Perspectives on Fresh Market Vegetable Farming

Scale, Income, Labor and Quality of Life

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Center for Integrated Agricultural Systems

- Created to in 1988 to:
  Facilitate interdisciplinary research on…
  Sustainable agriculture…
  To better serve the needs of smaller-scale, family farms
- Strong emphasis on listening to the needs of farmers and involving them in the development and implementation of research and education projects
- Citizens Advisory Council oversees and guides our work
- Exemplary work areas: Rotational grazing, Food Systems, Beginning Grower Training, Organic Farming

Stone Circle Farm

Stone Circle Farm

Small Farm Works LLC

Today's Topics:

Earning a Livelihood from a Small-Scale Vegetable Farm (Market Farm)

- Business Start-up
- Goal-setting
- Income Potential
- Capital (infrastructure)
- Labor
- Keys to Profitability

I will attempt to serve both a "Beginner" and "Non-beginner" audience

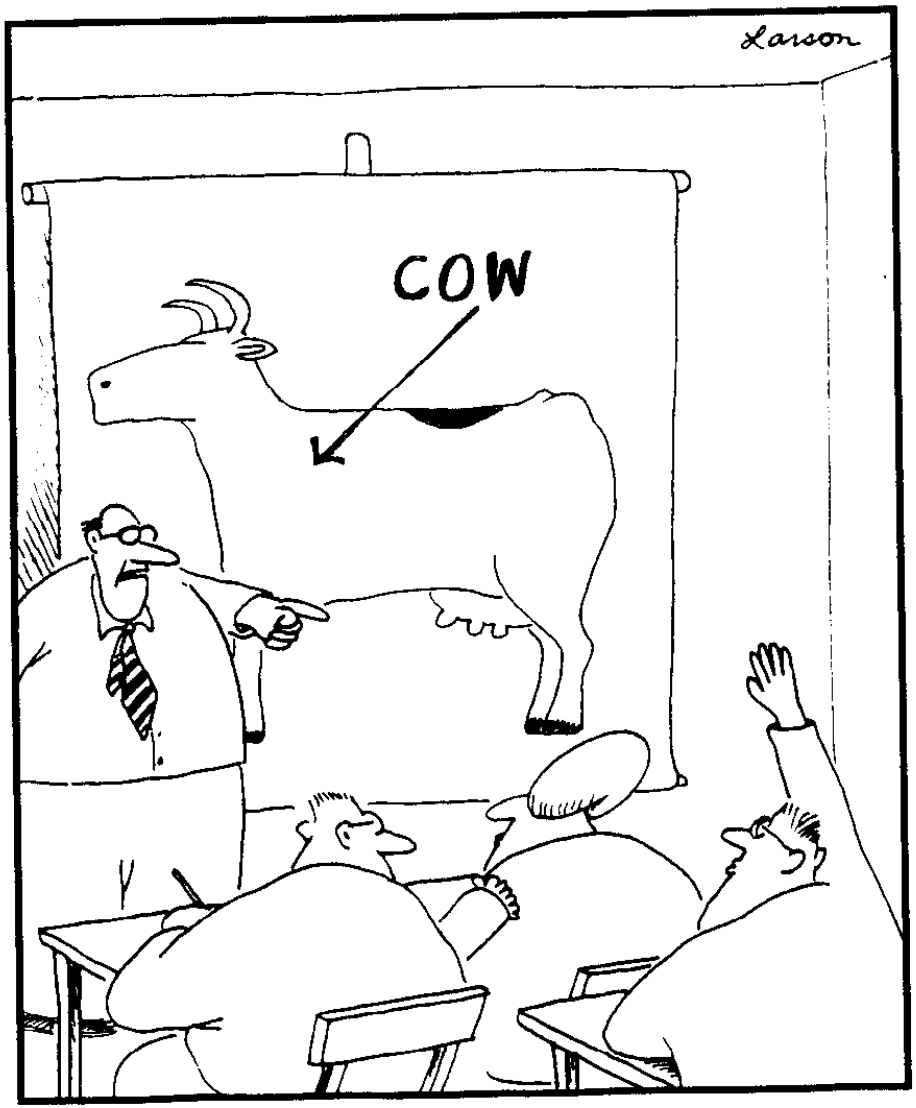
The Far Side®

·2001·

NOVEMBER

29

Thursday



"Yes … I believe there's a question there in the back."

Know this first…

- Most farm businesses are unique in that they involve homes and families
- Work, the workplace, and financial realities on the farm intertwine with relationships, running the household, and the financial realities of the family
- It's not JUST about cold, hard numbers…it's about *quality of life* issues and goals
- I highly recommend that you think carefully and *talk openly* about your values, your goals, and set priorities and boundaries
- It isn't easy…but it can work
- Sharpen your tools…Get and stay organized…Start small and grow slowly

Getting Started as a Fresh Market Vegetable Grower

Initial steps

- Skills / Resource assessment
- Setting goals
- Enterprise evaluation
- Information gathering
- Capitalization needs and priorities
- Business plans

Beginning Grower To-Do List

- ✓ **Personal Skills Assessment**
  - Crop production (soils, plants, animals, pests)
  - Marketing and Sales
  - Business Management
  - Bookkeeping and other recordkeeping
  - Employee Management
  - Do-It-Yourself Skills (construction, repair, tinkering…)

It is the rare person who can do all these things well!

If you do not have all these skills, how will these tasks be accomplished?

Beginning Grower To-Do List

- ✓ **Set Basic Goals**
  - Do you want to be full-time or part-time?
  - What are you income needs and goals?
  - Do you want to be an employer?
  - Do you want to be a certified organic grower?

There may be a time element to some of these goals.

Things may change over time!

Beginning Grower To-Do List

✓ Land / Property Assessment

- If you have land, for what is it best suited?
  - What is the land's cropping history?
  - What improvements should or could be made?
  - Make a list of pros and cons based on your farm's assets
- If you do not have land:
  - Make a list of desired features to guide your farm search (flat ground, soil quality, enough tillable land, water quality & availability, etc.)
  - Consider location relative to potential markets
  - Be prepared to spend a good deal of time looking
  - Consider renting

Beginning Grower To-Do List

✓ Evaluate Possible Enterprises

Combinations of crops and markets:

- Vegetables Sold at Farmers' Markets
- Vegetable CSA
- Direct Wholesale Vegetables and Herbs
- You-pick Berries
- Pastured Poultry to Restaurants
- Fall Tourism Farm with Apples and Pumpkins
- Cut Flowers at Farmers Markets and Events
- Flower bouquet subscriptions to businesses

Beginning Grower To-Do List

- ✓ **Investigate Target Enterprises** (those that take advantage of your skills and strengths) **and Expose Yourself to the Realities**
  - Visit lots of farms
  - If possible, work or volunteer on farms
  - Attend conferences, workshops, field days

Farm Beginnings

Wisconsin School for Beginning Market Growers

Beginning Grower To-Do List

- ✓ **Gather Key Information**
  - Production specifics
  - Financial information…especially as it relates to income and farm scale
  - Determine basic capitalization requirements
  - Gather information about licensing & permits
  - Available market opportunities
  - Pricing
  - Required licenses or other rules and regulations
  - If you do not already have land, investigate the specific needs of the crop you intend to grow

Beginning Grower To-Do List

- ✓ **Make a Plan**
  - Unless you plan to go to a bank for a loan, a complete, *highly detailed* **Business Plan** is optional
  - Balance the above with being as clear and specific as you can
  - Regardless, **do your homework**. Sketch out your objectives and a plan to get there
  - Make sure to include goals and incremental steps
  - Recognize that you will make many assumptions
  - Be flexible and expect to make changes to the plan
  - Be prepared for those first few lean years!

