



SACOG Board of Directors

May 13, 2009

Rural-Urban Connections Strategy Workshop

Issue: The Rural-Urban Connections Strategy (RUCS) project continues to build a body of information, data, and analysis that provides a richer understanding of the unique issues in our rural areas.

Recommendation: None, this is information for a workshop.

Discussion: Over the last several months, the RUCS project has made steady progress toward elevating our understanding of the region's rural challenges and opportunities. Those challenges and opportunities have been arranged into topics and subtopics for study purposes (Attachment A). Each topic is being studied in three phases – current conditions, innovations (how to address challenges and promote opportunities), and implementation – and reports are being written for these phases. The topics are being studied either through a working group process or via research and analysis by the RUCS team. To date, working groups have been formed for three topics: transportation, land use, and local markets. Other topics, such as processing, labor, carbon sequestration, and water, are being addressed through research and technical work by the RUCS team. The team is reviewing other topics to determine if a full working group process is needed or if a technical advisory committee may be more appropriate.

Topic papers are being generated to help the region better understand rural challenges and opportunities. Working group members are asked to comment on papers for each research phase and then convene to add more input via workshop exercises and discussions. (Attachment B lists the groups receiving invitations to participate.) This input is then used to update the topic papers. Topic papers will be distilled down to a final summary report to be presented to the SACOG board. Progress on the various topics is summarized in Attachment C and the RUCS team will present more detail about this work at the board meeting.

The RUCS team has been building a spatial inventory of crops in the region to help understand rural land use patterns and economics. The team is also working on a "landscape typology," which is used to generalize the 100+ crops grown in the region and analyze yield, revenue, cost, and other indicators associated with crops. The RUCS team is working closely with farmers and ranchers via the farm bureaus and other groups to help refine crop maps and other technical underpinnings for the project. The crop data and typology will be used for the rural application of the I-PLACE³S model enabling SACOG to analyze both urban and rural land use changes. A list of the landscape types and an example of the data behind them are included as Attachment D. A draft map of the crop data that illustrates the diversity of agriculture in this region will be presented at the meeting.

Approved by:

Mike McKeever
Executive Director

MM:DS:RS:pm

Attachments

Key Staff: Rebecca Sloan, Director of External Affairs and Member Services, (916) 340-6224
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Rural-Urban Connections Strategy

Topic Areas and Working Groups

Rural challenges and opportunities have been arranged into broad topic areas listed below. Specific working groups within each topic area have been identified. Some of the working groups may be preceded with technical work or a working paper. In some cases, a working group may not be required and staff or a consultant will develop working papers in lieu of a full working group process. For topics with several working groups, individual reports will also be assembled into one topic paper for the board.

Land Use and Conservation: Policies and Plans That Shape Rural Areas

This topic area examines the policies and plans that affect the use of rural lands. A key objective is to understand where development may occur; however, the location of conservation and recreational areas also influences how rural areas may function in the future. The interface between urban and rural areas is another important component to be addressed under this topic.

Working Groups or Working Papers

1. Land Use Policies and Plans: minimum parcel size and use, right-to-farm ordinances, jobs-housing ratios, spheres of influence, utility and service districts, and transfer of development rights
2. Conservation: natural resources or habitat of concern, historic and cultural resources, take and receiving areas, mitigation ratios, existing protected lands, and Williamson Act
3. Open Space and Recreation: beyond conservation planning areas, location of desired recreation and open space areas; Existing recreation open space lands; Private conservation lands
4. Small Communities: needed and required infrastructure, costs and fiscal challenges, land use decisions and tendency toward housing, employment and economic development, and municipal and professional service needs

The Infrastructure of Agriculture: Challenges to the Production Process

This topic area covers the basic input and output components of the agriculture production process. This is a diverse topic area so five working groups will be assembled to study the range of subjects.

Working Groups or Working Papers

1. Transportation: impacts of traffic on agriculture, movement of equipment and goods to market, vehicle miles of travel and emissions, challenges with road improvements (including traffic increases and cost sharing), and level of service
2. Processing Facilities: closures affecting crops grown, loss of rural jobs, transport distance, cost, and emissions, and linking local growers with local markets
3. Labor: shortages and costs, lost harvest, immigration, housing and transportation needs, and aging farmers and ranchers
4. Non-Labor Agriculture Inputs: cost of land and water; and availability and cost of equipment, fuel, chemicals, seed, veterinary service, etc.

