

# FARM VIABILITY COHORT: TRAIN THE TRAINER

NOVEMBER 2022

REBECCA FRIMMER

[KITCHENTABLECONSULTANTS.COM](http://KITCHENTABLECONSULTANTS.COM)



FARM VIABILITY TRAINING

---

MODULE 4

**KTC TOOLBOX:  
COST BY CROP**

---



Presented by



**PROVIDED BY**



---

# AGENDA

---

- Price vs Cost by Product
- Margins Example
- Costing Templates
- Key Considerations





## How should we approach price vs cost?

---

Farm finances are complicated.

After costs of goods, we have a pile of other expenses.

Don't forget about your indirect costs!

Start with the forecasts and work backwards.

**LABOR | GENERAL + ADMINISTRATIVE | FIXED | OPERATION**



---

## WHY WHOLESALING?

---

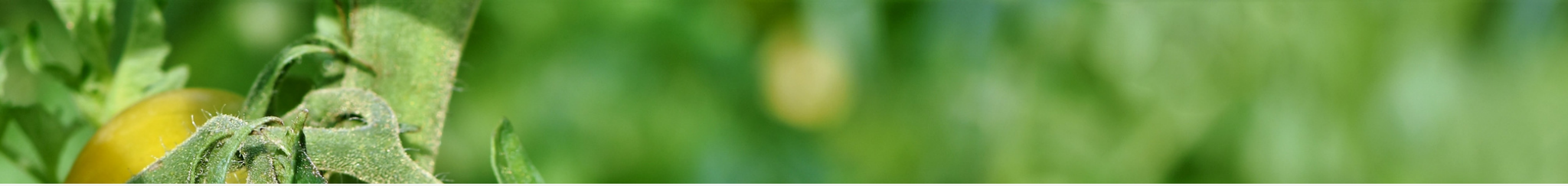
Diversify and reduce risk

Really good at producing a few, particular products

Justify equipment purchase for a particular opportunity

Strategy for unused land

Aware of possible wholesale customers on current travel route



---

**Starting up a wholesale enterprise without understanding product cost is dangerous.**

---

At a lower price point than direct-to-consumer, the farmer could unknowingly be losing money & reducing profits!



---

# COST VS PRICE BY PRODUCT

---

## Understanding Margin

*These suggestions are meant to be used as general guidelines, and the user should verify their own numbers and assumptions.*

Gross Margin is the % of income you retain after paying for very direct costs (For this model: COGS and Labor).

Sales Income - Costs of Goods Sold =  
**Gross Profit (\$)**

(Gross Profit/Sales) x 100 =  
**Gross Margin (%)**

What should my margin goal be?

How does that differ by sales channel? For what reason?

---

# COST VS PRICE BY PRODUCT

---

Wholesale vs  
Retail

- If you set a wholesale margin goal of 20-25%, all of your other expenses need to equal less than that % in order to produce a net profit.
- In wholesale, your expenses of selling should be much lower - staff time and materials.
- Retail margins need to be higher to cover that increased effort in sales and marketing.
- Blends of wholesale and retail operations mean we need to zoom out and look at big picture.



# MARGINS BY COST

- Let's say Mary sells potatoes at market for \$2 per pound.
- Wholesale price is \$25 for a 50lb. bag.
- That's \$2 per pound vs. \$0.50 per pound.
- Mary needs to drive a high enough margin to make a profit.
- Unless her **cost** is less than \$0.40 per pound, she does not meet her goal.

## Product Cost at \$0.40/lb



## Product Cost at \$0.50/lb



---

## THE PURPOSE OF THIS TOOL

---

Need an  
understanding of  
gross profitability  
on pricing.

Especially when  
setting a price for  
wholesale or  
subscriptions.

- Transparency on which parts of the enterprise are the biggest impacts on costs, and how that information helps you evaluate potential opportunities to sell more product.
- Begin a conversation about how we can manage costs and which costs we can most control and change.
- Know right away if you want to further engage a potential buyer once price has been discussed.

---

## SETTING UP THE MODEL

---

Start with a sales projection for this new enterprise and make sure that it generates profit.

Let's dig in and demo the spreadsheets.



