



United States Department of Agriculture
Risk Management Agency



Veggie Compa\$\$

Which Way Do You Want To Grow?

Paul D. Mitchell

Assistant Professor

Agricultural and Applied Economics

University of Wisconsin-Madison

**Wisconsin Fresh Market Fruit and
Vegetable Conference**

Wisconsin Dells, WI

January 6, 2009

Goal Today

- Explain RMA Veggie Compa\$\$ Project
 - Problem
 - Concept
 - Plan
- Federal Risk Management Programs
 - Crop Insurance: AGR-Lite, NAP policy
 - Disaster Assistance: SURE and TAP

Veggie Compa\$\$

Which way do you want to grow?

Cast of Characters

- Paul D. Mitchell: UW-AAE
- Erin Silva: UW-CIAS/Agronomy
- John Hendrickson: UW-CIAS
- Jim Munsch: Farmer, Coon Valley, WI
- David Baker: (Soon-to-be) Farmer, Belleville, WI
- Gary Luebke: USDA-RMA, St. Paul, MN

Veggie Compa\$\$

- USDA-Risk Management Agency (RMA) funded partnership
- “Risk Management Tools for Diversified Vegetable Production in Wisconsin”
 - Mitchell, Silva and Hendrickson, w/ Luebke
- Munsch: Developed main concept
- Baker: Methods to create/implement

Fruit and Vegetable Growers' Problem

- Continuously making lots of decisions that affect your profitability
- Grow multiple crops
- Sell through multiple channels
 - CSA, direct mkt, farmers mrkts, wholesale
- Plant, grow and sell throughout season

Decisions affecting profitability

- What market(s) do you pursue?
- What crop(s) do you plant?
- How much of each crop do you plant?
- What prices do you set by crop and market?
- When do you abandon a crop?
- When do you harvest a crop?
- What level of mechanization do you use?
- Make/grow versus buy decisions: nutrients
- Do you expand? By renting or buying land?

Veggie Compa\$\$

- A tool to estimate costs and returns by crop and marketing channel
 - In season decision making
 - For planning purposes
- Still in development phase
 - Hope for preliminary beta roll out next year
- Quick idea of the tools are creating

Whole Farm Profit and Loss by Channel

	<u>CSA</u>	<u>Market</u>	<u>Retail</u>	<u>Wholesale</u>	<u>Meat</u>	<u>Total</u>
Sales	\$260,000	\$74,000	\$96,000	\$270,000	\$27,800	\$727,800
Cost of Goods Sold	\$198,557	\$53,477	\$60,957	\$160,506	\$24,043	\$497,540
Gross Profit	\$61,443	\$20,523	\$35,043	\$109,494	\$3,757	\$230,260
as % of Sales	23.6%	27.7%	36.5%	40.5%	13.5%	31.6%
General & Administrative Expenses						
Identified to Channel	\$26,378	\$10,000	\$10,000	\$10,000	\$10,000	\$66,378
Allocated to Channel	\$27,460	\$10,000	\$10,000	\$10,000	\$10,000	\$67,460
Total Expenses	\$53,838	\$20,000	\$20,000	\$20,000	\$20,000	\$133,838
as % of Sales	20.7%	27.0%	20.8%	7.4%	72.0%	18.3%
Operating Income	\$7,604	\$0	\$15,043	\$89,494	\$1,757	\$113,900
as % of Sales	2.9%	0.0%	15.7%	33.1%	6.3%	15.6%
Non Operating Income (Expense)						
Interest						
Patronage Dividends						
Other income						
Income Before Taxes						\$86,922

Information:

- Sales by channel
- Profitability by channel
- Unique expenses by channel

Decisions:

- Should we emphasis one channel?
- Should we plant more for a channel?
- What prices do we need by channel?
- Can we reduce expenses and increase returns by outsourcing?
- Should we vacate a channel?

Profitability by Crop before Overhead Expenses

Crop	Cost (\$/lb)	Sales (\$)	Units	Cost Goods Sold (\$)	GM %
Asparagus	7.49				
Beans, green	1.00				
Beet	0.00				
Beet	0.00				
Broccoli	1.00				
Cabbage	0.00				
Carrots	1.00				
Cauliflower	1.00				
Cauliflower	1.00				
Chard	0.00				
Cilantro	1.00				
Edamame	1.00				
Eggplant	0.00				
Endive	1.00				

Information:

- Total sales by crop
- Gross profit by crop in all channels
- Profitability (Gross Margin) for all crops before overhead expenses

Decisions:

- What price should we be charging?
- What crops should we look to reduce costs?
- If we can find a channel for more sales, should we plant more?
- Given our mission statement, should we plant less?

Detailed Report of Channel Profitability

Information:

- Total sales for channel
- Overall gross profit for channel
- Sales by crop
- Profitability (Gross Margin) within channel for each crop

Decisions facilitated:

- After looking at other expenses for channel do we make money here?
- On what crops do we do well and on which do we do poorly?
- Should we plant more of good crops for this channel?
- Should we stop selling poor crops in this channel?

