

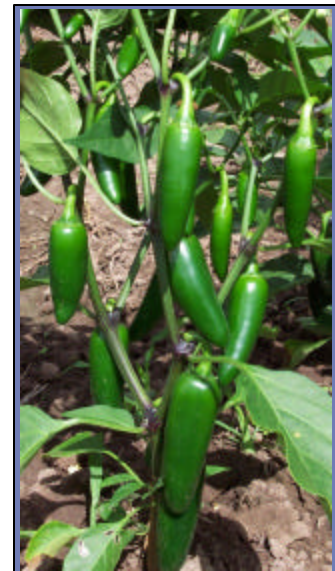


Contract Production Programs – Jalapeño Peppers: Implementation, Activities and Impact

Three Year Summary

- 210 growers with 475+ hectares
- \$5.4 million in small and medium-size grower sales
- \$22 million in exports of semi-processed peppers
- \$550 thousand in fresh exports to Guatemala
- \$990 thousand paid by growers in salaries for more than 350,000 person days of labor
- \$493 thousand spent on the purchase of US seeds, \$331 thousand on plantlets, \$130 thousand on land preparation, \$280 thousand on irrigation equipment, \$901 thousand on other inputs, \$499 thousand on local transport
- \$5.4 million in additional income for a US shipping company of \$5.4 million, and \$3.7 million for a Guatemalan packaging company
- Final retail sales value of the finished processed jalapeño pepper products of more than \$45 million – for 2003 alone

The Agribusiness Development Center (CDA) in Honduras, financed by USAID and implemented by Fintrac Inc., started in February 2000 with the aim of increasing the income and earnings of growers, processors and exporters of non-traditional agricultural products. As part of this project, CDA has been working to introduce contract production programs for a wide range of crops to growers throughout Honduras. Contract production with fixed prices and volumes enables growers to project, plan and budget, thereby enabling the development of more professional production operations. Growers can then concentrate all their efforts into the production process to ensure competitiveness in terms of costs, quality, consistency and productivity and to diversify their crop and income base.



The contract production program for jalapeño peppers started under the CDA project in late 2000 and is now reaching the end of its third year. Results in terms of grower sales, incomes, productivity, fresh regional exports and processed exports have been impressive. The program has served as a model to buyers and growers and has opened up new opportunities for other contract production programs in 2003 (e.g. Tabasco peppers and onions with additional grower sales of \$2.1 million annually) and CDA technical assistance program itself gained credibility with growers, buyers and other organizations.

This summary provides an outline of activities involved in implementing the jalapeño pepper program and gives an overview of the direct impact that this program has had on grower operations, sales, incomes and production technology. The program's impact on related service and input providers involved with the jalapeño growers is also provided.

Background

Chestnut Hill Farms (CHF), a US investor in Honduras, has been growing jalapeño peppers for its processing operations since 1995. They sell semi-processed jalapeño peppers (halved and de-seeded and packed in brine) to a major processor in the USA who further process the product into "jalapeño poppers." In 2000, CHF approached CDA for production assistance due to problems with yields, pest and

disease problems, and high production costs. At this point, CHF was convinced to take a risk and move towards using contract growers. In late 2000, CHF gave contracts to CDA managed growers for 100 hectares, with another 150 hectares set aside for two large growers. Prices, volumes, and delivery schedules were negotiated and quality specifications were developed. From the 2001 season, the small and medium-sized independent growers have continued to increase their yields and sales volumes. For the first time, CHF was able to meet its contracted volumes for export in 2001, due to the success of the independent growers. CDA has also worked with CHF to develop new product presentations (red jalapeño and new cuts) and new overseas markets. CDA has also worked to develop new markets besides CHF for the independent growers -- five Guatemalan processors now buy raw material from the program's growers and their volumes continue to increase. Smaller scale buyers in Honduras, El Salvador and Nicaragua are also buying peppers produced by the program's growers. For 2003, production volume for the small and medium sized independent growers is projected to reach 15 million pounds representing \$2.6 million in total grower sales. Additional new products are being developed with other processors in Honduras with the aim of increasing small and medium sized producer volume to 30 million pounds in 2004 (grower sales income of \$5 million).