Some Planning Tools

- Grower to Grower, Hendrickson
- Sustainable Vegetable Production: From Start-up to Market, Grubinger
- Organic Farmers Business Handbook, Wiswall
- Iowa State budgeting tool
- The Internet!
- Spreadsheets
- WI School for Beginning Market Growers
- Farm Beginnings Program

Set Goals for Your Farm Business

- Decide how much income you ultimately want/need to earn from your farm.
- Set quality of life goals
- If you have a partner, do this with direct, open and honest communication!
- Make a plan to meet those goals over at least a 5 year period

Table 2-1

	Year 1	Year 2	Year 3	Year 4	Year 5
Gross					
Net					$30,000

Grower to Grower

- Data is from a USDA SARE funded project spanning 2002 through 2004 growing seasons
- 19 participating farms. All but one were highly diversified organic fresh market vegetable farms
- Farms were handpicked to represent a diversity of scales, marketing strategies, experience levels **and** to engender trust within the group
- Results cannot be generalized
- Data collected only for vegetable enterprise (and related crops)

Financial Benchmarks by Scale

	< 3 Acres	3 to 6 acres
Total Labor Hours per Acre		
Gross per Acre		
Payroll (% of Gross)		
Net to Gross		
Annual Capitalization		

The ½ to 2 Acre Market Garden

	Start-up	Mature
Total Labor Hours per Acre	1500 to 3000	2000
Gross per Acre	$6,000 to $12,000	$15,000 to $25,000
Payroll (% of Gross)	0% to 10%	30% to 40%
Net to Gross	0% to 20%	30% to 50%
Annual Capitalization	Whatever you have left!	5% to 20%

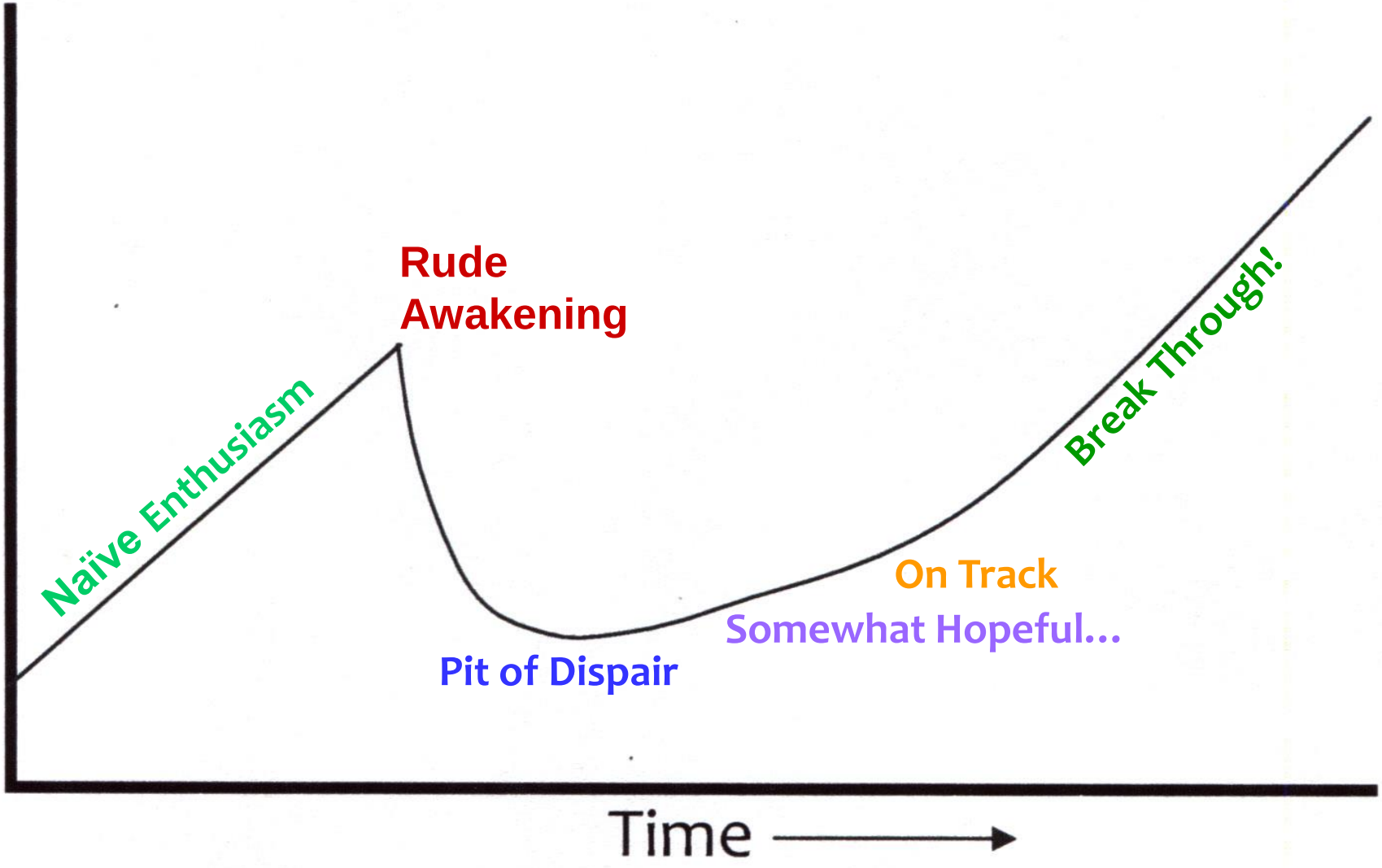
Revised Table 2-1

	Year 1	Year 2	Year 3	Year 4	Year 5
Gross					
Net					$30,000
Net to Gross					
Acres					
Gross per acre					

Revised Table 2-1

	Year 1	Year 2	Year 3	Year 4	Year 5
Gross	$15,000	$18,000	$30,000	$48,000	$70,000
Net	$4,000	$6,000	$10,500	$18,000	$30,000
Net to Gross	27%	33%	35%	38%	43%
Acres	1	1	2	3	4
Gross per acre	$15,000	$18,000	$15,000	$16,000	$17,500

Reality Curve



Hypotheticals

	2 acre farm	5 acre farm	20 acre farm
Gross sales	$34,000	$75,000	$200,000
Net cash income	$14,000	$30,000	$70,000
Payroll	$7,000	$20,000	$60,000
Operating expenses	$10,000	$17,000	$50,000
Capital re-investment	$3,000	$8,000	$20,000

Creating a Farm Budget

Tools:

- Paper and pencil
- Computer and spreadsheet
- Information (Research)
- Willingness to “make a stab at it”

First Steps:

- **Set parameters:**
  - Acreage
  - Income goals
  - Market(s)