		Target Average GM%	24.4%	
	Wholesale			
Crop	Sales (\$)	Units	CGS (\$)	GM %
Asparagus	2,000	400	2,995	-50%
Beans, green	12,012	7,370	14,229	-18%
Beet	30,000	30,000	18,534	38%
Beet	21,000	16,000	13,027	38%
Broccoli, regular	600	600	1,104	-84%
Broccoli, romanesco	672	336	606	10%
Cabbage	3,142	7,250	2,819	10%
Carrots	0	0	0	0%
Cauliflower	1,804	984	1,556	14%
Cauliflower	1,829	1,672	2,020	-10%
Chard	16,000	12,240	10,075	37%
Cilantro	7,071	4,110	6,223	12%
Edamame	3,300	1,450	2,641	20%
Eggplant	0	0	0	0%
Endive	0	0	0	0%
Fennel	0	0	0	0%
Garlic	2,280	764	1,706	25%
Gourd	440	770	427	3%
Horseradish	1,500	1,200	1,073	28%
Kale-green	8,000	7,500	6,386	20%
sum squash-yellow	10,265	12,160	4,915	52%
sum squash - zuke	9,344	11,140	4,381	53%
Sweet corn	0	0	0	0%
Sweet potato	2,394	3,320	2,226	7%
Tomato - grape	11,000	3,468	9,305	15%
Tomato - heirloom	0	0	0	0%
Tomato - roma	5,500	10,000	5,317	3%
Tomato - Slicer	3,500	2,000	2,867	18%
Turnip-purple top	4,000	12,000	5,491	-37%
Turnip-gold	3,210	3,950	3,719	-16%
Watermelon	525	1,750	832	-58%
Wint. Squash	4,965	9,051	3,662	26%
	Sales (\$)	Units	CGS (\$)	GM %
	270,000	244,452	204,101	24.4%
	\$270,000		\$204,101	24.4%

Source: Jim Munsch

Crop cost per unit, Pre & Post Harvest

Information:

- Cost to bring a crop to point of harvest
- Cost to harvest, clean and pack
- Total cost of crop by unit
- Cost comparative on similar crops

Decisions facilitated:

- Should I harvest a crop or more of a crop?
- How much of cost is affected by a yield problem and should I do any thing differently?
- If I have a cost problem can I see anything to do about it?

	Unit Cost up to	Unit Cost to	Total
	Unit Cost up to	Harvest, clean &	Unit Cost
Crop	Harvest \$/lb	Pack \$/lb	\$/lb
Asparagus	6.44	1.04	7.49
Beans	0.93	1.00	1.93
Beet, bulk	0.20	0.42	0.62
	0.29	0.52	0.81
	1.32	0.52	1.84
	1.18	0.63	1.80
	0.28	0.10	0.39
	0.70	0.42	1.12
	1.03	0.42	1.45
	0.79	0.42	1.21
	0.20	0.63	0.82
	0.68	0.84	1.51
	0.78	1.04	1.82
	0.34	0.21	0.55
	0.83	0.21	1.04
	7.02	0.27	7.29
	1.00	1.04	2.04
	0.35	0.21	0.55
	0.27	0.63	0.89
	0.18	0.21	0.39
	0.17	0.21	0.38
	1.47	0.52	1.99
	0.13	0.52	0.66
	0.13	2.45	2.58
	0.07	0.42	0.48
	0.09	0.42	0.51
	0.99	0.42	1.41
	0.04	0.42	0.46
	0.52	0.42	0.94
	0.27	0.21	0.48
Wint. Squash	0.20	0.21	0.40

Planning tool to predict results of decisions: “What-if”

- These reports are all “backward” looking
- Could use a “forward looking” planning tool to generate “what if” reports
 - Profitability if expand/change crop/market mix
 - Acreage needs
 - Yield and sales to expect
 - Labor and input needs
 - Break even prices

Veggie Compa\$\$ "Dashboard"

Opportunity Calculator

Wednesday, April 02, 2008

Attorney Name:

CLIENT:

Engagement Name:



BAKER ROBBINS & COMPANY
TECHNOLOGY CONSULTANTS

Tasks	Worked Hours	Worked Amount	Leverage	Equity Partner Rate	Partner Rate	Sr. Assoc Rate	Assoc Rate	PL Rate	Asst Rate
Phase I	1403	\$840,150	1 : 1.5	\$776	\$664	\$495	\$-	\$-	\$-
Phase II	0	\$-	0 : 0	\$-	\$-	\$-	\$-	\$-	\$-
Phase III	0	\$-	0 : 0	\$-	\$-	\$-	\$-	\$-	\$-
Phase IV	0	\$-	0 : 0	\$-	\$-	\$-	\$-	\$-	\$-

Adjustments to Standard Rates

Equity Partner
\$5

Partner
\$4

Senior Attorney
\$-

Attorney
\$-

Paralegal
\$-

Legal Assistant
\$-

Phase I

Equity Partner	Hours: 1403	110%
Partner	Leverage: 1 : 1.5	
Senior Attorney	Base Amount: \$840,150	
Attorney	Bill Amount: \$929,272	
Paralegal		
Legal Assistant		

Phase III

Equity Partner	Hours: 0	100%
Partner	Leverage: 0 : 0	
Senior Attorney	Base Amount: \$-	
Attorney	Bill Amount: \$-	
Paralegal		
Legal Assistant		