Logistics

Most buyers avoid contract production with small farmers due to the logistical requirements involved with coordinating planting dates/deliveries and technical assistance with 50 to 100 growers distributed throughout the country. While a wide geographical distribution is required by the buyers in order to reduce production risks involved with weather and pest and diseases, the distribution of area has to be carefully coordinated to ensure that sufficient volumes are available at harvest for each area to coordinate transport logistics and volume to minimize freight costs. CDA has developed planting schedules each year with the buyers and growers based on 12-month projections. Each grower has a specific date or dates to plant with a defined area or production volume to deliver. This information is provided to the seed suppliers, plantlet producers, input suppliers and transport providers to ensure that the required support and input services are available. The main Honduran buyer contracted an experienced agronomist in mid-2003 to take over this role for the upcoming season; CDA's involvement in the activity will not be necessary.

Grower Selection

An independent grower program requires a selection process. CDA has developed criteria for both grower selection and removal. Growers are selected based on their ability to meet production, volume and quality requirements. If a grower fails to meet targets, it will cause problems for the processing plants' operations. With a small and medium-sized independent grower program, individual farmer shortfalls can normally be covered by other growers with above average production volumes. However, this possibility needs to be minimized from the onset. Growers who fail to meet production targets are assessed and, if necessary, removed from the program.

Technical Assistance Program

A full technical assistance support program has been developed for the jalapeño program covering both growers and processors. In general, the product-specific activities follow the systems approach using the CDA "technical toolkit":

- Marketing: Developing new markets and new products with local fresh and processing buyers, regional processors and overseas importers.
- Production: On-going technical assistance, training and troubleshooting in all production related activities, covering planning, soil management,



land preparation, irrigation management, pest and disease monitoring and identification, pesticide application, integrated crop management, fertilization, records maintenance, logistical support, etc.

- Postharvest: On-going technical assistance in postharvest handling to reduce losses and rejections, including harvesting, hygiene, handling, loading and transport systems.
- Processing: New product development, HACCP/food safety, equipment operations, Good Manufacturing Practices, etc.
- Information Technology: Development and provision of computerized productivity tools for planning, production, management and cost of production for computer literate growers. Management information systems are also in place to track production areas, harvest dates and volumes; individual grower deliveries, quality assessments and rejections are also monitored and fed back to the field to make modifications and improvements where required.
- Capital Investment: Promoting the investment in drip irrigation technology, land preparation equipment and air-assisted back pack sprayers for pest and disease control.
- Manuals/Bulletins: Preparation of a complete production manual for growers and technical bulletins in specific areas.

Experience gained and trials carried out by the growers and Project technicians have resulted in major improvements being made in production technology, resulting in substantial increases in productivity and a reduction in unit costs. Although production is presently carried out by 93 growers in 10 departments in Honduras, the overall production systems are standardized and errors are avoided before they occur.

Area Distribution

The total independent grower delivery volumes are established every 12 months. Production technology has now been developed to enable equal productivity levels during both the dry (normally easier) and wet (normally more difficult) seasons. There is no preference for selected zones for specific months of the year. In order to reduce risks of not meeting overall contracted volume, the area is divided into different regions of the country:

- Central – Comayagua, La Paz, Siguatepeque (50% of annual volume)
- West – Yoro, Santa Barbara, Copan (30% of annual volume)
- South – Valle, Choluteca, Paraiso (20% of annual volume)



Results – 2000 to 2003

The jalapeño program is now in its third year and continues to show excellent results for the producers and the processors, both locally and regionally (Table 1). The production systems and postharvest handling operations have been continually improved to increase yields and productivity, reduce costs, and maintain consistency of supply and quality. Growers have gained experience. Inefficient growers have been taken out of the program. As a result, productivity has increased, unit costs have decreased, overall volumes and grower sales have increased, new value-added products have been developed, new markets have been opened, and processed product exports have increased.

Growers' sales, yields and planted area have shown continual increases. In 2002, average yields were 66,885 lbs per hectare at an average production cost of \$8,000 per hectare. Sixty lead partners sold more than 10 million pounds of peppers produced on 195 hectares, achieving gross sales of \$1.8 million with a net income of at least \$870 thousand. More than 3,000 persons were employed through the production program. In 2003 to date, yields have increased further and unit costs of production have been reduced (from \$0.12/lb in 2001 to \$0.10/lb in 2003). Total gross sales for the year 2002 have been reached in the first eight months of 2003.