5. Water: supply and quality; competition: urban, agriculture, and habitat uses; costs, particularly for pumping; conservation and storage; flood control and aquifer recharge; and integrated regional water management plans

Economic Opportunities: New Ways to Grow Revenue

This topic area covers a number of opportunities for farmers and ranchers to increase revenues beyond traditional agriculture markets. A working group or working paper will be structure around existing or potential economic opportunities.

Working Groups or Working Papers

1. Agritourism: visits to farms, ranches, and other agriculture-related operations; and opportunities to include restaurants and hotels
2. Local Markets: restaurants, schools, hospitals, other institutions; CSAs; farmers markets; fruit stands; and value added products
3. National and International Markets: product demand; product differentiation; supply chains
4. Energy Production: biomass to generate energy, technology, and markets
5. Carbon Sequestration: farm and ranch practices that take carbon out of the atmosphere, and carbon trading markets
6. Easements and Transfer of Development Rights: easement types and values, including flood control; layering potential; and private markets
7. Other Economic Opportunities: solar panels, cellular phone towers, and military or law enforcement training, etc.

Forest Management: Firing up Economic and Environmental Value

This topic will look at the challenges and opportunities in the forests. Forest fires, reduced timber harvests, recreation, habitat and watershed issues and costs will be detailed. The group will explore new management practices and how the aforementioned issues can be mitigated. Watershed opportunities in water storage, water quality and flood control will be studied. Carbon sequestration potential will be a key issue.

Regulations: Navigating Federal and State Environmental Guidelines

This topic will focus on understanding and meeting federal and state environmental requirements that affect rural areas including: water quality, air quality, endangered species, flood control, and pesticide use. The group will identify challenges to meeting those requirements and impacts on agriculture and land use patterns. Particular impacts on small agriculture operations will be highlighted. Possible ways to expedite review and permitting will be explored, as will regulatory reform ideas.

RUCS Stakeholder Overview

Transportation

| | |
|---------------------------|---|
| Regional | Directors of Public Works |
| | Activists |
| | Air Districts |
| | Air Quality Planners |
| | CA Energy Commission |
| | CA Farm Bureau Federation |
| | CA Highway Patrol |
| | CA Trucking Association |
| | Cal EPA |
| | Caltrans |
| | CARB |
| | CDFA Director of Public Engagement |
| | CDFA Director of Trade |
| | Central Valley Rails to Trails |
| | City Managers |
| | Community Development Directors |
| | County DOTs |
| | County Planning Departments |
| | Delta Protection Commission |
| | Economic Development Directors |
| | Environmental Planners |
| | Farm Bureaus |
| | Fed Ex |
| | FHWA |
| | Friends of Swainsons Hawk |
| | Graduate Students |
| | IMBA-Cal Bikes |
| | Pesticide Watch |
| | Planning Conservation League |
| | SABA |
| | Sac Metro Chamber |
| | |
| | Tranist Agencies |
| | Transportation Directors |
| | Transportation Planners |
| | UC Cooperative Extensions |
| | UC Davis- various departments |
| Yolo | Intergovernmental Affairs Mgr. |
| | Tribal Liasion |
| | Yocha-de-he Director of Land Management |
| | Yocha-de-he Tribal Administrator |
| El Dorado | EDCTC |
| Placer | PCTPA |
| Sacramento | Sac Housing Alliance |
| | Sheldon Community Association |
| | WALKSacramento |
| Interest/Advocates | George Phillips Law |
| | Various Ag Consultants |
| | ECOS |