Phase II

Equity Partner	Hours: 0	100%
Partner	Leverage: 0 : 0	
Senior Attorney	Base Amount: \$-	
Attorney	Bill Amount: \$-	
Paralegal		
Legal Assistant		

Phase IV

Equity Partner	Hours: 0	100%
Partner	Leverage: 0 : 0	
Senior Attorney	Base Amount: \$-	
Attorney	Bill Amount: \$-	
Paralegal		
Legal Assistant		

Overview

Worked Amount	\$840,150
Realization	102%
Billed Fees	\$929,272
Overhead	\$318,408
Discounts	\$89,122
Project Profit	\$610,864

Source: David Baker

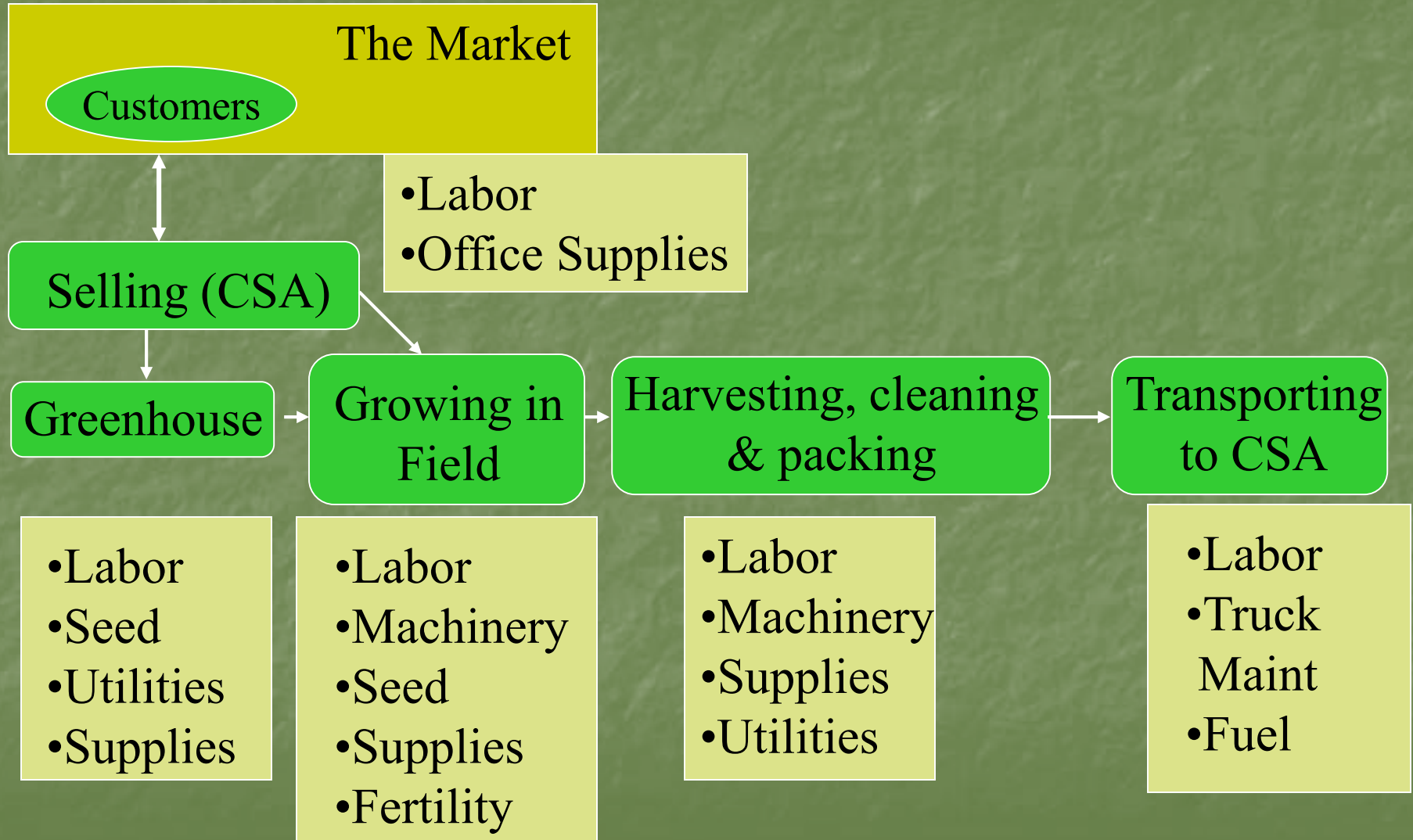
Summary

- Specific reports for current operation
 - Whole farm profit-loss statement by channel
 - Profitability by crop before overhead
 - Over all channels
 - Detailed by crop by channel
 - Costs by crop by category: pre-harvest and harvest, clean & pack
- What-if reports for scenario analysis
- Other reports?