---

# PROTEINS COSTING

---

## Cost Planning Considerations

- Taking a magnifying glass to each part of the process - where can we make tweaks in cost inputs?
- Impact of processing on the final cost
- Use the costing tool to test pricing and variations on processing order

---

# GRAINS COSTING

---

## Cost Planning Considerations

- How many acres?
- Is this a plot grains only or rotated?
- Custom hire vs. equipment purchase and return on investment

### *Food vs Feed*

- Learning curve on quality control
- Cleaning and storage
- Price vs effort for food vs feed grade
- Disease related crop loss
- Food grade crops are very challenging

---

# PRODUCE COSTING

---

## Cost Planning Considerations

- Start with a sales projection
- Helps to know your ballpark yields and detailed COGS
- Time tracking makes the costing model more accurate
- Having your financials in order makes it easier to know what to set as your goal margin

# MARGINS AND COSTS



## Critical Point for Trainers -

- Farmers usually chase sales. Sometimes they are losing money on what they are selling.
- At a smaller scale, they need to understand the value of their time, and the tradeoffs.
- Biggest opportunities for learning:
  - Profit over volume!
  - The lessons on price and margins are highly applicable to value added products, too. Sometimes spending more to process a product is a mistake.

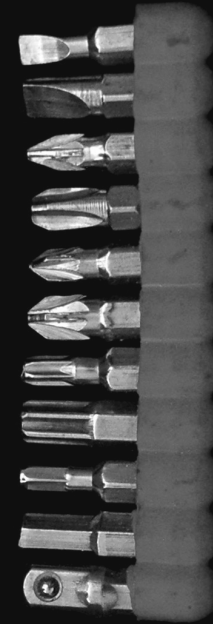
# What if your product isn't profitable enough?

- Create a new tab in the sheet or "save as"
- Try again with different data
- Equipment purchase opportunity?

---

TWEAKING  
YOUR MODEL

---







---

# PRODUCE COSTING SAMPLE SLIDES

---



Crop Costing Budget Worksheet				
<i>for wholesale readiness</i>				
fill in peach cells				
don't write over grey cells				
<b>Step 1: Fill in your crop, unit of measure, bed length and rows per bed below in the peach cells.</b>				
Crop:	carrots			
Harvest Unit of Measure:	pounds			
Bed length (linear feet)	300			
Rows per bed	2			
<b>Step 2: Consult your records for yield per bed, based on bed length and rows entered above.</b>				
<b>enter the wholesale price that you are testing with this model.</b>				
<b>enter a margin goal for this product - at least 20% for wholesale and 40% for retail is recommended.</b>				
<b>These sheets are meant to be used as general guidelines, and the user should verify their own numbers and assumptions.</b>				
Yield per bed (see row 9)	400	pounds		
Wholesale Price per unit	\$0.60	pounds		
Total Sale	\$240.00			
Profit margin goal	20%			
<b>Step 3: Enter the number of beds you plan to plant with this crop for wholesale in the peach cell below.</b>				
				Totals:
Projected Revenues	\$240	x number of beds:	5	\$1,200
Budgeted Expenses	\$192	x number of beds:	5	\$960
Budgeted Profits	\$48	x number of beds:	5	\$240

# SETTING UP THE MODEL

Crop, Bed Size, Yield,  
Price + Margin

**Step 4: Enter your cost per hour (or an average cost) for labor. Then enter your rate for taxes and benefits.**

Field Labor: cost per hour	\$12				
Taxes and Fringe Benefits	15%				
Effective labor costs per hour	\$14				

**Step 5: Enter your costs of direct inputs per bed (remember your bed length and rows entered in step 1).**

List your costs of seeds or starts, soil ammendments, or other inputs. Use scratch paper as needed or create a new tab to organize your "other" items.

If you don't know your plant start costs in your greenhouse, use the "Starts" Tab to calculate a cost.

Seeds or Starts	\$18				
Soil Ammendments	\$0				
Other 1	\$20				
Other 2	\$0				
SUBTOTAL	\$38				

What could we use "other" for?  
Any direct costs that can be tracked by bed.

**Note your labor budget: This is the (projected revenue - direct costs - margin goal) = your remaining budget for labor**

Labor Budget per bed	\$154				
Labor Budget in Hours, per bed	11.2				

Based on a goal of the margin you set, after direct costs.

## SETTING UP THE MODEL

Labor Cost + Direct Inputs

**Step 6: Enter your labor plan PER BED, using the same bed size and rows entered in step 1.**

**You are making estimates unless you have already collected data. Over the course of the season, you should refer to your estimates and aim to meet your plan.**

**A "feasible" budget for your wholesale price is less than or equal to your labor budget in hours per bed.**

Activity	# of passes per crop (must be at least 1 to calculate)	Time (in minutes) per pass	Notes:
Bed preparation	2	20	
Seeding or transplanting	1	30	
Thinning	0	0	
Cultivating	3	15	
Hand Weeding	2	30	
Pruning	0	0	
Trellising/Tying	0	0	
Irrigation	0	0	
Weather protection	0	0	
Fertilizing (side dress or foliar)	0	0	
Pest control (scouting, application)	0	0	
Harvesting to wash shed	1	120	
Clearing/Plowing under	0	0	
Washing/Packing	1	120	
Other	0		
Other	0		
<b>SUBTOTAL: LABOR TIME in MINUTES</b>	<b>10</b>	<b>415</b>	
<b>LABOR HOURS</b>		<b>6.9</b>	

Over the lifespan of this crop

Best estimate

You must use a # of 1 or greater under passes to calculate. We realize that washing isn't a pass down the row, but use 1 to complete the calculation.

