

# **Specialty Crop Representative Farm Models: Forecasts, Policy Analysis and International Comparative Studies**

**Final Report:  
Representative Farm Model Specialty Crop  
Policy Study  
Project: CC#37508**

**Submitted by**

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**To**

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## I. INTRODUCTION

Stochastic simulation models are used to generate a large random sample of outcomes for a dependent variable where that dependent variable is a function of some selected set of explanatory variables. A unique feature of these types of models is that there is an explicit recognition that the independent variables have some probability distribution around their mean values.

The forecast of the dependent variable is thus a function of the probability distributions of the explanatory variables as well as their mean value. The simulated distribution of the dependent variables thus captures the variability or risk associated with forecasting the dependent variable that can not be obtained by using simply the mean value of the explanatory variables. If the explanatory variables are uncorrelated an appropriate univariate probability distribution is chosen (e.g. normal, Poisson, empirical, etc).

It is also possible to capture the joint variability of two or more correlated explanatory variables on the dependent variable. The joint variability can be captured by determining the multivariate probability distribution (e.g. multivariate normal, multivariate empirical, etc. for the two or more correlated explanatory variables. The multivariate probability distribution is developed much the same as the univariate probability distribution but includes information in the correlation matrix to account for the correlation between the independent variables<sup>1</sup>.

The simulated forecast of dependent variables using either univariate or multivariate probability distributions of the explanatory variables is very useful in informing decision makers of the variability or risk in the dependent variable forecast, the skewness of the forecast, and the probability of a specific outcome for the dependent variable. Most stochastic simulation models have more than one dependent variable. The dependent variables in a stochastic simulation models are often referred to as Key Output Variables (KOV's).

Specialty crop representative farm models<sup>2</sup> are stochastic simulation models that are used to analyze the impacts of current and changing market conditions and government policies on a number of KOV's. Examples of KOV's in a specialty crop representative farm models are yearly net income, cash flow position, financial ratios such as debt to equity or liquidity, and net present values of net income.

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<sup>1</sup> A detailed discussion on modeling stochastic simulation models including determination of the appropriate probability distributions and its construction can be found in *Simulation for Applied Risk Management* by James Richardson, Texas A & M University.

<sup>2</sup> Specialty crops are defined as fresh fruit, fresh vegetable, dried fruit, tree nuts, and horticultural products (including floriculture). A representative farm is not the average farm size rather it is the farm size that is most likely to be in production in a specific region. For example, the average acres for four farms in a region may be 325 with 500, 500, 200, and 100 acre farms, while the representative acreage is 500.

The California Institute for the Study of Specialty Crops (CISSC) initially developed thirteen California specialty crop representative farm simulation models<sup>3</sup>. The models simulate a representative producer's income statement, statement of cash flows, and balance sheet for 2005 – 2014. These existing specialty crop representative farm models were updated from a base year of 2004 to a base year of 2006 and the models simulate a representative producer's income statement, statement of cash flows, and balance sheet for 2007 – 2016.

In addition to updating existing specialty crop representative farm models, seven new representative farm models for apricots, avocados, carrots, tomatoes, processing carrots, processing tomatoes, and wine grapes, were constructed. Furthermore three Chinese specialty crop representative farm models for apples, broccoli, and peaches, were constructed.

These models can be used for several purposes. They simulate the producer's income statement, statement of cash flows, and balance sheet as well as any financial indicator calculated from those three statements. From there we can analyze the impact a new policy may have on a producer's net income or net present value prior to implementation. They can also determine the impact a change in production practices may have on the producer's financial statements prior to actually changing practices. In other words, these models act as a decision making tools. The models are constructed in a way that allows for easy analysis of several variables.

In the next sections, this report provides examples of how the models may be used to generate quantitative estimates of use to agricultural decision makers. The first example is the models' capability to simulate future performance of individual farms. This is demonstrated by providing three year estimates of returns to cash expenses given stochastic values for prices and yields. Next, a comparison of the performance of Chinese farms under various labor cost scenarios is provided. Finally, an analysis of policy change is demonstrated with an example of analysis of possible changes to existing regulations governing waste disposal from food processors.

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<sup>3</sup> Models have been developed for almonds, apple, cantaloupe, cherry, mixed vegetables (head lettuce, leaf lettuce, broccoli, and fresh onion), Thompson seedless grapes, table grapes, nectarine, peach, pear, plum, strawberry, and walnut.

## II. THREE YEAR AVERAGE RETURN ABOVE CASH COST

As indicated in the previous section, we have updated the 13 specialty crop representative farm models, created 10 new models; 7 models for California and 3 models for China (Table 1). The information used for the specialty crop representative farm models are the most recent Sample Cost of Production Studies from the University of California Cooperative Extension Service (UCCES), downloaded at <http://coststudies.ucdavis.edu>, or obtained from the local county UC Cooperative Extension offices, supplemented by other information from the U.S. Department of Agriculture, Growers Associations, and others, including producer surveys (Appendix Tables). Price and yield are forecasted for 2007 – 2016 for each model by appropriate methods. Three KOVs are simulated for each model, mean of net income after tax for 2007 - 2016, sum of income stream for 2007 – 2016, and the average return above cash cost for 2007 – 2009.

In this section we present the result of the simulation of one of the KOV's for the specialty crop representative farm models, the average return above cash costs for each crop for 2007 - 2009.

Results of model simulations for the return above cash cost indicate wine grapes will have the largest average per acre return for the period of 2007 to 2009, \$5,262, followed by apples \$4,252 (Table 2). The least profitable results were processing tomatoes, \$57 per acre; followed by cherry, at \$110 per acre. Apricot, table grapes, avocado, strawberry, almond, and pear have three year average per acre returns above cash cost results of over \$2,000 per acre.

Over the period of 2007 to 2009, simulated return above cash cost per acre for some crops decline relatively significantly; for example, decline in apples from \$4,842 in 2007 to \$3,606 in 2009, plums from \$312 in 2007 to \$6 in 2009, and processing tomatoes from \$74 in 2007 to \$47 in 2009 (Figure 1). Relatively large per acre increases are observed for table grapes from \$2,821 in 2007 to \$3,531 in 2009, nectarines from \$192 to \$509, and cherries -\$16 to \$292 for the same period.

For the China models, simulated returns above cash cost for peaches show relatively high returns compared to others, (apples and broccoli); however returns for all three crops decline slightly over the period of 2007 to 2009 (Figure 2).

By using a stoplight chart, one of the graphical capabilities of the model, we can compare target probabilities for one or more risky alternatives for the return above cash cost for the models. In order to generate the stoplight chart, two probability targets, lower and upper, are chosen subjectively. The stoplight function calculates the probabilities of : (a) exceeding the upper target (green), (b) being less than the lower target (red), and (c) observing values between the targets (yellow).

**Table 1. Specialty Crop Representative Farm Model**

#	Crop	Grower Survey Form	Representative Farm	
			2005	2007
<b>Updated Models</b>				
1	Almond	y	Riverdale	San Joaquin Valley North (UCCES 2006)
2	Apple	y	San Joaquin Valley	San Joaquin Valley North - Granny Smith (UCCES 2001)
3	Cantaloupe	y	Bakersfield	Imperial County (UCCES 2004)
4	Cherry	y	Sweet Cherries	San Joaquin Valley - Sweet Cherries (UCCES 2005)
5	Citrus	y	California	San Joaquin Valley South (UCCES 2005)
6	Nectarine	y	California	San Joaquin Valley South (UCCES 2004)
7	Peach	y	South San Joaquin Valley	Sacramento & San Joaquin Valley (UCCES 2003)
8	Pear	y	Delta	Lake and Mendocino Counties - Green Bartlett Pear (UCCES 2006)
9	Plum	y	South San Joaquin Valley	Southern San Joaquin Valley (UCCES 2004)
10	Strawberry	y	Santa Maria Valley	Santa Maria Valley (UCCES 2006)
11	Table grapes	y	California	San Joaquin Valley (UCCES 2004)
12	Thompson Seedless grapes	y	California Raisins	Fresno (2007)
13	Walnut	y	Rio Oso	Sutter and Yuba Counties - English Walnuts (UCCES 2006)
<b>New Models</b>				
1	Apricots	y		San Joaquin Valley (UCCES 2003)
2	Avocado	y		Ventura and Santa Barbara (UCCES 2001)
3	Carrot	y		Imperial County (UCCES 2004)
4	Fresh market tomato	y		San Joaquin Valley (UCCES 2000)
5	Processing carrot	y		Imperial County (UCCES 2004)
6	Processing tomato	y		Sacramento Valley (UCCES 2007)
7	Wine grape	y		North Coast - Sonoma County - Chardonnay (UCCES 2004)
<b>China Model</b>				
1	Apple			National Average
2	Broccoli			Jihetang Village Guocun Township, Feicheng, Shandong (2007)
3	Peach			Suigou San Cun, WuTai, Pingyi, Shandong (2007)

**Table 2. Return Above Cash Cost (\$/acre)**

Code	Crop	3 Years Average (2007-2009)	2007	2008	2009
<b>Updated Models</b>					
1	Almond	\$2,239	\$2,413	\$2,052	\$2,253
2	Apple	\$4,252	\$4,842	\$4,308	\$3,605
3	Cantaloupe	\$130	\$101	\$115	\$174
4	Cherry	\$110	-\$16	\$53	\$292
5	Orange	\$501	\$495	\$493	\$516
6	Nectarine	\$331	\$192	\$293	\$509
7	Peach	\$1,557	\$1,575	\$1,552	\$1,544
8	Pear	\$2,024	\$1,969	\$2,015	\$2,087
9	Plum	\$211	\$312	\$314	\$6
10	Strawberry	\$2,838	\$2,949	\$2,854	\$2,712
11	Table Grape	\$3,183	\$2,821	\$3,198	\$3,531
12	Thompson Seedless Grape	\$567	\$559	\$566	\$574
13	Walnut	\$1,354	\$1,316	\$1,359	\$1,388
<b>New Models</b>					
14	Apricot	\$3,437	\$3,400	\$3,429	\$3,482
15	Avocado	\$3,046	\$3,062	\$2,960	\$3,114
16	Fresh Carrot	\$1,610	\$1,510	\$1,582	\$1,738
17	Fresh Tomato	\$694	\$629	\$680	\$774
18	Processing Carrot	\$384	\$357	\$392	\$403
19	Processing Tomato	\$57	\$74	\$49	\$47
20	Wine Grape	\$5,262	\$5,381	\$5,254	\$5,150
<b>China Models</b>					
21	Apple	\$1,085	\$1,132	\$1,087	\$1,035
22	Peach	\$2,831	\$2,866	\$2,832	\$2,795
23	Broccoli	\$852	\$897	\$852	\$805

Figure 1. Simulated Return above Cash Cost: 2007 - 2009

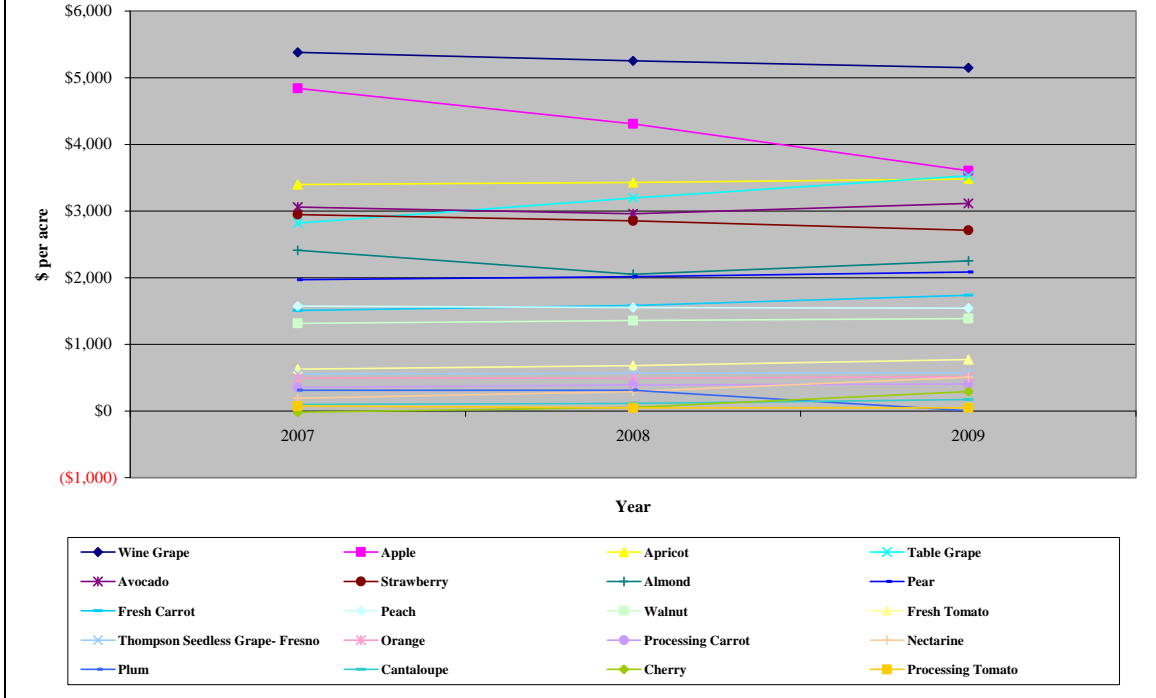
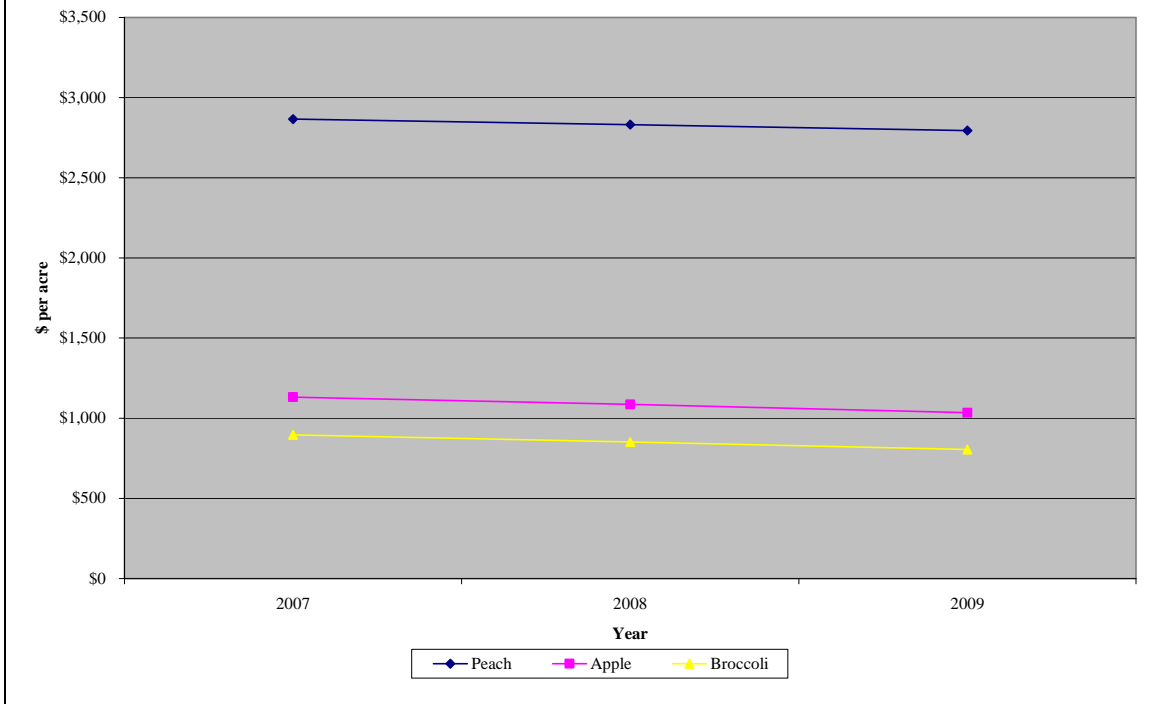


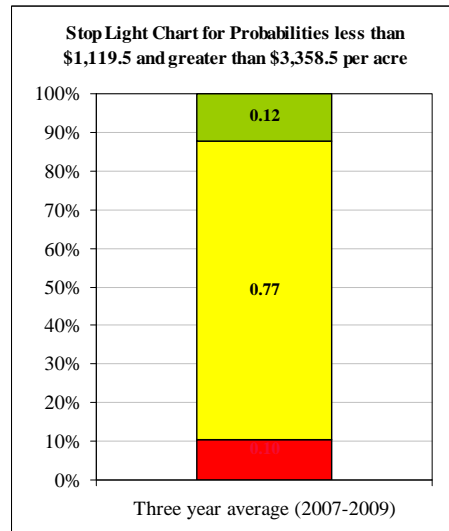
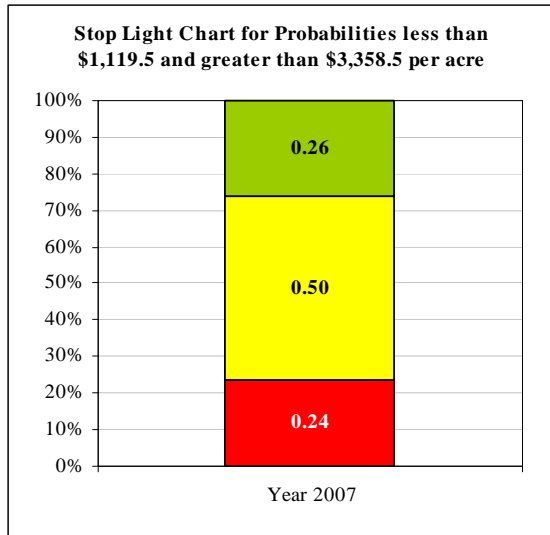
Figure 2. Simulated Return above Cash Cost for China Models: 2007 - 2009





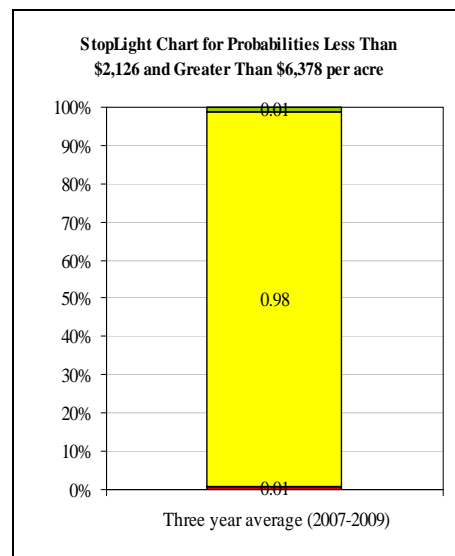
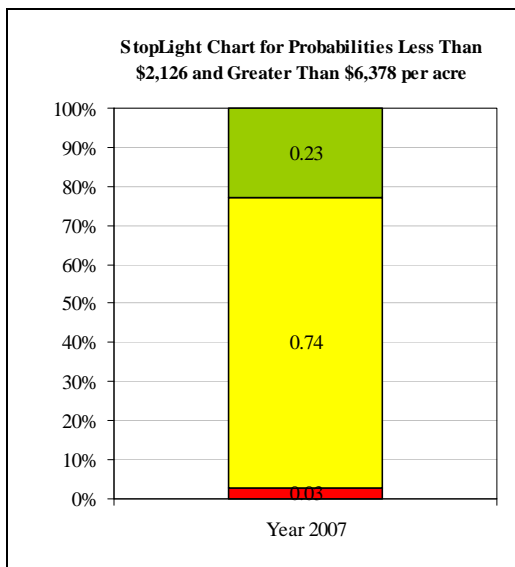
## 1. Almond Model

Stop light charts for the net return per acre above cash cost, high and low cut-off values are chosen based on the mean returns of the model. Simulated three year average return above cash cost for Almonds is \$2,239 per acre. For consistency of the analysis, we have chosen the higher cut-off value and low cut-off value as 50 percent above and 50 percent below the average of the simulated mean return above cash cost for 2007 – 2009. For almonds the model higher cut-off value of \$3,358.5/acre and lower cut-off value of \$1,119.5/acre were chosen.



