**APPENDIX I: BALANCE SHEET**

|  |  |  |
| --- | --- | --- |
| ASSETS  |  Per AcreUSD 2015  |  TotalUSD 2015 |
| Accounts Receivable /cash-> (Revenue)  | Random Variable  | Random Variable |
| *Fixed Assets*  |  |  |
| Value of Dry Land Owned Cropland ($)  |  662.50  | 441,666.67  |
| Value of Farmstead ($)  |  | 293,000.00  |
| Total Machinery Investment  |  | 810,250.00  |
| Total Machinery Investment Depreciation ($/Year)  |  | (98,080.00) |
|  TOTAL ASSETS (NOT INCLUDING REVENUE)  |  | **1,446,836.67**  |
| LIABILITIES  |  |  |
|  *Accounts Payable*  |  |  |
| Real estate loans ($)  |  | 216,000.00  |
| Machinery Loan ($)  |  | 206,250.00  |
|  *Notes Payable*  |  |  |
|  Annual Interest Rate on real estate loan ($/year)  |  | (11,205.00) |
| Annual Interest Rate on Machinery loan ($/year)  |  | (12,555.47) |
|  *Accrued Expenses Payable*  |  |  |
|  Total Dry land variable cost ($/Year)  | 153.56  | 383,906.25  |
|  Total Dry land landlord share on variable cost ($/Year)  |  | (13,750.00) |
|  Machinery Repairs and Maintenance ($/year)  |  | 44,750.00  |
|  Insurance on Vehicles and Machinery ($/year)  |  | 20,000.00  |
|  All Fuel and Lube ($/year)  |  | 55,000.00  |
|  Real Estate Taxes ($/year)  |  | 13,437.50  |
|  Accounting and Legal Cost ($/year)  |  | 4,812.50  |
|  Farm Liability Insurance ($/year)  |  | 11,875.00  |
|  Communication Service and Utilities ($/year)  |  | 9,000.00  |
|  Salaried Labor ($/year)  |  | 65,000.00  |
|  Part-time Labor ($/year)  |  | 20,000.00  |
|  Other Farm Expenses ($/year)  |  | 13,750.00  |
|  TOTAL LIABILITIES  |  | **1,026,270.78**  |
|  TOTAL NET WORTH (Without Revenue) |  | **420,565.89**  |
|  TOTAL NET WORTH AND LIABILITY (Without Revenue) |  | **1,446,836.67**  |

**APPENDIX II: BUDGET**

Budget for Lynn County 2,500 Acres Non-Irrigated Cotton Farm for 2015

|  |  |  |
| --- | --- | --- |
| **Variable Cost**  | **$ per Acre per Year** | **$ per 2,500 Acre per Year** |
| **Production Cost** |  |  |
| Seed | 50.25 | 125,625.00 |
| Fertilizer (Phosphorous) | 9.00 | 22,500.00 |
| Fertilizer (Nitrogen) | 20.00 | 50,000.00 |
| Pre-plant Herbicide | 8.00 | 20,000.00 |
| Post-emerge Herbicide | 25.00 | 62,500.00 |
| Boll Weevil Assessment | 1.25 | 3,125.00 |
| Harvest Aid Apply | 11.00 | 27,500.00 |
| Custom Fertilizer Application | 9.00 | 22,500.00 |
| Custom Strip and Module | 30.00 | 75,000.00 |
| Non-irrigated Fuel and Lube  | 22.00 | 55,000.00 |
| Machinery Repairs and Maintenance  | 17.90 | 44,750.00 |
| Other Farm Expenses  | 5.50 | 13,750.00 |
| Part-time Labor  | 8.00 | 20,000.00 |
| Farm Liability Insurance | 4.75 | 11,875.00 |
| Communication Service and Utilities  | 3.60 | 9,000.00 |
| **Total Variable Cost**  | **225.25** | **563,125.00** |
| **Fixed Cost** |  |  |
| Tractor Depreciation  | 15.50 | 38,750.00 |
| Self-Propelled Machinery Depreciation | 17.30 | 43,250.00 |
| Pickup and Truck Depreciation  | 2.97 | 7,430.00 |
| Other Equipment Depreciation  | 3.46 | 8,650.00 |
| Insurance on Vehicles and Machinery  | 8.00 | 20,000.00 |
| Real Estate Taxes  | 5.38 | 13,437.50 |
| Accounting and Legal Cost  | 1.93 | 4,812.50 |
| Salaried Labor  | 26.00 | 65,000.00 |
| **Total Fixed Cost** | **80.53** | **201,330.00** |
| **Total Cost**  | **305.78** | **764,455.00** |

**APPENDIX III: INCOME STATEMENT**

|  |  |  |
| --- | --- | --- |
|   |  Per Acre USD 2015  |  Total USD 2015  |
|  Crops sales Revenue  |  RandomVariable  |  Random Variable  |
| *Depreciation Expenses* |  |  |
|  Annual Interest Rate on real estate loan ($/year)  |  |  (11,205.00) |
|  Annual Interest Rate on Machinery loan ($/year)  |  |  (12,555.47) |
|  Total Machinery Investment Depreciation ($/year)  |  |  (98,080.00) |
|  *Cash Farm Expenses*  |  |  |
|  Total Dry land variable cost ($/Year)  | 153.56  |  (383,906.25) |
|  Total Dry land landlord share on variable cost ($/Year)  |  (88.75) | 13,750.00  |
|  Machinery Repairs and Maintenance ($/year)  |  |  (44,750.00) |
|  Insurance on Vehicles and Machinery ($/year)  |  |  (20,000.00) |
|  All Fuel and Lube ($/year)  |  |  (55,000.00) |
|  Real Estate Taxes ($/year)  |  |  (13,437.50) |
|  Accounting and Legal Cost ($/year)  |  |  (4,812.50) |
|  Farm Liability Insurance ($/year)  |  |  (11,875.00) |
|  Communication Service and Utilities ($/year)  |  |  (9,000.00) |
|  Salaried Labor ($/year)  |  |  (65,000.00) |
|  Part-time Labor ($/year)  |  | (20,000.00) |
|  Other Farm Expenses ($/year)  |  | (13,750.00) |
|  NET PROFIT (Without Revenue) |  | **(749,621.72)** |

