Feasibility Study of Small Acreage Organic Farming

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Background: In recent years small acreage farms have been on the rise throughout the nation. This farming method differs from traditional farming in many ways, but the most noticeable aspect is the amount of available land for production. Due to this limitation small acreage producers have turned to different growing methods, products and markets. This has created a growing trend of organic products and alternative markets such as farmer's markets, community sponsored agriculture and other food distribution models.

With the low amount of land, absence of expensive farming equipment and chemicals, and health benefits of organic products small acreage organic farming has become an attractive option for hobbyists and people looking to supplement their income.

Participating Producers: A panel of producers was created to aid in research of small acreage organic farms in the Rio Grande Valley. These producers included Ray Anzaluda from Anzaldua Farm and Ranch and Saul and Diana Padilla of Yahweh All Natural Farm and Garden.

Table 1. Costs of Production for the LRGV Model Farm, 2011.

	Unit	Units	$/Unit	Fraction	Total Cost
Production Costs					
Labor	Hours	1,560	$8	1.00	$12,480
Seed	$/Acre	3	$150	1.00	$450
Fertilizer	Cubic Yard	84	$30	0.40	$1,008
Fish Oil	Gallons	5	$7	1.00	$37
Neem Oil	Gallons	1	$80	0.50	$40
Emulsifier	Gallons	1	$60	0.50	$30
Diatomaceous Earth	50 lb Bags	3	$20	1.00	$60
Paper	Rolls	5	$190	0.50	$475
Irr Water	$/Acre	3	$50	1.00	$150
City Water	$/Month	3	$45	1.00	$135
Tractor Fuel	$/Year	1	$200	1.00	$200
Overhead Costs					
Delivery Containers	$/Each	200	$5	0.50	$500
Harvest Containers	$/Each	90	$5	0.33	$150
Wash Water	$/Month	12	$10	1.00	$120
Summer Electricity	$/Month	4	$200	1.00	$800
R.O.Y. Electricity	$/Month	8	$50	1.00	$400
Bags, Bands, Etc.	$/Year	1	$110	1.00	$110
Delivery Fuel	$/Month	12	$50	1.00	$600
Maintenance	$/Year	1	$500	1.00	$500
Internet Service	$/Month	12	$69	1.00	$828
Marketing	$/Year	1	$490	1.00	$490
Irrigation Equipment	$/Year	1	$500	1.00	$500
Total Costs					$20,063

Net Cash Income

Reduction in CSA Members	Reduction in FM and Restaurant Sales										
	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
0%	$41,318	$38,998	$36,677	$34,356	$32,036	$29,715	$27,395	$25,074	$22,754	$20,433	$18,113
10%	$37,268	$34,948	$32,627	$30,306	$27,986	$25,665	$23,345	$21,024	$18,704	$16,383	$14,063
20%	$33,218	$30,898	$28,577	$26,256	$23,936	$21,615	$19,295	$16,974	$14,654	$12,333	$10,013
30%	$29,168	$26,848	$24,527	$22,206	$19,886	$17,565	$15,245	$12,924	$10,604	$8,283	$5,963
40%	$25,118	$22,798	$20,477	$18,156	$15,836	$13,515	$11,195	$8,874	$6,554	$4,233	$1,913
50%	$21,068	$18,748	$16,427	$14,106	$11,786	$9,465	$7,145	$4,824	$2,504	$183	$(2,137)
60%	$17,018	$14,698	$12,377	$10,056	$7,736	$5,415	$3,095	$774	$(1,546)	$(3,867)	$(6,187)
70%	$12,968	$10,648	$8,327	$6,006	$3,686	$1,365	$(955)	$(3,276)	$(5,596)	$(7,917)	$(10,237)
80%	$8,918	$6,598	$4,277	$1,956	$(364)	$(2,685)	$(5,005)	$(7,326)	$(9,646)	$(11,967)	$(14,287)
90%	$4,868	$2,548	$227	$(2,094)	$(4,414)	$(6,735)	$(9,055)	$(11,376)	$(13,696)	$(16,017)	$(18,337)
100%	$818	$(1,502)	$(3,823)	$(6,144)	$(8,464)	$(10,785)	$(13,105)	$(15,426)	$(17,746)	$(20,067)	$(22,387)

Objective: Through collaboration with our panel of local producers, we will create a model farm to help identify costs and risks, minimize those costs and risk, predict production yields in relation to area of land and incorporate those findings into an economic model. This model will help future small acreage organic producers better assess their investment and expected profit.

Data: With our representative farm and help from our panel of local producers we compiled two tables relating to cost and output.

Table 1 shows the costs of production for our model farm. These costs are split into production costs (costs relating to crop production and will increase or decrease based on land size) and overhead costs (cost to keep the farm running regardless of production output).

On the Net Cash Income table we see how a reduction in CSA members and farmers market and restaurant sales affect net cash income.

Interpretation of Data: Results indicate that a 3 acre organic farm can provide for 100 CSA members, 3 farmers markets and 5 restaurants. The Net cash income table indicates that CSA members accounts for the largest contribution to net cash income. Table 1 indicates that labor is the biggest expense, accounting for over 60% of overall costs. This is expected from an organic operation as the work of herbicides is replaced by human labor.

A prospective small acreage producer can expect to spend $20,063 during a year of production and by studying the tables he can expect his net income to be somewhere between -$20,067 and $41,318 depending on his or her focus on available markets.

This data will help current producers better understand the importance of the different markets to their operation's profitability. Prospective producers will benefit from a having a reference to which to compare their possible operation and have a realistic measure as to what they can financially expect.

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