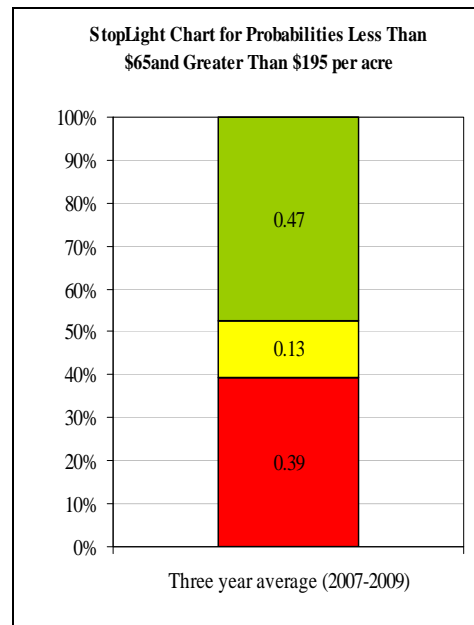
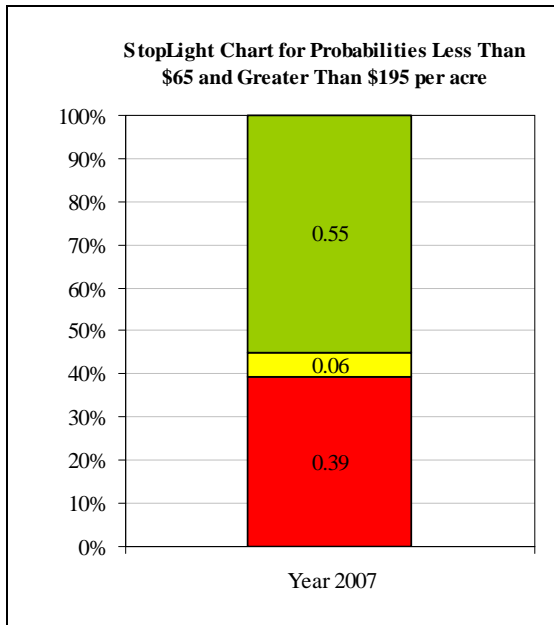
## 2. Apple Model

Higher cut-off value of \$6,378/acre and lower cut-off value of \$2,126/acre.



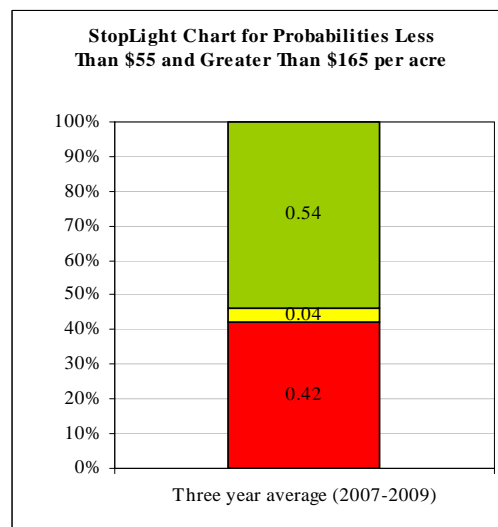
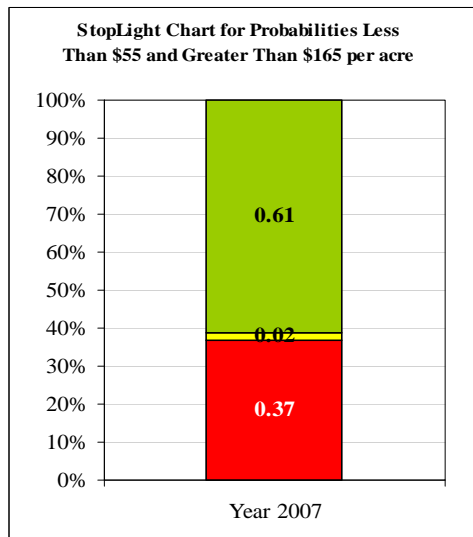
### 3. Cantaloupe Model

Higher cut-off value of \$195/acre and lower cut-off value of \$65/acre.



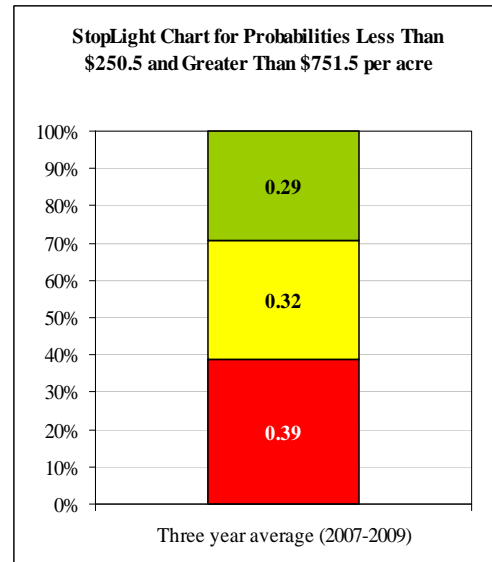
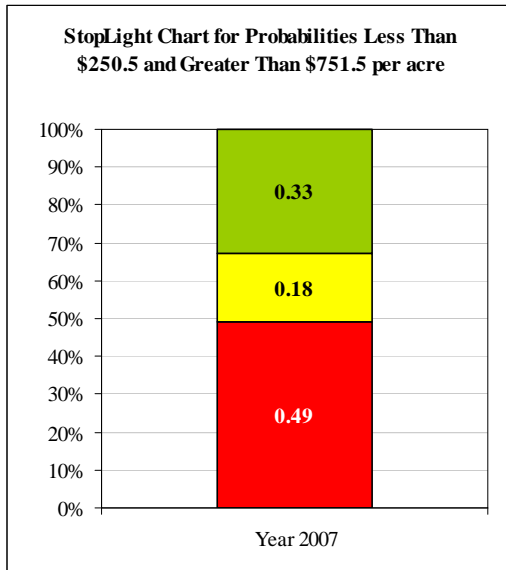
### 4. Cherry Model

Higher cut-off value of \$165/acre and lower cut-off value of \$55/acre.



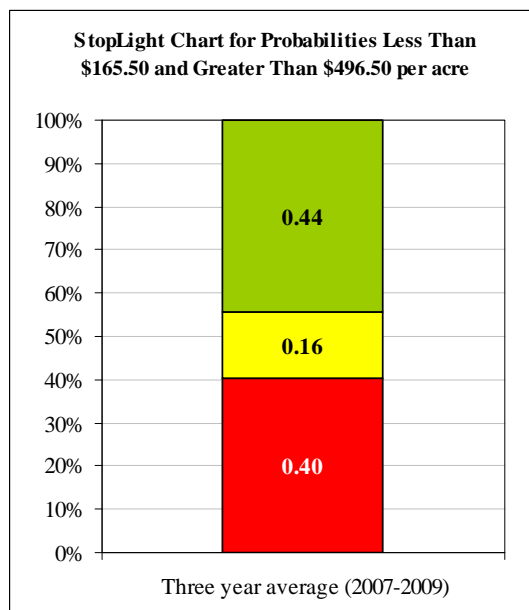
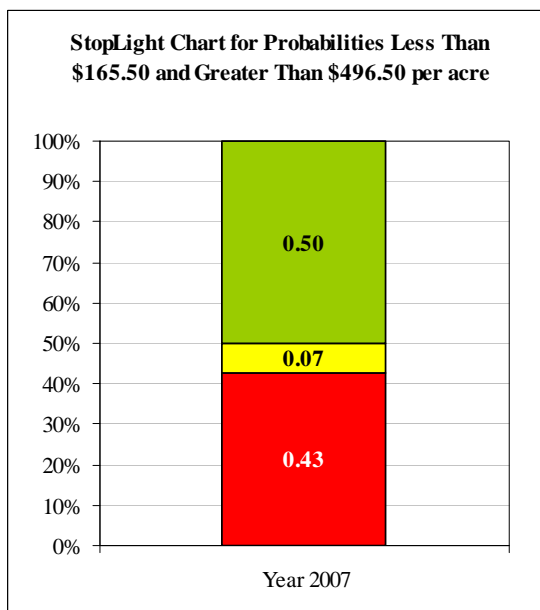
## 5. Orange Model

Higher cut-off value of \$751.5/acre and lower cut-off value of \$250.50/acre.



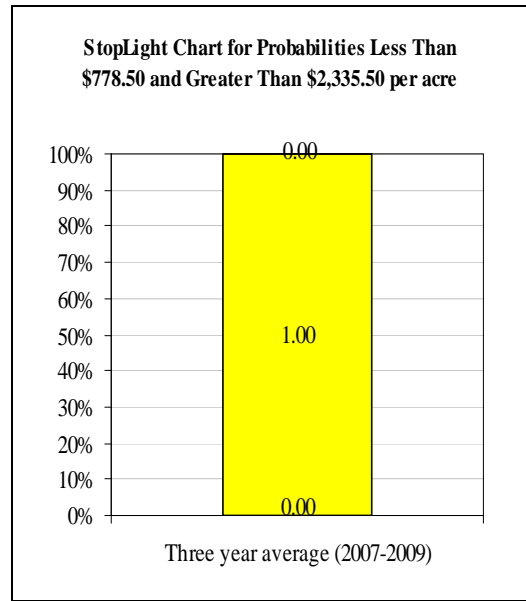
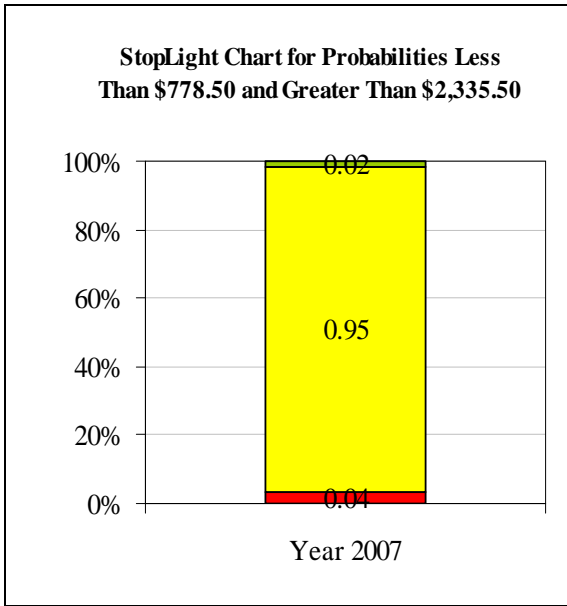
## 6. Nectarine Model

Higher cut-off value of \$496.50/acre and lower cut-off value of \$165.50/acre.



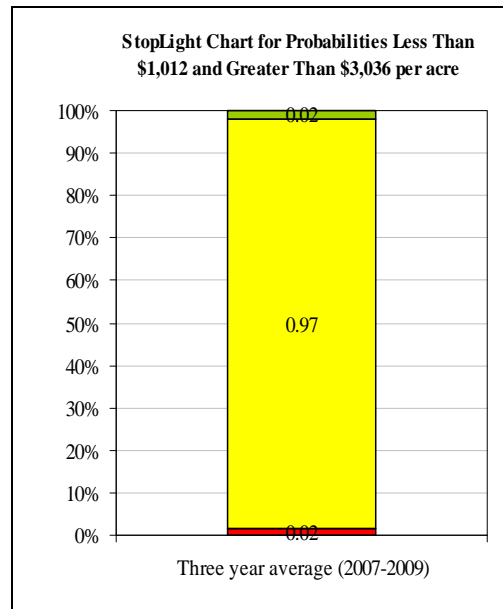
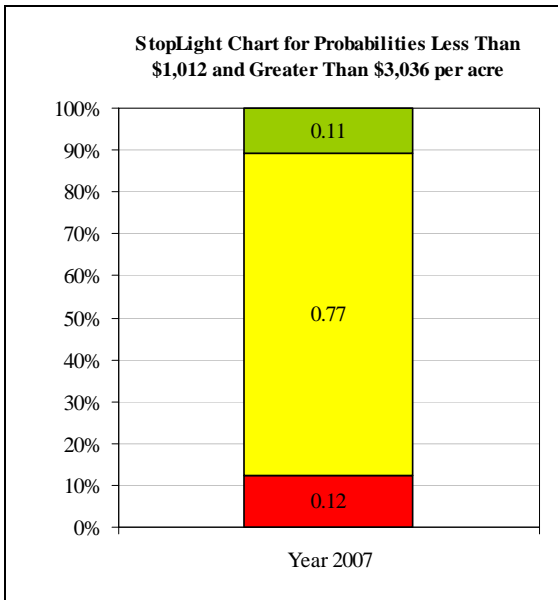
## 7. Peach Model

Higher cut-off value of \$2,335.50/acre and lower cut-off value of \$778.50/acre.



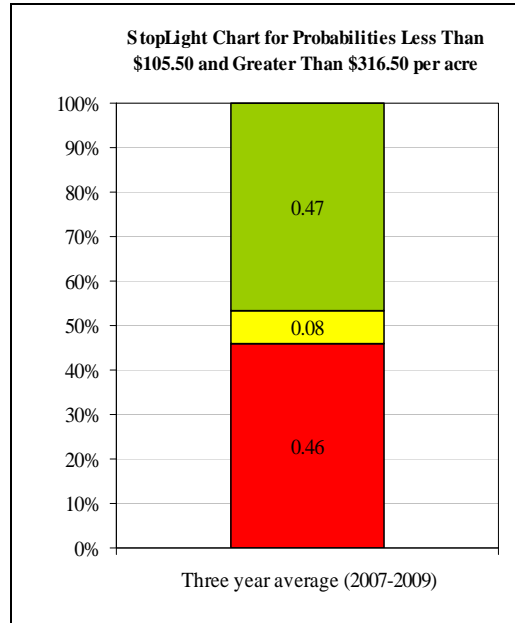
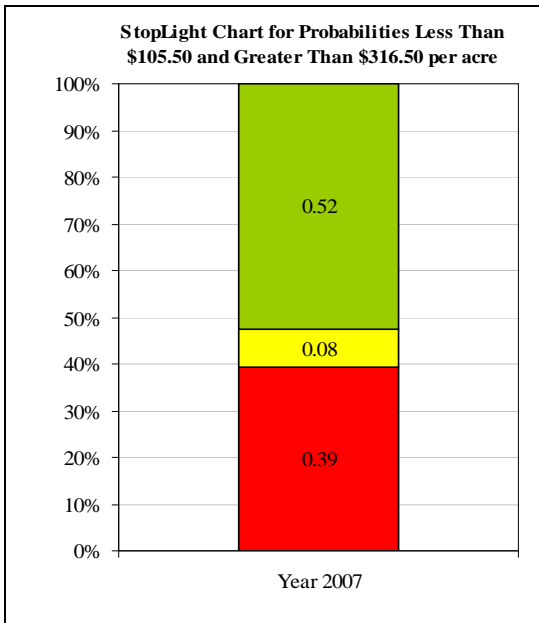
## 8. Pear Model

Higher cut-off value of \$3,036/acre and lower cut-off value of \$1,012/acre.



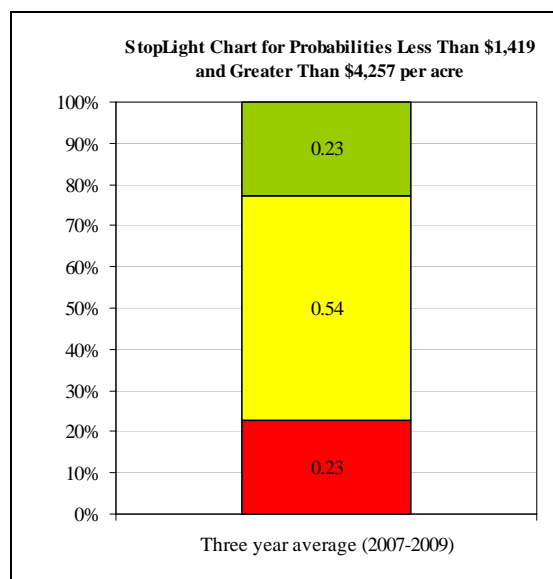
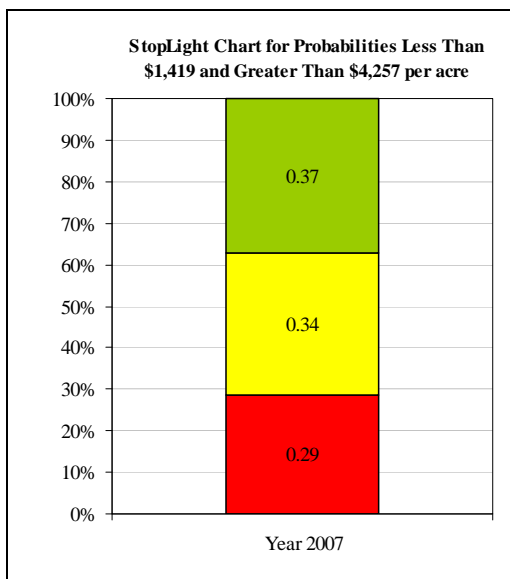
## 9. Plum Model

Higher cut-off value of \$316.50/acre and lower cut-off value of \$105.50/acre.



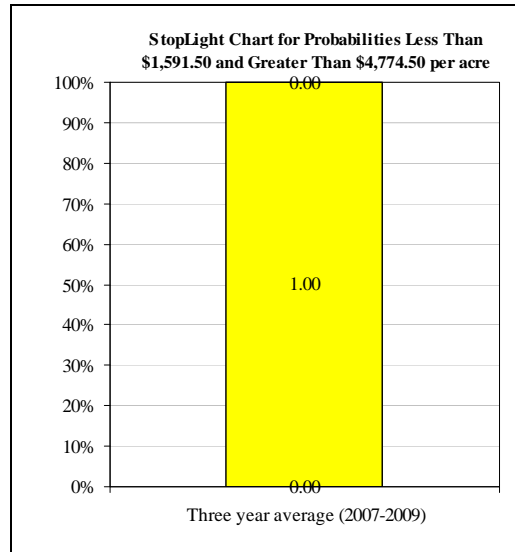
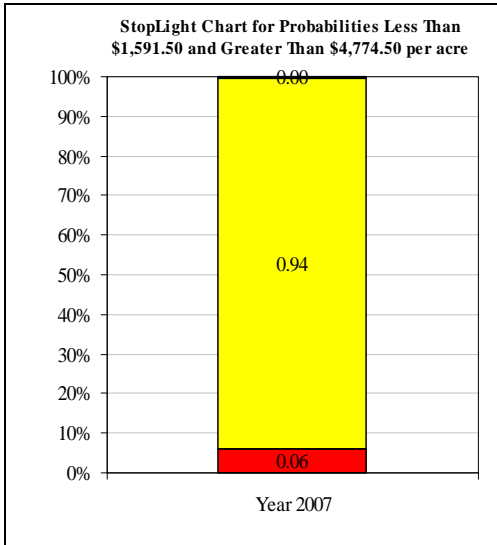
## 10. Strawberry Model

Higher cut-off value of \$4,257/acre and lower cut-off value of \$1,419/acre.



