complete an irrigated and dryland COP in the one COP.

INSECT SPRAYING

						Applications of
Product	Drum Size	\$ Drum	\$ / L	rate/ha		Product / season
Fastac	20	\$120	\$6.00	0.100	\$0.60	3
Lorsban	20	\$150	\$7.50	0.200	\$1.50	1
Maldison	20	\$185	\$9.25	0.500	\$4.63	1
Cu – Mn		\$/L	\$1.50	4.000	\$6.00	3

Enter the individual products along with the size of drum, \$/drum and the rate/ha applied. Plus add in the number of applications expected for each product type in the season.

Include here the Cu-Mn applications.

SPRAYING CONTRACTOR RATES

				\$ / Ha
SPRAY CONTRACTOR	Applications per year	6.0		\$11.00
SANITISATION /OVERSPRAYS	Percentage of total area	5%	8.0	ha

Enter the number of passes to apply all chemicals for the season and the \$/ha rate to apply it each time. If using your own equipment you may wish to change the \$/ha rate to suit your own situation.

SANITISATION is to allow for the areas of weed control like check banks, channels and or fence lines. The cost of sanitisation is on the weed control costs times by the percentage you enter here.

OTHER INPUT COSTS

PEST CONTROL		Bag size kg	\$/E	Bag	\$ / kg	Kg/ha/yr	\$ / Ha
	Shall Bait	500	\$750	0.00	\$1.50 \$0.00	25	\$37.50
					φ0.00		ψ0.00
POLLINATION		No / Ha				\$ / Hive	
	Hives	2.50				\$10.00	
		¢ / ka					
SEED CLEANING AND QA	Sood Cleaning	ው 14					
		φ0.14 Φ0.07					
	Seed QA and Levy's	\$0.07					
	Drying Seed	\$0.11	10)% 9	% crop dried		
	Certification	\$5.00	ha				
	Photosanitory	\$5.20	ha				
CROP MONITORING		Aaaaa					
	Crop Monitoring Irrigated Area	\$35.00	ha				
	Crop Monitoring Dryland Area	\$20.00	ha				
	Irrigation Scheduling	\$1,500	1	1 I	No of probes		

If allowing for seed drying costs put in a figure you think you should allow for. The costs of drying seed varies on the product delivered. When working on a specific line of seed you would expect to dry, adjust the % of crop dried to 100%.

Remember to include or take out Photosanitory inspections depending on your end market and product.

Remember to adjust the number of probes used in the area of this COP. If you own the probes divide the number of years you expect it to last by the purchase price for a more correct figure to use.

LEVY'S AND MEMBERSHIP

Water Lew	\$ / ML	ML	\$ \$3.067.20		
	φ2.01	Uncleaned/T	Cleaned/T	Admin fee / kg	Admin Fee
LA Membership		\$4.50	\$5.00	\$0.00305	400

If you include the total number of ML within your water licence the \$/ML should times out to your total water levy fee.

LABOUR INPUTS

LABOUR	No of labour units on lucerne	1
	Ha per labour unit	160.00
	% of annual time on Pivot Lucerne	10%
	% of annual time on Flood lucerne	35%
	% of annual time on Dry Land	5%
	Balc of time on other general farm work	50%
	Av entitlement including all wage fees	\$50,000

Adjust the % of time each labour unit on average would spend on each production area type e.g. Flood irrigation demands more time than dry land areas.

The number of labour components should be less if only costing one paddock for example rather than the total farm when more than one labour component is used.

HARVEST

Desiccating	ha	L / Drum	\$ / Drum	L/Ha	\$/L	\$ / HA
Sprayseed	80	20	\$195	2.000	9.75	\$30.50
	ha	\$ / Ha				
Wind Rowing	80	\$40	\$ / Hr	ha/hr	\$ / Ha	
Reaping	160		\$360	4.5	80.00	
On Farm Storage (No of Bins)	1	\$7,000				
Desiccating	ha	L / Drum	\$ / Drum	L/Ha	\$/L	\$ / HA

The default setting is windrowing costs unless you enter the area to be desiccated further up the top of the data sheet. If desiccating 100% of the area the windrowing area should equal zero ha. If you are playing around with area sizes you need to ensure the area desiccated matches your area. When the area desiccated exceeds the area in the COP the windrowing figure will be negative and show up as red to alert the area to be adjusted correctly.

