



***Lychee
Technical Assistance
Curriculum***

By

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Trade Adjustment Assistance Program



What is Trade Adjustment Assistance (TAA) for Farmers and Fishermen

The Trade Act of 1974, as amended by the Trade Act of 2002, established Trade Adjustment Assistance (TAA) for Farmers. The Trade Act of 1974 was created by Congress to provide business owners and their employees relief from hardships created by foreign import competition.

The purpose of TAA for Farmers is to help agricultural producers and fishermen adjust to import competition. The amended program provides technical assistance and cash benefits to eligible farmers and fishermen from the U.S. Department of Agriculture (USDA), and access to Department of Labor (DOL) retraining and education programs.

Traditional TAA has provided technical assistance and labor retraining services to non-agricultural businesses and employees. TAA for farmers expands the benefits to include:

- Technical assistance from the Extension Service to assist producers and fishermen in exploring alternative commodities, marketing opportunities, and alternative enterprises.
- A cash payment of up to \$10,000 depending on the amount of product you harvested.
- Retraining and education to help producers and fishermen transition to a different career, including tuition for up to 104 weeks of full-time classroom education.

Establishing a Commodity's Eligibility for TAA

Commodities must be certified as eligible for TAA before individual producers can apply for benefits. The eligibility criteria for a commodity are:

- Average price of the commodity in the most recent 12 months must be less than 80% of the average price over the past 5 years in which data is available.
- Imports of directly competing products must have increased during the most recent 12 month period.
- Increase in imports must have “contributed importantly” to the price decrease.

Petitions to seek TAA eligibility may be filed by a group of agricultural producers or their representatives (grower groups) with USDA's Foreign Agricultural Service (FAS).

The TAA petition form is available at www.fas.usda.gov/itp/taa/FAS0930.pdf or may be requested by phone at (202) 720-2916 or by e-mail at trade.adjustment@fas.usda.gov. Petitions may be made on behalf of a state, region or the nation as a whole.

FAS does an initial eligibility screen. If the petition meets basic requirements, the information is posted in the Federal Register and FAS must announce the determination regarding a commodity's eligibility within 40 days of posting in the Federal Register.

Applying for Individual Producer or Fishermen TAA Benefits

Producer or fishermen are eligible to apply for TAA benefits once a commodity petition has been certified and if:

- They are an owner, operator, landlord, tenant, sharecropper, or fisherman who is entitled to a share of the commodity available for marketing from the farm or fishing operation.
- They harvested the commodity in the year for which TAA eligibility has been established.

Applying for Cash Benefits

Application must be made at a USDA Farm Service Agency (FSA) office within 90 days after the commodity has been certified as eligible for TAA. The application form is available at http://forms.sc.egov.usda.gov/eforms/Forms/FSA0229_030923V01.pdf or at local FSA offices. Information regarding the location of local FSA office is available at http://oip.usda.gov/scripts/ndisapi.dll/oip_agency/index?state=us&agency=fsa. After an application has been submitted the applicant has until September 30 of the current year to submit the following documentation:

- Certification that technical assistance has been received from the Extension Service.
- Acceptable production documentation for the commodity.
- Evidence that net income was less than the last year in which no adjustment assistance was received.
- Proof that average gross revenue was less than \$2.5M for preceding 3 years.

Applying for Technical Assistance Benefits

Technical assistance at no cost will be widely available through the Extension Service. Technical assistance must be completed within 180 days after the commodity has been certified as eligible for TAA. Sources for technical assistance are listed at <http://www.agrisk.umn.edu/taa/> or can be obtained by contacting one of the four regional TAA centers:

Western Region	Washington State University	(800) 477-4012
Southern Region	Texas A&M University	(254) 968-4144
Northeast Region	University of Delaware	(302) 831-6540
North Central Region	University of Nebraska	(402) 472-2039

Technical assistance will help producers and fishermen evaluate opportunities to improve production efficiencies, alternative or improved marketing, and alternative enterprises potentially suitable for the geographic area.

Applying for Retraining and Education Benefits

To apply for Department of Labor retraining and education benefits contact your state department of labor. Links to your state department of labor TAA coordinators are available at <http://www.doleta.gov/tradeact/contacts.cfm>. The national Department of Labor TAA site is <http://www.doleta.gov/tradeact>.

The Department of Labor provides TAA employment counseling, case assessment, job development, and self-directed job search services. Education assistance (Trade Readjustment Allowances) pay tuition and travel for up to 104 weeks of full-time education including classroom training, on-the-job training, and employer –based training.

Deadlines to Apply for Benefits

Application for cash benefits must be made at with FSA within 90 days after FAS announces a commodity is approved for TAA.

Technical assistance must be received from the Extension Service within 180 after FAS announces a commodity is approved for TAA.

Department of Commerce Assistance

Farmers and fishermen may also qualify for assistance as business owners through the U.S. Department of Commerce. Qualified applicants may receive 50% cost sharing for projects like developing business plans, creating new marketing strategies, research and new product development, or design of marketing materials. A separate application with the Department of Commerce is required. For more information contact go to www.taacenters.org/locations.html.

To Obtain Further Information

Extension's one stop site for information on technical assistance is <http://www.agrisk.umn.edu/taa>. This site also provides links to obtaining cash benefits from FSA and retraining benefits from the Department of Labor. You can also obtain additional information at your local FSA or Extension county offices.

Alternatively you can contact the Washington, D.C. Trade Adjustment Assistance Office, Foreign Agricultural Service, at (202) 720-2916 or write to USDA, Foreign Agricultural Service, Trade Adjustment Assistance, STOP 1021, 1400 Independence Avenue, SW, Washington, DC 20250-1021, or e-mail at trade.adjustment@fas.usda.gov.

Where Am I?

- **World Trade Situation and Outlook**
- **Evaluating the Financial Viability of the Business**
- **Inventory of Resources and Talents**

World Trade Situation and Outlook



Lychee (*Litchi chinensis*) is an exotic subtropical fruit crop native to Southeast Asia. The tree is attractive, having a dense, rounded, symmetrical canopy of dark green foliage, and can grow to be very large. Lychee is an excellent fresh fruit with a pleasant, sweet flavor. The fruit is small, round to oval, and borne in loose clusters. When the fruit are ripe, the leathery skin develops an attractive pinkish to red color.

The fruit is grown commercially in many subtropical areas such as Israel, Australia, Thailand, Taiwan, India, Vietnam, parts of Africa, and at higher elevations in Mexico and Central and South America. World production of lychee is estimated to be around 2.11 million tons with more than 95 percent of the world cultivation occurring in Asia. Total production in the Southern Hemisphere (mainly Africa, Madagascar, and Australia) is about 50,000 tons. A relatively small amount is produced in the United States and in

Mexico, Central and South America. The top five world lychee producing countries are China, India, Taiwan, Thailand, and Vietnam. The production season in the northern hemisphere extends from about April to mid-August and in the southern hemisphere from November to February.

Lychee originated in southern *China*, which is its largest world producer. Current production covers approximately 1,482,626 acres, over 60 percent of which have been developed in the past 10 years. Total annual Chinese production of the fruit is 1.5 million tons in “good” years and about 0.6 million in “bad” years. Yields are relatively low even in the “good” years, averaging about one ton per acre. The production season extends from mid-May to mid-August.

India is the second largest producer, producing approximately 500,000 tons of lychee annually on 138,873 acres. Productivity here is relatively high compared to other growing regions and averages about 3.1 tons per acre. Because cultivation occurs over a wide range of climates, the production period extends from the first week of May to the first week of July.

Taiwan is the third largest producer. The cultivation of lychee peaked in 1988 at over 37,067 acres, but since then has declined to about 29,653 acres. Approximately 100,000 tons of lychee is produced annually, with more than 90 percent being sold on the domestic market. The production period in Taiwan extends from June to August, due mainly to the many different varieties being grown.



Thailand, the fourth largest producer, has an estimated annual output of 85,000 tons from 54,857 acres. Lychee production occurs mainly in the northern region of the country in the provinces of Chiang Mai and Chiang Rai. The fruit harvesting season runs from April to June.

Rounding off the top five major world lychee-producing countries is *Vietnam*. Annual production is estimated at about 50,000 tons from 87,356 acres. Production occurs in the northern region of the country. Lychee is considered a major crop in Vietnam, with commercial production increasing quite rapidly. Harvesting of the fruit extends from May to June. Approximately three-fourths of the production is consumed domestically.

Other notable producers include South Africa (which has increased its production of lychee from 3,707 acres in 1991 to almost 7,413 acres in 2001 and exports 1,500 to 4,000 tons annually to Europe) and Australia (which produces 5,000 tons annually, mainly from commercial growers in Queensland). Mexico currently has an estimated 2,780 acres with acreage and production increasing rapidly. The United States is considered a relatively small producer with a total production of about 433 tons annually from 1,535 acres. U.S. production occurs in Florida (1,201 acres), Hawaii (304 acres), and California (30 acres),

with Florida being the main producing area. The crop is marketed domestically and consumption outstrips demand.

International Trade¹

For the lychee market, less than five percent of the world's production, or approximately 100,000 tons, enters into world trade on an annual basis. The fresh fruit market dominates the trade, followed by dried and canned fruit. The main importing countries are the European Union, the United States, Hong Kong, Singapore, Japan, and Canada. The main exporting countries are China, Taiwan, Thailand, Madagascar, South Africa, Mexico (most of it sent to California) and Australia.

Volumes imported by the European Union have been increasing mainly because of increased demand in France. Of the 22,625 tons imported by the European Union, France accounted for almost half, while the rest was distributed mainly to Germany and the United Kingdom. The main suppliers of the EU market are Madagascar, at approximately 80 percent of the market shares, and South Africa, at 12.6 percent. The balance of the market is supplied by Australia, Thailand, India, China, and Taiwan. Hong Kong and Singapore import about 13.5 thousand tons of lychee from China and Taiwan during June and July.

In China, lychee is sold as fresh, dried, or processed. Fruit can be dried in the sun or in ovens, with good flavor retention. Most of the dried fruit are sold locally, with some exported to other countries in the region. Processing is less important; only 2,500 tons are sold as canned, frozen, or fermented each year. Frozen and canned fruit are mainly sold to the United States, Japan, the Republic of Korea, and Australia. "Haak Yip" and "Wai Chee" are the main cultivars used for canning lychee. China shares in the Hong Kong and Singapore markets and exports 15,000 tons per year (two percent of its total production). Taiwan also exports to these countries, as well as to the Philippines (2,000 tons), Japan (1,000 tons), Singapore (500 tons), the United States (1,200 tons), and Canada (1,000 tons). Exports to Europe are virtually non-existent.



About 70 percent of the crop in Vietnam is sold in local markets, and the remainder is exported to China, Hong Kong, and Europe. Most of the crop is sold as fresh fruit; the rest is sold as dried, canned, or juiced.

¹ Because of the general unavailability of trade data on lychee, most of the information presented in this section was borrowed from Gosh, S. P. World trade in lychee: Past, present, and future. *Acta Horticulturae* 558(2001):23–30.

Thailand also has a significant export industry. Exports to Malaysia and Singapore are shipped by land, while exports to Hong Kong and Europe are shipped by air. Hong Kong mainly imports fresh lychee (9,000 tons), while Malaysia and the United States import canned fruit (6,000 tons). The total volume is 25,000 tons, worth \$40 million. Overall, 10 to 20 percent of Thailand's lychee market is exported. Thailand has an advantage in the world marketplace because it produces fruit earlier than China or India.

The Philippines is a net importer, with the volume it imports increasing by eight percent annually. Its current trade is 1,500 tons, worth \$500,000.

Although India is the second largest lychee producer after China, with over 500,000 tons in a good year, most of its crop is sold locally (there has been little interest in exports until fairly recently). The development of marketing cooperatives and improvements in the post-harvest technology are assisting exports to the Middle East.

The Australian lychee industry is relatively small by international standards, but has a strong export focus. About 30 percent of the crop is exported to Hong Kong, Singapore, Europe, the Pacific region, and several Arab states. Marketing groups were established in the early 1990s in the major growing areas, and they now export half of their production. These groups have a strong commitment to grade standards, post-harvest treatment, and quality assurance.