# FORECASTING LABOR + TIME: CARROTS

Starts Cost Worksheet: crop costing input for wholesale readiness		
These sheets are meant to be used as general guidelines, and the user should verify their own numbers and assumptions.		
<b>Step 1: Fill in crop name</b>		
Crop:	Watermelon	
<b>Step 2: Fill in tray information</b> If your trays don't usually 100% germinate, enter a number of useable plants instead of tray size.		
TRAYS		
Tray Size or Useable Plants per Tray	47	
# of uses per tray	3	
Cost of tray	\$1.00	
<b>Step 3: Fill in the cost of seed per tray, potting soil, other products.</b> Be sure to enter costs by TRAY. Potting soil per tray can be calculated by measuring the soil required and comparing to your costs of bulk soil.		
PRODUCTS		
Seed (tray)	\$0.50	
Potting soil	\$0.02	
Other products	\$0.14	
Tag	\$0.06	

<b>Step 4: Calculate your Greenhouse "Rent" per tray.</b> Total Greenhouse costs include maintenance, utilities and other direct costs of running the GH. Use your planting plan to enter a number of trays run through the GH per YEAR.		
GREENHOUSE COST		
Total Greenhouse costs per year	7500	
# of trays per year	3500	
Greenhouse "rent" per tray	\$2.14	
<b>Step 5: Calculate your labor per tray. All inputs are in reference to the crop in step 1.</b>		
FILLING & SEEDING LABOR PER TRAY		
# of trays filled per hour	40	
# of trays seeded per hour	15	
Greenhouse Labor rate	\$14.00	
Taxes and Fringe Benefits	15%	
Tray filling labor	\$0.40	
Seeding labor	\$1.07	
<b>Step 6: Calculate your general labor per tray. All inputs are in reference to the ENTIRE greenhouse starts season.</b>		
GENERAL GREENHOUSE LABOR		
Hours per week of general labor in GH	18	
# of weeks of labor in GH for starts season	6	
Total cost of general labor in GH for starts	\$1,738.80	
Greenhouse labor, per tray	\$0.50	
<b>Step 7: Review your results</b>		
SUBTOTALS		
Tray Cost per plant	\$0.01	
Product Cost per plant	\$0.0153	
Rent per plant	\$0.05	
Labor per plant	\$0.04	
<b>Cost of Starts, per plant</b>	<b>\$0.11</b>	

# SETTING UP THE MODEL

Direct  
Inputs:  
Transplants

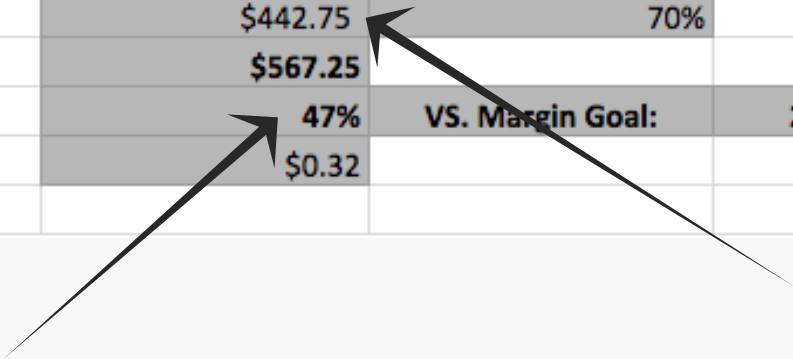
**Step 7: Review your crop cost analysis below. Here you can experiment with the projected return on the number of beds.**

**Fill in the peach cell below for # of beds.**

**Summary Crop Cost Analysis**

# of beds in crop plan	5		
Projected total yield	2000 pounds		
Income	\$1,200	% of labor budget:	
Direct Costs	\$190		30%
Labor	\$442.75		70%
Margin	\$567.25		
Margin %	47%	VS. Margin Goal:	20%
Cost per unit:	\$0.32		

From the price and yields you entered above



Compare this to your desired margin and decide if it's worth the effort

The time you projected multiplied by your effective labor cost multiplied by # of beds