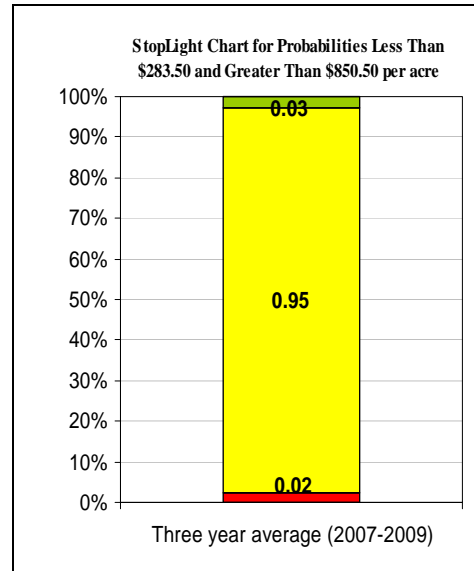
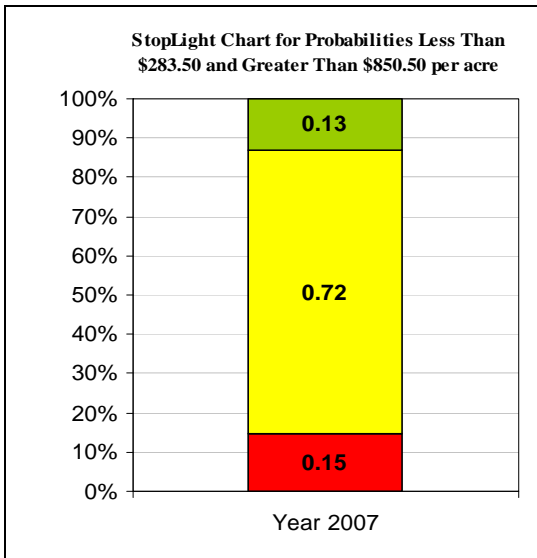
## 11. Table Grape Model

Higher cut-off value of \$4,774.50/acre and lower cut-off value of \$1,591.50/acre.



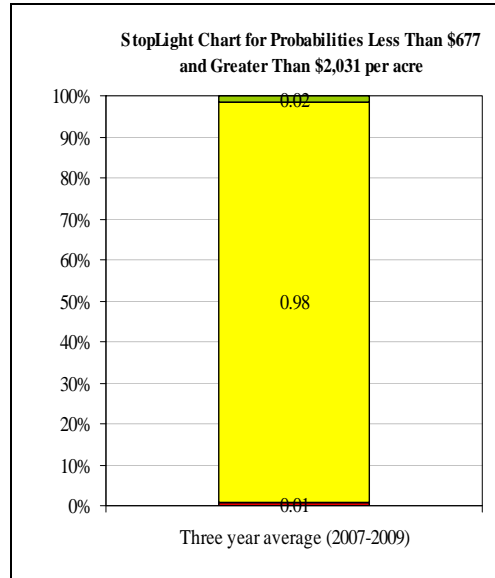
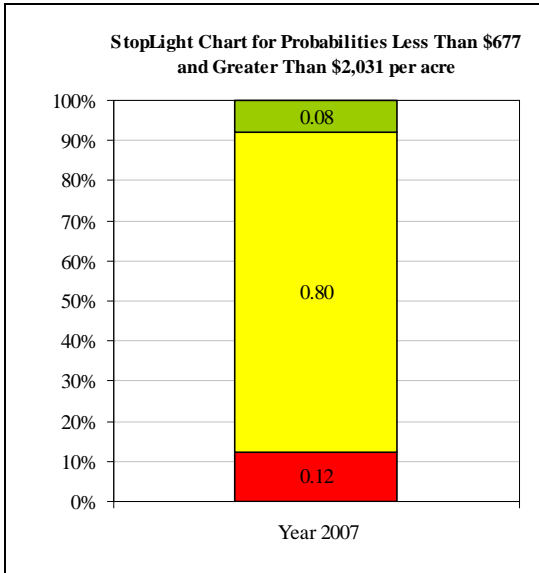
## 12. Thompson Seedless Grape Model

Higher cut-off value of \$850.50/acre and lower cut-off value of \$283.50/acre.



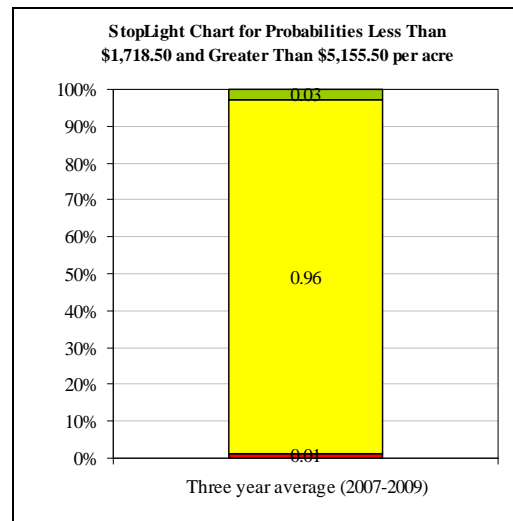
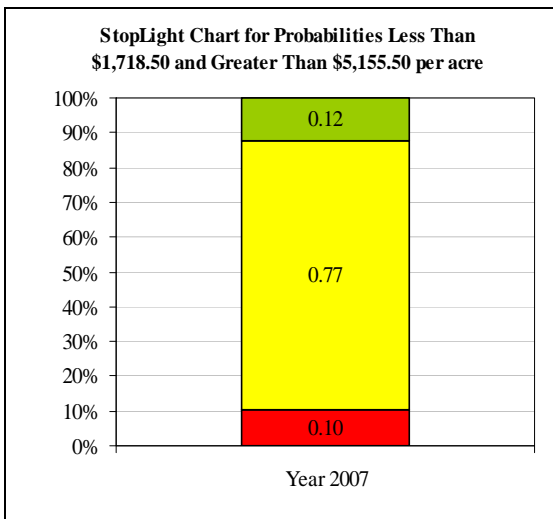
### 13. Walnut Model

Higher cut-off value of \$2,031/acre and lower cut-off value of \$677/acre.



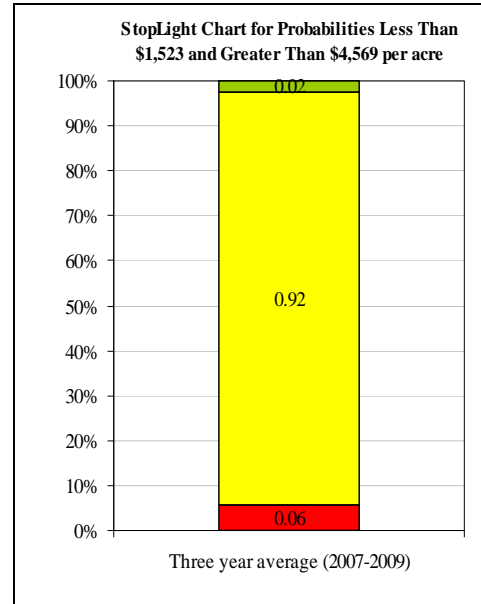
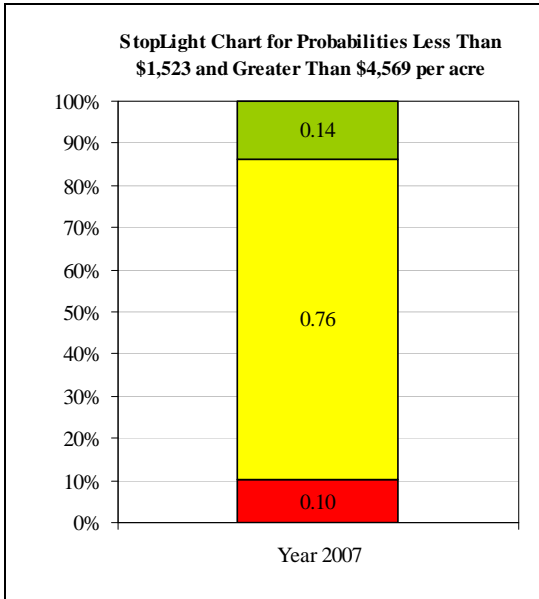
### 14. Apricot Model

Higher cut-off value of \$5,155.50/acre and lower cut-off value of \$1,718.50/acre.



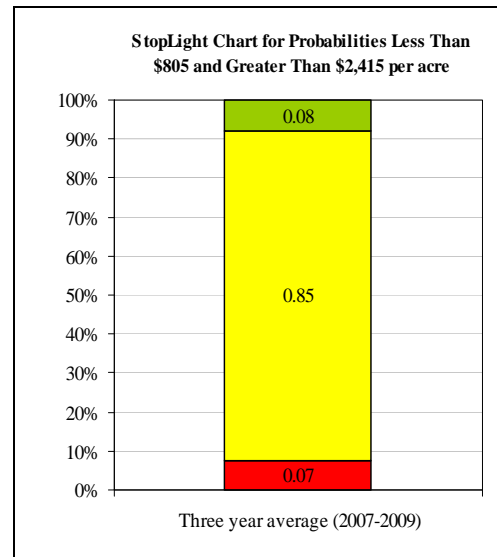
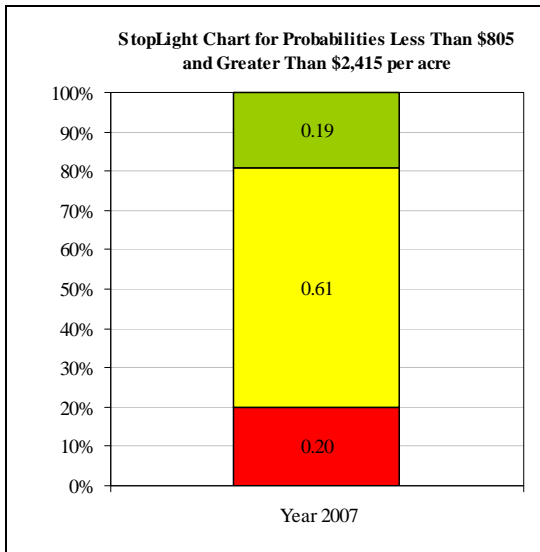
## 15. Avocado Model

Higher cut-off value of \$4,569/acre and lower cut-off value of \$1,523/acre.



## 16. Fresh Carrot Model

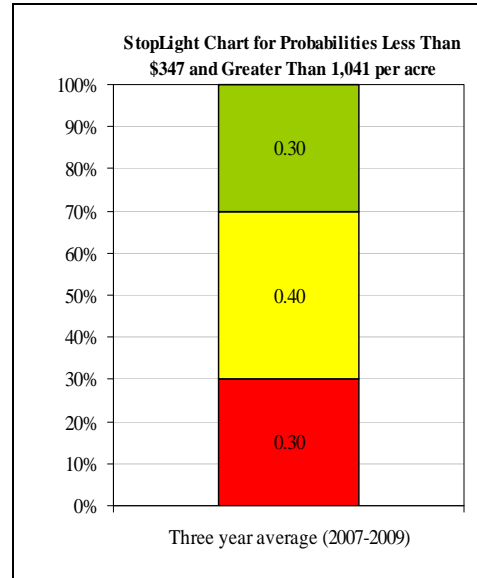
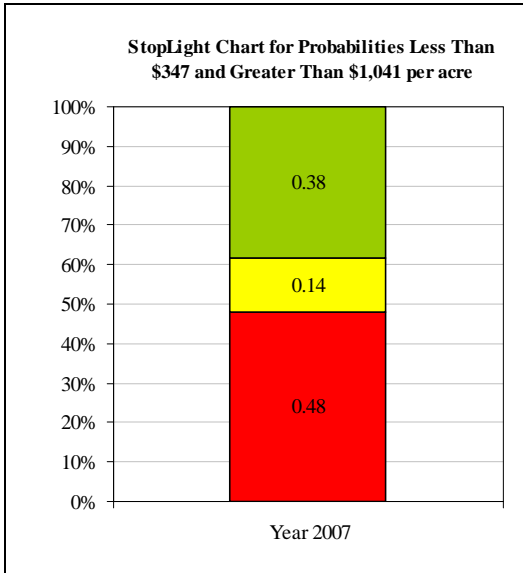
Higher cut-off value of \$2,415/acre and lower cut-off value of \$805/acre.





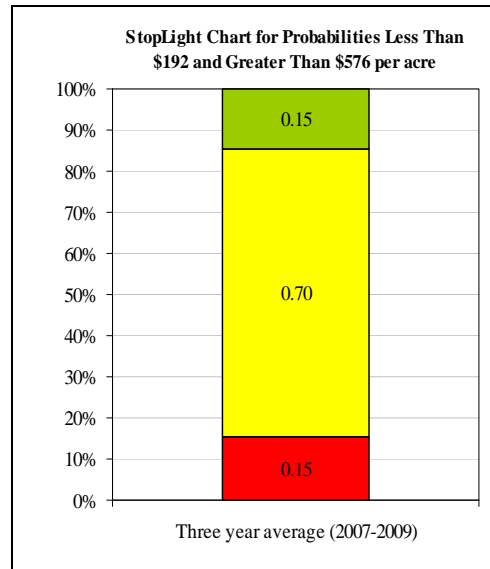
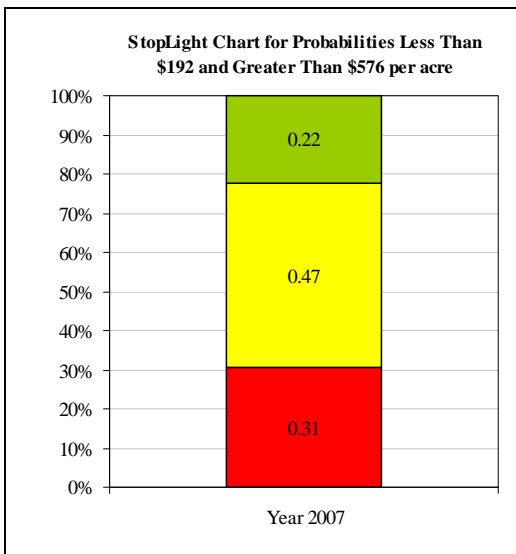
## 17. Fresh Tomato Model

Higher cut-off value of \$1,041/acre and lower cut-off value of \$347/acre.



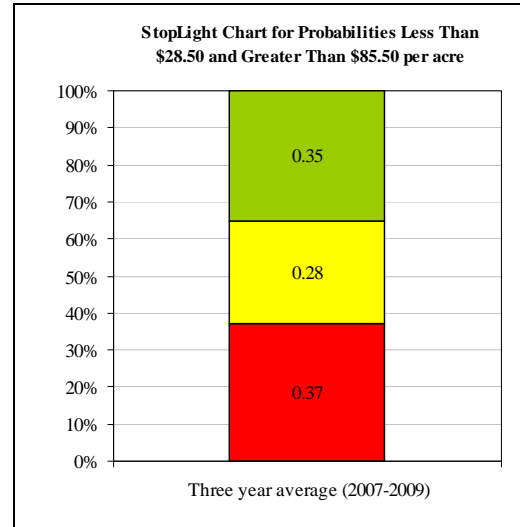
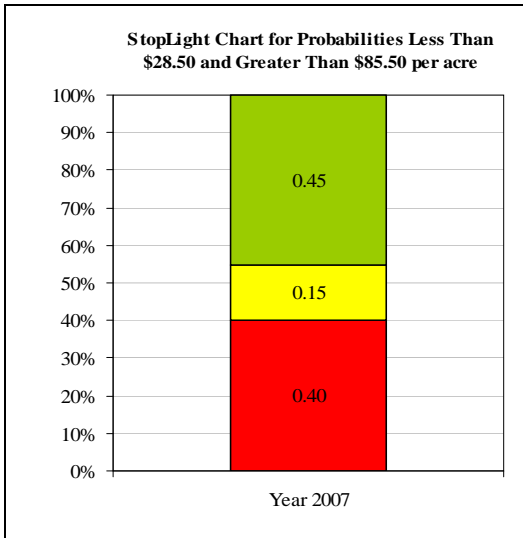
## 18. Processing Carrot Model

Higher cut-off value of \$576/acre and lower cut-off value of \$192/acre.



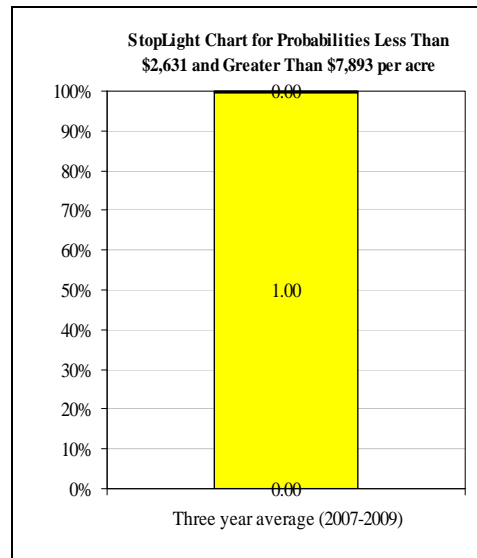
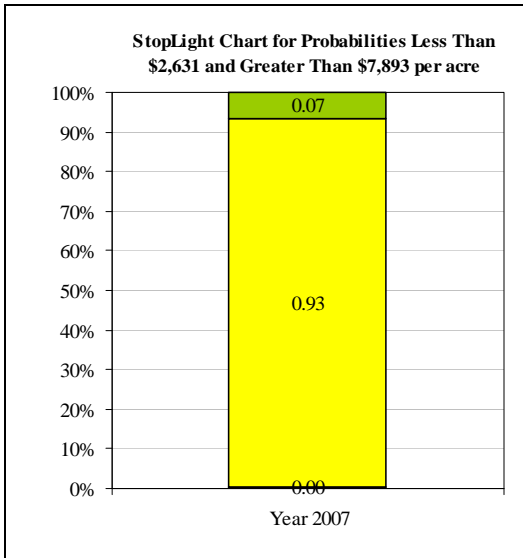
## 19. Processing Tomato Model

Higher cut-off value of \$85.50/acre and lower cut-off value of \$28.50/acre.