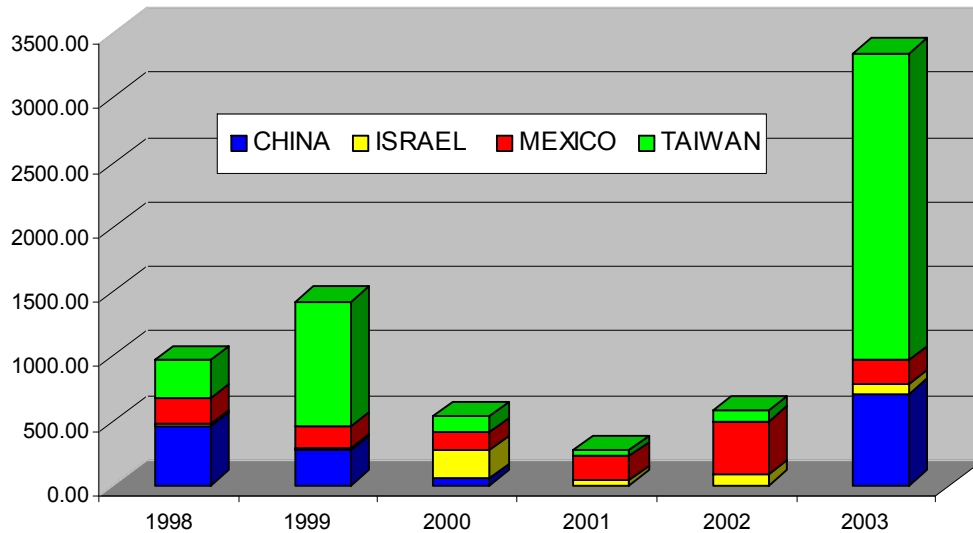
Australia faces strong competition from South Africa, Israel, and Madagascar in the European market, which is 30,000 tons during peak production in the Southern Hemisphere from December to January. However, Australia has an advantage in the market because it ships fruit fresh by air. The bulk of the lychee crop from Africa until fairly recently was shipped in reefer containers after being treated with sulfur dioxide. The average return to Australian growers after transport and other costs have been deducted is \$6.60 per pound. Within Australia, nearly all the crop is sold fresh, with processing virtually non-existent. In fact, canned and frozen fruit are imported from Asia.

Most markets prefer large, highly colored fruit, with sweet flesh and small seeds. Cultivars with a unique flavor, firm flesh, and a high proportion of chicken-tongue seeds are highly sought after in Asia, whereas the markets in Europe, the Pacific region, and North America are less discerning. There are some concerns about sulfur residues from fumigated fruit, especially in Europe, prompting this technology to be phased out. (A small percentage of humans are allergic to sulfur and it is illegal in the US.) There are also barriers to exports into Japan and the United States from some countries, such as Australia, because of quarantine issues associated with fruit flies.

The Food and Agriculture Organization (FAO) of the United Nations has developed CODEX standards for exports of fresh lychee. Mature fruit should have a predominantly red skin, with only a small area of green allowed. The diameter of the fruit should be larger than .78 inches for second-class or standard fruit, and larger than 1.30 inches for extra-class fruit. The total soluble solids content should be greater than 18 percent. The residue for sulfur in the flesh should not exceed 10 milligrams per kilogram.

The demand for fresh lychee in the United States has increased considerably within recent years. This has been due in part to increases in the Asian ethnic populations in the United States and to health-conscious consumers who purchase fruit in specialty stores (Fig. 1). In the past, the demand was mainly for frozen and canned fruit, but the demand for fresh fruit has increased substantially. The main lychee suppliers to the United States are Taiwan, Mexico, China and Israel. In recent years lychee production in the United States has been facing heavy competition. Between 1998 and 2003 imports of lychee grew from 967.9 tons to 3,345.8 tons. The bulk of the increase was due to imports from Taiwan. In 2002, Taiwan doubled its exports to the United States and has overtaken Mexico as the main supplier to the U.S. market. Then in 2003 Taiwan increased exports to an all time high of 2,373 ton or 70 percent of US total imports. The considerable increase has caused US domestic price for lychee to plunge to levels not seen previously.

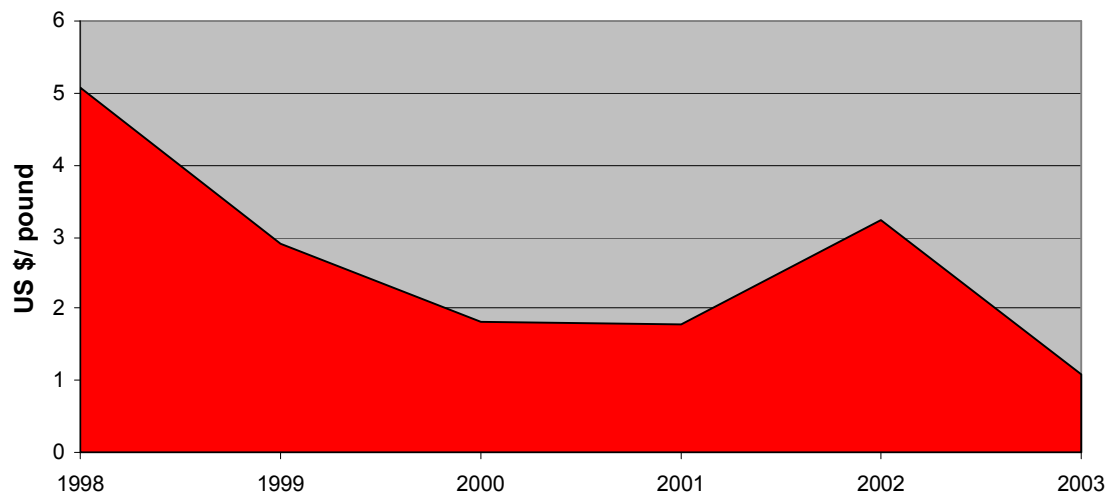
Fig. 1. U.S. Imports of Lychee, 1998 – 2003 (tons)



Farm Gate and Wholesale Prices

Apart from a slight recovery in 2002, farm gate prices trended steadily downwards over the period 1998 – 2003 (Fig. 2). From a high of \$5.07 per pound received by the growers in 1998, prices have fallen to approximately \$1.08 in 2003 or by 78.7 percent.

Fig. 2. U.S. Domestic Farm Gate Prices for Lychee, 1998-2003



The biggest decline in prices was recorded in 2003, with growers receiving a price that was only 33.4 percent of the price received in the previous year and 36.4 percent of the previous five-year average price of \$2.96 per pound. As noted earlier, the sharp decline in price has been attributed to the surge of imports of lychee from Taiwan and to a lesser extent Mexico. Although imports from Taiwan should stabilize at current levels, US domestic farm gate prices are expected to remain weak in the foreseeable future.

Daily Market News reports by the Agriculture Marketing Service of the United States Department of Agriculture are the only official sources of current price data for fresh lychees. The Market News reports reflect the daily wholesale terminal market prices of many domestically grown or imported fresh fruits and vegetables in different cities in the United States. When lychees are available in terminal markets, either grown in Florida or imported, their prices are reported.

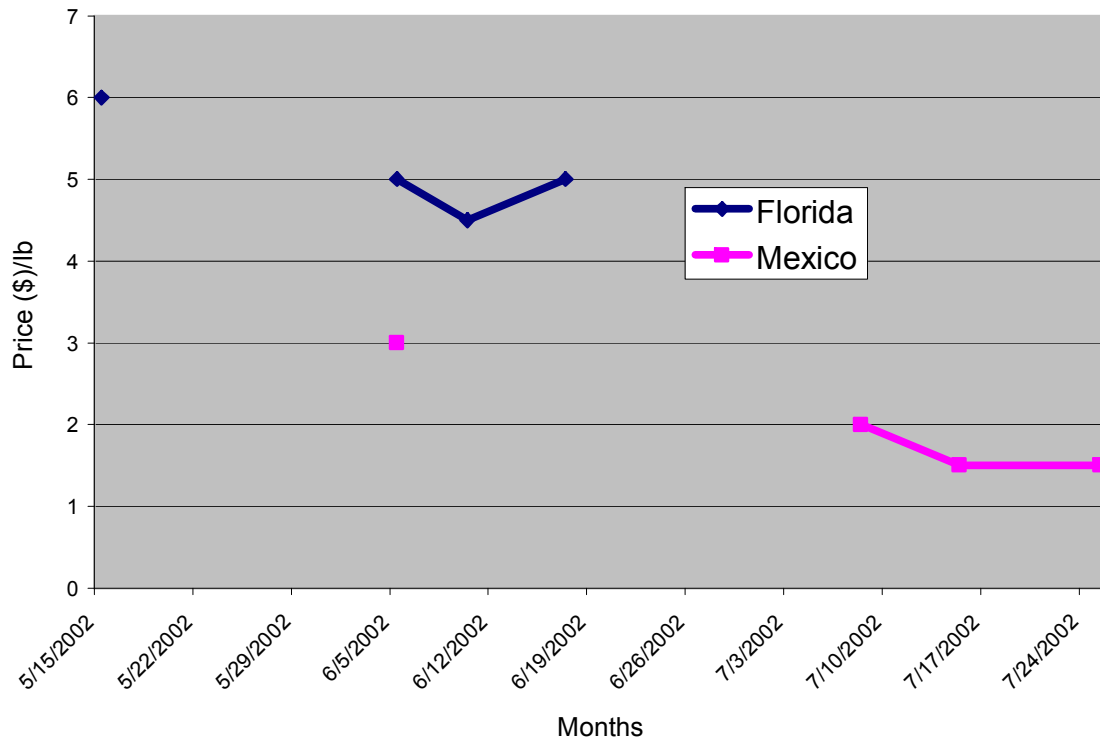
Florida-grown lychee fruit is only available during the months of June-July. Imported lychees from Mexico, Taiwan and Israel are available during other months of the year. Florida-grown and imported lychees are sold in different markets around the country. However, large volumes of lychees are sold in the New York and Los Angeles terminal markets where there are large concentrations of Asian Americans.

Lychee growers in South Florida need price information in different markets to help them obtain highest possible prices. To achieve this, the daily Market News prices of lychee in the Los Angeles and New York terminal markets during the 2002-2003 seasons were obtained. One day in each week was chosen and the price for that day was used to represent the price for the entire week. If the price changed drastically during a given week, then more than one price was used for that week.

The prices for Florida-grown and imported lychees from Mexico, Taiwan, and Israel for both New York and Los Angeles terminal markets for various months in 2002 and 2003 are shown in Figures 3 - 6.

The year 2002 was a good year for lychee growers in Florida. The price for Florida-grown lychees in the New York terminal market was \$6.00 per pound in mid-May and remained high until mid-June, when prices dropped to the \$4.50 to \$5.00 range. Mexican lychees were available in the month of July at considerably lower prices, in the \$1.80 to \$2.00 range (Fig. 3).

Fig 3. Wholesale prices for Florida-grown and imported lychees in the New York terminal market, 2002.



In the 2002 lychee season, prices for Florida-grown lychees were not reported in the Los Angeles terminal market. Lychees from Taiwan were available from mid-June to late August. Prices of Taiwan-produced lychees were \$3.50 per pound in mid-June, but quickly dropped to the \$1.50 to \$2.00 range. From mid-July through mid-August, Mexican lychees sold for slightly more than those from Taiwan. (Fig. 4).

Fig. 4. Wholesale prices for imported lychees in the Los Angeles terminal market, 2002.