Table 1: CDA Jalapeño Program – Overview

| | 2000/2001 | 2001/2002 | 2002/2003* |
|---------------------------------|-----------|-------------|--|
| Participating Producers (#) | 88 | 95 | 93 |
| Total Area (ha) | 120 | 195 | 160 |
| Grower Sales (millions of lbs) | 5.10 | 10.27 | 10.15 (15.0 projected) |
| Grower Sales (US\$) | \$850,000 | \$1,800,000 | \$1,760,000 (\$2,750,000 projected) |
| Average Yield (lbs/ha) | 42,164 | 66,885 | 88,272 |
| Average Rejection Rate (%) | 14.8 | 7.6 | 11.1 |
| Unit Cost of Production (\$/lb) | \$0.166 | \$0.12 | \$0.10 |

* Actual 2003 figures for January-August; projected figures are for full season

Cost of Production

Detailed production cost records are maintained by all growers as part of their agreement with CDA. Average cost of production has increased from \$7,000/hectare in 2001 to \$9,150/hectare in 2003, but as a result of increased productivity, the unit cost of production has decreased from \$0.166/lb to \$0.10/lb over the same period. Total grower costs for the program were \$845,000 in 2001, \$1.45 million in 2002 and projected at \$1.5 million for 2003. When these production costs are broken down, the impact and benefits to the allied agribusiness products and services (“BDS”) sector can be seen (see Table 2).

Table 2: CDA Jalapeño Program – Total Production Cost Breakdown

| Costs | 2000/2001 | 2001/2002 | 2002/2003* |
|---|--------------------|------------------|--------------------|
| Seeds ¹ | \$117,000 14% | \$205,000 14% | \$171,000 11.4% |
| Plantlets ² | \$88,000 10.4% | \$130,000 9% | \$113,000 7.5% |
| Land Preparation ³ | \$28,800 3.4% | \$64,000 4.4% | \$37,500 2.5% |
| Fertilizer/Phytosanitary Products | \$185,000 22% | \$332,000 23% | \$384,000 25.5% |
| Irrigation Equipment and Irrigation Costs | \$93,200 11% | \$103,000 7% | \$65,500 4.4% |
| Labor | \$184,000 21.7% | \$387,000 27% | \$415,000 27.6% |
| Local Transport ⁴ | \$112,400 13.3% | \$166,000 11% | \$221,000 14.7% |
| Interest Payments on Loans and Others | \$36,000 4.2% | \$64,000 4.4% | \$88,500 5.9% |
| Customs | \$1,000 0.1% | \$4,000 0.2% | \$7,500 0.4% |

* 2002/2003 figures are projected for full season

1. Seed – Only the Mitla hybrid is used as this is required by the buyers.
2. Plantlets – In 2000, there was only 1 plantlet producer. In 2003 there are now 7 plantlet producers. Expansion was promoted to reduce transport and plantlet cost. Four of the six are new companies who started as a result of the jalapeño program.
3. Land Preparation – Most of the growers do not have their own equipment to prepare land; approximately 70% of the total 2003 area was prepared with contracted land preparation services from local providers.
4. Local Transport – Provided by independent truckers. In 2002, more than 700 individual trips were made to the Comayagua processing plant and 50 trips to Guatemala. In 2003, this will increase to 950 trips to Comayagua and 100 trips to Guatemala.

Employment

Jalapeño peppers are a labor intensive crop, particularly during transplant and harvest. On-farm labor requirements average 770 person days/hectare, equivalent to 3 permanent positions. Between 40% and 50% of the labor is provided by women. In almost all cases, when a grower enters into the program, this is new employment generation. In certain regions, including Siguatepeque and Copan, many of the workers are off-season coffee pickers. As the program has advanced, with more than one crop per season per grower and with the introduction of high value rotation crops, the employment has become permanent and year-round. The total amount of wages paid by jalapeño growers between 2001 and 2003 is estimated at over \$990 thousand.

Employment

- 770 person days per hectare
- 600 permanent position in 2003
- \$415,000 paid by growers in labor in 2003

Professional Growers

In early 2003, the Project initiated work with selected growers on implementing Eurepgap systems. This is an integrated system required by European buyers that covers good agricultural practices as well as environmental and social issues. While not specifically required in its entirety for processed jalapeños, the methodology is essential for professionalizing growers' operations. In addition, several growers are now rotating their jalapeño crops with sweet potato for export to Europe, for which Eurepgap certification is preferred. The program is being implemented by all jalapeño growers as a pre-requisite to stay in the production program. Now, and over the long run, these growers will be leaders in Honduras with GAP and Eurepgap implementation – on par with, if not superior to, the larger export growers. The GAP and Eurepgap implementation program includes integrated crop management, phytochemical use, safety and storage, hygiene, water quality, soil preservation, employee training, and safety measures.