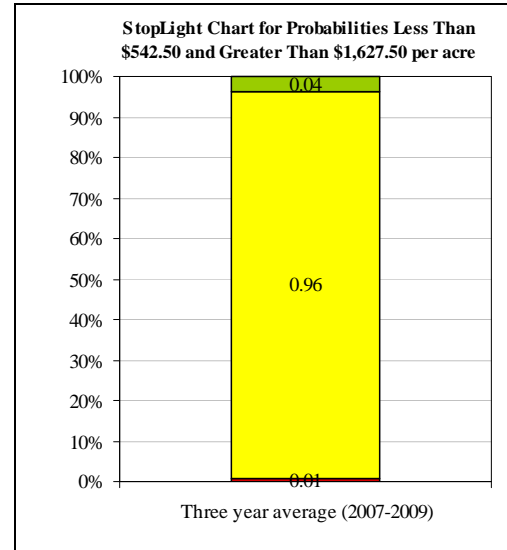
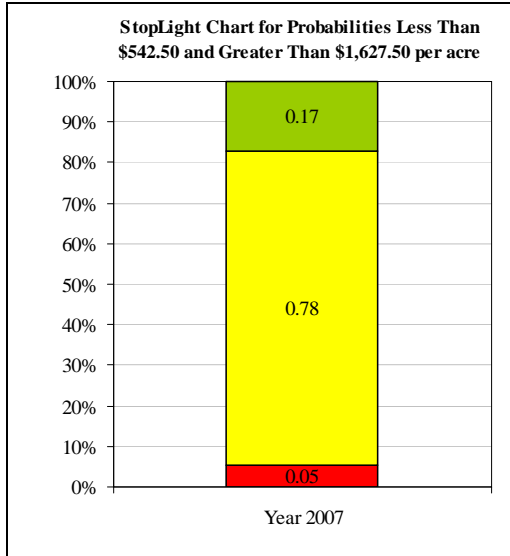
## 20. Wine Grape Model

Higher cut-off value of \$7,893/acre and lower cut-off value of \$2,631/acre.



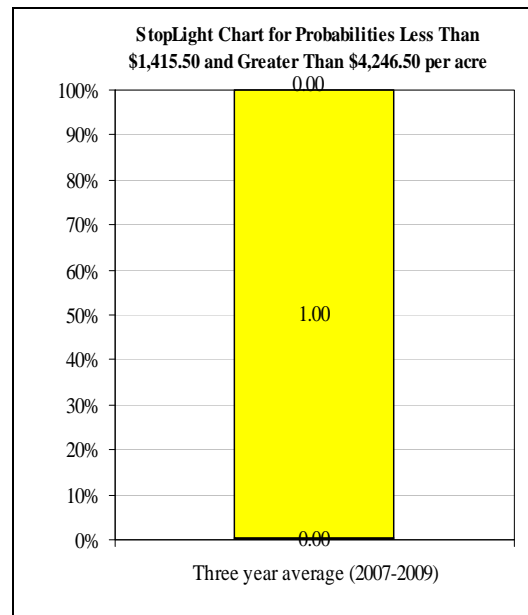
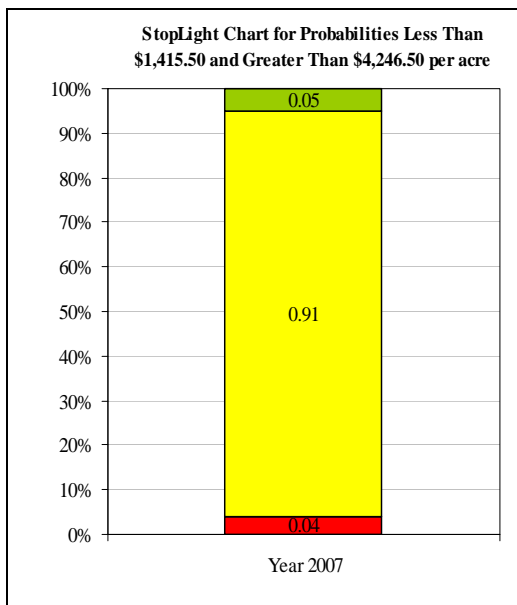
## 21. China - Apple Model

Data from China's Statistics Book of Cost and Benefit of Agricultural Products is used to construct the model. A higher cut-off value of \$1,627.50/acre and lower cut-off value of \$542.50/acre were chosen for China apple model.



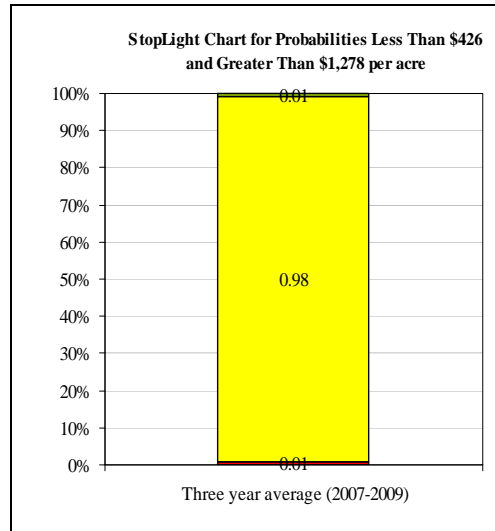
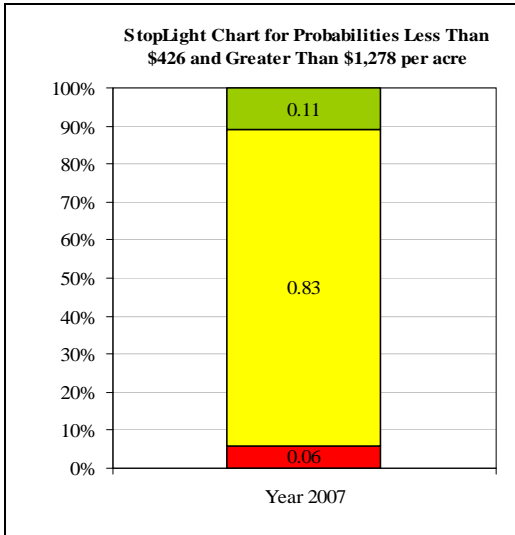
## 22. China – Peach Model

Data was obtained from author's field survey in Shandong Province in summer 2007. A higher cut-off value of \$4,246.50/acre and lower cut-off value of \$1,415.50/acre were chosen for China peach model.



### 23. China – Broccoli Model

Data was obtained from author's field survey in Shandong Province in summer 2007. Higher cut-off value of \$1,278/acre and lower cut-off value of \$426/acre were chosen for China broccoli model.



### **III. APPLE, PEACH AND BROCCOLI PRODUCTION IN CHINA AND CALIFORNIA**

One of the significant differences in costs of agricultural production between China and California is the labor cost caused by differences in wage rate. For example, in California, labor cost is \$11.84 per hour (\$8 per hour plus Social Security, unemployment insurance, transportation, workman's compensation, supervision, and fringe benefits) based on the 2007 survey data. For the China models, labor is calculated at \$2 per day. Thus, if labor cost is underestimated then the total cost is underestimated which lead to overestimation in net return for the China models. In order to understand the sensitivity of labor cost on the net return in China models, we have considered three scenarios for the China models:

Scenario 1: Wage rate equal to \$2 per day, which is used in the current China models as the baseline.

Scenario 2: Increase wage rate to \$6/day which is the common off-farm wage rate.

Scenario 3: Consider the wage rate as one third of the wage rate of California, \$32 /day (Wage rate in the US: \$11.84 /hour\*8 hours/day = \$95 /day. One third of the wage rate in the US:  $95/3=\$32$  /day).

Table 3 shows the cost and net turn of apple, peach and broccoli production in China models and California models with above different scenarios. Mean of the simulated net return for the China model with different wage rate scenarios are shown in Table 4. And StopLight Charts are presented in Figure 3 with different scenarios.

**Table 3 – 1. Cost and net return of production in China and California: Apple**

(1US\$ = 7.5 RMB, 1 acre = 6 mu)

	<b>China*</b>	<b>California**</b>
<b>Return and Net Return above Cash Cost</b>		
<b>Total Return (\$/acre)</b>	<b>2,116</b>	<b>15,300</b>
Yield (Tons/acre)	11	30
Price (\$/ton)	189	510
<b>Net Return above Cash Cost (\$/acre)</b>	<b>1,185</b>	<b>4,919</b>
<b>Cash Cost</b>		
		(\$/acre)
Fertilizer	244	37
Pesticides***	85	297
Plastics	16	n.a
Irrigation	37	113
Pollination	n.a	125
Depreciation of fixed assets and others	21	353
Packing house cost	n.a	6,915
Cool, Sort, Pack, and Store	n.a	6,825
Handle, Store	n.a	90
Labor cost	484	2,298
Cultural labor cost	n.a	658
Harvest labor cost	n.a	1,640
Family labor	401	n.a
Hired labor	83	n.a
Others	43	233
<b>Total cash cost per acre</b>	<b>931</b>	<b>10,381</b>
Yield (tons/acre)	11	30
<b>Total cash cost per ton</b>	<b>83</b>	<b>346</b>

Note: \* The data is from China's Statistics Book of Cost and Benefit of Agricultural Products, 2006.

\*\* The 2001 year data of Granny Smith apple in San Joaquin Valley North, study by the UCCES.

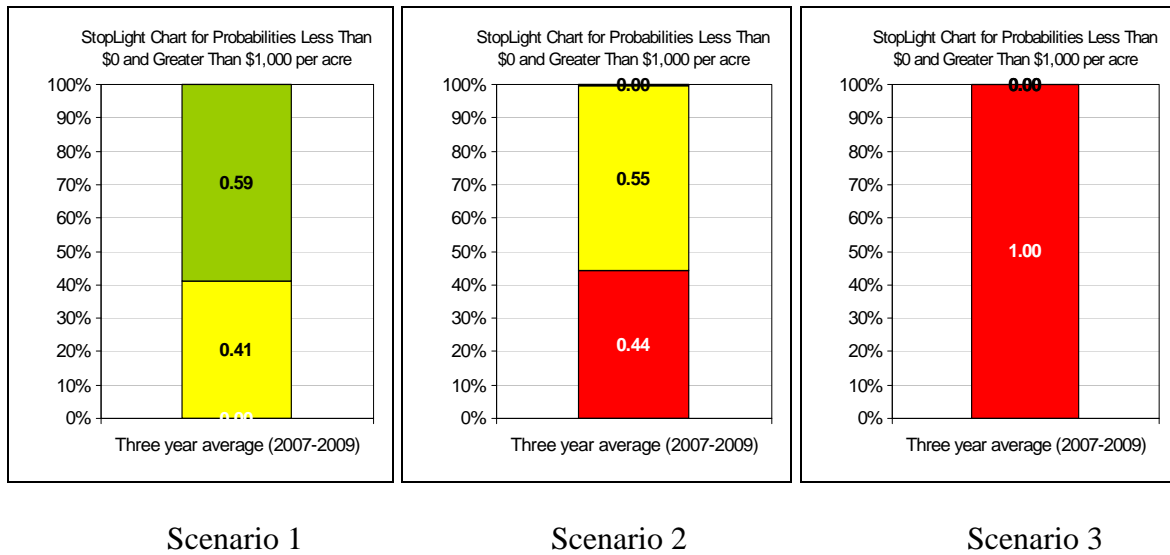
\*\*\* It includes the pesticide for pest, disease, and weed control.

**Table 4 – 1. Mean of Simulated Net Return in China Apple Model (\$/acre)**

	Scenario 1*	Scenario 2**	Scenario 3***
<b>Average (2007-2009)</b>	<b>\$1,085</b>	<b>\$63</b>	<b>-\$6,579</b>
2007	\$1,132	\$164	-\$6,124
2008	\$1,087	\$66	-\$6,569
2009	\$1,035	-\$42	-\$7,043

Note: \* wage rate = \$2 /day  
 \*\* wage rate = \$6 /day  
 \*\*\* wage rate = \$32 /day

**Figure 3 – 1. StopLight Chart for the China Apple Model with three Scenarios**



Above table and figure indicate apple in China became unprofitable if labor cost is increased from the present wage rate. When the wage rate became one third of California wage, Chinese apple seems no longer competitive.

**Table 3 – 2. Cost and net return of production in China and California: Peach**

(1US\$ = 7.5 RMB, 1 acre = 6 mu)

	<b>China*</b>	<b>California**</b>
<b>Return and Net Return above Cash Cost</b>		
<b>Total Return (\$/acre)</b>	<b>3,600</b>	<b>4,692</b>
Yield (Tons/acre)	15	12
Price (\$/ton)	240	400
<b>Net Return above Cash Cost (\$/acre)</b>	<b>2,912</b>	<b>1,593</b>
<b>Cash Cost</b>		
		(\$/acre)
Fertilizer	208	11
Pesticides***	240	226
Irrigation	80	42
Depreciation of fixed assets and others	n.a	251
Labor cost	160	1,122
Cultural labor cost	n.a	1,090
Harvest labor cost	n.a	17
Post-harvest labor cost	n.a	15
Family labor	160	n.a
Hired labor	0	n.a
Harvest cost net labor cost	n.a	1,258
Hauling	n.a	100
Packing	n.a	1,100
Assessment	n.a	58
Other cost	n.a	189
<b>Total cash cost per acre</b>	<b>688</b>	<b>3,099</b>
Yield (tons/acre)	15	20
<b>Total cash cost per ton</b>	<b>46</b>	<b>155</b>

Note: \* The data is from the author's yellow peach field survey in China, summer 2007.

\*\* The 2003 year data of cling peach (late harvested variety) in Sacramento and San Joaquin Valley, study by the UCCES.

\*\*\* It includes the pesticide for pest, disease, and weed control.

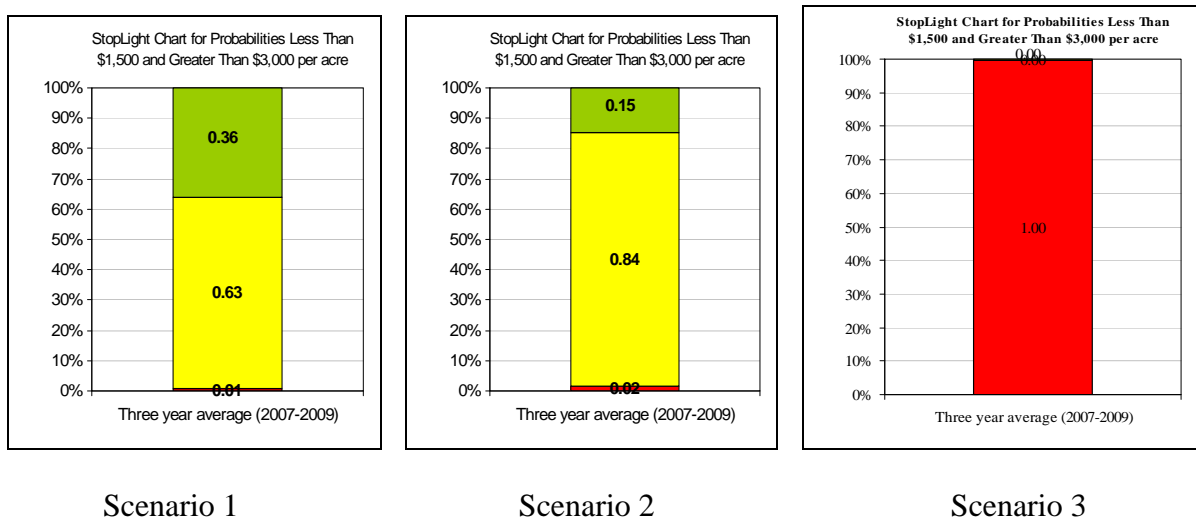


**Table 4 – 2. Mean of Simulated Net Return in China Peach Model (\$/acre)**

	Scenario 1*	Scenario 2**	Scenario 3***
<b>Average (2007-2009)</b>	<b>\$2,831</b>	<b>\$2,493</b>	<b>\$296</b>
2007	\$2,866	\$2,546	\$466
2008	\$2,832	\$2,494	\$300
2009	\$2,795	\$2,439	\$123

Note: \* wage rate = \$2 /day  
 \*\* wage rate = \$6 /day  
 \*\*\* wage rate = \$32 /day

**Figure 3 – 2. StopLight Chart for the China Peach Model with three Scenarios**



Unlike apple, peach in China still have positive return for all scenarios. However, for the three year period net return will decline significantly for the scenario 3.

**Table 3 – 3. Cost and net return of production in China and California: Broccoli**

(1US\$ = 7.5 RMB, 1 acre = 6 mu)

	China*	California **
<b>Return and Net Return above Cash Cost</b>		
<b>Total Return (\$/acre)</b>	<b>1,760</b>	<b>5,124</b>
Yield (Tons/acre)	8.25	8.61
Price (\$/ton)	213	595
<b>Net Return above Cash Cost (\$/acre)</b>	<b>936</b>	<b>-160</b>
<b>Cash Cost</b>		
		(\$/acre)
Seed	\$120	\$100
Fertilizer	\$160	\$200
Irrigation	\$8	\$140
Pesticide ***	\$16	\$120
Fuel (Tractor, pumps, etc.)	n.a	\$140
Others cultural costs****	\$40	\$426
Labor cost	\$480	\$400
Cultural labor cost	n.a	\$400
Harvest labor cost	n.a	\$0
Post-harvest labor cost	n.a	\$0
Family labor	\$480	n.a
Hired labor	\$0	n.a
Harvest cost net labor cost	n.a	\$3,447
Cut, wrap & pack	n.a	\$1,498
Carton	n.a	\$749
Haul	n.a	\$38
Cool, palletize	n.a	\$52
Sellng/marketing	n.a	\$375
Fuel/Energy	n.a	\$736
Cash Overhead	n.a	\$311
<b>Total cash cost per acre</b>	<b>\$824</b>	<b>\$5,284</b>
Yield (tons/acre)	8.25	8.61
<b>Total cash cost per ton</b>	<b>\$100</b>	<b>\$614</b>

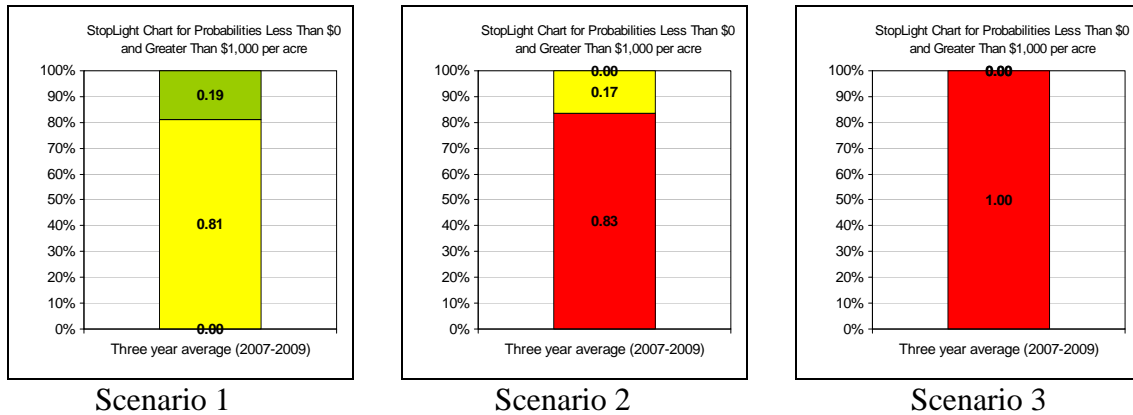
Note: \* The data is from the author's broccoli field survey in China, summer 2007.  
 \*\* The 2004 year data of broccoli in Salinas Valley is from the specialty crop representative farm simulation model created by the CISSC.  
 \*\*\* It includes the pesticide for pest, disease, and weed control.  
 \*\*\*\* Others cultural costs in California includes application/entomology, soil amendments/compost/cover crop, lube & repair net of labor, equipment/pipe rental, Thinning/hoeing; Others cultural costs in China is the plastic cost.