Conceptual Model of Costs

- We needed a way to conceptualize costs
- Based on this developed spreadsheet system with linked cells and sheets
- Want to move to a relational database system and a browser context

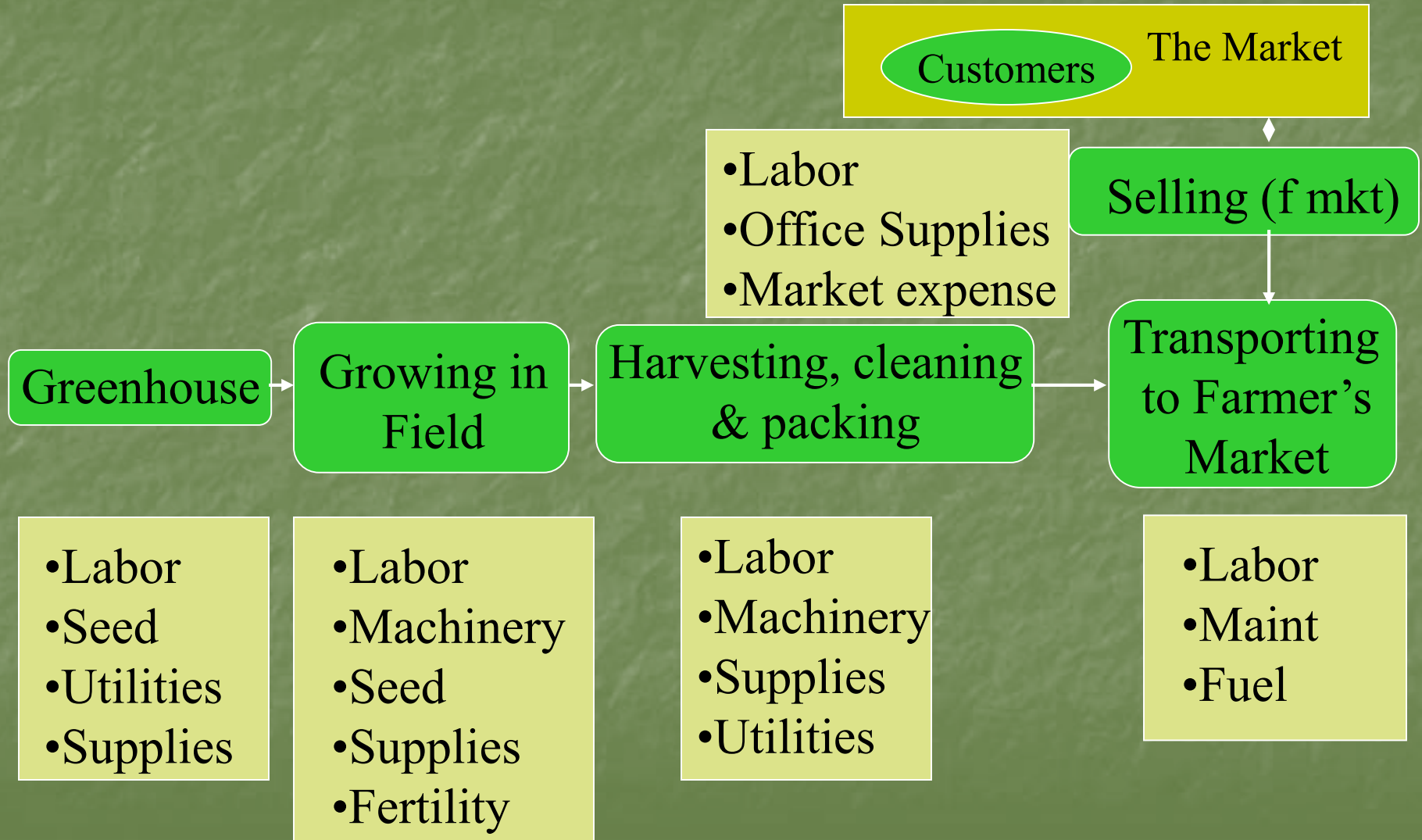
Steps for Producing and Selling CSA



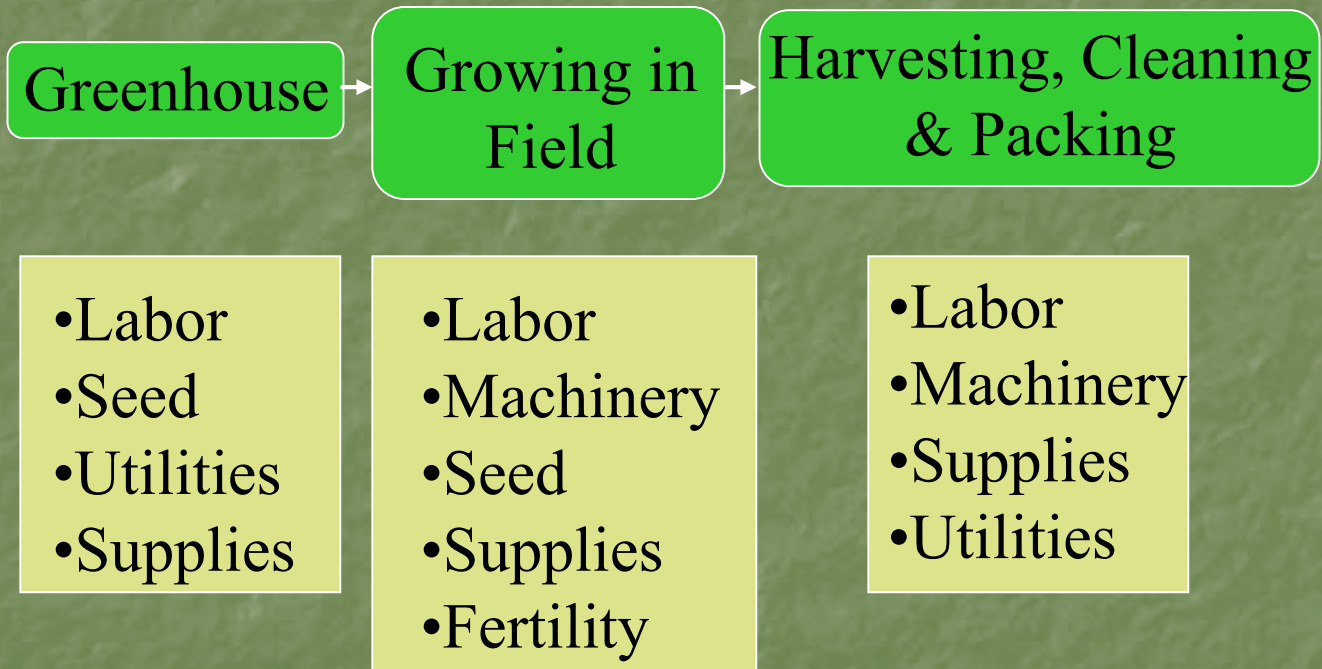
Steps for Producing and Selling Wholesale