INFRASTRUCTURE DETAIL IMPUTS

When entering data for loans the impact of compounding interest and the life of the machine can vary the COP substantially. All infrastructure types allow you to add a cash paid up front component if no interest is to be accounted for.

BORE COSTS

Drill bore and casing	Interest rate on purchase Length of Ioan in years Cost to drill and case bore Cost to clean hole and test flow Total cost to drill, case, clean and test bore Cash to put towards new bore(s) Scrap value / trade in value Expected life of machine	9.00% 5 \$12,000.00 \$3,500.00 \$15,500.00 \$0.00 \$0.00 25
		\$

This section is purely the sinking of the bore and casing ready to equip. Include here the cost of drilling, casing and the cost of cleaning out and test if appropriate. The expected effective life of the bore can change the bore costs in the results by a significant amount.

MOTOR COSTS FOR FLOOD / PIVOT / ELECTRIC / DIESEL

	Interest rate on nurshage	0.000/	
	Interest rate on purchase	9.00%	
	Cost of motor, bore head and delivery	\$20,000	
	Cash to put towards item	\$ 0	
	Expected life of machine	12.5	
	Length of loan in years	5	yrs
	Expected lifetime hours of Motor	10,000	hrs
	Cost of Column and Pump	\$20,000	
	Cash towards Column and Pump	\$ 0	
	Estimated life of machine	6	
Bore Electric Flood	Expected lifetime hours of Pump and Column	5,000	hrs
Irrigation	Scrap value / trade in value	\$1,000.00	
gation	Hours = Ha x ML/flow rate	800	800
	Reg & Insurance costs	\$500	
	Shedding if applicable	\$2,000	hp
	Av kW power per motor	55	74
	Cents per kWh	\$0.24	
	Repairs % of purchase value per 1000 hours	2%	\$320
	Inflation rate of new machine price per year	3%	
		\$	kWh
	Power Bill for all Flood Irrigation Motors	\$10,560	44,000

As some properties will have any combination of Flood, Pivot, Electric and Diesel Motors you can enter the costing for each type. Remember to add a cost of power supply to new motors if working on setting up a new area or considering changing from Diesel driven motors to Electric.

The figure per ha for each type is only included in the end figures if an area for the same type, number of pumps and yield are included on the front "Data" sheet.

The life expectancy of each item is calculated by the life hours of the item divided by the expected pumping hours per season. The higher the water use in ML/ha the shorter the life expectancy and also the higher the number of motors/pumps per ha the longer the expected life.

ML/Ha used in the "Data" sheet divided by the average flow rate to apply this amount over the area in the COP.

The cost of each item is calculated by using the purchase price of each item. This is compounded by the interest amount for the life of the loan. This is to show both the total purchase cost to own the item which is the same as the invested amount if the same price of the product was invested at the same return as the interest rate.

The annual cost of ownership is then calculated like any other annuity (loan repayment) compounded annually. This price is then divided by the expected life of the item to give an even cost of ownership over the items life time. For example you may take a loan out for 5 years on an item, but it may last 15 years, so the 5 year loan costs are spread across the 15 years.

There is a separate purchase cost and expected life span in hours for both the motor and the column and pump, as they are usually different in length.

PIVOT REPLACEMENT COSTS

	Interest rate on purchase	9.00%	
	No of pivots spans	12	
	\$ per span	\$25,000	per span
	Total purchase price of all Pivots	\$300,000	
ΡΙνότ	Cash to put towards item	\$0	
REPLACEMENT	Expected life of machine	20	yrs
COST	Length of loan in years	5	yrs
0001	Scrap value / trade in value per span	\$500	
	Insurance costs	\$500	
	Repairs % of purchase value per year	2%	\$1,419
	Inflation rate of new machine price per year	3%	
	Percentage of Pivot water licence used on seed crop	56%	

Adjust the figure per span to show the cost of all Pivots in the COP. Enter the cumulative number of spans used in the area of this COP in the "Data" sheet. For example:

- 1. 2 circles of 30ha with 5 spans per pivot equals 10 spans over 60ha
- 2. 2 circles of 30 ha with one towable 5 span pivot equals 5 spans over 60ha.