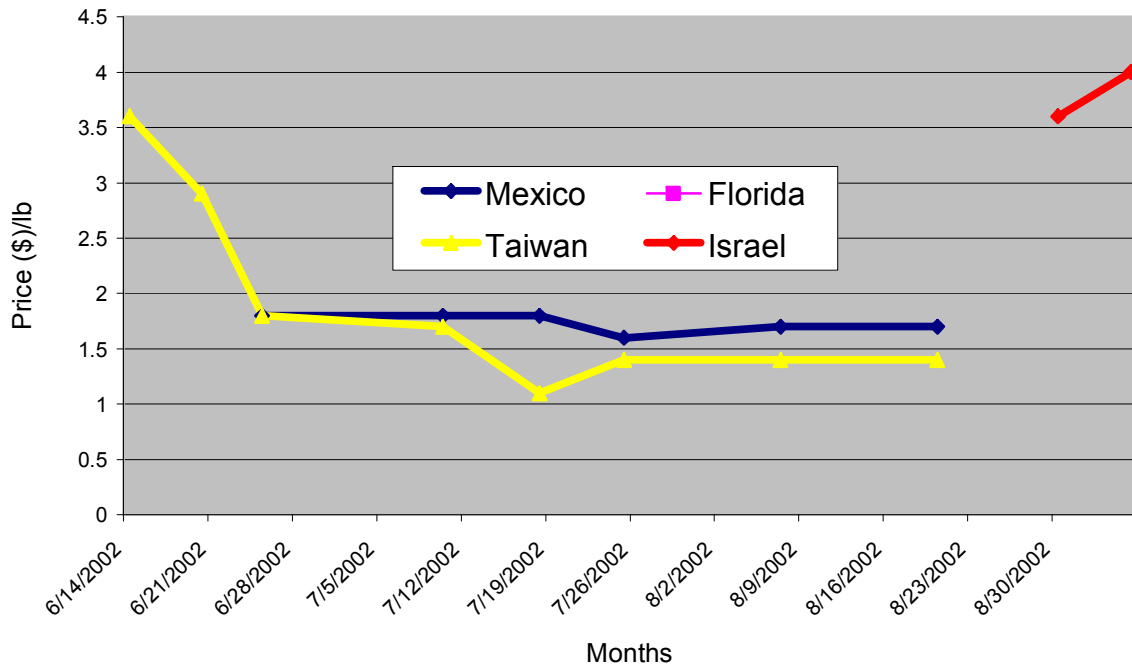
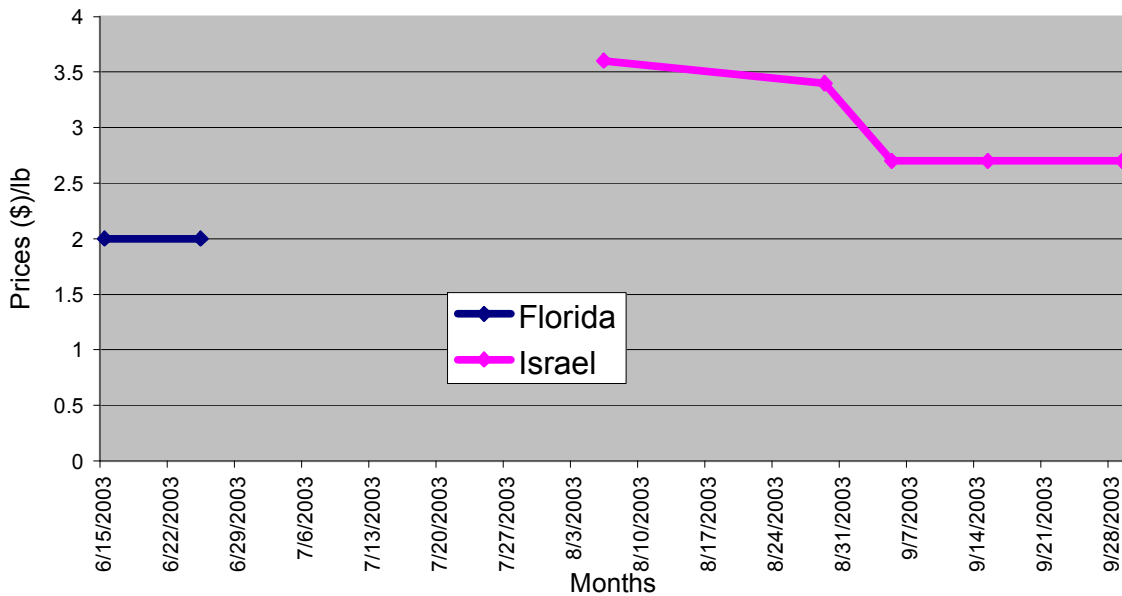


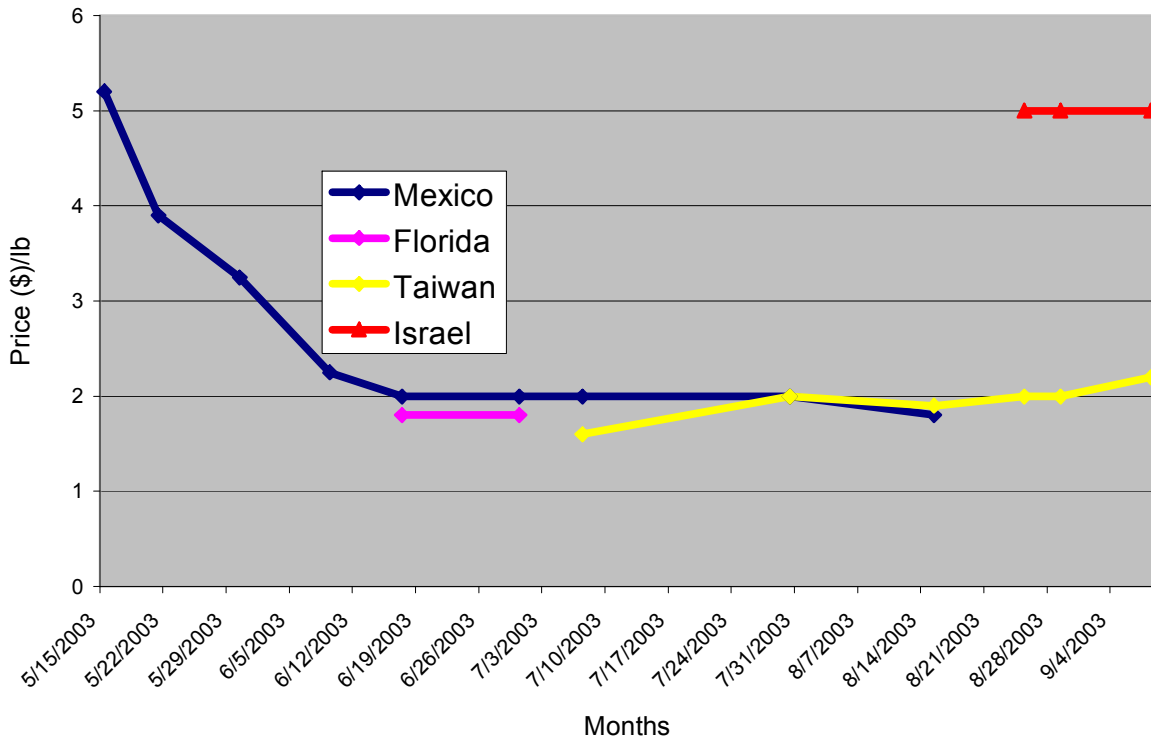
Fig 5. Wholesale prices for Florida-grown and imported lychees in the New York terminal market, 2003.



In the 2003 season, Florida-grown lychees were sold from mid-June to the end of June at the New York terminal markets. The prices for the Florida-grown lychees were reported at \$2.00 per pound. Israeli lychees were available at the New York terminal market from early August to late September, and over the course of this period prices averaged about \$3.00 per pound (Fig. 5).

In the 2003 lychee season, Florida lychees were available in the Los Angeles terminal market on June 17 through June 30. Mexican lychees were present in the market from mid-May to late July. In the month of May, Mexican lychee was sold \$5.00-3.25/lb. By mid-June when Florida lychees were available in the Los Angeles market, prices for both Florida and Mexican lychees were approximately \$2.00 per pound. Taiwan-grown lychees were available from early July through mid-September, and they were priced at about \$2.00 per pound as well. Israeli lychees were in the market in late August and early September, and sold for \$5.00 per pound for the entire period (Fig. 6).

Fig. 6. Wholesale prices for Florida-grown and imported lychees in the Los Angeles terminal market, 2003.





In the Los Angeles Market:

- Florida and Mexican lychees were sold as 10 lb cartons.
- Taiwan fruits were reported as 14 lb cartons.
- Israeli fruits were reported as 4.4 lb cartons.

In the New York Market:

- Mexican fruits were reported as 10 lb cartons.
- Florida fruits were reported as both 10 lb and 5 lb cartons.

Evaluating the Financial Viability of the Business



Just as it is important to construct a new building on a strong foundation, it is important to build the economic future of your business on a sound financial base. Evaluating the financial viability of your business will help you understand the financial strengths and weaknesses of your business position. With knowledge of your financial situation you are in a better position to respond to current economic forces within the industry.

There are three major financial objectives that businesses usually monitor to track their financial performance:

- Solvency to track changes in the net worth of the business;
- Profitability to monitor the earnings of the business; and
- Liquidity to estimate cash flow available for short term payments.

Solvency

Solvency analysis compares the capital (assets) invested in the business with the sources of capital, debt and equity. In almost every business, one of the primary goals is to grow net worth or equity over time. In periods of low profits, a strong equity position helps the business survive and may also provide the borrowing capacity needed to make business adjustments.

The balance sheet is the financial tool used to evaluate solvency. It provides the foundation for all of the remaining financial analysis. It is very difficult to evaluate where you are and what resources you have available for adjusting to economic forces without an accurate balance sheet.

If you do not have a current balance sheet, you may be able to get a copy from your lender. Otherwise, you can build one from scratch. There is a set of financial statement forms at the end of this section that includes a balance sheet format. It is available in PDF format at <http://www.extension.iastate.edu/Publications/FM1824.pdf>. Other possible sources include:

- FINPACK Farm Financial Software, available through many local Extension offices.
- Assessing and Improving Your Farm Solvency, <http://www.agnr.umd.edu/MCE/Publications/PDFs/FS540.pdf>

Asset Valuation

It is becoming more and more common for agricultural balance sheets to include Cost and Market valuations for capital assets.

- Cost – capital assets are valued at their original purchase cost less depreciation. Cost value balance sheets are most useful in evaluating year to year progress.
- Market – capital assets are valued at their estimated current market value. This is most useful in evaluating the financial soundness of the business and borrowing capacity.

Market value balance sheets are still the standard used by most agricultural lenders. For the purpose of this analysis, it is probably most useful to value assets at their conservative market value net of selling costs.

Measuring Solvency

The Debt to Asset Ratio is the most common measure used to evaluate business solvency.

$$\text{Debt to Asset Ratio} = (\text{Total Liabilities} / \text{Total Assets}) * 100$$

Simple rules of thumb for evaluating solvency (Debt to Asset) position are:

Strong	Under 30 %
Caution	30 to 60 %
Vulnerable	Over 60 %

Businesses that are in a **Strong** solvency position have a firm foundation upon which to build or change their operations. They may be experiencing profitability or cash flow problems because of the current economic situation, but their financial position should open up doors to alternatives and borrowing capacity that allow them to survive and adjust to more profitable strategies.

Businesses whose debt to asset ratio raises the **Caution** flag need to do some serious financial planning to assure, as much as possible, that their net worth position is not going to continue to erode. If so, they need to look at their options. Their lender should still be willing to work with them but may not be willing to lend enough money to make major changes in facilities or equipment. In the worst case, they may need to consider exiting the business while there is still substantial net worth left.

Businesses in a **Vulnerable** solvency position have limited ability to borrow additional funds. They need to look at options that improve net worth growth without investing more money in the business. Some examples might include using existing facilities more fully and/or improving operating efficiencies. Other options could include adding non-farm income and reducing family living costs.

Profitability

Profitability analysis involves analyzing how much money the business is making. Profitability is measured using an Income Statement. Most non-farm businesses are required to complete an accrual income statement for tax purposes so it is relatively easy to evaluate their profitability.

Farmers and ranchers, unless they are very large, are not required to do accrual accounting for tax purposes. While cash accounting provides flexibility for tax management, it leaves agricultural producers in a position of evaluating their profitability based on a system whose general purpose is to reduce income. Therefore, for many growers, tax statements do not provide a reliable source of information for evaluating farm business profitability.

Accrual Adjusted Income Statement

An accrual adjusted income statement adjusts the cash income and expenses reported for tax purposes for changes in inventories of crops, growing livestock, and assets that would have been included in taxable income had they been sold during the period covered. It also adjusts for changes on prepaid expenses, accounts payable and other items that would have been recorded as expenses had they been paid.

The set of financial statements included at the end of this section includes an accrual adjusted income statement format. The FINPACK Farm Financial Software, available through many local Extension offices, also includes a tool to calculate accrual net farm income.

Using Schedule F Tax Statements

It may be impossible to complete an accurate accrual adjusted income statement. In that case, the only option may be to use tax information. If so, it is recommended that you use the average net farm income from several years' Schedule F tax forms. In theory, the average of the net income from three or more year's taxes will wash out the effects of year-to-year inventory changes. Livestock producers should add the income from sales of raised cull breeding livestock to the Schedule F net income.

The bottom line of the income statement, Net Farm Income, is the amount of money the business contributed during the period for owner withdrawals for family living and taxes. If, over a period of time, net farm income is not enough to cover owner withdrawals, other sources of income will be needed or net worth will decline.

Measuring Profitability

The most common measure of profitability is the Rate of Return on Assets (ROA).

$$\text{ROA} = \frac{\text{Net Farm Income} + \text{Interest Expense} - \text{Value of Unpaid Labor \& Management}}{\text{Total Farm Assets}}$$

Value of Unpaid Labor and Management is an estimate of the amount of income unpaid farm operators could have earned from off-farm employment.

Rate of Return on Assets can be directly related to interest rates. The goal when borrowing capital is to earn a higher return than the interest rates being paid. Businesses with low debt to asset ratios can operate with a lower ROA because they are paying interest charges on a smaller portion of their assets.