---

# SUMMARY COST ANALYSIS

---

**Step 8: Use this section to experiment with a variable such as equipment purchase. This shows you a different scenario's outcome.**  
**Best practice is to create a new tab and copy this entire sheet - then experiment with the opportunity in a new tab to protect your data.**  
**Compare your results between tabs to see if you want to pursue the opportunity!**  
**Fill in the peach cell below for the name of the opportunity, and the cost for the growing cycle.**  
**Results will show you the effective impact on your margin for the period of time that you incur the cost of the opportunity.**  
**Be sure to adjust your labor or input numbers above to show the impact of the purchase.**

<b>Opportunity Assessment Scenario:</b>	<i>finance root washer purchase, \$2105 per year for 2 years, with 25% assigned to carrots.</i>	
Other Costs	\$526.25	root washer payment
Other Costs	\$0.00	
<b>Margin</b>	<b>\$41.00</b>	
<b>Margin %</b>	<b>3%</b>	
<b>Cost per pound:</b>	<b>\$0.58</b>	

These sheets are meant to be used as general guidelines, and the user should verify their own numbers and assumptions.

Impact on margin during debt payment

Remember that labor could be reduced greatly by this purchase

# OPPORTUNITY ASSESSMENT

*Let's say we want to reduce labor in the washing stage and spend \$4000 on a root washer. We borrow the money from a family member and are paying it back over 2 years with 5% interest. (\$175.49/month or \$2105.88/year)*

How many crops will I use this for? Create a % use plan to assign cost.

Ex: 25% carrots (\$526/year), 25% beets (\$526/year), 50% potatoes (\$1054/year).

Project how much time you will save (ex: 50% of washing time).

Consider that crop yield over the whole year (# of beds).

Re-run the model. Put your repayment cost in "other" under summary analysis. Play with # of beds.

---

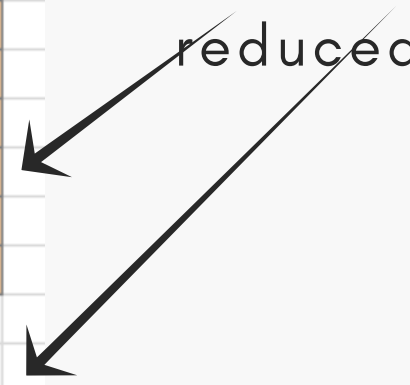
## ROOT WASHER CASE STUDY

---



<b>Labor Budget &amp; Activities</b>		
<i>all estimates should be per bed (see row 9 above)</i>		
<b>Activity</b>	<b># of passes per crop (must be at least 1 to calculate)</b>	<b>Time (in minutes) per pass</b>
Bed preparation	2	20
Seeding or transplanting	1	30
Thinning	0	0
Cultivating	3	15
Hand Weeding	2	30
Pruning	0	0
Trellising/Tying	0	0
Fertilizing (side dress or foliar)	0	0
Pest control (scouting, application)	0	0
Harvesting to wash shed	1	120
Clearing/Plowing under	0	0
Washing/Packing	1	90
Other	0	
Other	0	
<b>SUBTOTAL LABOR TIME</b>	<b>10</b>	<b>385</b>
		<b>6.4</b>

Time  
reduced




---

# ROOT WASHER CASE STUDY

---

<b>Summary Crop Cost Analysis</b>		
<i>Analysis is per bed (see row 9 above) - enter # of beds below</i>		
# of beds in crop plan	5	
Projected total yield	2000	pounds
Income	\$1,200	
Direct Costs	\$190	
Labor	\$442.75	
Other Costs	\$526.00	root washer payment
Other Costs		item
<b>Margin</b>	<b>\$41.25</b>	
<b>Margin %</b>	<b>3%</b>	

Margin reduced for 2 years until paid off.

<b>Summary Crop Cost Analysis</b>		
<i>Analysis is per bed (see row 9 above) - enter # of beds below</i>		
# of beds in crop plan	15	
Projected total yield	6000	pounds
Income	\$3,600	
Direct Costs	\$570	
Labor	\$1,328.25	
Other Costs	\$526.00	root washer payment
Other Costs		item
<b>Margin</b>	<b>\$1,175.75</b>	
<b>Margin %</b>	<b>33%</b>	

*What happens with a bigger crop?*

Can I sell 6000 pounds of carrots?

# ROOT WASHER CASE STUDY

# CROP COST MODEL

## Critical Point for Trainers -

- This is a FORECASTING tool. There are lots of other tools out there if you are collecting data for a season or year.
- This tool is meant to help gut check pricing and inputs before the harvest - farmers need to know how to sell what they're growing before they plant.
- Biggest opportunities for learning:
  - Getting comfortable with forecasting and educated guessing.
  - Getting comfortable with raising prices when needed.

---

Let's work in small groups to  
try out our costing tools!

---



# THANK YOU

## QUESTIONS?

REBECCA B. FRIMMER

REBECCA@KITCHENTABLECONSULTANTS.COM

703.593.5420