Land Use

| | |
|---------------------------|--|
| Regional | Directors of Public Works |
| | Activists |
| | Ag Commissioners |
| | Agriculture in Metropolitan Regions/SAGE |
| | Air Districts |
| | Air Quality Planners |
| | American Institute of Architechts (AIA) |
| | CA Association of Realtors |
| | CA Department of Conservation |
| | CA Energy Commission |
| | CA Farm Bureau Federation |
| | CA Resource Conservation District |
| | Cal EPA |
| | Caltrans |
| | CDFA Director of Public Engagement |
| | CDFA Director of Trade |
| | Chambers of Commerce |
| | City Managers |
| | Community Alliance For Family Farmers |
| | Community Development Directors |
| | County Planning Departments |
| | Delta Protection Commission |
| | Ducks Unlimited |
| | Economic Development Directors |
| | Environmental Planners |
| | Farm Bureaus |
| | Friends of Swainsons Hawk |
| | Graduate Students |
| | Institute for Ecological Health |
| | LAFCO |
| | League of CA Cities |
| | League of Women Voters |
| | North State BIA |
| | Parks & Recs Departments |
| | Pesticide Watch |
| | Planning Conservation League |
| | Resource Conservation Districts |
| | SABA |
| | Sac Metro Chamber |
| | Transportation Directors |
| | Transportation Planners |
| | Trust for Public Land |
| | UC Cooperative Extensions |
| | UC Davis- various departments |
| | Water Agencies |
| | CA Center for Cooperative Development |
| Yolo | Intergovernmental Affairs Mgr. |
| | Tribal Liasion |
| | Yocha-de-he Director of Land Management |
| | Yocha-de-he Tribal Administrator |
| El Dorado | EDCTC |
| Placer | PCTPA |
| Sacramento | Consumnes River Watershed |
| | North Delta Reclamation Districts |
| | Sac Housing Alliance |
| | Sacramento Valley Conservancy |
| | Sheldon Community Association |
| | Urban Land Institute-Sacramento |
| | WALKSacramento |
| Interest/Advocates | ECOS |
| | George Phillips Law |
| | Various Ag Consultants |
| Yuba-Sutter | Middle Mountain Foundation |

Local Markets

Attachment B

| | |
|---------------------------|--|
| Regional | Activists |
| | Ag Commissioners |
| | Agriculture in Metropolitan Regions/SAGE |
| | Air Districts |
| | Air Quality Planners |
| | CA Center for Cooperative Development |
| | CA Energy Commission |
| | CA Farm Bureau Federation |
| | CA Farm Land Trust |
| | CA Farm Link |
| | CA Resource Conservation District |
| | Cal EPA |
| | Caltrans |
| | CDFA Director of Public Engagement |
| | CDFA Director of Trade |
| | Chambers of Commerce |
| | City Managers |
| | Community Alliance For Family Farmers |
| | Community Development Directors |
| | County Ag Marketing Directors |
| | County Planning Departments |
| | Delta Protection Commission |
| | Ducks Unlimited |
| | Economic Development Directors |
| | Environmental Planners |
| | Farm Bureaus |
| | Food Co-ops |
| | Friends of Swainsons Hawk |
| | Graduate Students |
| | Institute for Ecological Health |
| | LAFCO |
| | National Sustainable Agriculture Information Service |
| | Parks & Recs Departments |
| | Pesticide Watch |
| | Planning Conservation League |
| | Produce Distributors |
| | Resource Conservation Districts |
| | Sac Metro Chamber |
| | Small Farmers |
| | Trust for Public Land |
| | UC Cooperative Extensions |
| | UC Davis- various departments |
| | Water Agencies |
| Yolo | Intergovernmental Affairs Mgr. |
| | Tribal Liasion |
| | Yocha-de-he Director of Land Management |
| | Yocha-de-he Tribal Administrator |
| El Dorado | EDCTC |
| Placer | PCTPA |
| Sacramento | Sac Housing Alliance |
| Interest/Advocates | Ag Activists |
| | ECOS |
| | George Phillips Law |
| | Sheldon Community Association |
| | Various Ag Consultants |