Professionalization

- GAPs and Eurepgap
- Environmental and social issues
- Farm management records
- Cost of production records

Sales and Buyers

Current buyers are processors located in Honduras and Guatemala, who in turn sell processed product to buyers in the US, Europe and Central America. The program started in 2000 with one buyer in Honduras. Market development was a focus in 2002. There are now five additional main buyers in Guatemala and more than 10 small "coyotes" and processing buyers in Guatemala, El Salvador and Nicaragua. In 2003, 75% of total production of 15 million pounds was sold to the main Honduran buyer and 25% was sold to the remaining buyers. The increasing number of market outlets helps reduce growers' risks associated with the dependency on one buyer and in allocating production amongst processing plants depending on their requirements. CDA helped to limit competition between the buyers' final markets. As a result, processors are in different final products and markets; volume increases by one processor will not affect the other processors' volumes.

Sales & Buyers

- Fresh – Honduras, Guatemala, El Salvador & Nicaragua
- End Products – USA, Canada, Europe & Central America

End Products

In 2000, the Honduran buyer processed the peppers in de-seeded halves in brine. CDA assisted in product diversification and the jalapeño peppers are now processed into various forms including whole, halves de-seeded, diced and nachos, in the green and red form, and packed in brine or frozen. The main end product is "jalapeño poppers"® produced by Anchor Foods, which are distributed worldwide to supermarkets, bar and restaurant chains. Varieties include cream cheese, cheddar cheese and three cheese. Canned jalapeños, canned jalapeños with pickled vegetables, and pepper sauces are also produced regionally, which are distributed regionally with limited exports to the USA. Local sales of fresh peppers are also made to local supermarkets, cheese processors and various fast food companies in the major cities (including Burger King and Church's chicken). Restaurant chains are now also

End Products

- Poppers
- Canned
- Canned in vinegar
- Canned with other vegetables in vinegar
- Pepper sauces
- Frozen
- Fast food outlets
- Restaurant chains



jalapeño buyers – including both US-owned chains (Friday’s, Appleby’s, etc.) and selected local restaurants (pickled vegetables in all of the fish restaurants in Lake Yojoa).

Market Values

In 2003, the total supermarket or final retail sale value of the value-added processed jalapeño peppers produced under the CDA program is estimated at \$45 million! Grower sales are projected to reach \$2.75 million – giving a multiplier of farm-gate price to the value-added retail price of more than 16:1.

| Market Values |
|---|
| <ul style="list-style-type: none"> • 2003 grower sales of \$2.75 million • Retail value of the final processed products estimated at \$45 million |

Poppers® are sold in 8, 15 and 32 oz packs at retail prices ranging between \$0.25 and \$0.40/ounce. In US restaurants, prices Poppers® range from \$4.50 for 6 to \$7.50 for 8. Two poppers are made from one fresh jalapeño pepper – 1 pound of peppers contains 20 peppers, or 40 poppers for which the grower receives \$0.175/lb. Two pounds of fresh are required to make 1 pound of semi-processed halves. Costs, added-value and profit along the value chain turn this one pound of fresh peppers into an estimated \$10/lb at the retail level. CDA growers will sell 10 million pounds of fresh peppers through this segment in 2003, with a final retail sales value estimated at \$32 million.

Processors in Guatemala include freezing, canning, and sauce operations. The 80g (2.82 oz) canned jalapeño halves retail in Honduras at \$0.38 and contain 40g of peppers (1.4 oz). The growers receive \$0.20/lb – costs, added value and profit along the value chain turn this pound of fresh peppers into an estimated \$4.58/lb at retail. CDA growers will sell 3 million pounds of fresh peppers through this segment in 2003 with a total estimated retail value of \$13 million. Other products such cheeses, individual peppers, sauces and other products easily turn \$1.00 of peppers at farm-gate prices into \$5 to \$10/lb of product at the final retail level.