**Table 4 – 3. Mean of Simulated Net Return in China Broccoli Model (\$/acre)**

	<b>Scenario 1*</b>	<b>Scenario 2**</b>	<b>Scenario 3***</b>
<b>Average (2007-2009)</b>	<b>\$852</b>	<b>-\$162</b>	<b>-\$6,753</b>
2007	\$897	-\$63	-\$6,303
2008	\$852	-\$161	-\$6,745
2009	\$805	-\$264	-\$7,211

Note: \* wage rate = \$2 /day  
 \*\* wage rate = \$6 /day  
 \*\*\* wage rate = \$32 /day

**Figure 3 – 3. StopLight Chart for the China Broccoli Model with three Scenarios**



Chinese broccoli is more sensitive to changes in wage rate relative to other two crops. When wage rate changes to \$6 per day, the model indicates the simulated average net return became negative for this produce.

## **IV. AN ECONOMIC ASSESSMENT OF PRODUCER CHARGE BACK FEE FOR DISPOSAL OF FOOD PROCESSING WASTE IN STANISLAUS COUNTY, CALIFORNIA**

### **Introduction**

As background to the issues facing Stanislaus County producers the following information has been extracted and paraphrased from Central Valley Regional Water Control Board staff reports submitted or presented in public forum in 2005.

The food production and processing sector is a major component of the Central Valley Region's economy and employs up to 35 percent of the workforce in some counties. This sector generates about 20 billion dollars annually, most of it from the San Joaquin Valley. Due to its agricultural wealth, the Region contains some of the largest food processing plants in the nation. While some discharge to publicly owned treatment works, most discharge to "land application sites." The source water for many farms and food processing plants is the Region's groundwater.

In 1978 Stanislaus County, California established the Food Processing Residue Use Program. This program allowed for the diversion of food processing residue from landfills to permitted sites that use the residue as direct cattle feed; feed processing product, or soil supplements. The majority of food residue in the program originated from food processing plants such as Hunt-Wesson, Del Monte, Stanislaus Foods, Patterson Frozen Foods, and Eckert Cold Storage. Residue use sites include dairies and feedlots, which directly feed the material to livestock; land spreading operations; and animal feed processors. The program was originally sponsored by the food processing manufacturers. As the commodity users recognized the value of the program, the funding system was changed to bill the food residue use sites for their proportional costs of the program. During the first twenty years of the program, more than 52 million tons of food residues were diverted from landfill to permitted sites throughout the Central Valley region.

In 1985, State Water Resources Control Board adopted regulations in Title 27 for wastes discharged to land. Title 27 requires wastes that have significant potential to cause groundwater pollution be fully contained if they are discharged to land for treatment, storage or disposal. Title 27 establishes prescriptive standards for liners, collection systems, as well as requirements for monitoring and closure. In the Central Valley Region, discharges of food processing waste to land have historically been regulated under the Waste Discharge Requirement (WDR; formerly Non-Chapter 15) Program, and have been considered to be exempt from the full-containment, monitoring, financial assurance and corrective action requirements of the Title 27 regulations.<sup>4</sup>

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<sup>4</sup> Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, §20005, *et seq.* Discharges of food processing waste to land must comply with the Title 27 regulatory requirements unless one of the following applies: (1) The discharge is specifically exempted pursuant to one of three subsections of §20090 (b) Discharges of nonhazardous wastewater to land under WDRs, reclamation requirements or a waiver and which comply with the applicable Basin Plan, (f) Use of nonhazardous decomposable waste as a soil amendment pursuant to best management practices, (i) Waste treatment in fully enclosed facilities, such as tanks, or in concrete-lined

In authorizing land application sites through issuance of WDRs, the Regional Board has historically exempted these sites from Title 27 because it was then assumed they conformed to the applicable basin plan. Where a discharge might degrade groundwater, it was assumed that best management practices would minimize degradation and prevent pollution.

According to the Regional Board staff report, prescriptive and performance standards of the Title 27 regulations (e.g., pond liner systems, monitoring), reverse osmosis salt removal technology, and U.S. Environmental Protection Agency (USEPA) technology-based effluent standards are typically not evaluated as alternatives in the WDR Program, even though they are usually practicable. Little or no monitoring has been required to demonstrate that groundwater pollution has not occurred (i.e., to demonstrate compliance with water quality objectives in the basin plans) or, if it has occurred, that the requirements of the Antidegradation Policy have been satisfied. Where significant groundwater impacts were found, dischargers have been required to modify their waste management practices to prevent future impacts. However, investigation and cleanup of groundwater, in accordance with State Water Board Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* (Cleanup Policy), has not often been required.

Historically, many of the smaller food processing waste discharges were regulated under conditional waivers of WDRs—where a waiver was viewed as not against the public interest—or, for the many larger operations, by individual WDRs. However, Section 13269 of the California Water Code, as amended in 1999 (SB390), caused all Regional Board waivers that were in effect as of 1 January 2000 to expire on 1 January 2003. Formal Regional Board action was required, including a public hearing, to continue any waiver after that date. Further, all renewed or newly adopted waivers now automatically expire every five years and must require monitoring to demonstrate compliance with waiver conditions. Section 13269, as amended, requires the Regional Boards to re-evaluate how food processing and other wastes are being managed under waivers.<sup>5</sup>

### **Policy Alternatives and Methodology**

Given the dynamic policy environment surrounding the regulation of food processing waste disposal it is prudent for industry representatives to evaluate the possible outcomes that may result from alternatives to existing programs. One alternative to the existing regulation on the practice of land application of food processing waste in the region is to require processing firms to haul waste to an authorized disposal site. If such a policy was adopted it is likely

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facilities of limited areal extent; (2) The waste is classified as “inert”, i.e., it does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste.

<sup>5</sup> Most of the information provided in this review was taken directly from Staff Report for the 16/17 March 2006 meeting of the Central Valley Regional Water Quality Control Board WSW: 1 March 2006 and 28 January 2005 Board meeting of the Central Valley Regional Water Quality Control Board

that Stanislaus County producers would be assessed a fee by processors equivalent to the firm's cost of disposal or receive a lesser price for their product that reflects the added cost to the firm. The amount of such a fee or decrease in price growers may face is difficult to determine. The extent to which the entire cost would be shifted to the grower is also uncertain. The overall economic impact of a change in policy governing land based application of food processing waste will be determined by the degree to which firms, producers and related support industries are effected.

One component necessary to begin to assess the economic effects of any change in policy related to land application of food processing waste is a baseline estimate of the policy's potential effect on grower profitability. The purpose of this study is to apply a set of representative farm simulation models to determine the potential change in the returns to growers if processing firms assess a charge back fee to cover the increase in cost associated with a change in policy requiring disposal of waste products in approved sites.

The analysis compares existing returns above cash cost for processing tomato and cling peach growers before and after the imposition of a charge back fee equal to the estimated per unit cost for waste disposal. In addition a three year forecast of the possible change in net returns, above cash costs is provided.

The data used for the stochastic simulation models is based on University of California Extension, Cost and Returns survey information as amended by input from regional producers. The estimate of costs associated with the disposal of peach and tomato processing waste was supplied by representatives from regional food processing firms. The results provided are mean values for net returns derived from 500 runs of the models allowing for variability consistent with observed historical probability distribution functions associated with regional prices and yields for the individual commodities.

## **Results**

The representative farm models for cling peaches and processing tomatoes were used to analyze the changes in returns to cash costs if Stanislaus County producers were assessed a fee equal to the estimated cost of disposal of processing waste at approved facilities rather than being allowed to incorporate that waste into their fields, the current practice.

The analysis indicates that while changes to existing disposal practices would have negative effects on the revenues of peach and tomato producers, tomato enterprises would not generate a positive net return. Under current cultural practices the Stanislaus County producers have an average net return above cash cost of \$57 and \$1,557 per acre for tomato and cling peach production respectively (Table 5). Over the three year forecast horizon, both enterprises continue to have positive, albeit declining net returns. Under the range of charge back fees provided by industry sources tomato returns decline to an average of -\$216 to -\$319 per acre. Over the same range of charge back fees net returns to cling peach producers decline to an average of \$1,401 to \$1,342 per acre.

Using the stoplight chart analysis described in Section II, the probabilities of producers generating various levels of net returns are analyzed for one year and on average over the 3

year forecast horizon. For tomatoes the probability of generating a net return of \$50 per acre and above was compared with that of zero or negative returns. For cling peaches the alternative returns considered were the low yield/high price and high yield/low price combinations provided in the University of California Cooperative Extension Service most recent Cost and Returns Survey, \$1,450 and \$1,728 per acre respectively. The analysis calculates the probability of generating returns at or above the higher range (green); between the high and low range (yellow) and at or below the lower range (red) (Figures 4 – 7).

Results from the representative farm model of Stanislaus processing tomato production under current cultural practices provides a 54 percent probability that producers would generate a return above \$50 per acre in 2007, 13 percent probability of returns between \$50 and \$0, and a 33 percent probability of negative returns (Figure 4). With the imposition of a charge back fee the probability of generating a positive net return for processing tomato production is reduced to a range of 6 to 11 percent. Over the three year forecast period the probability of generating a positive return from processed tomato production under current cultural practices increases to 70 percent, however when a charge back fee is applied the model results indicate there is virtually no likelihood of a positive return (Figure 5).

Results from the representative farm model of Stanislaus cling peach production under current cultural practices provides a 32 percent probability that producers would generate a return above \$1,728 per acre, 35 percent probability of returns between \$1,728 and \$1,450, and a 33 percent probability of returns below \$1,450 per acre in 2007 (Figure 6). With the imposition of a charge back fee the probability of generating a return above \$1,450 per acre declines from 67 percent to a range of 47 to 40 percent. Over the three year forecast period the probability of generating a return above \$1,450 increases to 71 percent under current cultural practices, but declines to a range of 39 to 30 percent under alternative fee levels (Figure 7).

## **Conclusions**

The results of the analysis of potential change in regulations currently governing disposal of peach and tomato processing waste in Stanislaus County suggest significant negative effects on the producers of those commodities. While peach producers are able to maintain a positive net return per acre, few if any producers of processing tomatoes would likely be able, to remain in production if charge back fees were imposed. In addition the likelihood of tomato processors being about to remain in business without a local supply of product is questionable.

This analysis, while preliminary and in need of increased precision regarding the costs of alternative disposal methods, provides an example of how the projects representative models can be used to develop quantitative estimates of potential policy changes that can be useful to agricultural decision makers and government planners.

### Stanislaus Representative Disposal Cost Charge

The cost of processing waste disposal if that waste had to be taken to the Bay Area or alternative waste disposal site has a range of \$800 to \$1,100 a truckload not accounting for labor and equipment costs

Each truck load is 25 tons of processing waste by-product.

Total amount of product processed is 125,000 tons.

Approximately 30,000 tons of the 125,000 tons is processing waste (peels, juice, pits, etc).

30,000 tons/25 tons per load = 1,200 loads of processing waste to be trucked and dumped.

Three cost scenarios:

1. \$800/load.  $1,200 \text{ tons/load} \times \$800/\text{load} = \$960,000$ . Waste disposal back charge to grower-suppliers is  $\$960,000/125,000 \text{ tons} = \mathbf{\$7.68/\text{ton of processed product}}$ .
2. \$950/load.  $1,200 \text{ tons/load} \times \$950/\text{load} = \$1,140,000$ . Waste disposal back charge to grower-suppliers is  $\$1,140,000/125,000 \text{ tons} = \mathbf{\$9.12/ \text{ton of processed product}}$ .
3. \$1,100/load.  $1,200 \text{ tons/load} \times \$1,100/\text{load} = \$1,320,000$ . Waste disposal back charge to grower-suppliers is  $\$1,320,000/125,000 \text{ tons} = \mathbf{\$10.56/ \text{ton of processed product}}$ .



**Table 5. Impact of Waste disposal back charge on processing tomato grower's net return**

**Mean of simulated net return (\$/acre)**

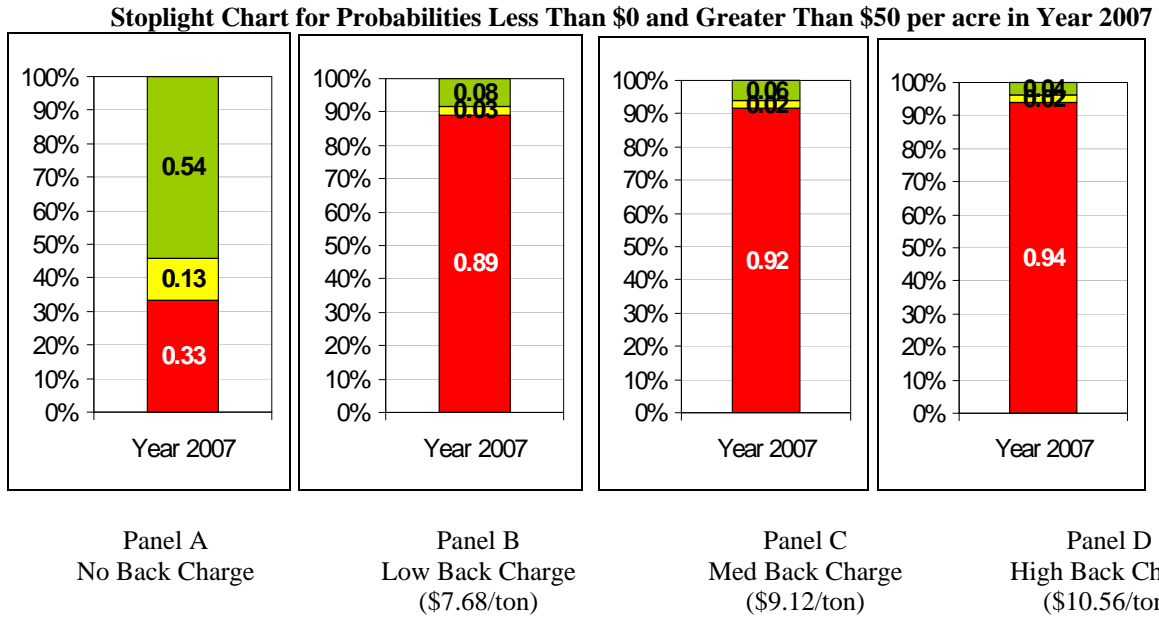
	<b>No back charge</b>	<b>Low back charge (\$7.68/ton)</b>	<b>Med back charge (\$9.12/ton)</b>	<b>High back charge (\$10.56/ton)</b>
<b>Average</b>	<b>\$57</b>	<b>-\$216</b>	<b>-\$268</b>	<b>-\$319</b>
2007	\$74	-\$195	-\$246	-\$296
2008	\$49	-\$225	-\$276	-\$327
2009	\$47	-\$229	-\$281	-\$333

**Table 6. Impact of waste disposal back charge on processing peach grower's net return**

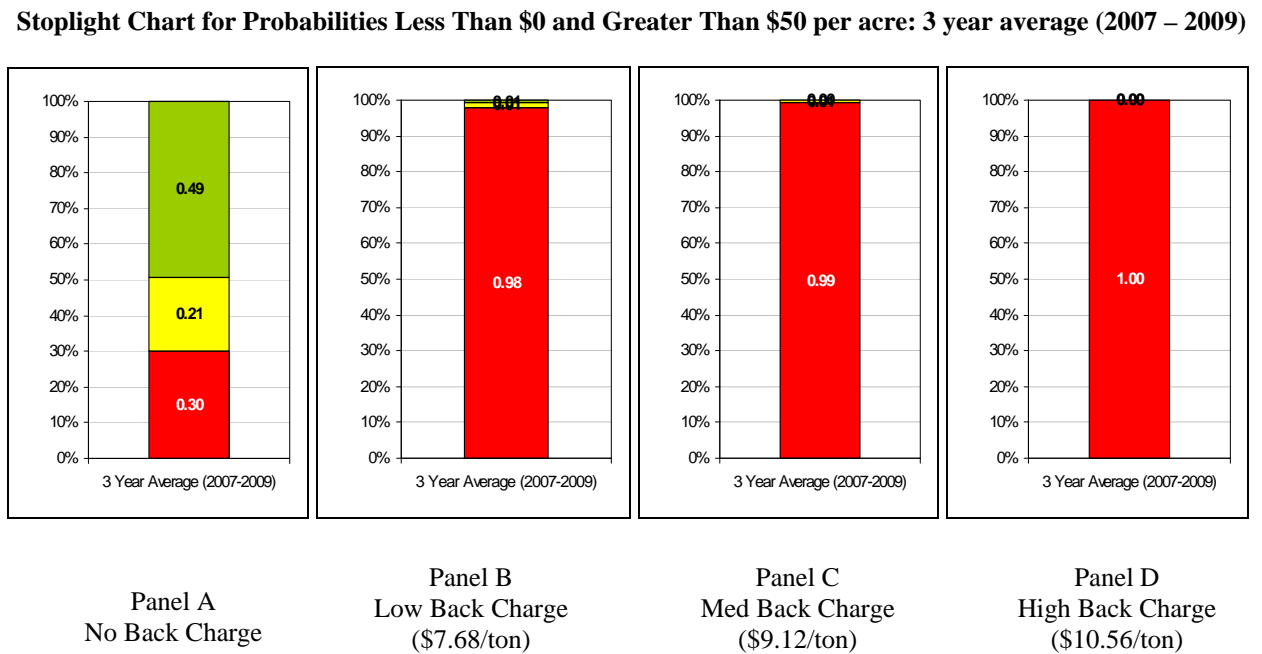
	<b>No back charge</b>	<b>Low back charge (\$7.68/ton)</b>	<b>Med back charge (\$9.12/ton)</b>	<b>High back charge (\$10.56/ton)</b>
<b>Average</b>	<b>\$1,557</b>	<b>\$1,401</b>	<b>\$1,372</b>	<b>\$1,342</b>
2007	\$1,575	\$1,421	\$1,392	\$1,364
2008	\$1,552	\$1,396	\$1,366	\$1,337
2009	\$1,544	\$1,386	\$1,356	\$1,327

\*Note: in order to understand the distribution of the net return, we allow both the yield and price to vary simultaneously 500 times, according to the historical distributions and correlation of price and yield. Each time, a net return is calculated. Data in the table are the mean of the simulated net return.

**Figure 4. Impact of back charge on mean of simulated net return for processed tomatoes: year 2007**



**Figure 5. Impact of back charge on mean of simulated net return for processed tomatoes: 3 year average (2007-2009)**



**Figure 6. Impact of back charge on mean of simulated net return for cling peaches: year 2007**

**Stoplight Chart for Probabilities Less Than \$1,450 and Greater Than \$1,728 per acre: 2007**

Note: \$1,450 /acre is the net return above cash costs for cling peach when the yield (18 ton/acre) is low but price (\$245/ton) is high and \$1,728/acre is the net return above cash costs when yield (22 ton/acre) is high but price (\$225/ton) is low, according to UCCES study.