Rural-Urban Connections Strategy Status Update

May 13, 2009

Attachment C

| Topic | Process | <i>Working Paper Steps</i> | | | | | Status Notes |
|--|---------------------|----------------------------|---------------------------|--------------------|-----------------------|-------------|--|
| | | Scoping | Current Conditions Report | Innovations Report | Implementation Report | Final Paper | |
| Land Use and Conservation | | | | | | | |
| Land Use Policies and Plans | Working Group/Paper | ✓ | ✓ | ✓ | | | Land Use working group studied rural-urban edge; 2 workshops; now studying beyond edge; next workshop in July |
| Conservation | Working Group/Paper | ✓ | % | % | | | Part of "beyond edge" study |
| Open Space and Recreation | Working Group/Paper | ✓ | % | % | | | Part of "beyond edge" study |
| Small Communities | Model/TAC/Paper | ✓ | | | | | Building infrastructure cost and fiscal analysis model |
| Infrastructure of Agriculture | | | | | | | |
| Transportation | Working Group/Paper | ✓ | ✓ | ✓ | % | | Transportation working group studied unique rural transportation issues; multiple workshops, next workshop in July |
| Processing Facilities | Data/Modeling/Paper | ✓ | % | | | | Included in technical work and Local Market study |
| Labor | Data/Modeling/Paper | ✓ | % | | | | Ag Worker Transportation Business Plan; Labor demand part of modeling technical work |
| Non-labor Agriculture Inputs | Data/Modeling/Paper | ✓ | % | | | | Included in technical work |
| Water | Background Paper | ✓ | ✓ | | | | Background paper draft completed; Target is June Land Use & Housing meeting for presentation |
| Economic Opportunities | | | | | | | |
| Agritourism | Working Group/Paper | ✓ | ✓ | ✓ | % | | Local markets working group studied food system and how to "re-localize" it; 2 workshops, next workshop in June |
| Local Markets | Working Group/Paper | ✓ | ✓ | ✓ | % | | Local markets working group studied food system and how to "re-localize" it; 2 workshops, next workshop in June |
| National and International Markets | Data/Modeling/Paper | % | % | | | | Included in technical work |
| Energy Production | Data/Modeling/Paper | % | % | | | | Included in technical work |
| Carbon Sequestration | Data/Modeling/Paper | % | % | | | | Included in technical work |
| Easements and TDRs | Working Group/Paper | ✓ | % | % | | | Included in Land Use and Conservation topic |
| Other Economic Opportunities | Data/Modeling/Paper | % | | | | | Included in technical work |
| Forest Management | TAC/Working Paper | % | | | | | Meeting with stakeholders and assess approach to topic |
| Regulations | Working Paper | % | % | % | % | | Review of local market regs completed; assessing other regs affecting rural areas |
| Technical Work | | | | | | | |
| Crop Mapping/Processing | | % | | | | | Valley floor completed, foothill region being refined |
| Landscape Typology | | % | | | | | Commodity agriculture types completed, small farm types being developed |
| Model Development (PLACE ³ S) | | % | | | | | In-house beta version of model being refined; start building on-line version in August (target) |
| Analysis | | % | | | | | Model generating preliminary results |

✓ = Completed
% = Under Development

RUCS Landscape Typology (Draft)

| Category | Landscape Type |
|--------------------|---|
| Tree and Nut Crops | Almonds Walnuts Peaches Prunes Other Stone Fruit Apples Pears Mandarins Other Citrus Olives Christmas Trees |
| Vine Crops | Wine Grapes |
| Field Crops | Processing Tomato Rotation <i>(Corn, Wheat, Processing Tomatoes, Alfalfa, Safflower, Sunflower, Dry Beans, Melons ,and other vegetable crops)</i> Alfalfa Rotation <i>(Corn, Wheat, Alfalfa, Safflower, Sunflower, Dry Beans, Melons, other vegetable crops)</i> General Field Crop Rice |
| Livestock | Pasture |
| Other | Nursery Fallow Equine Habitat Aggregate Other Non-Ag |
| Dairy | Dairy |
| Small Farm | |

WALNUTS Cost and Revenue Summary

Establish

| | Cost Per Acre | | | | | | | |
|--|---------------|-------|-------|-------|-------|--------|--------|--------|
| | Year | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
| Yield: Dry, In-Shell Pounds Per Acre | | 0 | 0 | 0 | 500 | 1,000 | 1,500 | 2,800 |
| TOTAL PLANTING COSTS | | 3,399 | 37 | 0 | 0 | 0 | 0 | 0 |
| TOTAL CULTURAL COSTS | | 432 | 473 | 502 | 635 | 860 | 1070 | 839 |
| TOTAL HARVEST COSTS | | 0 | 0 | 0 | 197 | 238 | 275 | 373 |
| Interest On Operating Capital @ 10.00% | | 416 | 29 | 27 | 22 | 35 | 43 | 29 |
| TOTAL OPERATING COSTS/ACRE | | 4,247 | 539 | 529 | 854 | 1,133 | 1,388 | 1,241 |
| TOTAL CASH OVERHEAD COSTS | | 290 | 290 | 290 | 288 | 290 | 290 | 290 |
| TOTAL INTEREST ON INVESTMENT | | 762 | 761 | 761 | 742 | 759 | 759 | 759 |
| TOTAL CASH COSTS/ACRE | | 5,291 | 1,590 | 1,580 | 1,884 | 2,182 | 2,437 | 2,290 |
| INCOME/ACRE FROM PRODUCTION | | 0 | 0 | 0 | 425 | 850 | 1,275 | 2,380 |
| TOTAL NET COST/ACRE FOR THE YEAR | | 5,291 | 1,59 | 1,58 | 1,45 | 1,33 | 1,16 | 0 |
| NET PROFIT/ACRE ABOVE TOTAL COST | | 0 | 0 | 0 | 0 | 0 | 0 | 89 |
| ACCUMULATED NET CASH COSTS/ACRE | | 5,291 | 6,881 | 8,461 | 9,920 | 11,252 | 12,414 | 12,325 |