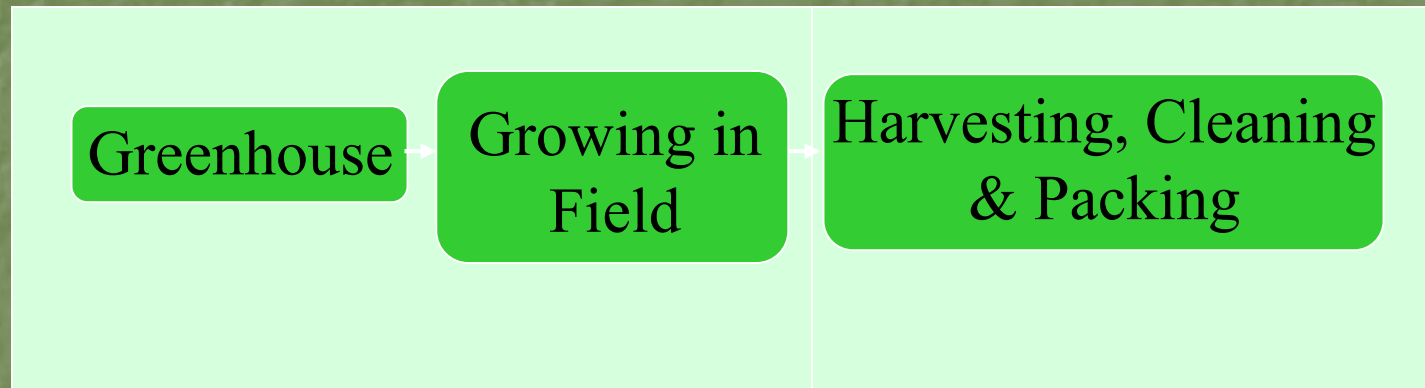
Steps for Producing and Selling in Farmer's Market



Processes Common to All Segments



Processes Common to All Segments



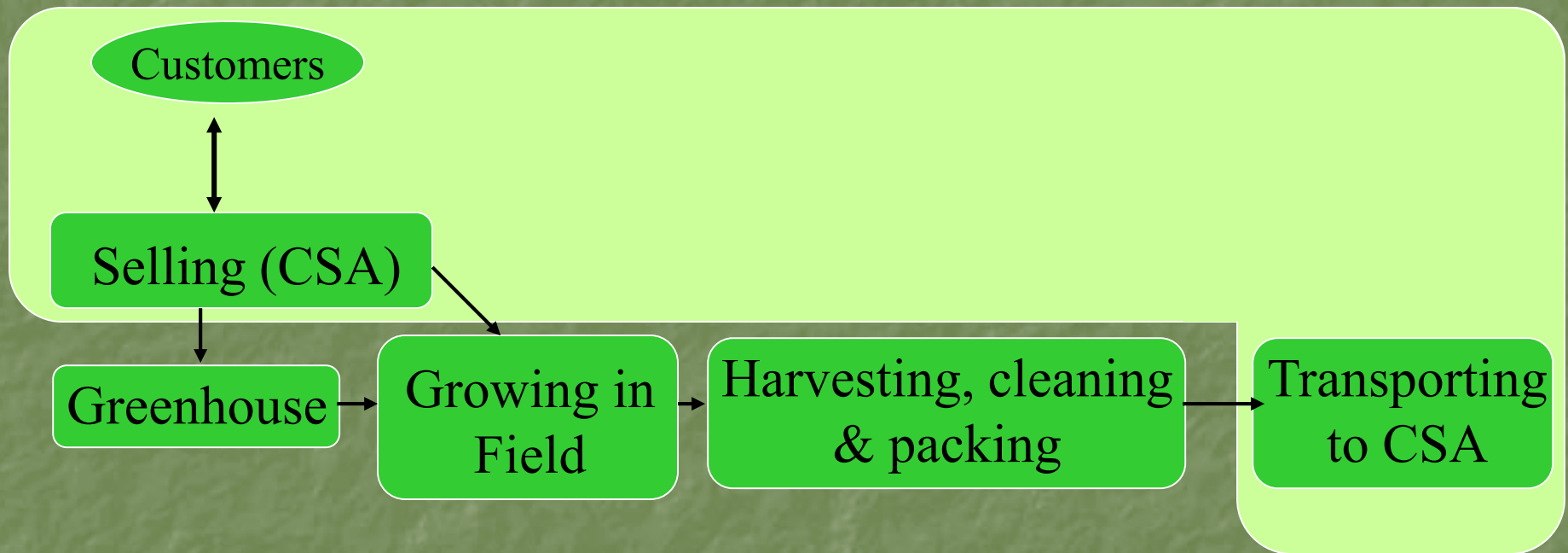
“Cost to Grow”