Panel A  
No Back Charge

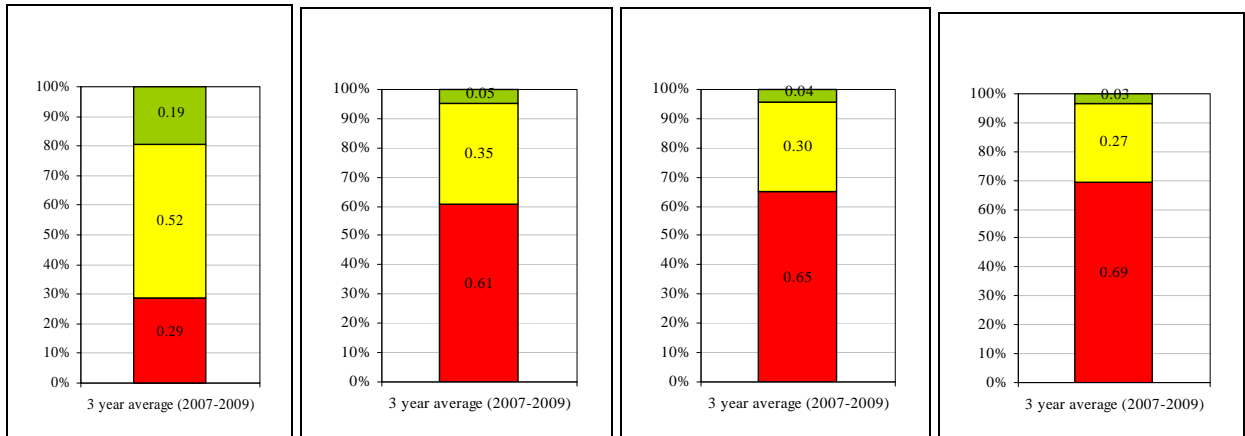
Panel B  
Low Back Charge  
(\$7.68/ton)

Panel C  
Med Back Charge  
(\$9.12/ton)

Panel D  
High Back Charge  
(\$10.56/ton)

**Figure 7. Impact of back charge on mean of simulated net return for cling peaches: 3 year average (2007-2009)**

**Stoplight Chart for Probabilities Less Than \$1,450 and Greater Than \$1,728 per acre: 3 year average (2007 – 2009)**



Panel A  
No Back Charge

Panel B  
Low Back Charge  
(\$7.68/ton)

Panel C  
Med Back Charge  
(\$9.12/ton)

Panel D  
High Back Charge  
(\$10.56/ton)

## V. APPENDIX: PRODUCER SURVEY

1. Almond
2. Apple
3. Cantaloupe
4. Cherry
5. Orange
6. Nectarine
7. Peach
8. Pear
9. Plum
10. Strawberry
11. Table Grape
12. Thompson Seedless Grape
13. Walnut
14. Apricot
15. Avocado
16. Fresh Carrot
17. Fresh Tomato
18. Processing Carrot
19. Processing Tomato
20. Wine Grape

## California Almond Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	55	
Acres in Production (acre)	55	
Acres Owned (acre)	55	
Acres Leased (acre)	0	
Cash rent (\$/acre)	\$632	
Value of Land (\$/acre)	\$12,632	
Yield (pounds/acre)	1,840	
Market price (\$/pound)	\$2.21	
% Contracted yield	0%	
Contract price if contracted yield >0		

\*2006 year data of almond with flood irrigation in San Joaquin Valley North

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$277,904	
Year of Loan	2004	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,405</b>	
Winter Sanitation	\$140	
Planting/replacement	\$0	
Weeding/Thining/Pruning	\$153	
Irrigation	\$30	
Materials/application/Fertilizer	\$0	
PCA	\$0	
Pollination	\$250	
Disease control	\$65	
Pest and animal control	\$154	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<i>Sub total net fertilizer, fuel and labor</i>	<b>\$792</b>	
Fertilizer	\$203	
Fuel	\$86	
Labor	\$324	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$282</b>	
Shake	\$95	
Sweep	\$45	
Han Rake Nuts	\$1	
Pick up and Hauling	\$81	
Hull/Shell	\$60	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$31</b>	
Labor	\$0	
Fuel	\$0	
Other (interest on operating capital at 9.25%)	\$31	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Total Operating Cost (\$/acre)</b>	<b>\$1,718</b>	

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$50	
Liability Insurance	\$6	
Sanitation Fees	\$6	
Environmental Fee	\$5	
Property Taxes	\$159	
Property Insurance	\$23	
Investment Repairs	\$36	
Land rent	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$285</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Fuel Tanks	\$0		\$0				30		\$0	
Shop Tools	\$0		\$0				20		\$0	
Irrigation System	\$30,000		\$0				15		\$0	
Equipment/Vehicle	\$150,000		\$0				25		\$0	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$0		\$0				30		\$0	
Land	\$694,760		\$0				100		\$0	
<b>Total</b>	\$874,760		\$0						\$0	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming almond if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming almond? \_\_\_\_\_.



## California Apples Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	20	
Acres in Production	20	
Acres Owned	20	
Acres Leased	0	
Cash rent (\$/acre)	\$250	
Value of Land (\$/acre)	\$5,000	
Yield (tons/acre)	30	
% Fresh market	70%	
Fresh market price (\$/ton)	\$700	
Processing market price (\$/ton)	\$65	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2001 year data of Granny Smith apple in San Joaquin Valley North.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1970	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

**IV. Cultural, Harvest and Post-harvest Costs**

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,373</b>	
Prune	\$0	
Brush Disposal	\$0	
Disease/Insect Dormant Spray	\$38	
Pollination	\$125	
Chemical Thin	\$13	
Pest Control	\$5	
Disease Control	\$82	
Insect Control	\$210	
Irrigate	\$113	
Weed Control	\$19	
Leaf Analysis	\$2	
Lube and Repair	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$644</b>	
Fertilize	\$37	
Fuel	\$41	
Labor	\$658	
<b>Harvest Costs</b>		
<b>Total Harvest Costs (\$/ton)</b>	<b>\$58</b>	
Labor (Harvest and Load Bins)	\$55.40	
Fuel (Harvest and Loan Bins)	\$2.60	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Packing House Costs</b>		
<b>Packing House Costs (\$/ton)</b>	<b>\$335</b>	
Cool, Sort, Pack, and Store (Fresh)	\$325	
Handle, Store (Processing)	\$10	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$50	
Liability Insurance	\$6	
Sanitation Fee	\$9	
Safety Training/Equipment	\$0	
Property Taxes	\$91	
Property Insurance	\$25	
Investment Repairs	\$21	
Interest on Operating Capital	\$151	
Regulatory Costs	\$0	
Other cost (please specify it)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$7,060</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$110	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$2,200	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$15,000		\$0				20		\$750	
Fuel Tanks and Pumps	\$19,835		\$709				20		\$956	
Shop Tools	\$3,500		\$350				15		\$210	
Irrigation System	\$15,000		\$0				20		\$750	
Equipment/Vehicle	\$20,000		\$0				15		\$1,333	
Hand Tools	\$4,595		\$460				15		\$276	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$88,720		\$0				17			
Land	\$100,000		\$100,000				25			
<b>Total</b>	<b>\$266,650</b>		<b>\$101,519</b>						<b>\$9,494</b>	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when gasoline price is about 1\$/gallon?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 2). Similarly, did you use less of rented machines?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 3). Will you give up farming apple if fuel price will increase in the future?\_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_(\$/gallon)
- 4). What will you plant if you give up farming apple?\_\_\_\_\_.

# California Cantaloupes Producer Survey

## I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	40	
Acres in Production	40	
Acres Owned	0	
Acres Leased	40	
Cash rent (\$/acre)	\$200	
Value of Land (\$/acre)	\$4,000	
Yield (cwts/acre)	209	
Market price (\$/cwt)	18.97	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2004 year data of cantaloupes (mid-bed trenched) in Imperial county.

## II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1970	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

## III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,278</b>	
Land Preparation	\$161	
Operating cost during growing period	\$171	
Planting	\$0	
Seed	\$225	
Plastics	\$90	
Irrigate	\$80	
Insect Control	\$80	
Pollination	\$54	
Disease Control	\$26	
herbicide	\$21	
Additional Tractor Work	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$908</b>	
Fuel	\$0	
Labor	\$249	
Fertilize	\$121	
<b>Harvest Costs</b>		
<b>Total Harvest Costs \$/Carton</b>	<b>\$4.00</b>	
Pick and Haul	\$4.00	
Pallet and Carton	\$0	
Cool	\$0	
Office Overhead	\$0	
Assessments	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$4.00</b>	
Labor	\$0	
Fuel	\$0	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$0</b>	
Labor	\$0	
Fuel	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$0	
Liability Insurance	\$0	
Sanitation Fee	\$0	
Assessment Board	\$0	
Property Taxes	\$0	
Property Insurance	\$0	
Investment Repairs	\$0	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land Rent	\$200	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
OR		
Overhead as % Total Costs	13%	
<b>Total Cash Overhead Expenses</b>	<b>\$392</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$17,000		\$0				30		\$567	
Fuel Tanks and Pumps	\$0		\$0				20		\$0	
Shop Tools	\$0		\$0				15		\$0	
Irrigation System	\$0		\$0				20		\$0	
Equipment/Vehicle	\$0		\$0				10		\$0	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$0		\$0				17			
Land	\$0		\$0				25			
<b>Total</b>	\$17,000		\$0						\$567	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2006 than you did in 2004? \_\_\_\_\_.  
If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming cantaloupe if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming cantaloupe? \_\_\_\_\_.



## California Cherry Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	40	
Acres in Production	40	
Acres Owned	40	
Acres Leased	0	
Cash rent (\$/acre)	\$500	
Value of Land (\$/acre)	\$10,000	
Yield (tons/acre)	4.32	
Market price (\$/ton)	\$2,949	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2005 year data of sweet cherries in San Joaquin Valley.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$150,000	
Year of Loan	2006	
Interest Rate	7.5%	
Life of Loan (years)	15	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$2,019</b>	
Weed Control	\$80	
Pest Control	\$290	
Disease	\$253	
Fertilize	\$109	
Growth Regulator	\$89	
Giberellic Acid Spray	\$60	
Pollination	\$100	
Trees/Replant 3 tree/acre	\$69	
Backhoe Rental: Plant and Paint	\$0	
Irrigate	\$150	
Lube & Repair	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$1200</b>	
Fuel	\$104	
Labor	\$715	
<b>Harvest Costs</b>		
<b>Total Harvest Costs \$/lb</b>	<b>\$1.08</b>	
Pick & haul	\$0.50	
Load, Haul	\$0.00	
Pack	\$0.57	
Commission	\$0.01	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$1.08</b>	
Labor	\$0	
Fuel	\$0	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$0</b>	
Labor	\$0	
Fuel	\$0	
Other	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$120	
Liability Insurance	\$7	
Sanitation Fee	\$23	
Cherry Advisory Board	\$0	
Property Taxes	\$160	
Property Insurance	\$38	
Investment Repairs	\$65	
Interest on Operating Capital	\$0	
Crop Insurance	\$168	
Land rent	\$0	
Other cost (please specify it)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$23,240</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data*	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$80,000		\$0				30		\$2,667	
Shop Tools	\$15,000		\$0				15		\$1,000	
Hand Tools			\$0							
Sprinkler/irrigation system	\$35,000		\$0				25		\$1,400	
Ladders	\$9,553		\$0				10		\$955	
Equipment	\$36,000		\$0				25		\$1,440	
Other 1 (pls specify)										
Other 2 (pls specify)										
Other 3 (pls specify)										
Establishment Costs	\$257,160		\$0		\$20		21		\$12,246	
Land	\$400,000		\$400,000		\$20		100		\$0	
<b>Total</b>	\$832,713		\$400,000						\$19,708	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the price of gasoline is about 1\$/gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming cherry if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming cherry? \_\_\_\_\_.

## California Navel Orange Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	65	
Acres in Production	60	
Acres Owned	65	
Acres Leased	0	
Cash rent (\$/acre)	\$300	
Value of Land (\$/acre)	\$6,000	
Yield (ton/acre)	10.31	
Fresh Market price (\$/ton)	\$466.67	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2005 year data of California navel orange in San Joaquin Valley South.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$156,000	
Year of Loan	1992	
Interest Rate	6.00%	
Life of Loan (years)	20	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	0.01	
Interest Rate on Operating Loan	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,762</b>	
Frost Protection	\$309	
Nitrogen Fertilizer	\$35	
Weed Control	\$39	
Pest Management (Disease, Growth)	\$529	
Prune	\$135	
Irrigate	\$225	
PCA Consultant	\$35	
Soil Amendment	\$120	
Leaf analysis	\$3	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b><i>Cultural Costs net Labor and Fuel</i></b>	<b>\$1,430</b>	
Fuel	\$34	
Labor	\$298	
<b>Harvest Costs</b>		
<b>Total Harvest Costs - fresh (\$/Carton)</b>	<b>\$5.35</b>	
Yield (ton/acre)	10.55	
Utilization Factor	78%	
Pick and Haul Fruit/carton	\$1.31	
Pack Fruit	\$4.00	
Assessments	\$0.04	
<b>Harvest Costs net Labor and Fuel per carton</b>	<b>\$5.35</b>	
Labor	\$0.00	
Fuel	\$0.00	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Harvest Costs – juice (\$/carton)</b>	<b>\$0.00</b>	
Pick and Haul Fruit	\$0.00	
Handling/carton	\$0.00	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$0</b>	
Labor	\$0	
Fuel	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$120	
Liability Insurance	\$9	
Sanitation Fee	\$0	
Safety Training/Equipment	\$0	
Property Taxes	\$122	
Property Insurance	\$39	
Investment repair	\$131	
Interest on Operating Capital	\$140	
Regulatory Costs	\$0	
Land rent	\$0	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$33,660</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$60,000		\$0				30		\$2,000	
Fuel Tanks	\$3,500		\$0				40		\$88	
Shop Tools	\$12,879		\$0				15		\$859	
Irrigation System	\$12,500		\$0				40		\$313	
Equipment/Vehicle	\$1,000		\$0				10		\$100	
Gypsum Machine	\$5,500		\$0				5		\$1,100	
Wind Machine	\$124,170		\$0				20		\$6,209	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$56,120		\$0				36		\$1,559	
Land	\$390,000		\$390,000				100		\$0	
<b>Total</b>	<b>\$665,669</b>		<b>\$390,000</b>						<b>\$12,226</b>	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did in when the price of gasoline is about 1\$/gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming citrus if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming citrus? \_\_\_\_\_.



## California Nectarines Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	10.5	
Acres in Production	10	
Acres Owned	10.5	
Acres Leased	0	
Cash rent (\$/acre)	\$179	
Value of Land (\$/acre)	\$3,571	
<b>Yield (tons/acre)</b>		
	15	
<b>Market price (\$/ton)</b>	\$640	
<b>% Contracted yield</b>	0%	
<b>Contract price if contracted yield &gt;0</b>		

\*2004 year data of California Nectarines (July/August Harvested Varieties- Furrow Irrigation) in San Joaquin Valley South.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$22,500	
Year of Loan	2004	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$3,063</b>	
Weed	\$104	
Prune	\$0	
Insecticides	\$243	
Tree Ropes and Prop	\$0	
Disease	\$40	
Irrigate	\$143	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$530</b>	
Fertilize	\$74	
Fuel	\$76	
Labor	\$2,383	
<b>Harvest Costs</b>		
<b>Total Harvest Costs (\$/box)</b>	<b>\$4.95</b>	
Haul to Shed	\$0.17	
Pack Fruit	\$3.25	
Sell	\$0.80	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$4.22</b>	
Hand Picking Labor	\$0.68	
Picking Fuel	\$0.05	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$143</b>	
Labor	\$0	
Fuel	\$0	
Interest on operating capital	\$143	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$65	
Liability Insurance	\$7	
Sanitation Fee	\$8	
CTFA Assessment Fee	\$234	
Property Taxes	\$78	
Property Insurance	\$26	
Investment Repairs	\$22	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land rent	\$0	
Other cost (please specify it)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$4,400</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$45,000		\$0				20		\$2,250	
Fuel Tanks	\$3,500		\$350				20		\$158	
Shop Tools	\$12,000		\$1,200				15		\$720	
Irrigation System	\$42,750		\$0				30		\$1,425	
Equipment/Vehicle	\$0		\$0				20		\$2,250	
Other 1 (pls specify)										
Other 2 (pls specify)										
Other 3 (pls specify)										
Establishment Costs	\$54,880		\$0						\$4,573	
Land	\$37,500		\$37,500						\$0	
<b>Total</b>	<b>\$195,630</b>		<b>\$39,050</b>						<b>\$9,126</b>	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1\$/gallon?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 2). Similarly, did you use less of rented machines?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 3). Will you give up farming nectarine if fuel price will increase in the future?\_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_(\$/gallon)
- 4). What will you plant if you give up farming nectarine?\_\_\_\_\_.

## California Peach Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	40	
Acres in Production	40	
Acres Owned	40	
Acres Leased	0	
Cash rent (\$/acre)	\$350	
Value of Land (\$/acre)	\$7,000	
<b>Yield</b>		
Yield (cwt/acre)	400	
Market price (\$/cwt)	11.73	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2003 year data of cling peach (late harvested variety) in Sacramento and San Joaquin Valley.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$168,000	
Year of Loan	2004	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	5%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,497</b>	
Weed	\$3	
Prune	\$0	
Insecticides	\$223	
Tree Ropes and Props	\$0	
Disease	\$0	
Irrigate	\$42	
Thin	\$0	
Lube and Repair	\$5	
Miticides	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$284</b>	
Fertilize	\$11	
Fuel	\$123	
Labor	\$1,090	
<b>Harvest Costs</b>		
<b>Total Harvest Costs (\$/box)</b>	<b>\$0.80</b>	
Hauling	\$0.06	
Packing	\$0.69	
Sell	\$0.00	
Assessment	\$0.04	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$0.79</b>	
Picking Labor	\$0.01	
Picking Fuel	\$0.00	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$58</b>	
Labor	\$15	
Fuel	\$6	
Weed Control – Dormant Strip	\$37	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$42	
Liability Insurance	\$5	
Sanitation Fee	\$4	
Property Taxes	\$106	
Property Insurance	\$24	
Investment Repairs	\$23	
Interest on Operating Capital	\$47	
Regulatory Costs	\$0	
Land rent	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
OR		
Overhead as % Total Costs	0%	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$100	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$40,000	

**VII. Miscellaneous Information**

	UCCES Data*	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$41,000		\$0				30		\$1,367	
Fuel Tanks	\$3,650		\$350				40		\$83	
Shop Tools	\$12,879		\$1,288				15		\$773	
Irrigation System	\$0		\$0							
Equipment/Vehicle	\$1,492		\$149				10		\$134	
Flood Irrigation	\$54,146		\$5,415				40		\$1,218	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$171,920		\$0				17		\$10,113	
Land	\$280,000		\$280,000				100		\$0	
<b>Total</b>	\$565,087		\$287,202						\$13,687	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1 \$/gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming peach if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming peach? \_\_\_\_\_.