Production

| | Quantity/ Acre | Unit | Price or Cost/Unit | Value or Your Cost/Acre Cost |
|-------------------------------------|-------------------|------|-----------------------|---------------------------------|
| GROSS RETURNS | | | | |
| Walnuts | 5,400 | lb | 0.85 | 4,590 |
| OPERATING COSTS | | | | |
| Custom | | | | 561 |
| Harvest Aid | | | | 20 |
| Irrigation | | | | 130 |
| Herbicide | | | | 70 |
| Rodenticide | | | | 5 |
| Fungicide | | | | 141 |
| Insecticide | | | | 116 |
| Fertilizer | | | | 100 |
| Assessment | | | | 54 |
| Labor | | | | 255 |
| Fuel | | | | 51 |
| Machinery Lube and Repair | | | | 26 |
| Interest on operating capital @ 10% | | | | 33 |
| TOTAL OPERATING COSTS/ACRE | | | | 1,561 |
| TOTAL CASH COSTS/ACRE | | | | 1,906 |
| TOTAL NON-CASH OVERHEAD COSTS/ACRE | | | | 1,326 |
| TOTAL COSTS/ACRE | | | | 3,231 |
| NET RETURNS ABOVE TOTAL COSTS | | | | 1,359 |

WALNUTS Establishment Costs

| Year: | Cost Per Acre | | | | | | |
|--|---------------|--------------|--------------|--------------|---------------|---------------|---------------|
| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
| Yield: Dry, In-Shell Pounds Per Acre | | | | 500 | 1,000 | 1,500 | 2,800 |
| Planting Costs: | | | | | | | |
| Nematode Sampling (10/100 acres) | 4 | | | | | | |
| Land Preparation: Subsoil 2X, Disk 2X, Float 2X* | 350 | | | | | | |
| Land Preparation - Fumigate (100%, untarped) | 1,500 | | | | | | |
| Land Prep-Berms | 12 | | | | | | |
| Land Prep-Weed: Preplant Strip Spray (Roundup) | 9 | | | | | | |
| Trees: 65 Per Acre @ \$16.50 ea., (2% in 2nd year) | 1,073 | | | | | | |
| Survey, Mark, Dig Holes & Plant | 138 | 4 | | | | | |
| Stake&PaintTrees | 313 | 33 | | | | | |
| TOTAL PLANTING COSTS | 3,399 | 37 | | | | | |
| Cultural Costs: | | | | | | | |
| Prune (Yrs 1-3 prune/train. Yrs 4+ prune, Yr 7- 9 prune alternate yrs) | 50 | 50 | 56 | 180 | 240 | 300 | 75 |
| Fertilizer: Nitrogen (Urea, Yr 1-2, UN32, Yr 3+) | 34 | 49 | 50 | 63 | 75 | 100 | 100 |
| Weed: Strip Spray (Prowl) | 16 | | | | | | |
| Weed: Dormant Strip (Yr 1 -2, Goal, Prowl. Yr 3+, Goal Prowl, Roundup) | 62 | 62 | 73 | 73 | 73 | 73 | 73 |
| Weed: Mow Middles 5X | 38 | 38 | 38 | 38 | 38 | 38 | 38 |
| Weed: In-Season Strip Spray (Roundup, Yrs 1, 6, 7, 1X. Yr 2-5, 2X) | 12 | 25 | 25 | 25 | 25 | 12 | 12 |
| Irrigate (water& labor) | 76 | 105 | 105 | 105 | 105 | 143 | 143 |
| Vertebrate: Gophers (Bait) | 10 | 10 | 10 | 3 | 3 | 3 | 3 |
| Insect: Caterpillar (Dipel) | 19 | 19 | 19 | | | | |
| Brush Disposal | | | 11 | 11 | 11 | 11 | 5 |
| Leaf Analysis | | | | 2 | 2 | 2 | 2 |
| Insect: Codling Moth (Lorsban) | | | | | 34 | 34 | 34 |
| Vertebrate: Squirrels (Bait) | | | | | 7 | 7 | 7 |
