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# Marketing Contracts for Fresh Market Tomato Production: A Choice Based Experiment

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# Marketing Contracts for Fresh Market Tomato Production: A Choice Based Experiment

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#### INTRODUCTION

- A marketing contract is typically a written agreement between growers and a buyer who sets a price and possible price adjustments as well as a market outlet
- Fresh produce is characterized by high production/ marketing risk but limited options to mitigate it.
- Marketing contracts are one important option for managing such risks

## DATA COLLECTION

- Main data source for the study is a mail survey
- The sample consisted of 315 wholesale tomato growers from 4 states: KY, IL,IN, OH
- Response rate: 17% (55 growers out of 315)
- Usable Surveys: 49

# SUMMARY STATISTICS

#### Table 1: Summary Statistics

Table 1. Dullillary Statistics						
Variable	Average	Std.	Min.	Max.		
Gender, (1=female)	0.24	0.43	0	1		
Age (1=older than 45)	0.61	0.48	0	1		
Experience with contracts	0.36	0.48	0	1		
(1=yes)						
Household size	2.4	1.28	1	6		
Acres with tomatoes	17.5	85.56	0.125	600		
Education	0.61	0.48	0	1		
(1=graduated high school)						
Off farm employment	0.42	0.49	0	1		
(1= yes)						

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#### **OBJECTIVES**

- Identify marketing contract characteristics that may influence growers' decision to participate in such agreements.
- Provide information to wholesale buyers (i.e. restaurant managers, grocery stores) that will help them design contracts that are more attractive to farmers

#### METHODOLOGY/ SURVEY DESIGN

- A stated choice preference experiment was conducted
- Conditional logit and Mixed logit models were used in the analysis

**Table 2: Contract Attributes** 

Variable	Description	
Early Price (\$/lbs)	Price for late June-early July	
	Levels:0.62, 0.68, 0.74	
Peak Price (\$/lbs)	Price for July-August	
	Levels: 0.53, 0.55, 0.58	
Late Price (\$/lbs)	Price for September -October	
	Levels: 0.70, 0.77, 0.84	
Early Volume	Volume for late June-early July	
(lbs/acre)	Levels:2,200, 2,400, 2,600	
Peak Volume	Volume for July - August	
(lbs/acre)	Levels:5,000, 5,500, 6,0000	
Late Volume	Volume for September -October	
(lbs/acre)	Levels:4,300, 4,700, 5,100	
Penalties	Price reduction if the agreement is	
(% of price)	not satisfied.	
	Levels:5%, 10%, 15%, Terminate	
Certification Cost	3 <sup>rd</sup> party audit cost	
	Levels: 0, 500, 1000	

#### PRELIMINARY RESULTS

Table 3: Conditional and Mixed Logit Results

	Conditional Logit		Mixed Logit		
	Coeff.	Std. Err.	Coeff.	Std. Err.	
Early price	3.51*	1.948	3.76*	2.114	
Peak price	4.38	4.731	5.19	5.273	
Late price	0.54	1.684	1.29	1.873	
Early volume	-0.0002	0.0005	-0.0003	0.0005	
Peak volume	0.00	0.0002	0.0001	0.0002	
Late volume	0.0002	0.0003	0.0002	0.0003	
Penalty	-0.01***	0.0025	-0.01***	0.0028	
Certification Cost	-0.001***	0.0002	-0.001***	0.00028	
No Contract	5.65	4.31	6.88	4.857	
Standard Deviation Estimates					
No Contract S.D			3.18 ***	0.624	
McFadden R <sup>2</sup>	0.11		0.12		

<sup>\*, \*\*,</sup> and \*\*\* indicate 10%, 5%, and 1% significant respectively.

Table 4: Selected Marginal Values (over early price)

Variable	Marginal Value	Std.Err.
Certification cost	.0004402***	.0002425
Penalty	.0031317***	.0018564

<sup>\*, \*\*,</sup> and \*\*\* indicate 10%, 5%, and 1% significant respectively.

Marginal values are calculated as the negative ratio between the coefficient of the attributes (penalty and certification cost) and the coefficient of price (early price for Table 4).

## DISCUSSION

- ✓ Growers prefer contracts that offer higher early prices
- ✓ Almost all growers showed strong preference against higher penalties and certification costs
- ✓In order to accept 1% higher price penalties, growers want 0.003 cents per lbs higher early price