## California Pear Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	45	
Acres in Production	45	
Acres Owned	45	
Acres Leased	0	
Cash rent (% of revenues)	\$429	
Value of Land (\$/acre)	\$8,571	
Yield (tonss/acre)	20	
Market price (\$/ton)	\$326.72	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2006 year data of Green Bartlett pear in Lake and Mendocino counties.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1970	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$2,536</b>	
Prune/Tie	\$847	
Push, Stack, Burn Prunings	\$0	
Irrigate (water & labor) (includes post harvest)	\$181	
Chemicals	\$898	
Electricity	\$0	
Weed Control	\$81	
Lube & Repair	\$0	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$2,084</b>	
Fertilize	\$77	
Fuel	\$127	
Labor	\$325	
<b>Harvest Costs</b>		
<b>Total Harvest Costs (\$/ton)</b>	<b>\$1,283</b>	
Shake, Rake, Sweep, Haul	\$1,030	
Hull/Shell	\$0	
Commission	\$0	
Tractor Rentals	\$0	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$1,030</b>	
Labor	\$131	
Fuel	\$122	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$188</b>	
Labor	\$0	
Fuel	\$0	
Assessment costs	\$188	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$50	
Liability Insurance	\$8	
Sanitation Fee	\$69	
Safety Training/Equipment	\$0	
Property Taxes	\$178	
Property Insurance	\$65	
Investment Repairs	\$132	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land rent	\$0	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		
OR		
Overhead as % Total Costs	0%	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income (Land Lord Cost Share)	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$60,000		\$0				30		\$2,000	
Fuel Tanks	\$3,500		\$350				25		\$126	
Shop Tools	\$15,000		\$1,500				25		\$540	
Irrigation System	\$136,500		\$0				25		\$5,460	
Equipment/Vehicle	\$3,057		\$0				10		\$306	
Worker Housing	\$8,217		\$0				20		\$411	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$329,575		\$0				25		\$13,183	
Land	\$385,695		\$385,695				100		\$0	
<b>Total</b>	\$941,544		\$387,545						\$22,026	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1 \$/gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming pear if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming pear? \_\_\_\_\_.

## California Plum Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	10.5	
Acres in Production	10	
Acres Owned	10.5	
Acres Leased	0	
Cash rent (\$/acre)	\$179	
Value of Land (\$/acre)	\$3,571	
Yield (tons/acre)	12.60	
Market price (\$/ton)	\$714.10	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2004 year data of plum (furrow irrigation) in San Joaquin Valley.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$22,500	
Year of Loan	2004	
Interest Rate	7.5%	
Life of Loan (years)	15	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$2,887</b>	
Weed	\$104	
Prune	\$0	
Insecticides	\$183	
Tree Ropes and Props	\$0	
Disease	\$19	
Irrigate	\$143	
Pollination	\$50	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$561</b>	
Fertilize	\$62	
Fuel	\$64	
Labor	\$2,262	
<b>Harvest Costs</b>		
<b>Total Harvest Costs (\$/box)</b>	<b>\$5.43</b>	
Hauling	\$0.18	
Packing	\$3.25	
Sell	\$1.00	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$4.43</b>	
Picking Labor	\$0.92	
Picking Fuel	\$0.07	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$278</b>	
Labor	\$0	
Fuel	\$0	
Interest on operating capital	\$103	
CTFA assessment	\$175	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$65	
Liability Insurance	\$7	
Sanitation Fee	\$8	
Safety Training/Equipment	\$0	
Property Taxes	\$77	
Property Insurance	\$26	
Investment Repairs	\$22	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land rent	\$0	
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
OR		
Overhead as % Total Costs	0%	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$45,000		\$0				20		\$2,250	
Fuel Tanks	\$3,500		\$350				20		\$158	
Shop Tools	\$12,000		\$1,200				15		\$720	
Irrigation System	\$42,750		\$0				30		\$1,425	
Equipment/Vehicle	\$0		\$0							
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$54,160		\$0				17		\$3,186	
Land	\$37,500		\$37,500				20		\$0	
<b>Total</b>	<b>\$194,910</b>		<b>\$39,050</b>						<b>\$7,738</b>	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1 \$/gallon ? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming plum if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming plum? \_\_\_\_\_.



## California Strawberry Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	85	
Acres in Production	80	
Acres Owned	0	
Acres Leased	85	
Cash rent (\$/acre)	\$2,019	
Value of Land (\$/acre)	\$29,000	
Yield (cwt/acre)	632	
Percent Production Fresh Market (%)	68%	
Fresh market price (\$/cwt)	\$78.94	
Processing market price (\$/cwt)	\$27.78	

\* 2006 year data of strawberries in South Coast region – Santa Barbara county, Santa Maria Valley.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1970	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$8,446</b>	
Fumigate	\$1,138	
Irrigate	\$513	
Plant	\$2,000	
Pesticides/Fungicides	\$1,219	
Year End Crop Removal	\$21	
Lube and Repair	\$0	
Land prep	\$0	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$5,718</b>	
Fertilize	\$827	
Fuel	\$281	
Labor	\$2,447	
<b>Harvest Costs</b>		
<b>Total Fresh Market Harvest Costs (\$/box)</b>	<b>\$4.65</b>	
Box	\$1.62	
Cooling	\$0.50	
Assessment	0.00	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$2.12</b>	
Labor	\$2.48	
Fuel	\$0.05	
<b>Total Processing Harvest Costs (\$/Tray)</b>	<b>\$0.52</b>	
Labor	\$0.48	
Assessment	\$0.04	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Salaries	\$500	
Insurance (liability,property,health)	\$27	
Sanitation Fee	\$120	
Equipment Rental	\$215	
Ranch Supervisor	\$500	
Interest on Operating Capital	\$890	
Property Taxes	\$27	
Investment Repairs	\$32	
Table Supplies	\$90	
Land rent	\$2,019	
Other cost 1 (Please specify it)		
Other cost 2 (Please specify it)		
Other cost 3 (Please specify it)		
OR		
Overhead as % Total Costs	0%	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$80,000		\$0				20		\$4,000	
Shop Tools	\$13,000		\$1,264				15		\$782	
Harvest Carts 90	\$1,200		\$0				5		\$240	
Lateral Lines	\$16,008		\$0				3		\$5,336	
Fuel tanks, harvest carts	\$3,500		\$651				20		\$142	
Hand tool	\$5,000		\$460				15		\$303	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$0		\$0				1		\$0	
Land	\$0		\$0				100		\$0	
<b>Total</b>	<b>\$118,708</b>		<b>\$2,375</b>						<b>\$10,804</b>	

**XI. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1 \$/gallon?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 2). Similarly, did you use less of rented machines?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 3). Will you give up farming strawberry if fuel price will increase in the future?\_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_(\$/gallon)
- 4). What will you plant if you give up farming strawberry?\_\_\_\_\_.

## California Table Grape Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	800	
Acres in Production	740	
Acres Owned	800	
Acres Leased	0	
Cash rent (\$/acre)	\$225	
Value of Land (\$/acre)	\$4,500	

\* 2004 year data of California Table Grapes in San Joaquin Valley.

### II. Acres in production

	UCCES Data	Your Farm Data
Red Globe	200	
Thompson	200	
Crimson	150	
Autumn Royale	150	
Flameless	40	
Other variety 1 (please specify)		
Other variety 2 (please specify)		
Other variety 3 (please specify)		

### III. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$700,000	
Year of Loan	2002	
Interest Rate	7.0%	
Life of Loan (years)	10	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### IV. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$75	
Liability Insurance	\$6	
Sanitation Fee	\$19	
Property Taxes	\$105	
Property Insurance	\$30	
Investment Repairs	\$173	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Interest on Operating Capital	\$77	
Land rent	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$485</b>	

**V. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Cultural, Harvest and Post-harvest Costs**

	Flameless		Red Globe		Thompson		Crimson		Autumn Royale	
Cultural Cost (\$/Acre)										
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
<b>Total Cultural Costs (\$/acre)</b>	<b>\$2,113</b>		<b>\$1,848</b>		<b>\$2,302</b>		<b>\$2,367</b>		<b>\$2,158</b>	
Prune Vines and Dispose	\$0		\$0		\$0		\$0		\$0	
Trellis Repair	\$10		\$10		\$21		\$21		\$16	
Canopy Management	\$0		\$0		\$0		\$0		\$0	
Weed Control	\$50		\$50		\$50		\$51		\$50	
Disease Control	\$372		\$201		\$457		\$251		\$320	
Insect Control	\$27		\$27		\$27		\$27		\$27	
Fertilize	\$16		\$16		\$16		\$16		\$16	
Remove Trunk Suckers	\$0		\$0		\$0		\$0		\$0	
Irrigate	\$121		\$121		\$121		\$121		\$121	
Fruit Management	\$0		\$0		\$0		\$0		\$0	
Fuel	\$97		\$92		\$92		\$111		\$98	
Labor	\$1,408		\$1,331		\$1,518		\$1,762		\$1,505	
Others	\$12		\$0		\$0		\$7		\$5	
Others (please specify)										
Harvest Cost (\$/Acre)										
<b>Total Harvest Costs</b>	<b>\$4,149</b>		<b>\$4,774</b>		<b>\$4,268</b>		<b>\$5,479</b>		<b>\$4,668</b>	
Boxes, spread, swamp \$ haul	\$1,134		\$1,539		\$1,296		\$1,620		\$1,397	
Swamp	\$0		\$0		\$0		\$0		\$0	
Cool and palletize	\$0		\$0		\$0		\$0		\$0	
Assessment & Inspection Fees	\$90		\$125		\$103		\$128		\$112	
Selling Commissions	\$770		\$900		\$880		\$1,300		\$963	
Fuel	\$0		\$0		\$0		\$0		\$0	
Labor	\$2,155		\$2,210		\$1,989		\$2,431		\$2,196	
Others (please specify)										
Post – Harvest Cost (\$/Acre)										
<b>Total Post-Harvest Costs</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	
Labor	\$0		\$0		\$0		\$0		\$0	
Fuel	\$0		\$0		\$0		\$0		\$0	
Other (please specify it)										

**X. Yield and price**

	<b>Flameless</b>		<b>Red Globe</b>		<b>Thompson</b>		<b>Crimson</b>		<b>Autumn Royale</b>	
	<b>UCCES</b>	<b>Yours</b>	<b>UCCES</b>	<b>Yours</b>	<b>UCCES</b>	<b>Yours</b>	<b>UCCES</b>	<b>Yours</b>	<b>UCCES</b>	<b>Yours</b>
Yield (ton/acre)	10.23		15.15		9.56		8.71		12.78	
% Contracted yield	0%				0%				0%	
Market price (\$/ton)	\$1,218		\$1,253		\$940		\$1,462		\$1,149	
Contract price if contracted yield >0 (\$/ton)										



**XI. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$60,000		\$0				20		\$3,000	
Irrigation System	\$92,000		\$0				25		\$3,680	
Equipment/Vehicle	\$3,500		\$350				30		\$105	
Pumps/Wells	\$12,000		\$1,133				15		\$724	
Fuel Tanks	\$0		\$0							
Shop Tools										
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$245,080						22		\$11,140	
Land	\$3,600,000		\$3,600,000				100		\$0	
<b>Total</b>	<b>\$4,012,580</b>		<b>\$3,601,483</b>						<b>\$18,649</b>	

**XII. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1 \$/gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming Table grape if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming Table grape? \_\_\_\_\_.

## California Thompson Seedless Grape Producer Survey

### I. Farm Operation Information

	2004*	Fresno Farmer Data**
Acres on Farm	120	80
Acres in Production	115	80
Acres Owned	115	80
Acres Leased	0	0
Cash rent (\$/acre)	\$0	\$300
Value of Land (\$/acre)	\$10,000	\$6,000
<b>Yield and Price</b>		
Yield (pounds/acre)	20,802	20,802
Market price (\$/pound)	\$0.14	\$0.14
% Contracted yield	0%	0%
Contract price if contracted yield >0		

\* Data are from the previous Thompson Seedless Grape Model.

\*\* Data are from interview with farmers in Allied Grape Growers, Fresno 2007.

### II. Loan Information

	2004	Fresno Farmer Data
<b>Land Loan:</b>		
Principle	\$200,000	\$0
Year of Loan	2005	2005
Interest Rate	7.5%	7.5%
Life of Loan (years)	15	15
<b>Establishment Loan:</b>		
Principle	\$0	\$0
Year of Loan	1975	1975
Interest Rate	8%	8%
Life of Loan (years)	30	30

### III. Financial Rates and Percentages

	2004	Fresno Farmer Data
Average Annual Change in CPI	3%	3%
Land Inflation Rate	1.0%	1.0%
Interest Rate	6.5%	6.5%
Interest Rate Earned for Cash reserves	5%	5%
Discount Rate for NPV	5%	10%

**IV. Cash Overhead Expenses (\$/acre)**

	2004	Fresno Farmer Data
Office Expense	\$0	\$0
Liability Insurance	\$0	\$0
Sanitation Fee	\$0	\$0
Safety Training/Equipment	\$0	\$0
Property Taxes	\$0	\$60
Property Insurance	\$0	\$0
Crop insurance	\$0	\$20
Interest on Operating Capital	\$0	\$40
Others	\$0	\$45
Land rent	\$0	\$0
Other cost 1 (please specify it)		
Other cost 2 (please specify it)		
Other cost 3 (please specify it)		
OR		
Overhead as % Total Costs	\$0	0%
<b>Total Cash Overhead Expenses</b>	\$0	\$165

**V. Depreciation Expense**

	2004	Fresno Farmer Data
Depreciation/Acre	\$0	\$0
Depreciation as % of Costs	\$0	\$0
Total Depreciation Expense	\$0	\$0

**VII. Miscellaneous Information**

	2004	Fresno Farmer Data
Other Farm Income from Services	\$1,150,000	\$0
Off-Farm Income	\$200,000	\$0
Annual Tax Deductions	\$950,000	\$0

**VIII. Family Withdrawals**

	2004	Fresno Farmer Data
Minimum Family Living	\$0	\$0
Family Withdrawals as % of receipts	0.0%	0.0%

**IX. Cultural, Harvest and Post-harvest Costs**

<b>Fresh Grapes</b>		
	2004	Fresno Farmer Data
<b>Total Cultural Costs (\$/acre)</b>	<b>\$748</b>	<b>\$975</b>
Pruning and trimming, comm on labor & brush disposal	\$0	\$275
Irrigate/District Water	\$121	\$165
Fertilize	\$100	\$45
Weed Control	\$35	\$65
Insect/Disease Control	\$125	\$170
Growth Regulator	\$32	\$20
Others	\$0	\$235
Others 1 (please specify)		
Others 2 (please specify)		
Others 3 (please specify)		
<i>Sub total Cultural Costs net Labor and Fuel</i>	<b>\$413</b>	<b>\$975</b>
Labor	\$300	\$0
Fuel and Gas	\$35	\$0
<b>Harvest Costs (\$/ton)</b>		
<b>Total</b>	<b>\$226</b>	<b>\$345</b>
Picking	\$123	\$345
Rolling	\$28	\$0
Box	\$12	\$0
Paper	\$25	\$0
Hauling	\$10	\$0
Turning	\$28	\$0
Others 1 (please specify)		
Others 2 (please specify)		
Others 3 (please specify)		
<i>Sub-Total Harvest Costs net Labor and Fuel</i>	<b>\$226</b>	<b>\$345</b>
Labor	\$0	\$0
Fuel	\$0	\$0
<b>Total Post-Harvest Costs (\$/acre)</b>		
<b>Total</b>	<b>\$0</b>	<b>\$0</b>
Labor (Severed Cane Removal, Shred Canes)	\$0	\$0
Fuel	\$0	\$0
Irrigate	\$0	\$0
Others 1 (please specify)		
Others 2 (please specify)		
Others 3 (please specify)		

## X. Asset

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	2004	FFD**	2004	FFD**	2004	FFD**	2004	FFD**	2004	FFD**
Buildings	\$0	\$60,000	\$0	\$0	30		30	20	\$34	\$3,000
Drip Irrigation	\$0	\$92,000	\$0	\$0	25		25	25	\$60	\$3,680
Fuel Tanks and Pumps	\$0	\$3,500	\$0	\$350	25		25	30	\$2	\$105
Shop tools	\$0	\$12,000	\$0	\$1,133	15		15	15	\$8	\$724
Equipment/Vehicles	\$0	\$0	\$0	\$0	10		10	20	\$160	\$3,000
Establishment Costs	\$0	\$163,387	\$0	\$0				22	\$0	\$21,818
Land	\$1,115,000	\$480,000	\$0	\$480,000				100	\$0	\$0
<b>Total</b>	\$1,115,000	\$810,887	\$0	\$481,483					\$264	

\*\*note: FFD = Fresno farmer data

## XI. Questions about Fuel

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1 \$/gallon?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 2). Similarly, did you use less of rented machines?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 3). Will you give up farming Thompson seedless grape if fuel price will increase in the future?\_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_(\$/gallon)
- 4). What will you plant if you give up farming Thompson seedless grape?

## California Walnuts Producer Survey

### I. Farm Operation Information

	UCCES Data*	Your Farm Data
Acres on Farm	100	
Acres in Production	100	
Acres Owned	100	
Acres Leased	0	
Cash rent (\$/acre)	\$163	
Value of Land (\$/acre)	\$3,250	
<b>Yield and Price</b>		
Yield (tons/acre)	2.50	
Market price (\$/ton)	\$1,220	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2006 year data of English Walnut in Sutter and Yuba counties.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$81,250	
Year of Loan	2000	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural, Harvest and Post-harvest Costs

	UCCES Data	Your Farm Data
<b>Cultural Costs</b>		
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,001</b>	
Pre Harvest Chemical Treatment	\$0	
Pruning	\$101	
Brush Disposal	\$18	
Weed Control	\$108	
Disease Control	\$156	
Irrigate	\$206	
Pest Control	\$114	
Rodent Control	\$3	
Leaf Analysis	\$2	
Harvest Aid and Application	\$25	
PCA fee	\$30	
Lube & Repair	\$0	
ATV Use	\$56	
Other cost (pickup business use)	\$82	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Sub total Cultural Costs net Labor and Fuel</b>	<b>\$901</b>	
Fertilize	\$100	
Fuel	\$0	
Labor	\$0	
<b>Harvest Costs</b>		
<b>Total Harvest Costs (\$/ton)</b>	<b>\$225</b>	
Shake, Pick, Haul - 1st pick	\$208	
CWC Assessment Cost	\$17	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Sub-Total Harvest Costs net Labor and Fuel</b>	<b>\$225</b>	
Labor	\$0	
Fuel	\$0	
<b>Post-Harvest Costs</b>		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$0</b>	
Labor	\$0	
Fuel	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		

**V. Cash Overhead Expenses (\$/acre)**

	UCCES Data	Your Farm Data
Office Expense	\$50	
Liability Insurance	\$5	
Sanitation Fee	\$0	
Management Service	\$0	
Property Taxes	\$46	
Property Insurance	\$9	
Investment Repairs	\$61	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land rent	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$171</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	\$0	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	



**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$80,000		\$0				20		\$4,000	
Irrigation System	\$70,000		\$0				25		\$2,800	
Shop Tools	\$15,000		\$0				15		\$1,000	
Pruning Tools	\$0		\$0							
Equipment/Vehicle	\$6,514		\$1,295				35		\$149	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$0		\$0				20		\$0	
Land	\$325,000		\$325,000				35		\$0	
<b>Total</b>	\$496,514		\$326,295						\$7,949	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did when the gasoline price is about 1 \$/gallon?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 2). Similarly, did you use less of rented machines?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 3). Will you give up farming walnut if fuel price will increase in the future?\_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming walnut?\_\_\_\_\_.

