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Sponsor Institution: USDA-NIFA

### 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.

### 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 Anzaldua 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 | $1,088
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 | $100
Harvest Containers | $/Each | 90 | $5 | 0.33 | $15
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

### Table 1. Reduction in FM and Restaurant Sales
| Reduction in CSA Members | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100%
---|---|---|---|---|---|---|---|---|---|---|---
$41,318 | $38,998 | $36,677 | $34,356 | $32,036 | $29,715 | $27,395 | $25,074 | $22,754 | $20,433 | $18,113
$37,268 | $34,948 | $32,627 | $30,306 | $27,986 | $25,665 | $23,345 | $21,024 | $18,704 | $16,383 | $14,063
$33,218 | $30,898 | $28,577 | $26,256 | $23,936 | $21,615 | $19,295 | $16,974 | $14,654 | $12,333 | $10,013
$29,168 | $26,848 | $24,527 | $22,206 | $19,886 | $17,565 | $15,245 | $12,924 | $10,604 | $8,283 | $5,963
$25,118 | $22,798 | $20,477 | $18,156 | $15,836 | $13,515 | $11,195 | $8,874 | $6,554 | $4,233 | $1,913
$21,068 | $18,748 | $16,427 | $14,106 | $11,786 | $9,465 | $7,145 | $4,824 | $2,504 | $1,183 | $(2,137)
$17,018 | $14,698 | $12,377 | $10,056 | $7,736 | $5,415 | $3,095 | $774 | $(1,546) | $(3,867) | $(6,187)
$12,968 | $10,648 | $8,327 | $6,006 | $3,686 | $1,366 | $(955) | $(3,276) | $(5,596) | $(7,917) | $(10,237)
$8,918 | $6,598 | $4,277 | $1,956 | $(364) | $(2,685) | $(5,005) | $(7,326) | $(9,646) | $(11,967) | $(14,287)
$4,868 | $2,548 | $227 | $(2,094) | $(4,414) | $(6,735) | $(9,055) | $(11,376) | $(13,696) | $(16,017) | $(18,337)
$818 | $(1,502) | $(3,823) | $(6,144) | $(8,464) | $(10,785) | $(13,105) | $(15,426) | $(17,746) | $(20,067) | $(22,387)

### 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 having a reference to which to compare their possible operation and have a realistic measure as to what they can financially expect.