When considering a new Pivot, remember to include the cost of supplying the power to the new site, if using electric motors.

FLOOD IRRIGATION COSTS

Enter the basic data in the "Data" sheet such as:

	Cost of power to ALL Flood pumps	\$0
	Distance of Channel in km's	2.0
	No of flood Bays	80
FLOOD	Gates per bay	2
	Width of Bays	25
	Use Set up cost of Flood Irrigation	0
	Use maintenance costs for flood area	1

You will need to adjust the above every time you change the total area under Flood Irrigation. Enter a number one in the Set up cost of Flood Irrigation to use new area costs.

FLOOD IRRIGATION SETUP COSTS

	Interest rate on build costs	9.00%	
	Total cost of Flood Infrastructure	\$201,543	
	Cash to put towards item	\$ 0	
	Expected life of loan	10	yrs
	Laser Levelling per Ha	\$750	\$/ha
	Width of bays in Metres including check-bank on one side	25	metres
I LOOD BATS AND	Check bank building per 100M	\$50	\$ /100m
CHANNELS IO	Channel building per 100M (not including gates)	\$500	\$ /100m
SET UP	Distance of all Channels including delivery in KM	2.0	km
	No of gates per bay	2	
	Cost per gate installed	\$600	
	Automation per hav	\$0	
	Total number of flood bays	80	
	Scran value / trade in value	\$0	
		φυ	- -
	Interest rate on build costs	9.00%	
	Interest rate on build costs Total cost of Elood Infrastructure	9.00% \$123 320	
	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item	9.00% \$123,320 \$5.000	
	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item	9.00% \$123,320 \$5,000	VIE
	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years	9.00% \$123,320 \$5,000 10 \$250	yrs \$/bo
	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of house in Metroe including checkbook on one side	9.00% \$123,320 \$5,000 10 \$250	yrs \$/ha
	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side	9.00% \$123,320 \$5,000 10 \$250 25	yrs \$/ha metres
FLOOD BAYS AND	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading)	9.00% \$123,320 \$5,000 10 \$250 25 \$95	yrs \$/ha metres \$/HR
FLOOD BAYS AND CHANNELS	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates)	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100	yrs \$/ha metres \$/HR \$ /100m
FLOOD BAYS AND CHANNELS MAINTENANCE	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates) Time between checkbank grading in years	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100 1	yrs \$/ha metres \$/HR \$ /100m
FLOOD BAYS AND CHANNELS MAINTENANCE	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates) Time between checkbank grading in years Distance of all Cannels including delivery in KM	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100 1 2.0	yrs \$/ha metres \$/HR \$ /100m km
FLOOD BAYS AND CHANNELS MAINTENANCE	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates) Time between checkbank grading in years Distance of all Cannels including delivery in KM No of gates per bay	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100 1 2.0 2 2	yrs \$/ha metres \$/HR \$ /100m km
FLOOD BAYS AND CHANNELS MAINTENANCE	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates) Time between checkbank grading in years Distance of all Cannels including delivery in KM No of gates per bay Expected life of new gates	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100 1 2.0 2 14	yrs \$/ha metres \$/HR \$ /100m km
FLOOD BAYS AND CHANNELS MAINTENANCE	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates) Time between checkbank grading in years Distance of all Cannels including delivery in KM No of gates per bay Expected life of new gates Cost per gate installed	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100 1 2.0 2 14 \$600	yrs \$/ha metres \$/HR \$ /100m km
FLOOD BAYS AND CHANNELS MAINTENANCE	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates) Time between checkbank grading in years Distance of all Cannels including delivery in KM No of gates per bay Expected life of new gates Cost per gate installed Gate automation per flood bay	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100 1 2.0 2 14 \$600 \$0	yrs \$/ha metres \$/HR \$ /100m km
FLOOD BAYS AND CHANNELS MAINTENANCE	Interest rate on build costs Total cost of Flood Infrastructure Cash to put towards item Length of Ioan in years Laser Levelling per Ha Width of bays in Metres including checkbank on one side Checkbank maintenance (grading) Channel maintenance per 100M (not including gates) Time between checkbank grading in years Distance of all Cannels including delivery in KM No of gates per bay Expected life of new gates Cost per gate installed Gate automation per flood bay Expected life of laser levelling	9.00% \$123,320 \$5,000 10 \$250 25 \$95 \$100 1 2.0 2 14 \$600 \$0 14	yrs \$/ha metres \$/HR \$ /100m km