Business profitability can vary a great deal from one period to the next. Managers should take care when basing decisions on results from only one period. With that in mind, some simple rules of thumb for evaluating your Rate of Return on Assets are:

Strong	Over 8 %
Caution	3 to 8 %
Vulnerable	Under 3 %

A **Strong** ROA indicates that the business is operating efficiently. If there are cash flow problems, it may be that the business is not large enough to support the number of people or families drawing from it. Or it may be that there is too much short-term debt placing undue pressure on cash flows. In that case, maybe debt repayment schedules can be restructured.

If the ROA raises the **Caution** flag, take a closer look at business efficiencies. Are there adjustments that could be made to control costs, improve marketing, or use facilities and equipment more intensively?

For businesses where the ROA analysis comes up **Vulnerable**, managers need to dig deeper to try to figure out why the business was not profitable. It is human nature to blame problems on factors beyond management control, like foreign competition. The management challenge is to position the business so that it can react to those outside forces.

Liquidity

Liquidity deals with how much cash the business could convert or generate in the short term, usually one year, to meet financial obligations. Holding inventories of cash and liquid assets is a risk management strategy to cushion the business from short-term financial downturns. Unfortunately, cash flow pressures often prevent businesses from

holding liquid assets. And even if they can, it is difficult to invest those liquid assets in places that yield a high rate of return. So there is often a conflict between liquidity and profitability.

The Cash Flow Statement is the most common tool for analyzing the liquidity of your business. It can be either a summary of sources and uses of cash from the past period or a projection of cash flows for the future. Many agricultural lenders require a cash flow projection as part of any credit application.

The set of financial statements included at the end of this section includes a cash flow statement. Other sources of projected cash flow formats include:

- FINPACK Farm Financial Software, available through many local Extension offices
- Cash Flow Projection and Operating Loan Determination, <http://www.oznet.ksu.edu/library/agec2/mf275a.pdf>

Measuring Liquidity

The most common measure of liquidity is the Current Ratio. It is useful for businesses that have substantial current assets. Businesses with limited current assets have little liquidity no matter what the current ratio says.

$$\text{Current Ratio} = \frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

Simple rules of thumb for evaluating your Current Ratio:

Strong	Over 1.75
Caution	1.1 to 1.75
Vulnerable	Under 1.1

Businesses with a **Strong** Current Ratio have established a healthy risk management cushion for difficult economic times. Their challenge is to make sure they are earning a reasonable return on their liquid assets.

If the Current Ratio raises the **Caution** flag, management needs to monitor cash flows carefully. A low current ratio will not make the business unprofitable but it might make it difficult to take advantage of opportunities as they arise.

Businesses with a **Vulnerable** Current Ratio are in a precarious position. Businesses don't usually go out of business because they lose all their net worth; they go out because they can't pay their bills. Businesses that fall in this category need to take immediate action. First, determine if there is a profitability problem, a solvency problem, or are owner withdrawals putting too much strain on the business. Maybe adding non-farm income is an option. Operators in this position should work very closely with financial

advisors, creditors and others to craft a plan that will get their operation back on the road to financial security.

Adding Up the Evidence

Financial analysis is a diagnostic, but not necessarily a prescriptive process. In other words, it may reveal a problem, but it may not point to a specific solution. The remainder of the resources available through this site will help business managers dig deeper into their operations to look for adjustments and creative options for their individual situations. Producers who understand ‘Where Am I?’ financially are in a much better position to evaluate alternatives for generating more income, controlling costs, and improving their bottom line.

Developed by Dale Nordquist, Center for Farm Financial Management, University of Minnesota

Balance Sheet

Name _____

Date _____

FARM ASSETS	Cost Value	Market Value	FARM LIABILITIES	Market Value
Checking and Savings Accounts			Accounts payable	
			Farm taxes due	
			Short-term notes and credit lines	
Crops held for sale or feed			Accrued interest - short	
Invest in growing crops			- intermediate	
Commercial feed on hand			- long-term	
Prepaid expenses			Due in 12 mo. - intermediate	
Market livestock			- long-term	
Supplies on hand			Other	
Accounts receivable				
Other				
Total Current Assets			Total Current Liabilities	
Unpaid Patronage Dividends			Notes and contracts, remainder	
Breeding livestock			Other	
Time certificates				
Farm securities				
Other				
Machinery and Equipment				
Total Intermediate Assets			Total Intermediate Liabilities	
Buildings/improvements			Notes and contracts, remainder	
Farmland			Other	
Farm Securities				
Other				
Total Long-term Assets			Total Long-term Liabilities	
A. Total Farm Assets			B. Total Farm Liabilities	
Current Assets (market) Current Liabilities	=	Current ratio	Farm Net Worth, Cost Value (A - B)	
Total Liabilities Total Assets (market)	=	Debt to asset ratio	Farm Net Worth, Market Value (A - B)	

Balance Sheet (continued)

PERSONAL ASSETS		PERSONAL LIABILITIES	
Bank accounts, stocks, bonds		Credit card, charge accounts	
Automobiles, boats, etc.		Automobile loans	
Household goods, clothing		Other loans, taxes due	
Real estate		Real estate, other long-term loans	
E. Total Personal Assets		Total Personal Liabilities	
G. Total Personal Net Worth (E - F)			
H. Total Net Worth, Market Value (D + G)			

INCOME STATEMENT

Name _____

Date _____

INCOME			EXPENSES	
Cash income			Cash Expenses	
Sale of livestock bought for resale			Breeding fees	
Sales of livestock, grain, other products			Car and truck expenses	
Patronage dividends			Chemicals	
Agricultural program payments			Conservation expenses	
Crop insurance proceeds			Custom hire	
Custom hire income			Employee benefits	
Other cash income			Feed purchased	
Sales of breeding livestock			Fertilizer and lime	
A. Total Cash Income			Freight, trucking	
Income Adjustments	Ending	Beginning	Gasoline, Fuel, Oil	
Crops for sale or feed			Insurance	
Livestock held for sale			Interest paid	
Accounts receivable			Labor hired	
Unpaid patronage div.			Pension and profit-share plans	
Breeding livestock			Rent of land, buildings, equipment	
Subtotal of Adjustments	B.	C.	Repairs, maintenance	
D. Home Used Production			Seeds, plants	
E. Gross Farm Revenue (A + B - C + D)			Storage, warehousing	
F. Net Farm Income From Operations (E - M)			Supplies purchased	
Sales of farm capital assets			Taxes (farm)	
Previous cost value or new purchase			Utilities	
Cost of capital assets sold			Veterinary fees, medicine	
G. Capital Gain or Loss			Other cash expenses	
			Livestock purchased	
			I. Total Cash Expenses	

Income Statement (continued)

		Expense Adjustments	Beginning	Ending
		Investment in growing crops		
		Prepaid expenses		
		Feed and supplies on hand		
			Ending	Beginning
		Accounts payable		
		Farm taxes due		
		Accrued interest		
		Subtotal of Adjustments	J.	K.
		L. Depreciation		
H. Net Farm Income (F + G)		M. Gross Farm Expenses (I + J - K + L)		

Statement of Cash Flows

Name _____

Date _____

Cash Farm Income and Expenses		
Total Cash Income		
Total Cash Expenses		
Capital Assets		
Sales of Capital Assets		
Purchases and Net Cost of Trades		
Financing		
New Loans Received		
Principal Paid		
Nonfarm		
Nonfarm Income and Receipts		
Nonfarm Expenditures		
Cash on Hand, Farm and Nonfarm		
Beginning of Year		
End of Year		
Total		

If all cash transactions are included correctly, the totals for the two columns will be equal.

Source of financial statements: Farm Financial Statements, William Edwards, Iowa State University, <http://www.extension.iastate.edu/Publications/FM1824.pdf>

Inventory of Resources and Talents



One of the purposes of TAA Technical Assistance is to help business owners find a profitable future direction for their business. The direction you take your business will depend on several factors, including:

- What you want to do (your goals)
- What is happening within the industry, and
- The package of skills, resources, and talents you and the other stakeholders in your business can pull together to implement a change.

Your resources come in at least two forms: 1) the hard assets and financial resources that are included on your balance sheet and 2) the knowledge, interests, and abilities that you can draw on from your management team. This section will focus on these personal attributes. It will ask a series of questions that are intended not to highlight weaknesses, but rather to help you build on your strengths and avoid the pitfalls of mapping a direction for your business that does not match your skills, likes, or values.

Production and Operations Management	<u>Yes</u>	<u>No</u>
---	------------	-----------

Are your skills best suited to high volume commodity production?

- | | | |
|--|-------|-------|
| • Do you have a history of producing high yields or rates of production per unit? | _____ | _____ |
| • Are you a low cost producer? | _____ | _____ |
| • Do you stay on top of new technologies? | _____ | _____ |
| • Do you get things done on time? | _____ | _____ |
| • Is expansion an option or interest? | _____ | _____ |
| • Do you gain your competitive advantage by producing more per unit at a lower cost? | _____ | _____ |

Or, are your skills best suited to niche market or value added products?

- | | | |
|---|-------|-------|
| • Are you good at juggling multiple production schedules? | _____ | _____ |
| • Do you monitor production activities and quickly make adjustments if problems surface? | _____ | _____ |
| • Do you have a history of producing high quality products? | _____ | _____ |
| • Do you gain your competitive advantage by marketing multiple products at a high margin? | _____ | _____ |

No matter the type of operation, efficient production is important. But it may be more important for some than for others. For producers of traditional agricultural commodities, the goal is to be the lowest cost producer. If you can keep costs per unit down and produce enough volume, you can generally be successful in commodity production.

For direct marketers, value added producers, and other non-traditional operations, efficient production is still important. But product quality and efficient marketing may well be more important than producing the highest production rates at the lowest costs. The world is full of stories of companies that have been very successful just because they out-marketed the other guys. Producing these types of products takes a different mindset. You may spend more of your time outside of production activities while managing others. You will spend more time in your office and less time on your tractor. If you can be happy doing these activities and you have skills in those areas, you may want to consider a transition into this type of operation.

Marketing

Yes

No

Are your skills best suited to marketing traditional agricultural commodities?

- Would you rather be out in the field or in the production facilities than negotiating with buyers? _____
- Do you feel time on the phone is wasted time? _____
- Do you have the option to contract your production? _____
- Do you negotiate input costs? _____
- Do you lock in a profit when it is offered to you? _____

Or, do you have skills suited to marketing niche market, value added, wholesale, or retail products?

- Do you like to negotiate deals? _____
- Are you good at closing a deal? _____
- Do you know how to estimate the market for a product? _____
- Do you develop good relationships with buyers and sellers? _____
- Do you have skills in advertising and promotion? _____
- Are you good at making pricing decisions? _____
- Do you know who your competitors are? _____
- Do you target your products at a specific market? _____

Is there a market for your product? Most commodity producers have not had experience with estimating market size, target marketing, advertising and promotion, and pricing. These are skills that may be needed if you plan to move into a “niche” market or if your

plans include direct marketing or processing of farm products. Many commodity producers have the ability to move into these areas but they may need to educate themselves on the techniques. There are classes and other resources in community colleges and other institutions in most communities to help you improve these skills.

People Skills

Yes _____ No _____

Are your skills best suited to managing a sole proprietorship?

- Do you feel a need to be actively involved in all or most production activities? _____
- Would you rather be out doing than directing others? _____
- Do you feel frustrated training employees? _____
- Do you worry about others getting things done right? _____

Or, do you have the skills needed to manage multiple employees?

- Do you like to work in a team setting? _____
- Are you comfortable delegating tasks to others? _____
- Are you able to constructively criticize employees? _____
- Do you have specific hiring procedures? _____
- Do you have specific training procedures for new employees? _____
- Are you comfortable with firing employees? _____
- Do you get satisfaction out of seeing someone else succeed? _____
- Do you like to delegate production tasks to others? _____
- Are you good at training others to do production tasks? _____

Many feel that they have to grow to be competitive in today’s business world, but there are still many very successful small businesses. Moving from a business with few employees to a multiple employee business is one of the biggest challenges for most business managers (inside and outside of agriculture). Those who successfully make the transition tend to be very happy with the change. They find that they can get away with assurance that things are getting done while they are gone. They build managerial capacity in the next generation and they get a great deal of satisfaction out of seeing others grow and be successful. But not everyone has the skills to be a people manager. If you are not comfortable with your skills in this area, there are two options: 1) get help and training in personnel management; or 2) stay small and look for other ways to improve profitability.

Money Management Skills

Yes _____

No _____

Should you consider hiring accounting and financial services?

- Do you use your records only for tax purposes? _____
- Do you let accounting functions slide as long as possible? _____
- Does your lender complete your balance sheet for you? _____
- Do you place financial reports in your files without examining them? _____
- Would you rather do just about anything else but accounting? _____
- Do you lack trust in your lenders? _____

Or, do you have the skills to manage the finances of the business?