**“Cost to harvest,
clean and pack”**

“Total Production Cost”

Steps Unique to Channel (CSA Example)

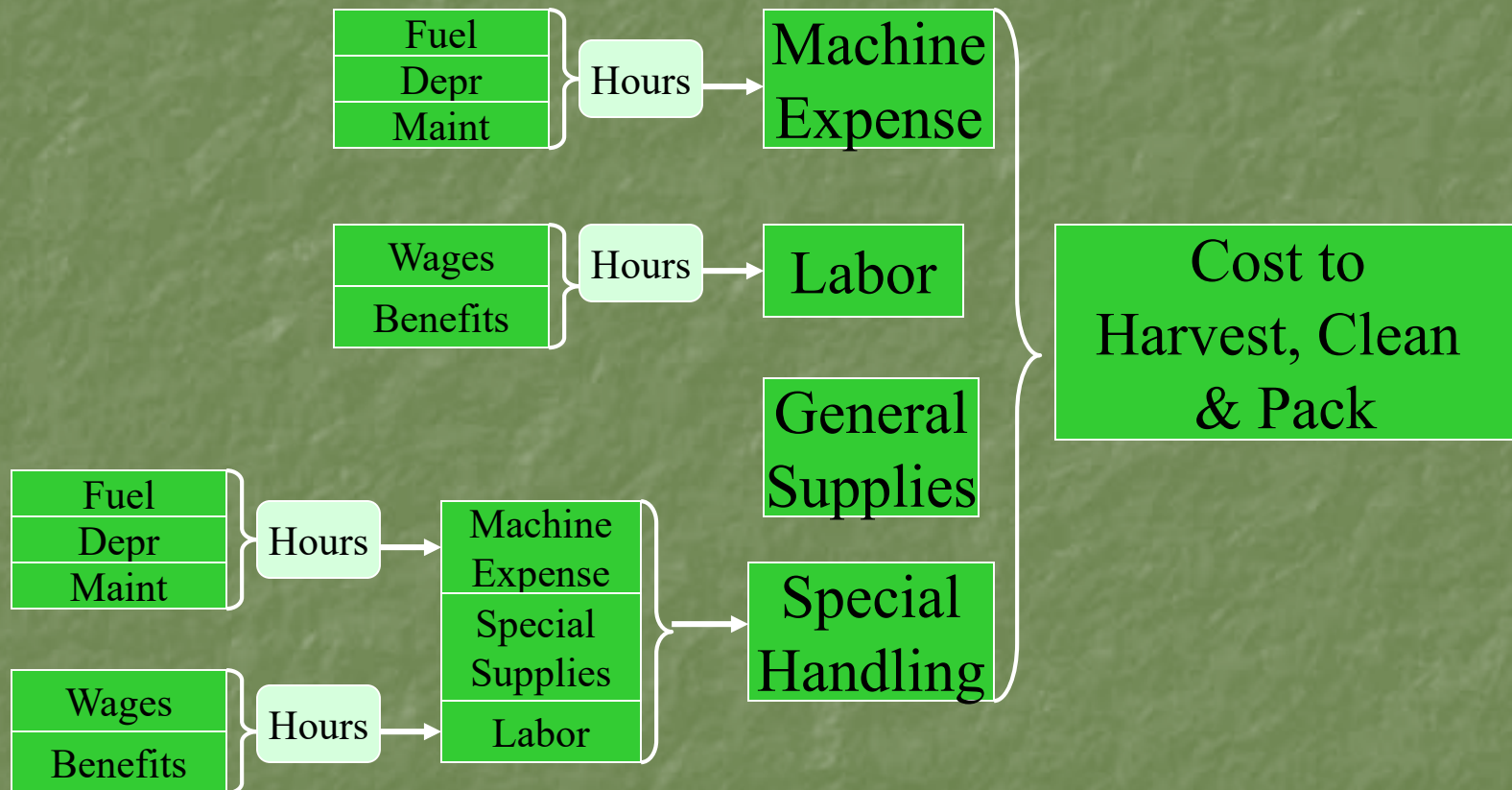
Cost of Selling and Distributing for Channel