Best First Year Marketing Options

- Farmers' markets
- Small CSA (family and friends)
- Marketing cooperative or similar aggregation business
- Farm stand

Not recommended:

- CSA larger than 30 members
- Restaurants (unless you have a friend that is a chef or owns a restaurant)
- Retail stores
- You-Pick

Creating a Farm Budget: Income

Income	High	Low
CSA Shares		
30 shares @ $500	$15,000	$10,000
Farmers' Market		
25 weeks @ $750	$18,750	$15,000
Miscellaneous Sales	$500	$250
TOTAL	$15,500 $19,250	$10,250 $15,250

Creating a Farm Budget: Expenses

Item	Cost High	Cost Low
Seeds	$750	$500
Boxes 100 5/9ths boxes 100 1 and 1/9th boxes	$250	$200
Bags 1 Roll produce bags	$18.67	?
Fuel Mileage to market x number of markets Mileage to town x 50 Tiller & mower: 5 gal every two weeks		
Potting mix		
Printing CSA brochures		

The possibilities are many…














SAMPLE BUDGET:
100 Share CSA on 3.5 Acres

INCOME:	
100 Shares @ 585	58,500
100 Winter shares @ 75	7500
Bedding Plants	2000
Total Income:	**68,000**
EXPENSES:	
Administration:	1000
Vehicle:	5000
Equipment:	7000
Fuel:	500
Supplies:	5500
Insurance—liability	1000
Labor:	9000
Taxes:	1500
Seeds:	1500
Utilities:	1000
Farmer Compensation:*	35,000
Total expenses:	**68,000**

* Farmer compensation can include: wages, taxes, insurance, retirement, mortgage—individual circumstances will vary

How do we make it happen? What do we need?

- A measure of creativity and stubborn perseverance certainly helps…
- Markets and marketing
- Capital (Facilities and Equipment)
- Labor
- Recordkeeping

Equipment and Facility Needs

- Approximately $10,000 per acre
- Facility Needs for a 2 acre market farm:
  - Greenhouse: 400 to 600 square feet
  - Pack House: 150 to 300 square feet
  - Cooler: 250 to 350 cubic feet
- Equipment Needs:
  - 25-50 hp tractor
  - Variety of implements:
    - rotovator, mower, field cultivator, chisel plow
  - Irrigation equipment
  - Hand tools (seeding and weed cultivation)
  - Harvest tools and crates / Harvest cart or wagon
  - Wash Tank / Hands-free wash station / Scale
  - Delivery vehicle / Market tent
  - Computer / phone / email / website

Capitalization Priorities and Decisions

- Set goals for yourself and your business and use them to guide priorities and decisions
- Visit other farms and talk to other growers
- Consider carefully the purchase of all equipment, tools, and implements:
  - Do I *need* it, or *want* it? Does it fit within the context of my over-all farm plan?
  - Do I need to own it? (rent, borrow, contract)
  - Does it fit my scale? Does it fit the scale I want to reach?
  - What does it cost? What does it cost to operate? What is its resale value?
  - Is it durable? Can I repair it myself?
  - Is it easy to use? Is it enjoyable to use? Can others use it?
- Mechanize areas that demand significant time

The “Front End” of the Market Farm

- Transplant Production (Greenhouse)
- Power/Traction/Horsepower
- Primary tillage tools
- Direct seeding

The “Middle” of the Market Farm

- Irrigation
- Weed Management
- Insect and Disease Management
- Fertility and Cover Crop Management

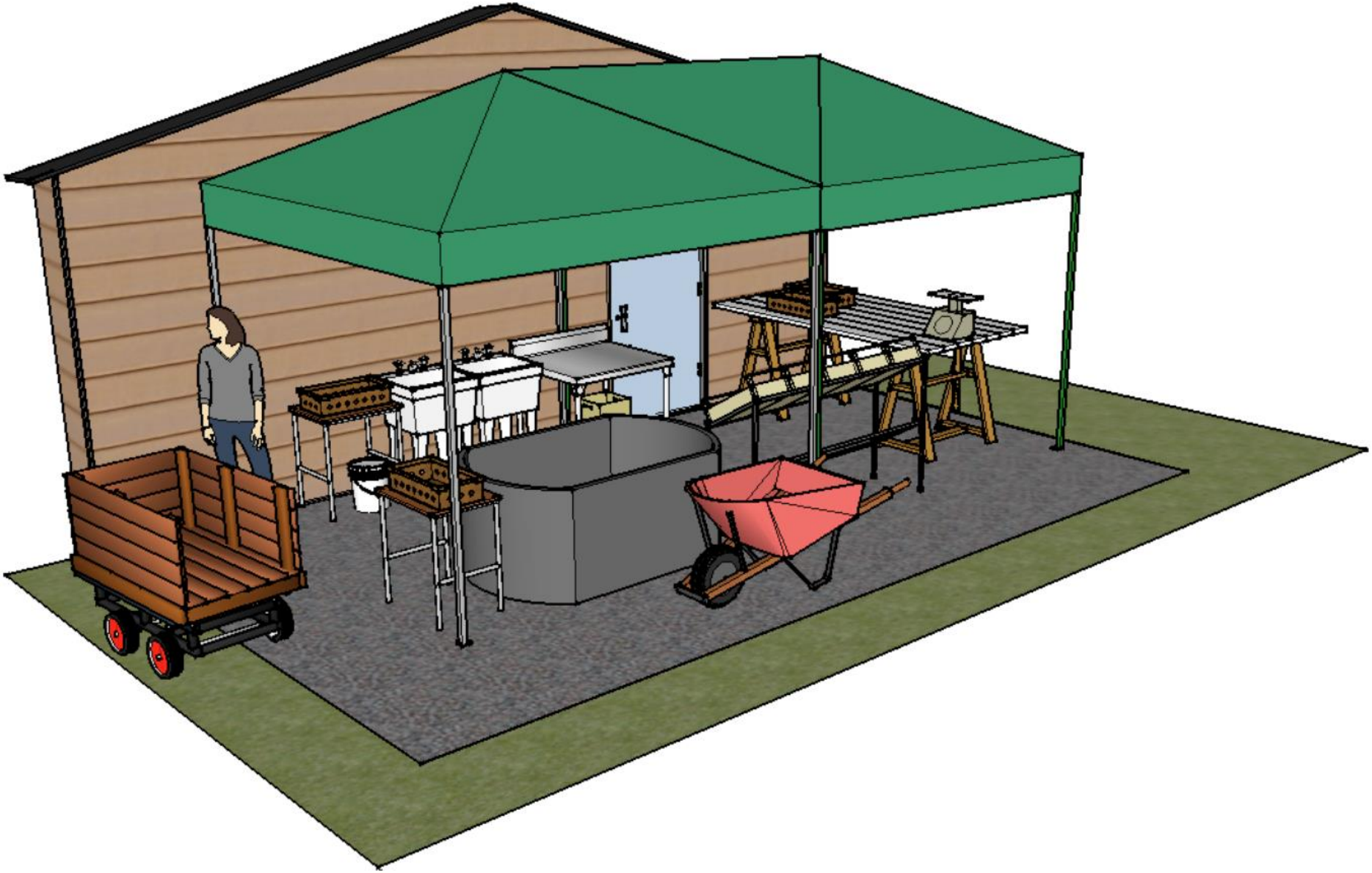
The “Back End” of the Market Farm

- Harvest Aides
- Post Harvest Handling
- Storage
- Delivery
- Marketing/Sales

As important as soils and field work are, on a market farm the washing & packing shed is a critical focal point of activity and crucial for quality and business success

Hands Free Wash Station

Basic Washing and Packing Area



Avoid the “Picnic Table Approach” to washing and Packing Vegetables

The CoolBot Alternative

CoolBot enables you to use an off-the-shelf window air conditioner to cool a well-insulated room down to 33-40 degrees. The cost of this unit is approximately $300.