| Disease: Blight (Kocide, Manex) 2X | | | | | 112 | 112 | 112 |
| Insect: Miscellaneous Insects (Omite for mites) | | | | | | 50 | 50 |
| Insect: Husk Fly (Malathion, Nu Lure Bait) | | | | | | 50 | 50 |
| Pickup Use | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| ATV use | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| Miscellaneous Labor | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| PCA Services | 5 | 5 | 5 | 25 | 25 | 25 | 25 |
| TOTAL CULTURAL COSTS | 432 | 473 | 502 | 635 | 860 | 1070 | 839 |
| Harvest Costs: | | | | | | | |
| Shake, Sweep, Pickup | | | | 150 | 150 | 150 | 150 |
| HandRake | | | | 9 | 12 | 12 | 12 |
| Haul Walnuts to Dryer | | | | 4 | 8 | 11 | 21 |
| DryandHull | | | | 30 | 60 | 90 | 168 |
| California Walnut Commission Assessment | | | | 4 | 8 | 12 | 22 |
| TOTALHARVESTCOSTS | | | | 197 | 238 | 275 | 373 |
| Interest On Operating Capital @ 10.00% | 416 | 29 | 27 | 22 | 35 | 43 | 29 |
| TOTAL OPERATING COSTS/ACRE | 4,247 | 539 | 529 | 854 | 1,133 | 1,388 | 1,241 |
| Cash Overhead Costs: | | | | | | | |
| OfficeExpense | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Liability Insurance | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Sanitation Costs | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Property Taxes | 77 | 77 | 77 | 76 | 77 | 77 | 77 |
| Property Insurance | 14 | 14 | 14 | 13 | 14 | 14 | 14 |
| InvestmentRepairs | 81 | 81 | 81 | 81 | 81 | 81 | 81 |
| TOTAL CASH OVERHEAD COSTS | 290 | 290 | 290 | 288 | 290 | 290 | 290 |
| TOTAL CASH COSTS/ACRE | 4,537 | 829 | 819 | 1,142 | 1,423 | 1,678 | 1,531 |
| INCOME/ACRE FROM PRODUCTION | | | | 425 | 850 | 1,275 | 2,380 |
| NETCASHCOSTS/ACREFORTHEYEAR | 4,537 | 829 | 819 | 717 | 573 | 403 | |
| PROFIT/ACRE ABOVE CASH COSTS | | | | | | | 849 |
| ACCUMULATED NET CASH COSTS/ACRE | 4,529 | 5,358 | 6,178 | 6,897 | 7,470 | 7,874 | 7,026 |
| Non-Cash Overhead (Capital Recovery): | | | | | | | |
| Buildings | 77 | 77 | 77 | 77 | 77 | 77 | 77 |
| FuelTanks | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Shop/Field Tools | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| SprinklerIrrigation System | 136 | 136 | 136 | 136 | 136 | 136 | 136 |
| Land | 419 | 419 | 419 | 419 | 419 | 419 | 419 |
| Equipment | 110 | 109 | 109 | 90 | 107 | 107 | 107 |
| TOTAL INTEREST ON INVESTMENT | 762 | 761 | 761 | 742 | 759 | 759 | 759 |
| TOTALCOST/ACREFORTHEYEAR | 5,291 | 1,590 | 1,580 | 1,884 | 2,182 | 2,437 | 2,290 |
| INCOME/ACRE FROM PRODUCTION | | | | 425 | 850 | 1,275 | 2,380 |
| TOTALNETCOST/ACREFORTHEYEAR | 5,291 | 1,590 | 1,580 | 1,459 | 1,332 | 1,162 | |
| NET PROFIT/ACRE ABOVE TOTAL COST | | | | | | | 89 |
| TOTAL ACCUMULATED NET COST/ACRE | 5,291 | 6,881 | 8,461 | 9,920 | 11,252 | 12,414 | 12,325 |