FLOOD IRRIGATION MAINTENANCE COSTS

The area and basic figures are from the same cells in the "Data" sheet as the new area figures. The difference being in the costs of maintaining the area instead of setting up a new area.

COSTS OF POWER TO ELECTRIC MOTOR SITES

COST OF POWERLINES TO PUMP SITE(S) FLOOD	Interest rate on loan Cost of powerlines to all FLOOD pumps Cash to put towards Power Line Supply No of Flood pumps electric Years of loan	9.00% \$0 \$0.00 1 15
COST OF POWERLINES TO PUMP SITE(S) PIVOT	Interest rate on loan Cost of powerlines to PIVOT pump sites Cash to put towards Power Line Supply No of Flood pumps electric Years of loan	9.00% \$0 \$0.00 1 15

When entering the cost of power to the pump sites the cost of the power is averaged over all of the area under the electric powered pumps, even if there is more than one electric pump in the COP. The Flood electric and Pivot electric costs will be allocated to their respective areas separately.

BUYING IN EXTRA WATER

	WHEN USING NEW PERMENANT WATER TYPE IN TOTAL AVAILABLE IRRIGATION AREA		Area in COP Ha
	Enter total area of irrigated area (including new extra Ha if any)	160	160
	Interest rate on loan Cost of water per MI	9.00% \$0	
Extra Permanent Water	ML Purchased	0	
Licence Purchased	Total cost of Permanent Water Aquired	\$0	
	Cash to put towards Purchase	\$0.00	
	Expected Life time of Licenced Water	40	
	Length of loan in years	10	yrs

Enter the ML purchased and the cost per ML. The expected life is set at 40 years as most people run a business from the age of around 20 to 60 years of age. Enter the area irrigated with the permanent water as this is the area the permanent water cost will be averaged over the total area under irrigation in the COP.

RESULTS SHEET

Here you will see a summary of the costs expressed in \$/Ha and also in Flood, Pivot and Dryland clean seed yield c/kg

The c/kg outcomes will only be shown if there is an area and yield figure entered in the "Data" sheet. The average price per kilogram is averaged with any combination of the answers provided. \$/ha costs are worked out by multiplying the c/kg cost by the clean seed yield per Ha as the clean seed yield is what payment is based on.

The margin on the COP is the difference between the cost in c/kg and the expected price received. The gross cost of production is the total figure needed to recoup the true cost of production when all costs are added for the season.

PRINT A4 SHEET

A single page of the results shown in c/kg for each production type included in the COP showing the results in subtotals of the different input areas.

SUMMARY SHEET

With so much information included in the COP it is almost impossible to remember the inputs that provide the outcomes in the Results and Print A4 pages. When printing the "Print A4" page it is recommended you print the "Summary" sheet to provide the inputs to the answers when printing out comparisons.

GRAPHS



Depending on the average yields in the "Data" sheet entered you may need to adjust the Start from kg/ha clean to show the graph in the correct zone you are interested in. You may also like to change the Yield Increments to show the graph in a format you prefer.



\$/kg to cover COP vs Yield Clean Seed

The black line is the average cost of seed produced per kg given the figures in the current COP. The black line will vary the most when adjusting the average yield harvested for each production type entered in the "Data" sheet.



The green area is showing the gross cost of production. The price increases with yield as once the core costs are covered there are increasing cleaning fees etc. that increase per ha as yield increases.



The red line is showing the cost of production per ha and the blue line the margin on cost of production given the average price of producing the seed and the expected price per kg to be received.