Available at: www.storeitcold.com

- **Cheaper up-front cost compared to a standard walk-in cooler**
- **Cheaper to run, maintain, and replace**
- **Not optimal for farms needing to cool down significant volumes of produce**
- **Not ideal in terms of humidity**
- **Perhaps best suited to farms who only need to store produce for short periods of time**
- **Excellent option for the small grower or as a secondary, 45-50 degree cooler for things like tomatoes, cucumbers, eggplant, etc.**

Labor

- Absolutely your biggest expense
- For many crops, this is likely the factor where you can have the biggest impact on profitability
- Focus on maximizing the impact of labor and improving efficiency
- Get and stay organized!

Labor Hours per Acre

Farm scale	Total hours per acre		Farmer % of total
	Range	Average	
< 3 acres	933 to 2,994	1,957	33% to 98% 60% avg
3 to 6 acres	614 to 1,443	1,000	53% to 97% 64% avg
6 to 12 acres	402 to 986	707	40% to 67% 53% avg
> 12 acres	462 to 613	554	17% to 45% 31% avg

Labor by Activity: Farm A

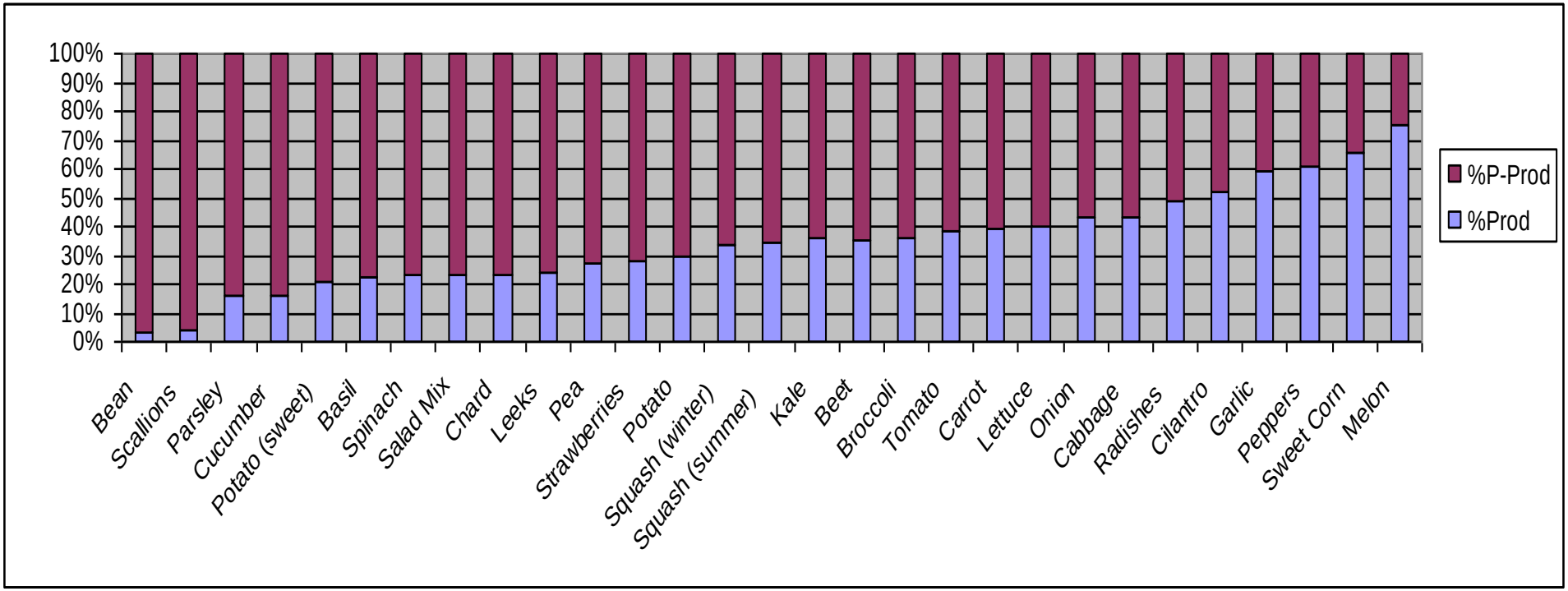
Harvest	1719 hours	45%
Post Harv.	509 hours	13%
Hand Cult.	462 hours	12%
Greenhouse	258 hours	7%
Transplant	201 hours	5%
Other	170 hours	4%
Mkt. Delivery	143 hours	4%
Seeding	136 hours	4%
Field Prep	64 hours	2%
Machine Cult.	57 hours	1%
Irrigation	42 hours	1%
Pest Mgmt.	29 hours	1%

Harvest + Post Harvest	58%
Harvest + Post Harvest + Delivery	62%

Labor by Activity: Farm B

Harvest	25%
Post Harv.	19%
Hand Cult.	15%
Transplant	14%
Greenhouse	9%
Other	9%
Irrigation	5%
Seeding	2%
Field Prep	2%
Pest Mgmt.	1%
Harvest + Post Harvest	43%

Production vs. Post-Production Labor



Maximizing the Impact of Labor

- Develop efficient system and get organized BEFORE hiring workers
- Be careful about who you hire and be clear about your expectations
- Spend time training your employees
- Set standards and target times for tasks
- Weed management
- Invest in facilities, tools, and equipment to make harvest and post-harvest handling more efficient

LABOR WARNING:

- Farming is hard work and, most often, financial returns are modest
- Most specialty crops are **extremely** labor intensive
- A highly diversified vegetable farm is very complex and exhausting—both physically and mentally
- Do not grow organic vegetables unless you LOVE weeding
- It is VERY challenging to run a successful business without detailed record-keeping

