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# ROW CROPS

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## <u>The Changing Face of Agriculture in the Lower Sacramento Valley</u>

The history of agriculture in California has been evolutionary. As technology, market and consumer conditions change, so do cropping patterns in agricultural areas that supply the market. This evolution appears to be currently occurring in the lower Sacramento Valley. Generally, decisions about what specific crops a farmer chooses to grow are dictated by the "highest value of the land", available markets/consumer demands, climatic/soil limitations and adequate financing.

A drive through "traditional" production areas in the lower Sacramento Valley dramatically illustrates the first point, using land for its highest value. Gross income per acre favors tree crops at the moment, particularly almonds. This local expansion has been caused by changing technology (improved yield, irrigation, etc.) and expanded markets (greater demand). A word of caution: consider both input costs, as well as gross returns, to arrive at a net income figure. For instance, the gross returns for rice are lower than those of tree crops, but the input costs are also considerably less.

Current, and medium-term, markets for some of the nut crops produced locally appear to be strong, with increased world consumption and US exports to meet these demands. That translates to high producer returns per acre, which have been at high levels for several years. Many of the experts say there are ample opportunities for further expansion, which will undoubtedly impact the local agricultural mix. However, unless this example "bucks-the-trend", most bubbles eventually burst!

The third factor impacting cropping choices is agricultural financing. Some farmers that would like to transition from row crops to tree crops are experiencing a bit of "sticker shock". The costs of getting a perennial crop to bearing, with little or no income for several years, can be daunting. Those farmers that are "over-extended" or have low assets are sometimes challenged by finding a sympathetic lender.

The final factor, climatic and/or soil issues are largely beyond our control. We cannot produce many vegetables or other crops that require well-drained soils and more moderate climatic conditions.

To provide a basis for further discussion, I evaluated the cropping mix for two important lower Sacramento

Valley agricultural production counties: Colusa and Sutter. The *crop trends* in these areas were of primary interest, so commodities were artificially separated into four categories: vegetable crops; tree/nut crops; rice and; agronomic crops. Five "base years" were used for comparison, at five-year intervals (1983-2003). The data is contained in the following two tables.

**TABLE 1.** **Selected crop/commodity data for Colusa County, 1983-2003. (from: Agricultural Commissioner's annual reports)**

| YEAR | CROPS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VEGETABLES[1] | | | NUT & TREE CROPS[2] | | | RICE[3] | | | AGRONOMIC[4] | | |
| | # acres | *$$[5]* | %[6] | # acres | *$$[5]* | %[6] | # acres | *$$[5]* | %[6] | # acres | *$$[5]* | %[6] |
| 1983 | **24,125** | *26.6* | **26.7** | **26,350** | *14.8* | **14.9** | **77,000** | *37.6* | **37.8** | **58,800** | *20.5* | **20.6** |
| 1988 | **26,698** | *29.5* | **19.7** | **27,320** | *31.1* | **20.8** | **115,030** | *53.5* | **35.8** | **73,062** | *23.7* | **26.5** |
| 1993 | **39,372** | *36.1* | **15.0** | **29,355** | *57.1* | **23.8** | **116,200** | *107.9* | **44.9** | **91,150** | *39.0* | **16.2** |
| 1998 | **38,276** | *65.3* | **23.1** | **31,986** | *63.4* | **22.4** | **142,720** | *119.2* | **42.2** | **34,392** | *34.7* | **12.3** |
| 2003 | **27,470** | *53.0* | **15.3** | **38,440** | *96.1* | **27.8** | **134,020** | *170.5* | **49.3** | **55,885** | *26.1* | **7.5** |

1= processing tomatoes and vegetable seed crops
2= almonds, prunes, walnuts, misc. perennial crops
3= includes seed crop
4= excludes rice and pasture
5= in million dollars
6= percent of the four categories listed

**TABLE 2.** **Selected crop/commodity data for Sutter County, 1983-2003. (from: Agricultural Commissioner's annual reports)**

| YEAR | CROPS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VEGETABLES[1] | | | NUT & TREE CROPS[2] | | | RICE[3] | | | AGRONOMIC[4] | | |
| | # acres | *$$[5]* | %[6] | # acres | *$$[5]* | %[6] | # acres | *$$[5]* | %[6] | # acres | *$$[5]* | %[6] |
| 1983 | **26,725** | *36.5* | **21.4** | **44,182** | *52.4* | **30.7** | **63,068** | *39.2* | **23.0** | **136,652** | *42.4* | **24.9** |
| 1988 | **23,752** | *31.3* | **17.9** | **45,294** | *78.8* | **45.1** | **74,642** | *33.8* | **19.4** | **80,316** | *30.8* | **17.6** |
| 1993 | **31,142** | *42.6* | **16.0** | **57,097** | *120.0* | **45.0** | **87,896** | *71.8* | **27.0** | **78,765** | *32.2* | **12.1** |
| 1998 | **26,697** | *41.0* | **17.0** | **51,011** | *84.5* | **35.1** | **97,752** | *85.4* | **35.5** | **76,190** | *29.7* | **12.4** |
| 2003 | **12,763** | *21.5* | **7.8** | **55,253** | *96.4* | **34.9** | **99,240** | *132.5* | **48.0** | **69,350** | *25.7* | **9.3** |

1= includes vegetable seed crops
2= all perennial crops
3= includes seed crops
4= excludes rice and pasture
5= in million dollars
6= percent of the four categories listed

**Discussion:** For ease of discussion, the two counties will be discussed separately, with comments pulling common themes together at the conclusion.