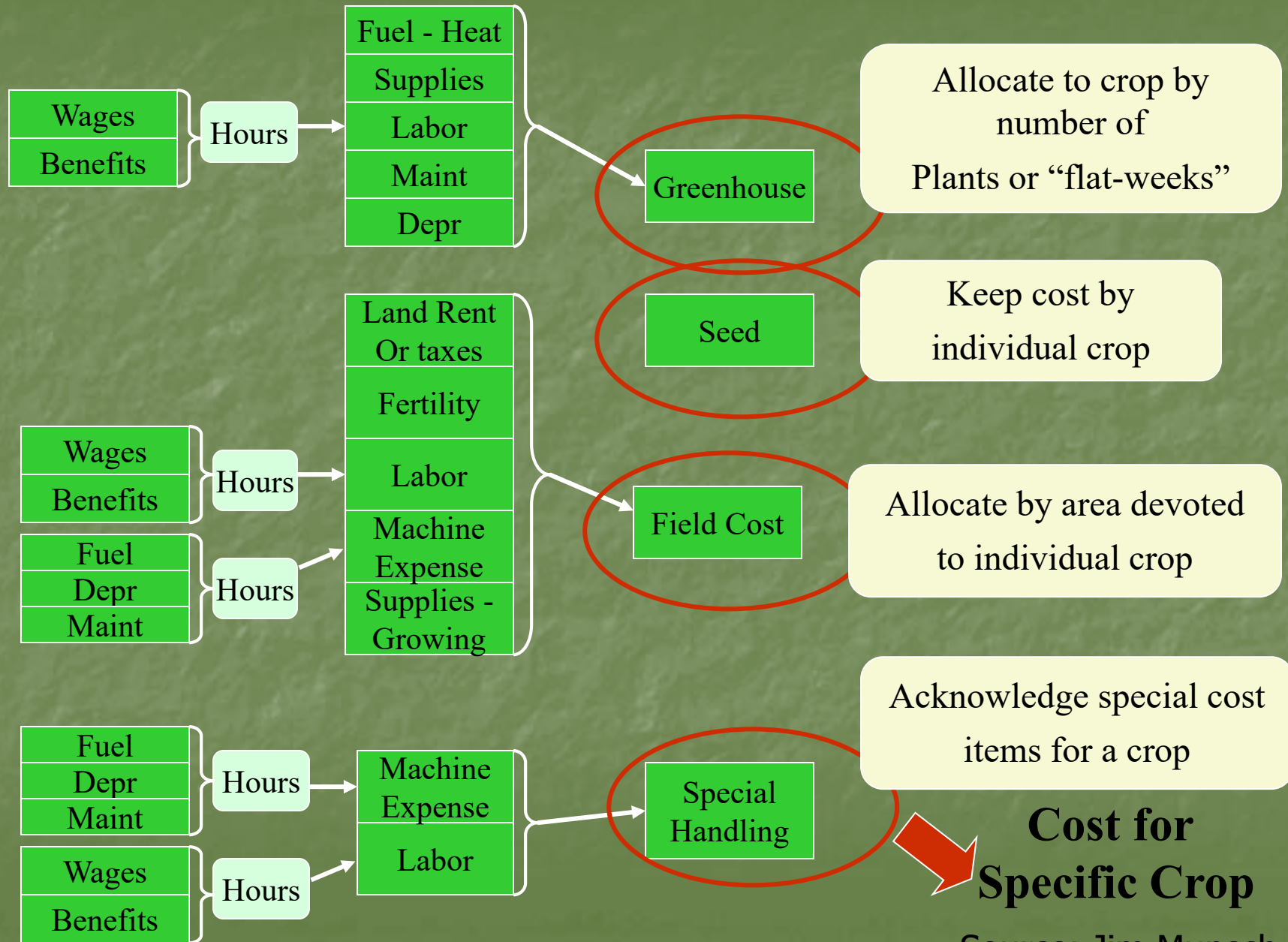
Typical Cost “Tree” for Cost to Grow



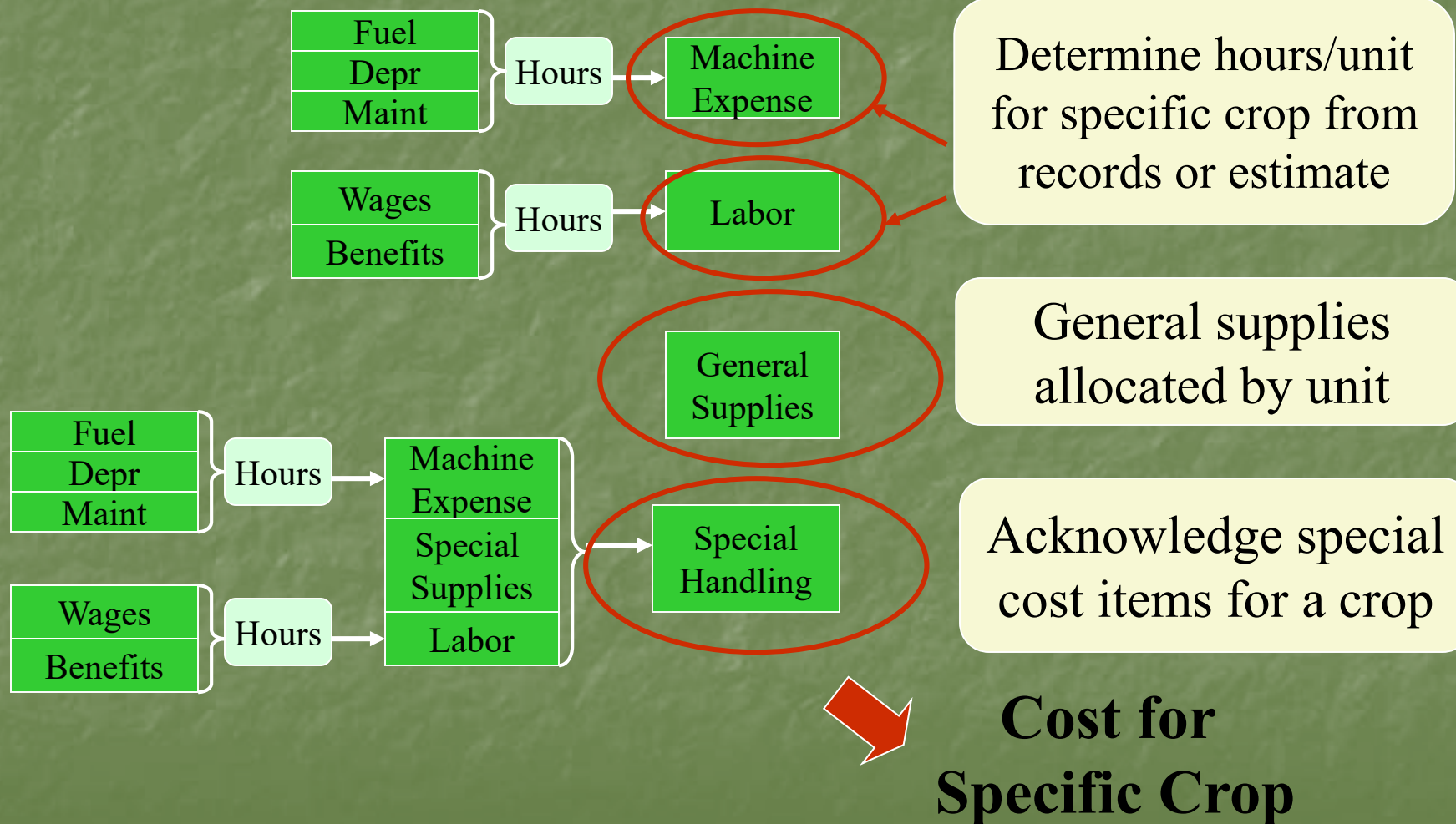
Typical Cost “Tree” for Cost to Harvest, Clean & Pack



Cost to Grow for a Specific Crop



Cost to Harvest, Clean & Pack a Specific Crop



Lots of farm data needed to make this happen

- Want to determine specific data needed
- Can we link to farm accounting systems?
- Can we use Schedule F information?
- Create “farmer-tested” user interfaces
- Collect data from farms to create “default values” for those without information
- Can we create a database of typical costs and returns for farmers to “grade” themselves?
 - How am I doing relative to my peers

Where are we now?

- Have basic spreadsheet model of data, linkages, and reports (Jim Munsch)
- Need user interface and “default values”
- “Conceptualizing” the interface and underlying database (David Baker)
- This summer: Farmer collection of labor data by crop and activity
 - Are you interested in participating?

Big Issue: Should Veggie Compa\$\$ be browser/web-based platform?

- Lots of Pros (industry standard)
 - Hosting benefits (data, debugging)
 - Browser ubiquity
 - Microsoft vs. Open Source development
 - User collaboration potential (blogs, wikis)
- Problem: Rural web access!

What can you do?

- Be patient! We are trying (really)!
- Volunteer for beta testing when we get that far