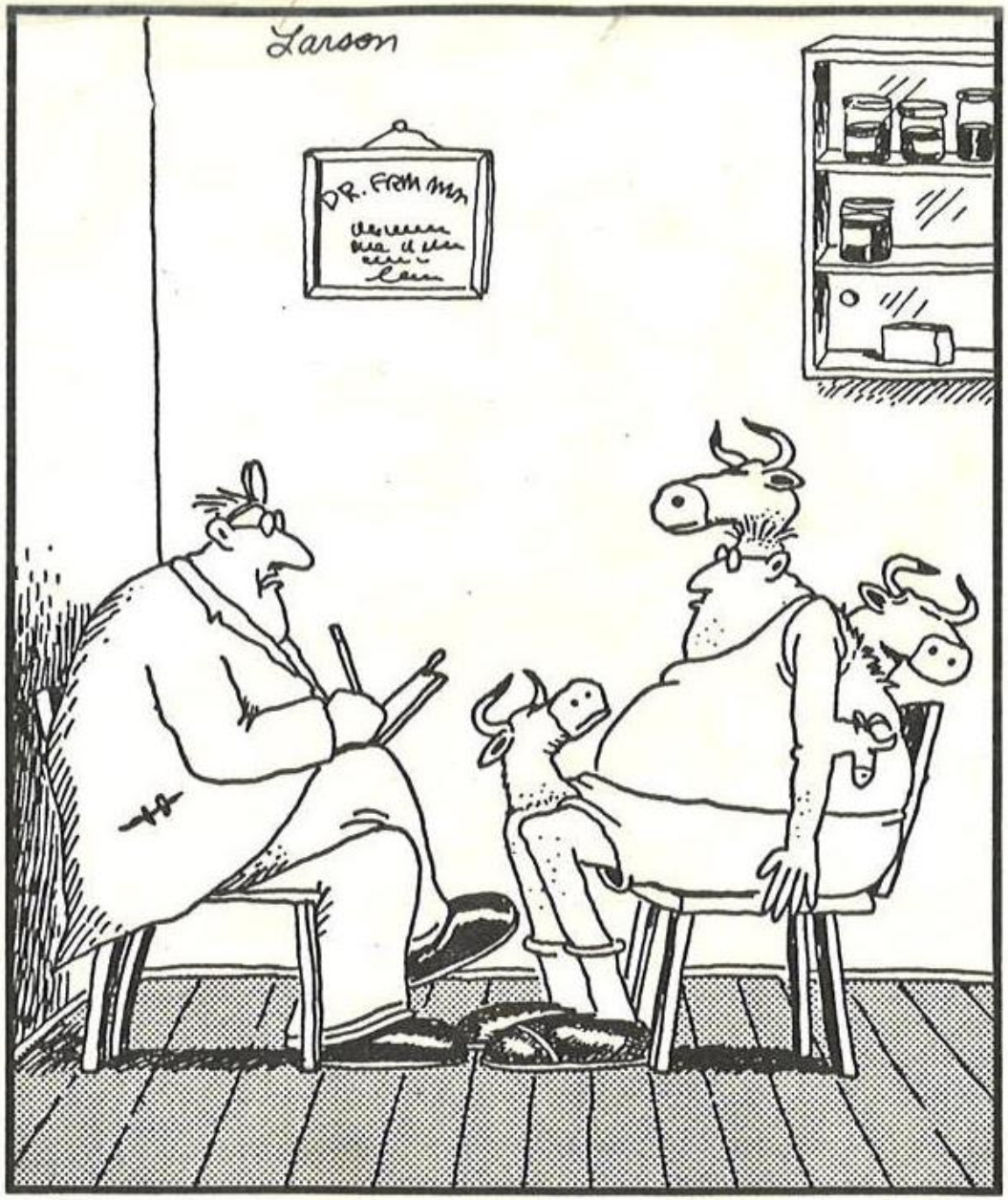
You Don’t Get Winters Off

Typical Farmer Work Hours:

Dec – Feb	25 to 35 hours/week
March – May	35 to 45 hours/week
June – Nov	65 to 75 hours/week

Winter work on a farm is VERY important:

- Record-keeping, Data analysis, Tax prep
- Marketing
- Planning
- Buying equipment and supplies
- Repair, maintenance and construction



"I'm afraid you've got cows, Mr. Farnsworth."

The Crux: Record Keeping

- Recordkeeping is often not our favorite activity
- Often considered to be time consuming
- Therefore, often ignored, delayed, underutilized

WHAT TO DO?

- Get better, get help, get organized
- Keep only records that you need and will use
- Keep records required by law
- Keep records which help you review and plan

Standard Financial Tools

- Budgets - a financial plan that includes estimated revenues and expenditures for a stated period of time
- Cash Flow – a financial statement showing sources and uses of cash during an accounting period
- Profit and Loss – reports on the performance (profit or loss) of your business over a specific time period
- Balance Sheet – snapshot of financial health
- Ratios:
  - Product profit margin = net income / sales
  - Farm net to gross = net income / gross
  - ROA = Return on investment
  - Capital investment to gross =

Record Keeping Tools

Many options…find one that works for you

- Log books (crop journal, mileage log)
- Calendars
- Whiteboard
- Time cards
- Spread sheets
- Professional services (computer programs)
- Financial software (such as Quickbooks)
- Hand-held electronic devices

Make it part of your **routine**; make it a **habit**

Get organized NOW!

Recording Keeping Challenges

Biggest Overall Expense?

Labor

Most variable expense from crop to crop?

Labor

Hardest Expense to track?

Labor

Labor Record Keeping Practices

- Track your time by crop on a regular basis
- Require employees to do basic record keeping such as field activities, harvest amounts, and tracking time by crop
- Do it every day or twice a day
- Develop a table with standard times for repeated tasks
- If you simply can’t do it, find someone else who can and will.

Veggie Compass Labor Forms

Farm Name_____ Date

	Greenhouse Hours Field Growing Hours	Harvest & Packing Hours	Notes
Not Crop Specific:			
Asparagus:			
Beans:			
Beet:			
Broccoli:			
Cabbage:			
Carrot:			
Cauliflower:			
Cucumber:			
Eggplant:			
Garlic:			
Herb:			
Kale/Collards:			
Leek:			
Lettuce:			
Melon:			
Onion:			
Pea:			
Pepper:			
Potato:			
Radish:			
Salad Mix:			
Spinach:			
Squash, summer / Zucchini:			
Squash, winter:			
Sweet Corn:			
Tomato:			
Other:_____			
Other:_____			
Other:			

Farm_____ DATE_____

CROP SPECIFIC ACTIVITY (circle one)

Field Growing Harvest & Packing

CROP (circle one)

Bean Beet Broccoli Cabbage
Carrot Chard Cuke
Eggplant Garlic Kale/Collard Leek
Lettuce Melon Onion
Pea Pepper Potato Radish
SaladMix Scallion Spinach
SmSqsh SwtCorn Tomato WinSqsh
Zucchini Herb/Other_____

CROP SPECIFIC HOURS

NOT CROP SPECIFIC ACTIVITY

Greenhouse Hours

Field Growing Hours

Harvest / Packing Hours

Short Form – Captures production labor by task, so workers may fill out many sheets in 1 day

Long Form – Captures production labor for 1 day on 1 sheet

Stone Circle Farm Work Log

* Required

Who are you?*

☐John ☐Maria ☐Emmett ☐Eli

Date (if different than today)

Crop*

Not crop specific

Activity*

☐Growing ☐Harvest/Pack ☐Greenhouse

☐Office/Admin ☐Repair/Maintenance/Construction

☐Other

Time*

Stone Circle Farm Work Log

* Required

Who are you?*

☐John ☐Maria ☐Emmett ☐Eli

Date (if different than today)

Crop*

Not crop specific

- **Not Crop Specific**
- **Basil**
- **Beets**
- **Carrots**
- **Cucumbers**
- **Garlic**
- **Kohlrabi**
- **Melons**
- **Onions**
- **Peas**
- **Peppers**

A

st/Pack ☐Greenhouse

r/Maintenance/Construction

T

Survey of Organic Vegetable Farmers

- Farms that are satisfied with their current farm record keeping system tend to be very satisfied or satisfied with their profitability!