- Do you know your production costs per unit? _____
- Do you like to do your own accounting? _____
- Do you read and understand financial reports? _____
- Do you develop a financial plan at the beginning of each production or accounting cycle? _____
- Do you monitor deviations from your financial plan and make mid-term adjustments to your plans? _____
- Do you periodically analyze the financial performance of your business? _____
- Do you work well with you lenders? _____
- Do you cover risks with adequate insurance and other risk management tools? _____
- Do you know how your living costs? _____
- Do you know your net worth? _____

Financial management is an area where many agricultural producers feel least comfortable. Again, there are a lot of resources within the Extension Service and local community and technical colleges to help you improve these skills. This is also an area where you might consider hiring outside help or joining a farm management group if one is available in your area. Hiring accounting and tax services, however, may not provide you with a great deal management information. You still need to understand the reports and monitor financial performance.

Other Resources

Other resources include the physical assets you own, the other assets you can acquire through lease or other means, and the financial resources that you can access in terms of equity capital and borrowing capacity. If you are considering a major business adjustment, consider how well adapted each of these resources is to your new business plan. Is the business large enough to support you and other stakeholders? Is your land base suited to high yield and high quality production of your selected products? Are production facilities and equipment adequate? Has asset replacement been adequately considered in your financial plans? Is an adequate and well educated labor force available? These are among the questions that you should honestly answer before you commit to investing more in your business operation.

Summary of Strengths and Weaknesses

After considering the resources, talents, and interests of the operation and the management team, it may be helpful to summarize the strengths and weaknesses of the operation. The worksheet on the following page provides a framework for this summary.

Summary of Resources and Talents

Strengths	Weaknesses
Production and operations	
Marketing	
People skills	
Money management	
Other resources	

Other Publications

Checking Your Farm Business Management Skills, Farm Business Management for the 21st Century, Purdue Extension, West Lafayette, Indiana, by Michael Boehlje, Craig Dobbins, and Alan Miller.

Are Your Farm Business Management Skills Ready for the 21st Century?, Self-Assessment Checklists to Help You Tell, Farm Business Management for the 21st Century, Purdue Extension, West Lafayette, Indiana, by Michael Boehlje, Craig Dobbins, and Alan Miller.

Building a Sustainable Business, A Guide to Developing a Business Plan for Farms and Rural Businesses, Minnesota Institute for Sustainable Agriculture, St. Paul, Minnesota, by Gigi DiGiacomo, Robert King, and Dale Nordquist.

Where Do I Want To Be?



- **Business Options Available to Improve Profitability**
- **Goals**
- **Enterprise Budget**
- **Production Efficiency**
- **Marketing Opportunities**
- **Transitioning Out of the Business**

Business Options Available to Improve Profitability



Options to Improve Profitability

When faced with financial stress due to low prices, agricultural producers and fishermen have several options to improve profitability. There are four general options available to increase profits. They are:

- Improve the profit margin
- Expand the business
- Create innovative niches
- Exit and transition to a new business or job

The first two options are described by one of the most basic equations in economics:

$$\text{Profit} = (\text{Price} - \text{Cost}) \times \text{Volume}$$

Profits can be improved by increasing the margin between the market price received for a product and the cost to produce the product or by increasing the amount of the product produced.

Improving the Profit Margin

There are two components to increasing the profit margin:

- Reducing the cost of production
- Increasing the market price received

Economic forces are squeezing profit margins, but successful managers continue to pry the profit margin apart with a critical eye toward cost control practices and improved marketing.

Controlling the cost of production is always an essential management function of successful businesses. Data shows that there is rarely one area where significant cost reductions can be attained, but rather the more profitable businesses manage many costs two to five percent more efficiently than their competitors.

With tight profit margins, marketing actions that improve the sales price even a few cents may increase profits by significant percentage.

Expanding the Business

Expanding the business is an option that many producers have pursued. As profit margins have tightened, expanding the size of the business has been the most feasible option for many producers.

Additional sales volume may be necessary to cover the overhead costs of the business and to allow the families involved to meet their financial needs. But when considering an expansion, care should be taken when doing financial planning to verify that the expansion will improve your financial situation. If the profit margin is in fact negative, or the added volume will cause overhead costs to increase, an expansion may just put your business in a deeper financial hole.

Creative and Innovative Strategies

Over time agricultural producers have developed many creative and innovative strategies to help increase profitability. These range from adding value to their products through cooperatives or on-farm processing, direct marketing, niche products and markets, marketing recreational and agri-tourism opportunities, and contracts with businesses and municipalities.

Today's producers need to determine which strategy they will pursue - a commodity production strategy or a creative alternative strategy. The commodity strategy generally involves expanding to an adequate size and focusing on being low cost producer. The creative alternative strategy generally means focusing on markets, customers, and innovative niches. Some high-capacity producers are able to pursue both of these strategies.

Transitioning to a New Career

Exiting the business is always an option, although not one that many people want to consider. Commodities that have been certified as eligible for Trade Adjustment Assistance (TAA) are facing financial challenges. Some producers may elect or need to exit the business. Producers should evaluate the skills and resources available or needed to transition to a different business or career. For some finding off-farm employment or downsizing by selling some assets may also be options.

TAA provides retraining and educational resources to help producers who are transitioning to a different career. The Department of Labor provides TAA services through which eligible producers and fishermen may receive reemployment and educational assistance. Reemployment services include employment counseling, case assessment, job development, and self-directed job search services. Education assistance (Trade Readjustment Allowances) pay for up to 104 weeks of full-time education including classroom training, on-the-job training, and employer-based training.

Developed by Kevin Klair, Extension Economist, Farm Management, University of Minnesota.

Goals

Most of us would not leave home on a trip to an unfamiliar destination without a road map. We would want to know where food, gas, and lodging were available. Family members would discuss the best route. An arrival time would be estimated to inform family and friends. What about an agricultural business or fishery that is considering a new business model? Before launching into a new business plan, a well-developed “road map” is needed. A successful “road map” starts with discussion of where you want to go—personal and business goals. Steps for generating goals to guide your business decision-making follow.

What Are Goals?

A goal is a statement of what an individual or family wants to achieve. Through goals, each person, family, or business unit identifies its aspirations for the future. Goals change with circumstances and time, and they must be reevaluated and updated periodically.

How To Use Goal Setting

Goals provide focus and direction for management. Attaining high priority goals takes precedence in management decisions. They serve as reference points to monitor how well a business is doing and as a motivation if deadlines are specified. Goals help aid decision making in the face of uncertainty. Finally, achieving goals can serve as a rallying point for the family or business management team.

Steps in Goal Setting

Goal setting requires creative thinking. Goals can be tangible and intangible, short-term and long-term, monetary and non-monetary. Goals are personal and unique to the family since they reflect values and beliefs, the resources available, and the opportunities and limitations faced. Because achieving goals often requires the cooperation of family, the goal setting process should involve discussion and compromise among family members. Seven steps for setting goals follow.

- Assess where the operation was in the past.
- Assess family and farm resources (including self) and planning restrictions.
- Develop a general management plan.
- Identify and establish specific goals or objectives.
- Prioritize goals.
- Develop plans for action and implementing goals.
- Measure progress and reassess goals.

Developing SMART Goals

Other tips for goal setting are to make them SMART: Specific, Measurable, Action-oriented, Reasonable, and established in a Time frame. Write goals down to make them visible and increase commitment. Goals should be measurable, for instance, to increase income by \$8,000 per year. Goals should be challenging, but achievable. To be most effective, set family and business goals jointly, that is, set goals with family members rather than for them. Using realistic deadlines specify when the goal is to be attained.

Prioritizing Goals

Goal priorities can provide clear guidelines for management decisions and make possible a level of consistency that otherwise is difficult to maintain. To help establish goal priorities, ask these questions:

- Which goals are most important for family well-being? Farm well-being?
- Which short-term goals, if attained, would help achieve long-term goals?
- Which short-term goals conflict with, or impede, long-term goals?
- Which short-term goals do not support any long-term goals?
- Which goals are so important that they should be attained even if it prevents reaching other goals?

High priority goals should not receive all the attention and resources while other goals are ignored. Priorities should not be completely either/or decisions, and priority decisions need not be permanent. In prioritizing goals, weigh the importance of each task for long-term and short-term goals. Consider personal life goals as well as business aims. Group similar activities wherever possible and identify links between goals.

Implementing Goals

To effectively set and implement goals, the business manager must invest time and energy in mapping out goals. A thorough job of planning, with a commitment to the goal-setting process, will help ensure positive results. Make the goal known to others. Relate individual goals to family or team goals. Try to anticipate problems and plan strategies for overcoming them. Do not ignore potential conflicts or restrictions that might prevent reaching goals. Identifying possible problems in the planning stage will

allow time to resolve conflicts or channel efforts to feasible objectives. Beware of the following potential pitfalls:

- Making goals too lofty
- Trying to do too many things at once
- Overemphasizing quantitative aspects
- Vulnerability to unexpected events
- Failing to use all information or include all decision makers
- Ignoring good plans.

Summary

Goal setting, although important for all individuals and families, is especially important for family farms and small businesses because of family and business interrelationships. The development of individual goals, discussion and negotiation of family goals, and business and family priority setting gives structure to the management process. Setting goals as a family at least annually (or whenever circumstances change significantly) should become part of the business management routine. By helping individuals and families work smarter, goal-directed management can improve business efficiency. Achievement of goals should result in a feeling of accomplishment and pride. Use the following worksheet to begin specifying goals for family and business.

Reprinted from Goal Setting for Farm and Ranch Families, Damona Doye, Oklahoma Cooperative Extension Service, Oklahoma State University.

Goal Setting Worksheet

Short Term
 Intermediate term
 Long-term
 Farm/business
 Family/personal

Goals	Priority (High, Med. Low)	Potential Conflicts or Restrictions	Ways to Resolve Conflict	Resources Needed	Assigned Person(s)	Deadline
Most important goal?						
Second most important goal?						
Other goals?						

Provide each family member or person involved in farm management with a copy of this worksheet. Ask each person to complete it, without input from others initially. When everyone has completed the worksheet, discuss it with family and/or business associates. Use additional copies of the worksheet to document your family or farm management team's best thinking and mark it as such. Short-term goals should include those that will allow you to attain your long-term goals. An additional sheet detailing activities necessary to achieve a goal may be needed, along with an associated time line.

Enterprise Budget

As discussed earlier, an enterprise budget is a useful tool to quickly evaluate current costs and returns and/or to quickly evaluate the cost effectiveness of changes in production practices. Provided below is a sample budget based on a five-year average yield of 5,000 pounds per acre and estimates of the current average F.O.B. price in South Florida.

Table 1. Estimated costs and returns for lychee in Miami-Dade County, FL, 2004

Category	(\$)/Acre/Year	(\$)/Pound
Marketable Yield (5,000 pounds per acre)		
F.O.B Price at South Florida		1.75
Total Revenue	8,750.00	
Operating Costs	1,041.00	
Fertilizer	429.00	
Fungicide	260.00	
Herbicide	85.00	
Insecticide	117.00	
Interest on Operating Capital	150.00	
Miscellaneous	689.00	
Tree Removal and Site Preparation	8.00	
Tree Replacement	14.00	
Top, Head and Prune	219.00	
Set Trees	4.00	
Irrigation	135.00	
Mow Middles	80.00	
Grove Work and Hand Labor	229.00	
Fixed costs	1,280.00	
Land Rent	450.00	
Supervision	176.00	
Overhead	304.00	
Equipment Repairs, Depreciation	350.00	
Total Pre-Harvest Costs	3,010.00	0.60
Harvest and Marketing Costs	3,375.00	
Pick, Haul, and Pack (\$0.50/lb.)	2,500.00	0.50
Sales Charge (@ 10% of \$1.75 F.O.B.)	875.00	0.175
Total Costs	6,385.00	1.28
Net Returns (Total Revenue – Total Costs)	2,365.00	0.47

It should be pointed out that yields and costs for individual operations can vary widely. For instance, yields have been known to range from a low of 600 pound per acre in a very bad year to a high of about 10,000 pounds per acre in an extremely good year.

Table 1 reveals an average per acre total cost of production and marketing of \$6,385 and gross revenue of \$8,750, giving a net return of \$2,365. Total pre-harvest costs are estimated at \$3010 per acre (about \$0.60 per pound) while total harvest and marketing costs amount to \$3,375 or roughly \$0.68 per pound. From Table 1, it is apparent that the greatest costs are **harvesting and marketing**, which account for as much as 52 percent of the total cost of production. Reducing these costs would contribute to improving the returns.