**APPENDIX IV: SIMULATION INPUTS INFORMATION**

**Simulation Input for Lynn County Non-Irrigated Cotton**

**Acres Information**

 Own acres = 667 acre

 Shared acres = 1,833 acre

Total Acres = 2,500 acre

**Yield Information**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 10th Fractile | Mode | 90th Fractile | Mean1(lb./acre)  | SD2 ( lb./acre) | C.V. |
| Low Productivity Farm Yield | 100 | 313.8 | 487.5 | 304 | 146 | 0.480263 |
| High Productivity Farm Yield | 200 | 537.5 | 700 | 494 | 187 | 0.378543 |
| Farmer’s Expected County Yield | 200 | 393.8 | 543.8 | 383 | 129 | 0.336815 |
| RMA Expected County Yield |  |  |  | 282 |  |  |

1Mean = (10th Fractile +2\*Mode+90th Fractile)/4

2Standard deviation = (90th Fractile -10th Fractile)/2.65

Davidson and Cooper, 1976

**Insurance Premium Information for Lynn County Non-irrigated Cotton**

|  |  |
| --- | --- |
|  | Coverage Levels |
|  | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| SCO Base Rate | 0.5523 | 0.5725 | 0.5908 | 0.6075 | 0.6254 | 0.6453 | 0.6623 | 0.6745 |
| Enterprise Unit Structure Discount Factor | 0.721 | 0.722 | 0.723 | 0.724 | 0.725 | 0.726 | 0.726 | 0.727 |
| Base County Differentials  | 0.85 | 0.9 | 0.95 | 1 | 1.05 | 1.1 | 1.15 | 1.2 |
| Enterprise Unit Subsidy Factor | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.77 | 0.68 | 0.53 |

**STAX Insurance Premium Base Rate for Different Coverage Level Information for Lynn County Non-irrigated Cotton**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 70%-75% | 80%-70% | 80%-75% | 85%-70% | 85%-75% | 85%-80% | 90%-70% | 90%-75% | 90%-80% | 90%-85% |
| STAX RP  | 0.5252 | 0.5836 | 0.6024 | 0.6017 | 0.6202 | 0.6379 | 0.6178 | 0.6355 | 0.6521 | 0.6713 |
| STAX RPHPE  | 0.4744 | 0.5434 | 0.5597 | 0.5598 | 0.5762 | 0.5928 | 0.5747 | 0.5906 | 0.606 | 0.6193 |

**Insurance Premium Base Rate Information for Lynn County Non-irrigated Cotton**

|  |  |  |  |
| --- | --- | --- | --- |
| Coverage Levels | Yield Protection (YP) | Revenue Protection (RP) | Revenue Protection Harvest Price Exclusion (RP-HPE) |
| 50 | 0.193172 | 0.211693 | 0.195465 |
| 55 | 0.204826 | 0.225071 | 0.207531 |
| 60 | 0.216514 | 0.238277 | 0.219365 |
| 65 | 0.228233 | 0.251297 | 0.231238 |
| 70 | 0.244785 | 0.269321 | 0.247891 |
| 75 | 0.261589 | 0.28754 | 0.264635 |
| 80 | 0.279138 | 0.306536 | 0.281891 |
| 85 | 0.297196 | 0.326088 | 0.299895 |

**Insurance Premium Base Rate Information for Lynn County Non-irrigated Cotton for Yield Exclusion Policy**

|  |  |  |  |
| --- | --- | --- | --- |
| Coverage Levels | Yield Protection (YP) | Revenue Protection (RP) | Revenue Protection Harvest Price Exclusion (RP-HPE) |
| 50 | 0.21651365 | 0.23827689 | 0.21936474 |
| 55 | 0.23150345 | 0.25486963 | 0.23454262 |
| 60 | 0.25154675 | 0.27665033 | 0.25467326 |
| 65 | 0.27205777 | 0.29880743 | 0.27488864 |
| 70 | 0.29354341 | 0.32214625 | 0.29627503 |
| 75 | 0.31001596 | 0.34047815 | 0.31270089 |
| 80 | 0.32544661 | 0.3579275 | 0.3284434 |
| 85 | 0.34092765 | 0.37541297 | 0.34480839 |

**Other Simulation Inputs**

|  |  |
| --- | --- |
| Reference Yield | 275 |
| Fix Rate  | 0.039 |
| Exponent  | -0.505 |
| Reference Rate | 0.35 |
| Expected Area Yield | 282 |
| Expected Area Revenue | $180.48  |

**APPENDIX V: INDEMNITY FUNCTIONS**

Where, rate yield is the farm APH yield.

Where, rate yield is the farm APH yield.

Where, rate yield is the farm APH yield.

Where, Final area revenue and expected area revenue is calculated as defined in underlying policy (CCIP).

 Where, Final area revenue is calculated using and expected area revenue is calculated using projected price.

Where, Final area revenue is calculated using projected price and expected area revenue is calculated using harvest price.