Veggie Compass

A Tool for Whole Farm Profit Management

Fresh Market Vegetable Farms

- Realities:
  - Diversified vegetable farms grow lots of crops
  - Diversified vegetable farms often have several marketing outlets
  - In addition to some shared overhead and direct costs, different markets each have their own ***unique*** costs
  - Prices usually vary from market to market
  - Many growers keep imperfect, incomplete records
  - Labor, the biggest expense on a vegetable farm, is the most difficult in terms of record-keeping

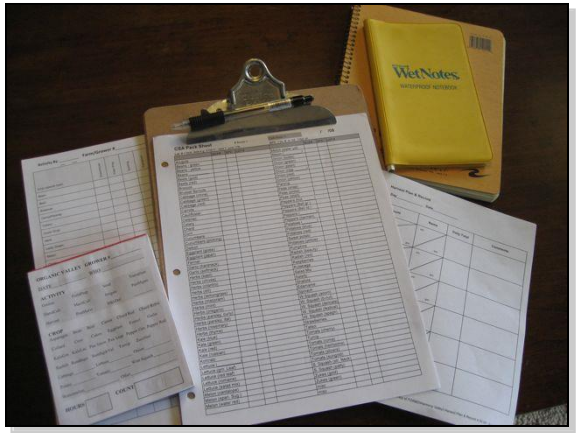
  As a result, many growers do not know what crops on their farms are the most profitable or have a good sense whether their pricing is adequately covering their costs of production

- Enter **Veggie Compass**:

  A spreadsheet tool to help diversified vegetable growers determine costs of production and profitability **by crop** and **by market**.

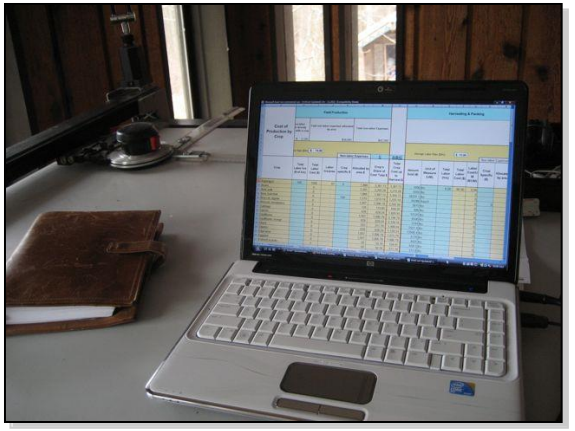
Veggie Compass

Inputs



- Farm Expenses
- Farm Sales
- Growing area of each crop
- Crop specific expenses
- # of plants in greenhouse
- Total greenhouse labor hours
- Labor hours by crop - field growing, harvest & packing
- Not Crop Specific (NCS) hours

Outputs



- The cost of a crop up to harvest
- Total cost of a crop through harvest & packing
- Cost to produce each crop in $/lb
- Break even prices
- Total labor costs by crop
- Gross margin by market channel

Input: Step 1

Veggie Compass - Whole Farm Profit Management

Step 1: Expense Input Page

Use this sheet like you would a schedule F tax form. Enter the amount spent on each expense in the Total Cost column. But then allocate that cost to the appropriate farm activities. For example, under wages, the total cost for Clerical & Office labor may be $15,000 but that should be distributed over General Mgnt. & Admin, CSA, Farmer's Market, Wholesale, Restaurant, Resell as appropriate. All greenhouse, field growing and harvest & pack labor should be recorded in the Pink Production Labor column. Be sure and allocate repair and maintenance of buildings and equipment over the variuos farm activities as necessary. You may not need all the rows or columns to track expenses on your farm, so use the level of detail that best fits your operation.

Expenses	Total Costs $	General Mgnt. & Admin.	Seed	Green house	Field Growing	Harvest & Packing	Production Labor	CSA	Farmer's Market	Wholesale	Stand	Resale	Check
Labor Expense:													
Wages:													0
Clerical & Office													0
Management (owner/other)	$48,000	$18,000					$30,000	$0	$0		$0		0
Machine Shop													0
Production Labor	$52,951						$52,951						0
Distribution Labor	$13,149							$1,495	$4,354	$500	$5,435	$1,365	0
Work Exchange Labor													0
Worker Bonuses/Gifts													0
Employee Benefits:													
Food	$200	$200											0
Employee Housing	$4,000						$4,000						0
Visa h2A expense	$0	$0					$0						0
Health & other Personal Ins.	$14,200	$5,000					$9,200						0
Retirement Plan	$7,000	$7,000											0
Other													0
Payroll Taxes													
FICA - Social Security	$19,500						$15,660	$461	$1,344		$1,835	$200	0
Worker's Comp	$3,500						$3,500						0
FUTA - Fed Unemp	$1,500						$1,500						0
SUTA - State Unemp													0
Insurance:													0
Crop													0
Auto	$1,500						$300		$800		$200	$200	0
Farm	$1,300	$1,300					$0						0
Other Insurance	$2,000	$2,000											0
Car & Truck Expense:													0
Car													0
Market Truck	$2,000								$2,000				0
Delivery Truck													0
General Farm Truck	$2,500	$0			$2,300		$0					$200	0
Fuel:													0
Unleaded Gas	$2,200				$300				$1,600		$0	$300	0
Diesel	$1,500				$1,500								0
Tractor Gas	$1,100				$1,100								0
LP - Greenhouse	$2,200			$2,200									0
LP - Other													0
Electricity	$4,200			$500				$1,000	$1,700		$500	$500	0
Telephone	$1,500	$1,500											0
Internet	$650	$650											0
Repair & Maintenance:													0
Buildings & Equipment	$17,000	$4,700		$0	$10,000	$800		$0	$0	$0	$1,500	$0	0
Other													0
Supplies:													0
Crop	$14,000				$14,000								0

Input: Step 2

Veggie Compass - Whole Farm Profit Management

Step 2: Sales Input Page

1) From outside records, enter in the cream colored box to the far right the total income for each of the line items in red font (only the red font items- the others will be automatically calculated once you enter crop sales data). 2) Enter your crops and the unit of measure used for each. Some crops may be tracked in different units, so you will need to enter them separately such as bulk spinach, bunched spinach and bagged spinach. 3) Enter the sales dollars received for each crop in each market channel. Total crop sales for each market channel will appear at the bottom of the page and in the cream colored income box to the far right. 4) Enter the number of units sold of each crop in each market channel. The average unit price will automatically be calculated. NOTE: To ensure total CSA sales recorded in column C matches the amount collected for CSA shares/baskets (and entered in cell S6), an adjusted sales function has been added for this market channel (column D). Except for the CSA market channel, total sales for all other market channles will be autofilled in the creamed colored box to the far right, where total income will be calculated automatically.