In addition to reducing costs of production to improve profitability, attempts can be made to influence market price through improving fruit quality. Returns can be vastly improved by increasing yields per acre (discussed in later section). Table 2 below shows the estimated net returns for various price and yield combinations in South Florida. The yields chosen reflect expected average yields in 'low,' 'medium' and 'high' years, while the prices reflect the range paid in recent years. Table 2 reveals that with a yield of 3,000 pounds or less, the grower would operate at a loss if the F.O.B. price were \$1.50. However, if the F.O.B. price were to increase from \$1.50 to \$2, net returns would improve considerably even if yields remained at this level. In situations where yields are high (7,000 pounds per acre) and price is close to the \$2 per pound level, growers could achieve net returns in excess of \$6,000. As Table 2 indicates, returns to lychee can vary considerably depending on the type of year and the price received. It also shows quite clearly that a relatively small increase (decrease) in the market price tends to have much more impact on net return than would a similar increase (decrease) in yield. For example, increasing the price from \$1.50 to \$2.00 at the 5,000 pounds per acre level (a 33.3 percent increase) causes the net profit to increase by \$2,250, whereas increasing yields from 5,000 to 7,000 pounds per acre (a 40 percent increase) results in the net profit increasing by \$1,700 (from \$1,240 to \$2,940). Notwithstanding, realizing such improvements through cost reductions would be extremely difficult.

Table 2. Lychees: Estimated Net Returns for Various Price and Yield Combinations, South Florida, 2004.

	-----Price (dollars/lb.) F.O.B. Homestead-----		
	\$1.50	\$1.75	\$2.00
Yield (lbs./acre)	Returns/acre (dollars)		
3,000	- \$460.00	\$215.00	\$890.00
5,000	1,240.00	2,365.00	3,490.00
7,000	2,940.00	4,515.00	6,090.00

Production Efficiency

In order to improve your production efficiency, reducing or controlling costs is only part of the process. You will need to identify and invest in the inputs and production practices that give you the best returns.

Pests and Disease Management

Many insects and other pests and diseases can affect the lychee tree, leaves, flowers and fruit. Most of these pests and diseases can cause significant production loss if not controlled. It has been estimated that up to 50 percent of the crop can be lost. A few of the more important pests and diseases are discussed below.

Insect pests of lychee trunk & branches can cause severe economic losses

- **Bark Scales:** *Andaspis punicae*, *Pseudaulacaspis* sp. and *Thysanofiorinia nephelii*
- **Bark Miner** – *Marmara* sp.
- **Longhorn beetle:** *Aristobia*
- **Longhorn beetle:** Other Species
- **Ambrosia beetles:** *Hypothenemus*

Lychee bark scales:

Armored scales

Very small, circular, oval or mussel-shaped with a thin, hard waxy cover (the armor).



Depending on the stage of development, the cover may be separated from the body.

Armored scales

- Produce no honeydew.
- Feeding can blemish fruit, cause leaf drop.



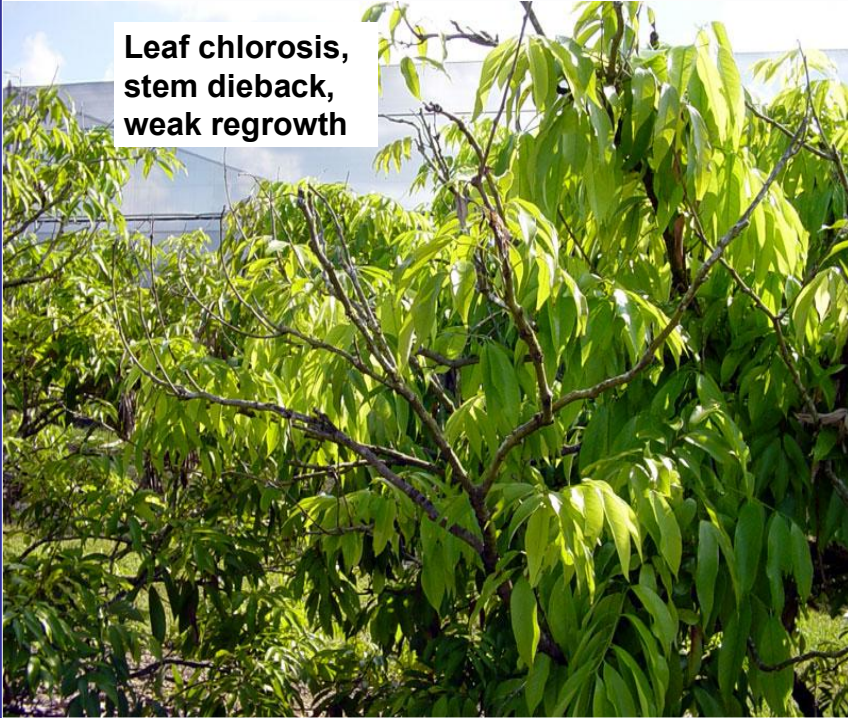
- Inject toxins into plant tissues and high populations can cause the death of stems, limbs and whole trees.

Feeding effects of armored scales

- Feeds on plant sap.
- Injects toxic saliva when feeding.
- Chlorosis (yellowing) of leaf tissue.
- Discoloration, distortion of woody tissues.
- Disturbs transpiration and photosynthesis.
- Reduces tree vigor, deforms plant parts, produces galls or pits; may cause dieback.
- Alters host physiology and biochemistry.
- Increases susceptibility to diseases.



**Leaf chlorosis,
stem dieback,
weak regrowth**



**Leaf chlorosis (iron and
nitrogen deficiency), stem dieback**





Armored scale feeding through the bark on plant stems



Armored scale stem bark symptoms

How to assess a scale infestation?

- Use a 10x (or better) hand lens and check for presence or absence of scales on 5 randomly selected branches per tree; 5 trees per acre.
- Assess parasitism, that is, see if there are emergence holes left by parasites.
- If you have 10 or more live scales per branch and there is no evidence of parasitism....then



Action levels for scale management

- If more than 10 scales per branch, [if available] release parasitoids.
- If you have crawler emergence: application of a pest control agent to the bark may be considered.

Currently registered pesticides for scale control

Registered for lychee

- KNACK (up to 16 oz/acre)
- KNACK plus oil
- APPLAUD 70WP (up to 36 oz/acre) plus oil

Lychee shipping

- Scale and/or ant infested fruit is of poor quality and is NOT acceptable for shipment, especially to California! Any insect found will cause at the least a delay in the shipment, more likely a rejection for entry.
- The industry, packinghouses, and growers cannot afford to lose California as a destination for Florida fruit.
- Monitor your trees for scales, sooty mold (an indicator of a scale infestation), and ants during the fall, winter, and early spring and control the infestation of scale prior to the fruit set and fruit development period. Treating the fruit after the harvest to kill scale and ants is very difficult and methyl bromide fumigation has not been routinely approved for disinfestations of lychee. Packinghouses should monitor the quality of what they are accepting and packing and reject any scale/ant infested fruit.

Flower thrips

- Flower thrips – small to very small, elongated, greenish-yellow to clear-yellow to orange-yellow color, spring/hop very quickly when disturbed. Feed on flowers and fruitlets. In high numbers may cause young fruit to drop. Monitor panicles during bloom by hitting panicles onto a paper to look for insects.



Mirids

- Mirids (Dagbertus sp.) may be of various colors with or without spots or marking. Have a triangular plate on their backs. Feed on opening buds, flowers, and small fruit causing them to drop. Monitor panicles during bloom by hitting panicles onto a paper to look for insects.



Currently registered pesticides for thrip and mirid control

Monitor grove from flowering through fruit set and early fruit development. If thrips and/or mirids are in high numbers, control may be warranted. More research on these pests and their effect on lychee needs to be accomplished to establish if they are important.

- SpinTor 2SC (4-10 oz/acre)
- Pyrellin E.C. (1-2 pts/acre)

Fruit disease on lychee

- Anthracnose caused by *Colletotrichum gloeosporioides* is the major fruit disease on lychee in Florida. In particular, 'Mauritius' is susceptible to the disease. We recommend if this disease has been a problem in your grove, you begin fungicide applications at panicle emergence at least through fruit set. Continued fungicide applications up to harvest may be warranted.



Fungicides registered for lychee in Florida

- **ABOUND FLOWABLE (6.1-15.4 lbs/acre at a 10-14 day interval, rotate with another fungicide after two applications)**
- **SWITCH 62.5WG (11-14 oz/acre at a 7-10 day interval, rotate with another fungicide)**
- * **You must have the supplemental labels for these products in your possession at the time of application. READ THE LABELS FOR MORE SPECIFIC USE RECOMMENDATIONS.**

Additional information

- **Pesticide labels may be found at the CDMS web site at - <http://www.cdms.net/manuf/manuf.asp>**
- **Upcoming Extension activities and updates at:**
 - <http://crane.ifas.ufl.edu>
 - <http://miami-dade.ifas.ufl.edu>
 - <http://calendar.ifas.ufl.edu/calendar/index.htm>
- **Tropical Research and Education Center at <http://trec.ifas.ufl.edu>**

Weed Management

Weed Pests

Weeds can reduce fruit yields by competing primarily for water and nutrients. Although individual weed species may vary regionally, predominant weed species in groves are grasses, sedges, and pigweeds. However, species composition is less important as the trend has been toward use of non-selective, post-emergent herbicides.

Fertilizer and Irrigation Practices

Young trees should be irrigated regularly to facilitate tree establishment and growth. Once trees begin to bear (3 to 4 years after planting), trees should be irrigated regularly, from flowering through harvest. Research from other regions has suggested that mild drought stress during the late fall (September or October) and early winter enhances flowering in late winter or early spring.

Lychee crop production strategy

- **Time N (nitrogen) fertilizer applications to support flowering, fruit development, postbloom vegetative flush, postharvest photosynthesis and carbohydrate accumulation.**
- **Maintain all other nutrients at nonlimiting levels.**
- **Maintain nonlimiting soil moisture from flowering through harvest.**
- **Allow postharvest flush(es) to harden for photosynthesis and carbohydrate accumulation**
- **Designate tree size control program to maintain canopy light exposure and crop production.**

Lychee plant nutrition strategy

- Recommend N (nitrogen) applications be confined from just before/at flowering to no later than harvest. Split N applications into 2-4 applications per year.
- Do not over apply N, which results in excessive vegetative growth over reproductive growth.
- Apply 90-200 lbs N per acre per yr
- Secondary (Mg, S) and minor (Mn, Zn, Fe) elements should be applied on an as needed basis or maintenance level to maintain tree health.
- Most Florida soils have moderate to poor soil fertility.
- Leaf litter and/or mulching may be beneficial.

Lychee leaf nutrient levels

Element	Symbol	Unit	Range for mature trees		
			Australia	So. Africa	Israel
Nitrogen	N	%	1.50-2.00	1.30-1.40	1.50-1.70
Phosphorus	P	%	0.14-0.22	0.08-0.10	0.15-0.30
Potassium	K	%	0.70-1.10	1.00	0.70-0.80
Calcium	Ca	%	0.60-1.00	1.50-2.50	2.00-3.00
Magnesium	Mg	%	0.30-0.50	0.40-0.70	0.35-0.45
Sulfur	S	%	0.11-0.14	no data	no data
Boron	B	ppm	25-60	25-75	25-75
Iron	Fe	ppm	50-100	50-200	50-200
Manganese	Mn	ppm	100-250	50-200	40-80
Zinc	Zn	ppm	15-30	15	12-16
Copper	Cu	ppm	10-25	10	no data
Sodium	Na	ppm	<500	no data	300-500
Chlorine	Cl	%	<0.25	no data	0.30-0.35

Production practices for Florida lychee.

Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Disease ¹			Anthracnose →										
Insect ²	—————							—————					
Fertilizer:													
General ³			—————			—————		Do not apply nitrogen containing fertilizers					
Micronutrient ⁴	- - -	- - -		—————									
Iron ⁵			—————										
Weed control:													
Mow	X		X		X	X	X	X	X	X		X	
Herbicide Contact	- - -	-		—————			- - -	- - -	- - -	—————			
Irrigation ⁶	Little to none - begin irrigating at panicle emergence through harvest - little to none →												
Harvest						—————							
Hedge and topping ⁷						—————							
Frost protection	—————										—————		
Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	

Irrigation strategy for lychee

Normal crop cycle lychee

- Little or no irrigation from Aug. until signs of bloom (late winter/early spring).
- Regular irrigation from flowering to harvest.
- After harvest, prune to synchronize tree. If no rainfall, then reduce irrigation until new leaves about 1/2 full grown, then reduce/eliminate irrigation from late summer until signs of bloom.