***Colusa*** - vegetable crop value, as a percentage of the total amount, has decreased by roughly half over the past twenty years. The acreage grown is approximately the same, which indicates vegetable crop returns have not kept pace with competing crop increases. That would appear to be the case, as the contract price for processing tomatoes remains unchanged from 20 years ago, although large increases in fruit yields have partially defused that impact. The other major vegetable crop grown in Colusa, cucurbit seeds, has deceased in acreage due to industry shifts to hybrid seed (less demand) and offshore competition. While we may enjoy a modest growth in processing tomato acreage, significant increases are unlikely. The health of the Colusa processing industry is tied to international situations, often beyond our control. The vegetable seed industry is showing modest growth, at the moment, but has limited opportunities for growth.

The "star performer" over the past two decades is tree crops. Although acreage only increased about 50 percent, the share of the total crop value almost doubled. With high current grower returns for almonds, and some industry experts saying they can profitably market a significantly larger crop, many row crop acres are being planted to almonds. There has been increased interest in growing walnuts on poorer soils in the west side, as technology to permit this activity was developed at the Nickels Estate research facility in Arbuckle. The prune crop, like that statewide, is facing formidable challenges and is decreasing in size.

The other heavy-weight local crop is rice. Although the backbone of the local agricultural economy for quite a while, it really came into it's own over the past twenty years. It did not demonstrate the remarkable acreage increase/crop value ratio observed for tree crops, but makes it up with sheer numbers of acres. Rice accounted for about half of the total Colusa agricultural income in 2003. Its future health is dependent on foreign trade agreements, government grower support programs and national/international politics.

Like vegetable crops, the past two decades have not been kind to the agronomic crops. The acreage was about the same in 2003 as in 1983, but the share of the total dropped by two-thirds. This situation has been caused by: the demise of the local sugar beet industry; poor returns for dry beans, field corn, safflower or wheat and; increased competition. One bright spot on the screen is alfalfa hay. While not paying for the farm, there has been profitability in alfalfa for growers willing to provide adequate inputs.

***Sutter*** - the vegetable crop has taken a double-whammy: drastically reduced acreage *plus* a significantly smaller share of the pie. The processing tomato situation here is different than in Colusa, 25 miles west. Many processing plants formerly operating in the north state have either closed or re-located to the lower San Joaquin Valley. While Colusa is blessed by having two processing plants in Williams, there are none operating in Sutter County. Processors pay for the haul from the field to the plant and they prefer to contract as close to the receiving facility as feasible. Additionally, many Sutter production areas are infected with a soil-borne pathogen that is problematic for tomatoes and localized high water tables cause quality or other production issues. A rebound of the processing tomato industry does not seem reasonable in the near future. The melon industry has also been one that is facing increased competition and decreasing profit margins. There is a small vegetable seed industry that is facing the same issues previously discussed.

Tree crops have shown a modest increase in both acreage and value, peaking in the late-80's/early-90's. That industry has always been important to the local agricultural economy and continues, with a third of the total agricultural income. There have been recent set-backs (prunes, canning peaches) that have been offset by increases in almonds and walnuts. It is likely that the number of acres planted to prunes and peaches will be reduced, in response to market conditions. There is a greater diversity of "minor acreage" tree crops than in Colusa, which adds to the sector value. There are a number of public researchers, working in collaboration with industry groups, addressing the important problems facing the prune and peach industries and, hopefully, helping keep them viable.

Again, we see the value of rice to lower Sacramento Valley economies. Rice acreage increased fifty percent and percent of crop value increased 100 percent. As in Colusa, rice represents about half of the value of the four crop groups evaluated. The same issues and factors previously discussed apply.

Agronomic crops, minus rice, have decreased in value here too. They currently represent less than ten percent of the total value. See the discussion in the Colusa section.

**Conclusions:** Vegetables and agronomic crops will continue to decrease in importance locally, as nut/tree crops occupy more of the landscape. If government policies and other conditions are favorable, rice will continue to be the dominant crop and clearly the foundation of local agricultural economies.

This transition, by itself, is neither good nor bad. It has been repeated many times before in many locations. The "good news" is the general health of the agricultural sectors in both counties evaluated. The agricultural income in Colusa grew by 250 percent between 1983 and 2003, while Sutter increased over one hundred percent during the same period. There are some who question the viability of agriculture in California. There is ample justification for this pessimism, as we look at the increasing population, increased demands on resources, regulations, etc. This issue was addressed nicely by Johnston and McCalla, in a recent article in 'Update' (a UC publication from the Giannini Foundation). Both authors are agricultural economists with many years experience in California agriculture. The article, 'California Agriculture in the 21st Century', concludes: "….Undoubtedly, California agriculture in 2020 or 2050 will be very different than it is now, but it will still maintain its viability, though experiencing, as its fate, chronic and sometimes powerful adjustment pressures. Those forecasting its demise simply do not understand its natural and human assets nor do they acknowledge the dynamic resilience of California agriculture".

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