Crop	Unit of Measure Lbs, bunch, head, etc	CSA				Farmer's Market			Wholesale			Stand		
		Sales ($)	Adjusted Sales	Units Sold	Average Unit Price	Sales ($)	Units Sold	Average Unit Price	Sales ($)	Units Sold	Average Unit Price	Sales ($)	Units Sold	Average Unit Price
broccoli	pound	$180	$180	120	$1.50	$660	200	$3.30	$0	-	0	$0	-	0
lettuce	head	$1,500	$1,500	500	$3.00	$10,500	3,500	$3.00			0	$300	100	$3.00
tomatoes, hybrid	pound	$1,200	$1,200	500	$2.40	$21,000	7,000	$3.00	$22,500	12,500	$1.80	$12,000	5,000	$2.40
tomatoes, heirloom	pound	$1,200	$1,200	400	$3.00	$9,600	2,700	$3.56	$7,500	5,000	$1.50	$1,200	400	$3.00
herbs	bunch	$1,250	$1,250	500	$2.50	$17,500	7,000	$2.50	$3,600	1,800	$2.00	$450	200	$2.25
flowers	bucket		$0		0	$2,160	90	$24.00			0	$240	10	$24.00
arugula	bushel	$240	$240	4	$60.00	$1,920	32	$60.00			0			0
basil	bunch	$1,500	$1,500	600	$2.50	$7,125	2,850	$2.50	$900	600	$1.50	$250	100	$2.50
beans	pony	$540	$540	12	$45.00	$3,825	85	$45.00			0	$675	15	$45.00
beets	bunch	$1,200	$1,200	400	$3.00	$5,610	1,870	$3.00			0	$360	120	$3.00
cabbage	head	$750	$750	250	$3.00	$2,400	800	$3.00			0			0
carrots	bunch	$840	$840	240	$3.50	$6,160	1,760	$3.50			0			0
cauliflower	crate	$120	$120	4	$30.00	$1,140	38	$30.00			0			0
chard	bunch	$1,200	$1,200	400	$3.00	$4,500	1,500	$3.00			0	$450	150	$3.00

TOTAL CROP SALES	CSA	CSA Adjusted	Farmer's Market	Wholesale	Stand
	$29,695	$29,695	$215,565	$55,025	$22,515

Input: Step 3

Veggie Compass - Whole Farm Profit Management

Step 3: Production Input Page

Enter the seed cost and number of plants raised in the greenhouse for each crop. Specify the area planted to each crop, such as acres, row feet or square feet. The same unit must be used for each crop. Then enter the labor hours Field Growing and Harvest & Packing for each crop. If there are Field Growing and/or Harvest & Packing supplies specific to certain crops, enter those values here. From labor records, enter the total Greenhouse labor hours, and the Not Crop Specific (NCS) hours for Field Growing and Harvest & Packing in the blue boxes to the right. The value in the bright yellow box is a calculation of your true labor costs per hour.

		Seed & Greenhouse		Area Planted Pick a Unit:	Field Growing		Harvest & Packing			
Crop	**Unit of Measure**	**Seed Cost ($)**	**# of Plants in Greenhouse**	**Acres**	**Total Labor hrs by crop**	**Crop Specific Field Costs - nonlabor ($)**	**Total Labor hrs - Harvest & Packing**	**Crop Specific Harvest & Packing Costs - nonlabor ($)**	**Actual Labor Cost per Hour**	**$13.11**
broccoli	pound	$100	1,600	0.2	35		40		Total Hrs worked in Greenhouse *	800
lettuce	head	$125	6,000	0.25	50		150			
tomatoes, hybrid	pound	$250	4,000	1	300	$3,480	900			
tomatoes, heirloom	pound	$70	2,000	0.5	175	$1,740	600		Total Non-Crop Specific Hrs spent Field Growing *	200
herbs	bunch	$100		0.25	30	$250	200			
flowers	bucket	$25	500	0.01	5	$35	120	$25	Total Non-Crop Specific Hrs spent Harvest & Packing *	300
arugula	bushel	$10		0.06	5		25			
basil	bunch	$10	1,700	0.08	20	$278	175			
beans	pony	$125		0.5	25		250			
beets	bunch	$210		0.2	30		250		* Insert amount from outside records	
[redacted]										
Totals:		$6,684.00	60,700	7.52	1,949.00	$13,349	5,660.00	$25		

Acres
Row Feet
Sq Feet

Veggie Compass | STEP 1 Expenses Input | STEP 2 Sales Input | **STEP 3 Production Input** | Cost of Production by Crop | Sales Output | P & L By Market Channel

Output: Cost of Production

Veggie Compass - Whole Farm Profit Management	Seed	Greenhouse		Field Growing						TOTAL (thus far)	
Cost of Production by Crop	Seed Total Expenses $6,684.00	Greenhouse Total Expenses with Labor $15,589		Field Growing Total Crop-Specific Expenses (without Labor) $13,349	Field Growing Expenses Allocated to Crops by Area (without Labor) $35,791		Field Growing Total Expenses (without Labor) $49,140				Ha C
Yellow = input data (Steps 1,2,3)		Expenses allocated to crop by proportion of plants grown		Actual Labor Costs ($/hr) →	**$13.11**						
Tan = calculations	A		B		Field Growing Labor Costs			FG NonLabor Costs		C	A+B+C	
Crop	Seed Cost	# of Grnhouse Plants	Crop's Share of Total Grnhouse Cost	Acres	Field Growing Crop-Specific Labor Hours	Field Growing Crop-Specific Labor Cost	NonCrop-Specific Labor Allocated by Field Area	Crop-Specific NonLabor Field Growing Cost	NonLabor Allocated by Field Area	Crop's Share of Total Field Growing Cost	Total Crop Cost up to Harvest	Tot Amo Sol
broccoli	$100.00	1,600	$410.92	0.2	35	$459	$70	$0	$952	$1,481	$1,991	
lettuce	$125.00	6,000	$1,540.95	0.25	50	$656	$87	$0	$1,190	$1,933	$3,599	4
tomatoes, hybrid	$250.00	4,000	$1,027.30	1	300	$3,933	$349	$3,480	$4,759	$12,522	$13,799	25
tomatoes, heirloom	$70.00	2,000	$513.65	0.5	175	$2,295	$174	$1,740	$2,380	$6,589	$7,172	8
herbs	$100.00	0	$0.00	0.25	30	$393	$87	$250	$1,190	$1,920	$2,020	9
flowers	$25.00	500	$128.41	0.01	5	$66	$3	$35	$48	$152	$305	
Totals												
Sub-Totals		60,700		7.52	1,949							
Total Costs by Activity	$6,684.00		$15,589.26			$25,554				$77,317	$99,590	

Output: Sales

Veggie Compass - Whole Farm Profit Management		Sales Output											
		CSA											
Crop	Unit of Measure Lbs, bunch, head, etc	Sales ($)	# of Units	Unit Average Price	Unit Cost of Production	Crop Cost of Production	Crop Gross Profit (%)	Unit Break Even Price	Unit Net Profit	Crop Net Profit	Sales ($)	# of Units	Un Aver Pri
broccoli	pound	$180.00	120	$1.50	$7.99	$959.00	-433%	$19.10	-$7.36	-$884	$660.00	200	$
lettuce	head	$1,500.00	500	$3.00	$1.40	$697.63	53%	$3.34	-$0.14	-$70	$10,500.00	3,500	$
tomatoes, hybrid	pound	$1,200.00	500	$2.40	$1.06	$530.62	56%	$2.54	-$0.06	-$29	$21,000.00	7,000	$
tomatoes, heirloom	pound	$1,200.00	400	$3.00	$1.84	$736.95	39%	$4.40	-$0.59	-$235	$9,600.00	2,700	$
herbs	bunch	$1,250.00	500	$2.50	$0.51	$255.25	80%	$1.22	$0.54	$268	$17,500.00	7,000	$
flowers	bucket	$0.00	0	0	$20.28	$0.00	$0	$48.47	$0	$0	$2,160.00	90	$2
		CSA				Sum CSA Crops Cost of Production	CSA Crops Gross Profit			CSA Crops Net Profit	Farmer's Market		
		$29,695.00				$17,404.26	41%			-$4,981.04	$215,565.00		