Spacing and Pruning

Lychee trees may grow very large, and frequent pruning of wood greater than 1 inch in diameter may lead to continuous vegetative growth and reduced yields. Trees should be moderately to widely spaced in rows (18 to 30 ft) and spaced 22 ft to 30 ft between rows. A plan for tree removal as the trees grow larger is recommended in high-density (closely-spaced) plantings. Trees planted in the home landscape should be 30 ft or more from buildings and other trees. Tree crowding results in a reduction in light intensity among adjacent trees and decreases the number of hours of light exposure to the canopy, causing a loss of the lower parts of the canopy and reduced fruit set. Training of young trees is usually not required. Annual or periodic pruning of mature trees will maintain adequate light levels in the orchard, reduce the size (diameter) and amount of wood necessary to prune to maintain trees at a manageable size, provide access to the grove for cultural practices, and help to maintain acceptable crop yields. Pruning should be carried out immediately after harvest to allow regrowth and maturation of new shoots and leaves before the onset of cool/cold winter temperatures.

Postharvest Handling

A major constraint to the production of lychee is that the fruit only ripens on the tree and has a relatively short shelf life. Factors contributing to quality loss during harvest, handling and marketing include: rapid loss of water in pericarp (peel) resulting in a dramatic decrease in fruit quality within 24 hours when not cooled and kept humidified; browning of the peel (desiccation); water loss from the peel resulting in hardening of the peel, i.e., the peel becomes brittle; and cracking of the peel which promotes decay. In combination these result in reduced commercial value or total loss of fruit quality.

Common pre- and postharvest peel disease organisms

- ***Colletotrichum gloeosporioides*** (pre- and postharvest)
- ***Alternaria* sp.** (postharvest)
- ***Cladosporium* sp.** (postharvest)
- ***Penicillium* sp.** (postharvest)

Other factors contributing to fruit quality loss include

- 1. Short harvest season, resulting in limited availability of fruit.***
- 2. Improper handling, i.e., not cooling the fruit immediately after harvest.***
- 3. No cooling or inadequate cooling prior to shipping or during shipping.***

Other factors contributing to quality loss include

- 1. Handlers and retailers often unfamiliar with handling requirements.***
- 2. Lack of U.S. grade standards.***
- 3. Perceived quality vs. actual quality (i.e., lychees with brown peel can still have high-quality pulp). However, brown lychee may not be marketable.***

Recommendations

- 1. Use clean, low-height, field containers to minimize bruising and introduction of decay organisms.***
- 2. Harvested fruit should be placed immediately in the shade and/or covered with a light colored material to shade the fruit which will begin to lower the fruit temperature. The key is to remove the field heat and keep the fruit peel exposed to a high relative humidity.***

Postharvest treatment options (note: cooling time is shorter and more effective if fruit is precooled prior to bagging and packing)

- Hydrocool fruit as soon as possible after harvest. Hydrocooling is the preferred method of removing the field heat in the fruit. Hydrocooling consists of submersing fruit and/or spraying the fruit with cold water or cold water-ice mixture (32°F-34°F), pH 6.8-7.3, and 100 ppm to 150 ppm free chlorine to lower the fruit pulp temperature to 41°F. This method generally takes much less time than forced-air cooling. After cooling, allow excess water to drain from fruit, then de-stem, sort, and pack fruit in a cold room. Pack fruit in vented polyethylene lined boxes that have some holes for aeration. After packing, place boxed fruit into cold storage at 41°F for 'Mauritius' and 38°F for 'Brewster' and at 90 to 95% relative humidity.***

Recommended postharvest treatment options

- ***Forced air cooled as soon as possible after harvest. Forced-air cooling consists of creating a difference in air pressure on opposite faces of stacks of vented containers. The difference in air pressure forces air through the stacks and around the fruit carrying the heat in the fruit away. However, control of the relative humidity is more difficult with this method. After cooling, then de-stem, sort, and pack fruit in a cold room. Pack fruit in vented polyethylene lined boxes that have some holes for aeration. After packing, place boxed fruit into cold storage at 41°F for 'Mauritius' and 38°F for 'Brewster' and at 90 to 95% relative humidity.***

Recommended postharvest treatment options

- ***If hydrocooling or forced-air cooling is not available or feasible then de-stem, sort, and pack fruit in a cold room. High humidity is essential to maintaining lychee fruit color and peel hydration. Spray fruit with water and cover the unpacked fruit in the cool room with a clean, wet cloth. This will keep fruit moist and increase relative humidity. Pack fruit in vented polyethylene lined boxes that have some holes for aeration. After packing, place boxed fruit into cold storage at 41°F for 'Mauritius' and 38°F for 'Brewster' and at 90 to 95% relative humidity.***

Recommended postharvest treatment options

- *In a comparison of hydrocooling (HC; 32°F, 100 ppm free chlorine), forced-air-cooling (FA; 2.5 cm static pressure difference, 38-41°F, 80-90% RH), and room cooling (RC; 38-41°F, 90% RH) of lychee, it took only 12-15 minutes to HC, 60 minutes to FA, and 13 hours to RC. Furthermore, de-stemmed fruit maintained better color and fruit quality during storage than fruit left on the panicle. HC and de-stemmed fruit had the best quality fruit compared to FA and RC after 15 days of storage.*
- *There is some evidence that hydrocooling with low pH water is more effective for maintaining lychee peel color than neutral and high pH water.*

Other options – controlled atmospheric storage

- *For extended storage from 21 to 28 days - use refrigeration + controlled or modified atmosphere storage (CA or MA storage):*
- *a) 'Mauritius': 41°F (5°C)/85-90% relative humidity; 4% oxygen/7.5% carbon dioxide*
- *b) 'Brewster': 38°F (3°C)/85-90% relative humidity; 2% oxygen/5% carbon dioxide*

Other options – not legal in U.S.

- *In addition to some type of precooling a postharvest fumigation of lychee fruit with sulfur dioxide gas then an acid dip. This treatment reduces postharvest fungal diseases and “fixes” the fruit with a reddish peel color. Special fumigation rooms and acid baths are required to use this procedure. In addition, sulfur dioxide levels in the fruit flesh must be monitored to be sure they are below 10 ppm. Fruit flavor may be affected and the color of the fruit may look artificial. This treatment and fruit treated with sulfur is illegal in many countries including the U.S.*

Other options – not available or not legal

- *Prior to precooling, lychee fruit are destemmed and then exposed to high steam heat for about 2-3 seconds which “fixes” the peel color. Fruit are immediately hydrocooled and treated as above.*
- *Postharvest fungicide dipping of lychee to prevent postharvest disease decay. No chemicals are legally registered to use for this purpose in the U.S.*

Further sources of information:

1. Hardenburg, R.E., A.E. Watada, and C.Y. Wang. 1986. The commercial storage of fruits, vegetables, and florist and nursery stocks. USDA-ARS Agriculture Handbook no. 66.
2. Pornchaloempong, P., S.A. Sargent, and C.L. Moretti. 1997. Cooling method and shipping container affect lychee fruit quality. Proc. Fla. State Hort. Soc. 110:197-200.
3. Menzel, C. et al. 2002. Lychee information kit, Agrilink. Horticulture Series, Dept. Primary Industries, Queensland, Australia.

Marketing Opportunities

Marketing – Introduction

Potential increased returns from:

- Cooperatives
- Alliances with gift fruit marketers
- Direct market to consumer
- Pick your own
- Value added products
- Organic production
- Diversify products



Virtually all lychees produced in Florida are sold fresh, because the volume of production is too small to justify large-scale commercial processing facilities. Further, the production season is very short, only five or six weeks long. The short season and relatively limited production by individual growers makes it costly and difficult to establish and sustain marketing programs for lychees with major food retailing chains. Higher returns may be obtained many ways, but each alternative presents both time and money costs to consider.

Common alternatives include:

- Establishing and participating in a cooperative
- Directly marketing your fruit through roadside stands or “green markets”
- Promoting use of lychees in recipes, i.e., sorbets, martinis, salads, marinades
- Moving to an organic production system to command a higher price
- Selling related products to allow you to extend your sales season
- Diversifying into alternative product uses, i.e., dooryard fruit trees

Cooperative Marketing

- **Better price with larger volume of lychees**
- **Provide member-growers with marketplace bargaining power**
- **Take greater control of your product**
- **Find cooperative marketing publications at: <http://www.rurdev.usda.gov/>**



Members of a cooperative can usually negotiate better prices because they have larger volumes to sell. They may also have reduced costs for inputs and harvesting labor bought as a group. Member-growers save time and eliminate wasted product left in the field. You will need to make a commitment to selling your product through the co-op in order to sustain the overall group effort, and stand to gain a chance for better returns for your crops. A co-op requires skilled financial and time management, and it may be necessary to hire an experienced individual with excellent decision-making skills on a part-time seasonal basis.

You can find information for farmers' cooperatives by following this link <http://palmm.fcla.edu/feol/> to find "Florida Environments Online." Then use this site's path finder entitled "Florida Agriculture and Rural Life" to search for the publication "Co-operative agriculture in Florida: a survey of the development of the cooperative ventures in Florida and the United States," by Doyle Edgar Timmons. Although this publication is quite old, it remains an excellent source of cooperative farming information. The entire publication is available for download and printing purposes.

Pick your own markets



- **Advertise with road-side signage, in local newspapers and on the Florida Department of Agriculture and Consumer Service's Web Site at <http://www.doacs.state.fl.us>**
- **Provide parking, restrooms, pole-mounted picking aids**

A pick-your-own operation will provide you with more profits, but takes considerable time during the harvest season.

You will need to advertise with road-side signage, in local newspapers and on the Department of Agriculture Web Site at: <http://www.doacs.state.fl.us>

You will need to provide parking, pole-mounted picking aids, and containers. You may also want to provide restrooms and drinking water. Also, you will need to be there to supervise and help. It will take time to build up your business with repeat customers.

Close supervision will be required to prevent damage to trees and to assure patrons' safety. Particular attention should be paid to covering irrigation wells and to controlling insects such as fire ants and wasps.

You will also need to investigate if you need to carry extra liability insurance (pick-your-own operations are often outside the bounds of regular farm liability insurance).

Farmers' Markets

- **Considerable time investment and transportation expenditures**
- **Requires timely harvest of lychees**



The USDA's Agricultural Marketing Services website has a link to contact names, location addresses and hours of operation for farmers' markets found throughout the state of Florida: <http://www.ams.usda.gov/farmersmarkets/States/Florida.htm>. In addition, the Florida Department of Agriculture and Consumer Services' Bureau of State Farmers' Markets has links to State Farmers' Markets, Fairs and Expositions, and Community Farmers' Markets as well as how-to publications and research articles: <http://www.florida-agriculture.com/markets.htm>

Many South Florida farmers' markets have minimal produce available that coincides with the brief lychee season, so there may be limited operational hours at nearby farmers' markets locations. It is important to contact managers at these locations early on to arrange for space and determine hours of operation.

Roadside Markets

Location! Location! Location!



Example: <http://www.Redlandriot.com>

A few growers sell various fruits and vegetables roadside in the Homestead area. The advantages are that you get all of the money and the returns are immediate. Roadside markets require increased investment in equipment and a packing building in a retail outlet. In some cases this has been expanded with other retail sales of food. For more information on South Dade (Homestead) roadside stands, see:

<http://www.Redlandriot.com>

and click on “Burr’s Berry Farm,” “Knaus Berry Farm,” and “Robert Is Here.”

Organic Markets

Major growth in consumer demand for organic produce over the past twenty years.



Difficult to follow strict organic practices in South Florida growing climate due to year-round pests and disease.

Given the ever-increasing market demand for organically-grown, or “green,” produce, we recommend lychee growers work with university and extension specialists to experiment with ways to successfully develop and produce viable organically-produced lychees. Currently, the cultural technology faces an array of problems, due in large part to the hot humid climate that characterizes South Florida, which severely limits production of organic lychees.

Value Added Products

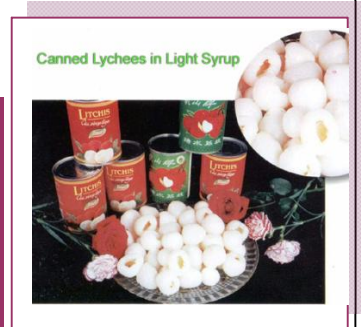
Fresh Frozen Lychees

Canned Lychees

Lychee Jams

Dried & Candied Lychees

Lychee Honey



Adding value to lychees can be done by canning, freezing, jamming, drying or combining with other products like fruit cups or bakery goods. All of these processes serve to extend the shelf life of the lychees and present a key marketing diversification approach, given the extremely limited supply window. In this product form, lychees can be marketed year-round to supermarkets and food service outlets in Florida.

Marketing Alternatives

Market through gift fruit and florist associations



Sell smaller lots of product through other lychee firms



Develop individual or group websites for Internet sales



The Florida Gift Fruit Association (<http://www.fgfsa.com/>) specializes in shipping Florida-grown citrus products nationally and internationally, and many of their member firms may consider adding lychees or lychee products to their gift baskets.