Other “Sales”

Jalapeño pepper is the base product that enables other agricultural products also to be sold into this processed market segment, including cheeses, breeding materials, oil, vinegar, onion and carrots – most from US sources. In addition, there are many other beneficiaries who participate in the market chain, both local and international, including:

- In 2003, 550 container shipments will be made from Honduras to Miami at a cost of \$1,900 per container and then from Miami to Wisconsin at \$1,800 per container – annual sales income of \$2.04 million to a US shipping company. Over the three years of the jalapeño program, freight costs for containerized shipment of the peppers to the US processing plant totals at least \$5.4 million.
- In 2003, approximately 11,000 wooden shipping pallets will be used, all made locally in La Paz by a microenterprise. These, together with wooden pallet bins, have resulted in sales income totaling \$290 thousand over the last three years.
- Seminis Seed, a US company, will achieve sales income in 2003 from jalapeño seed of \$219 thousand, with total sales over the last three years of \$541 thousand.
- Semi-processed jalapeños are presently shipped in plastic buckets - over the last three years, a Guatemalan plastics company has made more than \$3.7 million in sales.

| Other Sales |
|---|
| <p>Three year sales:</p> <ul style="list-style-type: none"> • USA sea and overland container freight sales of \$5.4 million • USA seed sales of \$541 thousand • Guatemalan packaging sales of \$3.7 million |

The Future

Technical Assistance: Several activities have been carried out in order to enable the continuation of selected areas of technical assistance post-CDA:

- In mid-2003, jalapeño growers in Siguatepeque decided to group together under the Cohorsil name (the growers are all members) and hire a field technician to provide on-farm technical



assistance. Each grower will pay into a fixed amount into a fund based on planting area which will be used to cover the technician's salary and operating costs. The technician will work closely with the CDA regional technician in order to develop technical and logistical skills.

- After discussions with the management of the main processor/buyer in Honduras (Chestnut Hill Farms), they contracted a high level, experienced, production technician in August 2003. This technician is working with CDA staff with the aim of assuming the majority of responsibilities from CDA by the end of 2003. A series of transparent systems have been put into place to ensure continuity.
- One of the main buyers in Guatemala who ships to Europe will have a dedicated field technician in place by the end of 2003 to support grower field operations and delivery logistics.

Market: The main processor in Honduras has a contract with its buyer in the USA for the next six years and has given its commitment to the small and medium independent grower program. Two of the Guatemalan buyers have been in operation for more than 20 years and they will also continue to buy from the program. Growers have to remain competitive in terms of price and service – i.e. consistency of supply, quality and deliveries. All of the processors are looking to expand sales and product lines – any new markets/products can be passed to the independent growers who must have the capability to adjust and expand. Market information will be fed back to the growers by the buyers. Other new buyers will also come onto the scene as the program's reputation continues to expand. It will not, however, be as fast as with CDA support in aggressively finding new buyers.

New Products: The CDA program is scheduled to end in September 2004. Until this date, CDA will continue to develop and test new products with existing and new processors/exporters:

- Trials have been carried out with IQF peppers with two processing plants (one a shrimp processor looking to diversify into other markets). Trials have also been carried out with dehydrated peppers. For both of these products, which represent potentially large markets, costs and methodology are being determined. If viable, new deals will commence before the end of 2003.
- Several attempts have been made to enter the Mexican market as Honduran jalapeños are competitive in Mexico at certain times of the year. Phytosanitary regulations and other bureaucratic hurdles have prevented entry into this market to date. However, new attempts will be made in early 2004.
- Trials are currently being carried out to force ripen green peppers after harvest in order to increase the volumes of red peppers available. If these are successful, red product volumes will increase without affecting green volumes.
- Sweet jalapeño trials gave good results and are currently being produced commercially on a small scale for the Honduran processor who ships to the US and a Guatemala processor who sells the finished product into Costa Rica. With promotion, this market segment can be expanded.

In 2003, the jalapeño pepper program is projecting sales of 15 million pounds representing \$2.47 million in grower income. With the possible exception of oriental vegetables, there are no other non-traditional crops with small and medium-size grower involvement that have achieved these numbers. By 2004, the jalapeño pepper program will be the undisputed leader, with sales of 25-30 million pounds (\$5.0 million in grower income).

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This publication was made possible thanks to assistance provided by the Agriculture and Natural Resources Office of the United States Agency for International Development, under the terms of Contract No 522-A-00-03-00402-00. The opinions expressed are those of the authors and do not necessarily reflect the opinion of USAID.





Plantlet Production



Inspection after Transplanting



Jalapeño at Harvest Age



Inspection of Insect Traps



Harvesting Operations



Processing Operations



Jalapeño Poppers



Canned Jalapeño