Output: Profit & Loss

Veggie Compass - Whole Farm Profit Management	Farm Profit & Loss by Market Channel						
	CSA	Farmer's Market	Wholesale	Stand	Total From On-Farm Production	Buy-Resell	Grand Total
General Mgnt. & Admin. Expenses Allocated to Market Channel	$6,546	$47,518	$12,129	$4,963	**$71,156**	$6,084	**$77,240**
Total Market Channel plus General Mgnt & Admin Expenses	$17,272	$72,586	$12,629	$17,243	**$119,730**	$9,899	**$129,629**
Total MC & GM Exp as % of Mkt Chan sales	58%	34%	23%	77%	37%	35.9%	**37%**
NET PROFIT	-$4,981	$30,435	$5,585	-$7,654	**$23,385**	$1,021	**$24,406**
Net Profit as % of Mkt Channel Sales	-17%	14%	10%	-34%	7%	3.7%	**11%**
Net Profit as % of Total Net Profit	-20%	125%	23%	-31%	96%	4.2%	**100%**
Non Operating Income							
USDA Program Payments							$0
Patronage Dividends							$0
Interest Income							$0
Other Income							$0
Taxable Income							**$24,406**

Veggie Compass

Overview of what it tells you. . .

- Tracks cost of production by crop within each market channel
- Helps you determine prices at farmers' markets, wholesale, CSA, retail, restaurants
- Compares crop profitability
- Helps identify efficiencies and inefficiencies
- Gives you data to guide decision making: Which crops to grow? How much to grow of each crop? Which crops are best suited for each market channel?
- Can be used to build "what if" scenarios

What Veggie Compass demands:

- Record Keeping Diligence and Accuracy

VeggieCompass Future

There’s an app for that!

Common Start-up Questions:

What Should I Grow?

How Much Should I Grow?

What Crops are Most Profitable?

How do I Set Prices?

Crop	Net per 1/10 acre		Comments
Tomatoes, grn hse	$	14,673?	?
Parsley	$	4,742	Winner but how much can you sell?
Basil, bunched	$	3,560	likely higher
Kale, bunched	$	2,463	winner
Tomatoes, field	$	1,872	lower? what kind of tomatoes?
Cilantro	$	1,656	labor low?
Dill, bunched	$	1,623	higher?
Peppers, bell	$	1,556	what kind?? variability
Carrots	$	1,405	units??? lower?
Parsnips	$	1,384	units? lower?
Celeriac	$	1,366	higher?
Spinach	$	1,015	higher
Beets	$	825	units???
Lettuce, heads	$	791	higher
Squash, summer	$	787	labor low?
Onions	$	611	labor and price hurts
Cabbage	$	581	price hurts
Potatoes	$	261	yield high and labor low?
Cucumbers	$	153	units and harvests?
Broccoli	$	116	higher but not great
Squash, winter	$	87	space hog
Corn, swt	$	(192)	most everyone agrees…
Peas, snap	$	(217)	price and labor low?
Beans	$	(272)	most everyone agrees…

Crop	5 acre farm	Net per 1/10 acre	Small Farm Scenario	Result
Parsley	0.1	$ 4,742	0.0125	$ 593
Basil, bunched	0.1	$ 3,560	0.0125	$ 445
Kale, bunched	0.1	$ 2,463	0.025	$ 616
Tomatoes, field	0.1	$ 1,872	0.1	$ 1,872
Cilantro	0.1	$ 1,656	0.00625	$ 104
Dill, bunched	0.1	$ 1,623	0.00625	$ 101
Peppers, bell	0.1	$ 1,556	0.1	$ 1,556
Carrots	0.1	$ 1,405	0.1	$ 1,405
Parsnips	0.1	$ 1,384	0.0125	$ 173
Celeriac	0.1	$ 1,366	0.0125	$ 171
Spinach	0.1	$ 1,015	0.025	$ 254
Beets	0.1	$ 825	0.025	$ 206
Lettuce, heads	0.1	$ 791	0.05	$ 396
Squash, summer	0.1	$ 787	0.05	$ 394
Onions	0.1	$ 611	0.1	$ 611
Cabbage	0.1	$ 581	0.025	$ 145
Potatoes	0.1	$ 261	0.1	$ 261
Cucumbers	0.1	$ 153	0.025	$ 38
Broccoli	0.1	$ 116	0.05	$ 58
Squash, winter	0.1	$ 87	0.1	$ 87
Corn, swt	0.1	$ (192)	0.1	$ (192)
Peas, snap	0.1	$ (217)	0.025	$ (54)
Beans, bush	0.1	$ (272)	0.025	$ (68)
		21x96 grnhse		
Tomatoes, grn hse		$ 5,869		
	2.3	$ 32,042	1.0875	$ 9,170

Factors Influencing Crop Profitability

- Your farm's physical location (soils, microclimate)
- Your farm's market location
- Your own passion, creativity, and skills
- Experience
- Availability of appropriately scaled tools and equipment
- Complimentary enterprises or "value-added" marketing
- Timing
- Yield

Some Keys to Profitability

- Ensure that key skill sets are covered (production, marketing, labor management, business/financial management, and, YES, record keeping!)
- Mechanical know-how + marketing savvy / charisma
- Record keeping: know your costs! Diligent record-keeping (especially labor hours) can help a farm set prices based on actual costs of production, become more efficient, and improve their financial performance over time.
- Make the best use of labor
  -Training and retention
  -Fit labor to you and your farm
  -Mechanization AND efficient systems (organization)
  -Weed management and harvest/post-harvest handling
- Yield: Fertility and Irrigation and weed control

Some Keys to Profitability

- Direct marketing (?)
- Focus on quality and set prices accordingly
- Extend growing season; extend marketing season
- Do not just sell produce. Connect customers to you and your farm. Remember that you are not just selling ***produce by the pound*** but your ***farm by the story.***
- Some of my research suggests that higher net to gross ratios are associated with farms that focus on CSA.
- Try to keep expenses low…but do not be afraid to invest in good tools and dedicated workers.
- Focus, plan and follow through.
- Get organized and STAY organized.

Concluding Thoughts

- Be cautious but not timid
- Do not quit your day job
- Corollary: do not let your partner quite their job
- Quit your day job as soon as possible
- Learn from others; visit as many farms as you can and ideally work on other farms before starting your own
- Become mechanically inclined, marry a mechanic, or befriend a mechanic
- Get and stay organized; keep records and USE them
- Start small and only expand as your ability to stay on top of weeds allows

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