## California Apricots Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	20	
Acres in Production (acre)	20	
Acres Owned (acre)	20	
Acres Leased (acre)	0	
Cash rent (\$/acre)	\$311	
Value of Land (\$/acre)	\$6,211	
Yield (tons/acre)	7.75	
Market price (\$/ton)	\$916	
% Contracted yield	0%	
Contract price if contracted yield >0		

\*2003 year data of apricots (fresh market) in San Joaquin Valley.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total Cultural Costs (\$/acre)</b>	<b>\$2,160</b>	
Fertilize	\$26	
Fumigant	\$0	
Herbicide	\$128	
Fungicide	\$0	
Insecticide	\$193	
Crop Protectant	\$0	
Irrigation	\$236	
Prune	\$326	
Thin fruit:hand	\$899	
Girdle tree	\$145	
Lube & Repair	\$0	
Others	\$45	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$1998</b>	
Fuel	\$40	
Labor	\$122	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$1,185</b>	
Harvest	\$980	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$980</b>	
Fuel	\$47	
Labor	\$158	
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$40</b>	
Labor	\$0	
Fuel	\$0	
Assessment and interest	\$40	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$105	
Liability Insurance	\$5	
Manager Salary	\$0	
Crop Insurance	\$45	
Property Taxes	\$96	
Property Insurance	\$23	
Investment Repairs	\$35	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land rent	\$0	
Other cost 1 (please specify)		
Other cost 2 (please specify)		
Other cost 3 (please specify)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$309</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Shop and Storage Building	\$52,000		\$0				20		\$2,600	
Fuel Tanks and Pumps	\$2,000		\$300				35		\$49	
Shop Tools	\$6,500		\$0				10		\$650	
Irrigation System	\$15,000		\$0				20		\$750	
Equipment	\$12,000		\$0				20		\$600	
Forklift-Field 2-Ton	\$21,000		\$0				20		\$1,050	
Bins (30) 1,000 lb	\$6,000		\$0				10		\$600	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$61,120		\$0				17		\$3,595	
Land	\$124,220		\$124,220				100		\$0	
<b>Total</b>	\$299,840		\$124,520						\$9,894	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming apricots if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming apricots? \_\_\_\_\_.

## California Avocado Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	11	
Acres in Production (acre)	10	
Acres Owned (acre)	0	
Acres Leased (acre)	11	
Cash rent (\$/acre)	\$1,053	
Value of Land (\$/acre)	\$21,060	
<b>Yield and Price</b>		
Yield (tons/acre)	3.68	
Market price (\$/ton)	\$1,964	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2001 year data of apricots (fresh market) in Ventura and Santa Barbara.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,449</b>	
Fertilize	\$48	
Fumigant	\$0	
Herbicide	\$7	
Fungicide	\$5	
Insecticide	\$358	
Crop Protectant	\$0	
Irrigation	\$511	
Pollination	\$70	
Seed/Transplant	\$0	
Air Application Spray	\$0	
Assessment	\$0	
Lube & Repair	\$0	
Rent (bee hives)	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$999</b>	
Fuel	\$15	
Labor	\$435	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$901</b>	
pick	\$600	
haul	\$30	
CAC assessment	\$263	
CDFA inspection	\$8	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$901</b>	
Fuel	\$0	
Labor	\$0	
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$40</b>	
Labor	\$0	
Fuel	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$180	
Liability Insurance	\$37	
Root rot analysis	\$3	
Leaf analysis	\$5	
Soil analysis	\$5	
Sanitation fee	\$44	
Property taxes	\$247	
Property insurance	\$61	
Investment repairs	\$84	
Interest on operating capital @8.5%	\$172	
Land rent	\$1,053	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$1,891</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	



**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Shop and Storage Building	\$10,000		\$0				26		\$385	
Fuel Tanks and Pumps	\$0		\$0							
Shop Tools	\$2,000		\$200				15		\$120	
Irrigation System	\$9,200		\$0				36		\$256	
Equipment	\$1,090		\$0				34		\$32	
Truck	\$0		\$0							
Pipe Trailer	\$0		\$0							
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$147,510		\$11,296				30		\$4,540	
Land	\$0		\$0				36		\$0	
<b>Total</b>	\$169,800		\$11,496						\$5,333	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming avocado if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming avocado? \_\_\_\_\_.

## California Fresh Carrot Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	40	
Acres in Production (acre)	40	
Acres Owned (acre)	0	
Acres Leased (acre)	40	
Cash rent (\$/acre)	\$225	
Value of Land (\$/acre)	\$4,500	
Yield (tons/acre)	17.44	
Market price (\$/ton)	\$347.20	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2004 year data of fresh carrot in Imperial county.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total cultural Cost</b>	<b>1248</b>	
<b>LAND PREPARATION</b>		
Stubble disc	\$23	
Subsoil 2nd gear	\$45	
Disc 2x / ring roller	\$30	
Triplane 1x	\$12	
Border, cross check, & break borders	\$24	
Flood 1x	\$16	
Chemigate	\$145	
Flood 1x	\$8	
Disc 1x	\$13	
Triplane 1x	\$12	
Fertilizer, spread	\$83	
List	\$17	
<b>GROWING PERIOD</b>		
Plant	\$200	
Sprinkler Irrigate	\$185	
Weed Control/incorporation*	\$20	
Weed Control/chemigation	\$5	
Cultivate 2x	\$28	
Spike 2x	\$22	
Fertilize & Furrow out 2x	\$86	
Weed control, post 3x	\$98	
Water-run fertilizer	\$19	
Irrigation 6x	\$40	
Disease control 1x	\$16	
Insect control 2x	\$48	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$1,193</b>	
Fuel	\$0	
Labor	\$55	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$4,000</b>	
Harvest	\$4,000	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$4,000</b>	
Fuel	\$0	
Labor	\$0	
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$0</b>	
Labor	\$0	
Fuel	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$0	
Liability Insurance	\$0	
Manager Salary	\$0	
Crop Insurance	\$0	
Property Taxes	\$0	
Property Insurance	\$0	
Investment Repairs	\$0	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land Rent	\$0	
Office Expense	\$0	
Other cost 1 (please specify)		
Other cost 2 (please specify)		
Other cost 3 (please specify)		
OR		
Overhead as % Total Costs	13%	
<b>Total Cash Overhead Expenses</b>	<b>\$191</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Shop and Storage Building										
Fuel Tanks and Pumps										
Shop Tools										
Irrigation System										
Equipment										
Truck										
Pipe Trailer										
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs										
Land										
<b>Total</b>										

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming fresh carrot if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming fresh carrot? \_\_\_\_\_.

## California Fresh Tomato Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	200	
Acres in Production (acre)	200	
Acres Owned (acre)	0	
Acres Leased (acre)	200	
Cash rent (\$/acre)	\$200	
Value of Land (\$/acre)	\$4,000	
Yield (tons/acre)	11.20	
Fresh Market price (\$/ton)	\$518	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2000 year data of fresh tomato (Furrow Irrigated) in San Joaquin Valley.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total Cultural Costs (\$/acre)</b>	<b>\$859</b>	
Fertilize	\$84	
Herbicide	\$5	
Transplant	\$261	
Disease Control	\$45	
Irrigation	\$124	
Insect Control	\$103	
Hoe Weeds	\$50	
Lube & Repair	\$0	
Assessment	\$0	
Others	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Sub total net Labor and Fuel</b>	<b>\$671</b>	
Fuel	\$76	
Labor	\$112	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$3,896</b>	
Field Pick	\$1,116	
Haul to shed	\$180	
Box, Pack, and Sell	\$2,600	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Sub total net Labor and Fuel</b>	<b>\$3896</b>	
Labor	\$0	
Fuel	\$0	
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$34</b>	
Labor	\$4	
Fuel	\$8	
Assessment	\$22	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$50	
Liability Insurance	\$0	
Manager Salary	\$0	
Crop Insurance	\$0	
Property Taxes	\$3	
Property Insurance	\$2	
Investment Repairs	\$2	
Interest on Operating Capital	\$63	
Regulatory Costs	\$0	
Land rent	\$200	
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	\$320	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	



**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Shop and Storage Building	\$65,216		\$6,522				25		\$2,348	
Fuel Tanks and Pumps	\$19,835		\$1,984				20		\$893	
Shop Tools	\$13,072		\$1,307				20		\$588	
Irrigation System	\$0		\$0							
Fuel Wagon	\$1,975		\$198				10		\$178	
Tool Carrer	\$15,118		\$1,512				15		\$907	
Gated pipe	\$5,712		\$571				20		\$257	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$0		\$0				1		\$0	
Land	\$0		\$0				100		\$0	
<b>Total</b>	\$120,928		\$12,094						\$5,170	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 2). Similarly, did you use less of rented machines?\_\_\_\_\_. If yes, by how much?\_\_\_\_\_%
- 3). Will you give up farming fresh tomato if fuel price will increase in the future?\_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_(\$/gallon)
- 4). What will you plant if you give up farming fresh tomato?\_\_\_\_\_.

## California Processing Carrot Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	40	
Acres in Production (acre)	40	
Acres Owned (acre)	0	
Acres Leased (acre)	40	
Cash rent (\$/acre)	\$225	
Value of Land (\$/acre)	\$4,500	
Yield (tons/acre)	22.94	
Market price (\$/ton)	\$85.20	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2004 year data of processing carrot in Imperial county.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total cultural cost (\$/acre)</b>	<b>1428</b>	
<b>LAND PREPARATION</b>		
Stubble disc	\$23	
Subsoil 2nd gear	\$45	
Disc 2x / ring roller	\$30	
Triplane 1x	\$12	
Border, cross check, & break borders	\$24	
Flood 1x	\$16	
Chemigate	\$145	
Flood 1x	\$8	
Disc 1x	\$13	
Triplane 1x	\$12	
Fertilizer, spread	\$83	
List	\$17	
<b>GROWING PERIOD</b>		
Plant	\$380	
Sprinkler Irrigate	\$185	
Weed Control/incorporation*	\$20	
Weed Control/chemigation	\$5	
Cultivate 2x	\$28	
Spike 2x	\$22	
Fertilize & Furrow out 2x	\$86	
Weed control, post 3x	\$98	
Water-run fertilizer	\$19	
Irrigation 6x	\$40	
Disease control 1x	\$16	
Insect control 2x	\$48	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$1,373</b>	
Fuel	\$0	
Labor	\$55	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$0</b>	
Harvest	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b><i>Sub total net fertilizer, fuel and labor</i></b>	<b>\$0</b>	
Fuel	\$0	
Labor	\$0	
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$0</b>	
Labor	\$0	
Fuel	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$0	
Liability Insurance	\$0	
Manager Salary	\$0	
Crop Insurance	\$0	
Property Taxes	\$0	
Property Insurance	\$0	
Investment Repairs	\$0	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land Rent	\$0	
Office Expense	\$0	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
OR		
Overhead as % Total Costs	13%	
<b>Total Cash Overhead Expenses</b>	<b>\$215</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Shop and Storage Building										
Fuel Tanks and Pumps										
Shop Tools										
Irrigation System										
Equipment										
Truck										
Pipe Trailer										
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs										
Land										
<b>Total</b>										

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming processing carrot if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming processing carrot? \_\_\_\_\_.

## California Processing Tomato Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	900	
Acres in Production (acre)	900	
Acres Owned (acre)	900	
Acres Leased (acre)	0	
Cash rent (\$/acre)	\$265	
Value of Land (\$/acre)	\$5,300	
Yield (tons/acre)	35	
Fresh Market price (\$/ton)		
% Contracted yield	100%	
Contract price if contracted yield >0	\$63	

\* 2007 year data of processing tomato (direct seeded) in Sacramento Valley.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total Cultural Costs (\$/acre)</b>	<b>\$1,367</b>	
Fertilize	\$67	
Fumigant	\$19	
Herbicide	\$258	
Fungicide	\$9	
Insecticide	\$45	
Crop Protectant	\$0	
Irrigation	\$135	
Seed/Transplant	\$218	
Air Application Spray	\$0	
Assessment	\$0	
Lube & Repair	\$0	
Others	\$52	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Sub total net Labor and Fuel</b>	<b>\$803</b>	
Fuel	\$234	
Labor	\$330	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$279</b>	
Labor	\$184	
Fuel	\$95	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$14</b>	
Labor	\$0	
Fuel	\$0	
Other (assessment fee)	\$14	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Total Operating Cost (\$/acre)</b>	<b>\$1,660</b>	

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$17	
Liability Insurance	\$0	
Manager Salary	\$70	
Crop Insurance	\$25	
Property Taxes	\$6	
Property Insurance	\$5	
Investment Repairs	\$5	
Interest on Operating Capital	\$78	
Regulatory Costs	\$0	
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	\$206	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	



**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Shop and Storage Building	\$101,280		\$7,217				24		\$3,992	
Fuel Tanks and Pumps	\$21,949		\$2,195				20		\$988	
Shop Tools	\$14,465		\$1,447				20		\$651	
Irrigation System	\$113,233		\$11,324				10		\$10,191	
Equipment	\$191,725		\$19,173				11		\$15,044	
Truck	\$38,600		\$3,860				5		\$6,948	
Pipe Trailer	\$35,000		\$700				10		\$3,430	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$0		\$0		0		1		\$0	
Land	\$0		\$0				100		\$0	
<b>Total</b>	\$516,252		\$45,916						\$41,244	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming processing tomato if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_ (\$/gallon)
- 4). What will you plant if you give up farming processing tomato? \_\_\_\_\_.

## California Wine Grape Producer Survey

### I. Farm Operation Information

Items	UCCES Data*	Your Farm Data
Acres on Farm (acre)	250	
Acres in Production (acre)	225	
Acres Owned (acre)	250	
Acres Leased (acre)	0	
Cash rent (\$/acre)	\$3,250	
Value of Land (\$/acre)	\$65,000	
Yield (tons/acre)	6	
Fresh Market price (\$/ton)	\$1,838	
% Contracted yield	0%	
Contract price if contracted yield >0		

\* 2004 year data of wine grape (Chardonnay) in North coast – Sonoma county.

### II. Loan Information

	UCCES Data	Your Farm Data
<b>Land Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	40	
<b>Establishment Loan:</b>		
Principle	\$0	
Year of Loan	1975	
Interest Rate	7.5%	
Life of Loan (years)	30	

### III. Financial Rates and Percentages

	UCCES Data	Your Farm Data
Average Annual Change in CPI	3%	
Land Inflation Rate	1.0%	
Interest Rate	6.5%	
Interest Rate Earned for Cash reserves	5%	
Discount Rate for NPV	10%	

#### IV. Cultural and Harvest Costs

Items	UCCES Data	Your Farm Data
<b>Total Cultural Costs (\$/acre)</b>	<b>\$2,643</b>	
Pre Harvest Chemical Treatment	\$0	
Pruning	\$0	
Brush Disposal	\$0	
Weed Control	\$24	
Disease Control	\$255	
Irrigate	\$48	
Pest Control	\$45	
Rodent Control	\$0	
Leaf Analysis	\$0	
Harvest Aid and Application	\$0	
PCA fee	\$35	
Lube & Repair	\$0	
ATV Use	\$0	
Fertilize	\$105	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Sub total net Labor and Fuel</b>	<b>\$512</b>	
Fuel	\$125	
Labor	\$2,006	
<b>Total Harvest Costs (\$/acre)</b>	<b>\$840</b>	
Shake, Pick, Haul - 1st pick	\$840	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		
<b>Sub total net Labor and Fuel</b>	<b>\$840</b>	
Labor	\$0	
Fuel	\$0	
<b>Total Post-Harvest Costs (\$/acre)</b>	<b>\$177</b>	
Labor	\$29	
Fuel	\$2	
Other cost net labor and fuel	\$146	
Other cost 1(please specify)		
Other cost 2(please specify)		
Other cost 3(please specify)		

**V. Cash Overhead Expenses (\$/acre)**

Items	UCCES Data	Your Farm Data
Office Expense	\$250	
Liability Insurance	\$17	
Sanitation Fee	\$15	
Management Service	\$558	
Property Taxes	\$891	
Property Insurance	\$90	
Investment Repairs	\$143	
Interest on Operating Capital	\$0	
Regulatory Costs	\$0	
Land rent	\$0	
OR		
Overhead as % Total Costs	0%	
<b>Total Cash Overhead Expenses</b>	<b>\$1,964</b>	

**VI. Depreciation Expense**

	UCCES Data	Your Farm Data
Depreciation/Acre	\$0	
Depreciation as % of Costs	0%	
Total Depreciation Expense	\$0	

**VII. Miscellaneous Information**

	UCCES Data	Your Farm Data
Other Farm Income from Services	\$0	
Off-Farm Income	\$0	
Annual Tax Deductions	\$0	

**VIII. Family Withdrawals**

	UCCES Data	Your Farm Data
Minimum Family Living	\$0	
Family Withdrawals as % of receipts	0.0%	

**IX. Asset**

	Book Value		Salvage Value		Years already depreciated		Depreciable Life of Asset		Annual Depreciation Expense	
	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours	UCCES	Yours
Buildings	\$6,800		\$680				20		\$306	
Irrigation System	\$52,000		\$5,200				25		\$1,872	
Shop Tools	\$2,000		\$200				10		\$180	
Reservoir 12 AcFt	\$87,000		\$8,700				25		\$3,132	
Equipment/Vehicle	\$66,400		\$6,640				20		\$2,988	
Others	\$1,000		\$100				25		\$36	
Others 1 (pls specify)										
Others 2 (pls specify)										
Others 3 (pls specify)										
Establishment Costs	\$499,710		\$0				22		\$22,714	
Land	\$16,250,000		\$16,250,000				100		\$0	
<b>Total</b>	\$16,964,910		\$16,271,520						\$31,228	

**X. Questions about Fuel**

- 1). Because of fuel price increases, did you use less of your own machines in 2007 than you did before when gasoline price is about \$1 per gallon? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 2). Similarly, did you use less of rented machines? \_\_\_\_\_. If yes, by how much? \_\_\_\_\_%
- 3). Will you give up farming wine grape if fuel price will increase in the future? \_\_\_\_\_.  
If yes, you will give up farming when gasoline (#87) price is \_\_\_\_\_(\$/gallon)
- 4). What will you plant if you give up farming wine grape? \_\_\_\_\_.