*X = times (2X = two times)

WALNUTS Production Cost and Revenue

| | Quantity /Acre | Unit | Price or Cost/Unit | Value or Your Cost/Acre Cost |
|---|----------------|------|--------------------|------------------------------|
| GROSS RETURNS | | | | |
| Walnuts | 5,400.00 | lb | 0.85 | 4,590 |
| OPERATING COSTS | | | | |
| Rodenticide: | | | | |
| Gopher Getter Ag-Wilco | 0.25 | lb | 6.50 | 2 |
| Ground Squirrel Bait - Wilco | 0.60 | lb | 5.40 | 3 |
| Irrigation: | | | | |
| Water | 42.00 | acin | 3.10 | 130 |
| Fungicide: | | | | |
| Kocide 101 | 30.00 | lb | 3.62 | 109 |
| Manex | 10.86 | pt | 2.97 | 32 |
| Insecticide: | | | | |
| Lorsban 4E | 4.00 | pt | 6.29 | 25 |
| AsanaXL | 1.00 | pt | 17.33 | 17 |
| Omite30W | 5.00 | lb | 8.23 | 41 |
| Malathion 5EC | 4.00 | pt | 4.07 | 16 |
| Nu Lure Bait | 4.00 | pt | 4.08 | 16 |
| Fertilizer: | | | | |
| UN-32 | 200.00 | lbN | 0.50 | 100 |
| Harvest Aid: | | | | |
| Ethrel | 2.50 | pt | 7.81 | 20 |
| Herbicide: | | | | |
| RoundupUltraMax | 1.84 | pt | 8.58 | 16 |
| Goal 2XL | 2.50 | pt | 16.45 | 41 |
| Prowl 3.3EC | 3.13 | pt | 4.10 | 13 |
| Custom: | | | | |
| Shake, Sweep, Pickup | 1.00 | acre | 150.00 | 150 |
| Haul Walnuts | 2.70 | ton | 15.00 | 41 |
| Dry/Hull Walnuts | 5,400.00 | lb | 0.06 | 324 |
| PCA Service | 1.00 | acre | 25.00 | 25 |
| Leaf Analysis | 0.04 | each | 30.00 | 1 |
| Hedge Trees (1X/3 Yr) | 0.33 | acre | 60.00 | 20 |
| Assessment: | | | | |
| CA Walnut Commission (\$0.0079/lb) | 5,400.00 | lb | 0.01 | 54 |
| Labor (machine) | 9.30 | hrs | 16.56 | 154 |
| Labor (non-machine) | 8.16 | hrs | 12.42 | 101 |
| Fuel - Gas | 3.41 | gal | 2.80 | 10 |
| Fuel - Diesel | 17.93 | gal | 2.30 | 41 |
| Lube | | | | 8 |
| Machinery repair | | | | 18 |
| Interest on operating capital @ 10.00% | | | | 33 |
| TOTAL OPERATING COSTS/ACRE | | | | 1,561 |
| NET RETURNS ABOVE OPERATING COSTS | | | | 3,040 |
| CASH OVERHEAD COSTS: | | | | |
| Office | | | | 100 |
| Liability Insurance | | | | 7 |
| Sanitation Service | | | | 11 |
| Property Taxes | | | | 112 |
| Property Insurance | | | | 39 |
| Investment Repairs | | | | 88 |
| TOTAL CASH OVERHEAD COSTS/ACRE | | | | 357 |
| TOTAL CASH COSTS/ACRE | | | | 1,906 |
| NON-CASH OVERHEAD COSTS | | | | |
| (Capital Recovery) | | | | |
| Buildings | | | | 77 |
| Fuel Tanks | | | | 3 |
| Shop/Field Tools | | | | 17 |
| Irrigation System | | | | 136 |
| Land | | | | 419 |
| Walnut Establishment | | | | 565 |
| Equipment | | | | 109 |
| TOTAL NON-CASH OVERHEAD COSTS/ACRE | | | | 1,326 |
| TOTAL COSTS/ACRE | | | | 3,231 |
| NET RETURNS ABOVE TOTAL COSTS | | | | 1,359 |