- Are you interested in collecting and reporting labor by crop and activity for your farm?
 - Contact John Hendrickson
 - 608-265-3704 or jhendric@wisc.edu
- Strong opinions regarding web access in rural areas: Would web-based platform be a problem?
 - Let us know

Federal Risk Management Programs

- Flooding/wet spring and weather in general has some farmers wondering
- New Farm Bill has some changes
- Very quick overview here and handouts
- If you have questions, talk to me

Crop Insurance

■ AGR-Lite

- Insure Schedule F income for whole farm
- RMA manages policy, subsidizes premiums
- Buy from private crop insurance company

■ NAP Policy

- Crop-specific catastrophic coverage
- Buy for each crop at county USDA Farm Service Agency (FSA) office
- Heavily subsidized, but catastrophic coverage only

Federal Disaster Assistance

- Permanent programs under new Farm Bill
- SURE: Supplemental Revenue Assistance Program
 - Covers all crops, adds coverage on top of crop insurance guarantees
 - Must have crop insurance to be eligible
- TAP: Tree Assistance Program
 - Aid to replant/salvage trees, bushes, vines, including X-mas and nursery from natural disasters
 - Must have crop insurance to be eligible

Questions?

Paul D. Mitchell

UW-Madison Ag & Applied Economics

Office: (608) 265-6514

Cell: (608) 320-1162

Email: pdmitchell@wisc.edu

Extension Web Page:

www.aae.wisc.edu/mitchell/extension.htm