The Florida Department of Agriculture and Consumer Services offers promotional assistance including website development and hosting, promotional materials, demographic consumer information, current research articles, etc. There is also extensive material available concerning the “Fresh from Florida” Florida Agricultural Promotional Campaign, which can be viewed on <http://www.florida-agriculture.com/marketing/index.htm>

Larger lychee firms may be willing to purchase small lots of lychees, such as LycheesOnline.com, which offers a form for growers to submit online in order to arrange for delivery and final sales of your product through their organization.

Market Alternative Product Uses

Dooryard trees for shade and fruit production



'Maritius' lychees © Ian Maguire/UF TREC



The lychee tree is a handsome, dense, slow-growing tree that can grow to 30 to 100 feet high and nearly as broad. Air-layered trees begin to produce fruit within two to five years after planting and continue to do so for over one hundred years, making it both an attractive and edible sweet treat for home and business owners throughout South Florida. Lychee trees could be marketed to residential and commercial nursery outlets and businesses.

Online Site References for Lychee Photos Used in the Marketing Section

1. <http://www.aonea.com/>
2. <http://www.deliaonline.com/picturelibrary%5Cjpeg150/ly/lychee.jpg>
3. <http://www.aonea.com/services/newsletter/indexjune.htm>
4. <http://lightworksnursery.com/lychpink.jpg>
5. <http://bunyagrove.homestead.com/files/images/photo9b.jpg>
6. <http://www.rirdc.gov.au/champions/byronbaylychee.html>
7. <http://cgsd.com/rlatham/HiloMarket/Lychees625.jpg>
8. <http://www.glaserorganicfarms.com>
9. <http://www.paradisus.de/bilder/lychees.jpg>
10. <http://www.apfrozen.com/images/jelly/lychee.jpg>
11. <http://www.apfrozen.com/images/jelly/lychee.jpg>
12. <http://www.garchan.com/images/products/pics/lychees.jpg>
13. <http://www.islamic-world.net/children/fruit/>
14. <http://www.mauisoap.com/lusciouslycheenew.jpg>
15. http://www.lycheesnow.com/Pictures/lichi%25204_ jpeg.jpg
16. <http://www.cnholding.com/images/lychee1.jpg>

Transitioning Out of the Business



For some farmers and fishermen, exiting the business may be the best financial and family option. For some it may be the only option. Transitioning to a new career, business, or to retirement can be an emotional and complex experience. This is particularly true when financial stress is forcing a change or exit from the business. Some producers and their families may be ready for a change or for retirement, but others may be in the process of being forced out of their business for financial reasons. If you are facing a potential transition out of your business you should discuss your options and goals with family members, creditors, and financial advisors. You might also seek additional assistance from TAA technical assistance providers.

There are different transition issues that need to be addressed depending each individual's situation, but some general factors should be considered by most producers or fishermen faced with exiting their business. These include future sources of income, family and emotional well-being, tax and credit issues, and retaining and education opportunities for TAA eligible producers and fishermen.

Future Sources of Income

If you are transitioning out of your business, you need a new means to support yourself and your family. Your source of future income will depend significantly on your stage of life. Your stage in life will determine whether you are willing to start over with a new career or business, seek additional education and training, or plan for partial or full retirement.

Different Business or Career

An earlier section of the TAA technical assistance package, Inventory of Resources and Talents, discussed your skills and resources. This same inventory can be very useful to assess your opportunities to transition to new business or career. The education and experience that you have obtained will have a significant impact on the alternative sources of employment and income available. The management, technical and people skills obtained in farming or fishing can often be leveraged into valuable assets for other types of employment or in other businesses.

Farmers and fishermen possess a set of entrepreneurial skills that are valuable when starting a new business. But starting a new business is rarely easy. The statement is frequently made that 80 percent of new businesses are gone within five years. Farmers and fishermen may possess the experience and management skills to give them the edge to overcome the odds when starting a new business, but should still seek advice and assistance. Small Business Development Centers (SBDC's) are located throughout the country and provide help with financial, marketing, production, organization, engineering and technical problems and feasibility studies. To locate the nearest SBDC visit (<http://www.sba.gov/sbdc/>) or call 1-800-8-ASK-SBA.

You may be interested in starting a new career as an employee, rather than starting a new business. You probably have numerous relationships with businesses in your area. If you are seeking off-farm employment, your existing relationships are one of the most valuable tools available to assist you in your job search. As the producer of a TAA certified commodity, you also have access to employment counseling services at your state department of labor (<http://www.doleta.gov/tradeact/contacts.cfm>). Location may also be a major factor in determining how you will seek future income. In many rural areas job availability is limited, many jobs may not pay enough to maintain your standard of living, or available jobs may not include health insurance benefits. Determining whether you are willing to relocate may be a major issue for you and your family.

Regardless of whether you are considering a new business or a new job, your attitude is critical to success. You have the opportunity to create a new future for yourself. You can take the attitude that your future is in your hands or you can have the attitude that you are a victim of circumstances beyond your control, of imports, overproduction, and lost markets. Your attitude may be the single most important factor in determining the success of your new career or business.

Retirement

The average age of agricultural producers in the U.S. is in upper 50's. For many producers, retirement may be a viable option when facing the choice of exiting the business or struggling financially to keep it going. If retirement is an option for you, there are a number of questions you should answer before making the decision to retire.

Do you have sufficient financial resources to sustain you through the retirement years? You should project your retirement income and your retirement expenses to determine if you will have adequate income for your retirement. If you aren't sure how to project your financial needs or how to evaluate income from your investments and capital assets, you should seek the assistance of a financial planner. How will you handle your capital assets? For many producers, the bulk of their wealth is tied up in capital assets such as land, buildings, and equipment. Will you sell the capital assets and invest the proceeds or will you lease out the assets to provide retirement income? Do you know how much social security you will receive if you retire? Do you have the annual statement you receive from Social Security Administration detailing how much you will receive at

various retirement ages? You may want to contact your local social security office (<http://s3abaca.ssa.gov/pro/foi/foi-home.html>) or call 1-800-772-1213 to determine your specific retirement benefits.

Health is a major issue for most senior citizens. Do you want to retire early while your health is good? If you retire now will you have adequate health care coverage to cover you until you are eligible for Medicare? Should you wait to retire due to health care affordability?

Supplemental Income and Leasing Assets

You have probably considered supplementing your income with off-farm or non-fishing income. Have you exhausted all the possibilities for supplemental income? There are certainly trade-offs associated with finding a second job. You may not have the time to successfully manage your business. The impact on your quality of life or family life may cause you to decide supplemental income is not worth the cost.

You may want to explore the possibility of terminating your business while retaining control of your business assets. Leasing your land, equipment, or boat to other farmers or fishermen when combined with an off-farm or non-fishing job may allow you to support yourself financially. This alternative may allow you to keep the land or boat to which you have emotional ties, while providing sufficient income for your family. Exiting the business while retaining control of the assets is dependent on the amount of debt you have against those assets and your overall financial situation.

Family and Emotional Well-Being

When considering a transition or exit from your business, family concerns are one of the major issues that will impact your decision making. What are the goals of your family? How much emotional impact will leaving the business, possibly your way of life, or a potential move have on you and your family? Where will you live, can you stay living on your farm or in your community?

Goals

The previous Goals section of the TAA technical assistance package discussed setting and implementing goals for your business and family. Goals are important when you are considering a major career change. Even though exiting your business may be the best financial decision or in some cases you may not have a choice about exiting, considering your family goals as explore the next step is important.

Emotional Stress and Counseling

Transitioning out of your business and your way of life may be one of the most stressful events you will ever experience. This is especially true if you are exiting due to financial

stress. Although you might not believe it now, many farmers and fishermen have successfully and happily transitioned to a different career. Many successful business people started out with a farming background and took their work ethic and skills into another field. During this time of emotional stress, it may be very important for you get help. Counseling help is usually available. You might start by checking with your local county human services department or a member of your local clergy. If you don't know where to ask for help, contact your local Extension Service and ask them where to find assistance.

Living Situation

What options do you have to continue to live in your home and in your community? The answer may depend on many of the issues discussed above, can you find alternative employment or start a new business that will financially support you in your current living situation? If you live on a farm, can you retain ownership of it and rent out the land? If you need to sell the land, can you keep the farmstead and continue to live in your home? If you need to move to a different community to find employment, will you be able to continue to own a farm that may have been in your family for several generations? One of the most important aspects of these topics is whether you are willing to seek the help of friends, family, or business advisors to help you think through your options? Often times someone else can help you think about options more broadly and also, others can look at the situation without the emotional stress you may be experiencing.

Tax and Credit Issues

Taxes are one of the major issues you will need to address if you exit your business. If you are planning to sell your business or assets owned by your business, meet with a qualified tax advisor first. You should also keep your lender informed about your plans. Many assets have security agreements in which they are used as the collateral for the outstanding debt used to purchase the asset. Proceeds from assets sold with security agreements must be used to pay off the credit owed for the asset.

Income Taxes

Taxes can consume a major portion of the sales value of a business's assets. Tax planning is critical if you are transitioning out of your business and selling business assets. When selling capital assets you must pay income tax on the difference between the selling price and the tax basis of the asset. Tax basis is the generally the amount you paid for the asset minus any tax depreciation you have claimed on it. Some assets, such as land, are not generally depreciated, so the tax basis is simply the difference between the selling price and the original purchase price. Most assets owned more than 12 months qualify for capital gains tax rates. Capital gains rates are either 5% or 15% depending on your income level. For assets that have been depreciated below their market value, the

difference between the sales price and depreciated value will be taxed at your normal income tax rate.

There are ways to reduce the amount of tax you will pay on the sales of your capital assets. One method is installment sales of property. The installment method allows you to spread out the taxation proportionally over the years that principal payments are made. Another strategy is to sell assets over several years. Both the installment method and selling assets over time will often allow you to keep more taxable income in lower tax brackets. If you are selling a farm that includes your personal residence, up to \$250,000 (\$500,000 for married filing jointly) of capital gain on the residence can be excluded from taxation. In every case you should consult a tax advisor.

Self-Employment Tax

Income tax must be paid on the sales of all farm or fishing assets, but self-employment tax is only due on current assets, such as, crop and livestock inventories. You may want to consider selling all of your current assets in a single year if it will push your income over the self-employment tax limit. In 2003, self-employment tax is only charged on the first \$87,000 of income. The self-employment tax threshold increases each year. Sales of capital assets including equipment, machinery, buildings, and land are not subject to self-employment taxes.

Collateral and Security Agreements

You have probably been discussing your situation with your lenders, but before you sell any assets you should contact the appropriate lenders to check on security agreements. You should repay outstanding loans against assets that you are selling or discuss a repayment plan and security release with your lender. Frequently there is considerable debt against farming or fishing assets. Liquidating some assets may only generate enough cash to pay the outstanding debt or in some cases the sales revenue may be insufficient to cover the debt. You should keep lenders informed throughout the process and work with them.

TAA Retraining and Education Opportunities

Producers of commodities that are eligible for TAA benefits are also eligible for substantially more retraining and educational benefits than the typical producer or fisherman facing an exit from their business. To learn more about TAA retraining and educational benefits available, contact the Department of Labor TAA coordinator in your state (<http://www.doleta.gov/tradeact/contacts.cfm>). For some producers and fishermen the TAA educational benefits may be the most significant benefit available under TAA. For others, such as those approaching retirement or unable to relocate to an area where jobs are available, the educational benefit may be less valuable.

The TAA Department of Labor program provides retraining and reemployment services tailored to help individuals prepare for employment in another job or career. Producers or fishermen may receive up to 104 weeks of approved training in occupational skills or basic or remedial education.

There are some conditions that you need to meet to receive the educational benefits. You must be able to complete your educational program within 104 weeks and be job ready at the end of that time. Generally that means that will need to earn some type of degree within the 104 weeks. The educational program must be fully paid for by the Department of Labor. You can't supplement government payments with your own funds. This means that there are limits to how much the program can cost and on when you must complete it. Individual state labor agencies responsible for TAA have lists of educational programs in which TAA participants may enroll.

Summary

Whether to make the pivotal move of transitioning out of your farm or fishing business is a very personal decision that each person has to think through with the support of his or her family. Analyzing the financial viability of your business, determining the availability of alternative sources of income, working through the emotional and family issues, examining the tax consequences, and exploring retraining opportunities are important parts of the process. Assistance is available for all of these issues related to transitioning out of your business, but only you and your family can make the final decision.

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How Do I Get There?

- **How to Access More Intensive Management Assistance**

How To Access More Intensive Management Assistance



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