

# **Assessing the Status of Small to Mid-Size Cider Press Operations in Pennsylvania**

Grant report for the Pennsylvania Department of Agriculture

Prepared by the Pennsylvania Association for Sustainable Agriculture



### ***Project Objective One***

This study conducted by the Pennsylvania Association for Sustainable Agriculture (PASA) targeted small to mid-sized orchard and cider press operators in Pennsylvania. Our goal is to provide the Pennsylvania Department of Agriculture (PDA) with the information necessary to assist cider press operators to successfully make the transition to comply with federal regulations.

The need for this study stemmed from modified federal law that now requires producers who sell apple cider wholesale to pasteurize their cider and juice. Producers who sell directly to consumers are not required to treat their products, but must label the product with a warning statement. To comply with new regulations, many producers found they will have (or had) to invest \$30,000 (+/-) on pasteurization equipment, plus several thousand more per year in maintenance and record keeping. This may seem an insurmountable cost to many small and mid-sized cider presses.

The purpose of this project was to determine whether this change in regulations has impacted, for better or for worse, the financial viability of small and mid-sized cider producers. In the end, it is hoped that cider press operators and fruit growers will understand PDA as playing a supportive, not regulatory, role which should result in more compliance among producers.

### ***Methods***

During spring of 2006 PASA developed a survey that was sent to cider/juice producers in the state. A list was obtained from the PDA Apple Marketing board, naming producers who were currently producing cider. In addition to the 124 names supplied by PDA, PASA made an effort to find other small to mid-sized producers in the state utilizing our growing membership roster and resources at AgMap (the Penn State University sponsored listing of Pennsylvania farms and businesses), to add an additional 123 to this list.

In development of the survey (Attachment 1) PASA decided to allow respondents to answer anonymously. A follow-up postcard (Attachment 2) was sent out two weeks later to encourage our contacts to complete their survey and included a portion to return to us to let PASA know why they may have chosen not to respond. These options included; "I was never a cider producer," "I no longer produce cider," "I have no interest in this research."

A flaw in our survey method was to allow respondents to submit the survey anonymously. PASA felt at the time of survey development that anonymity might be a useful option, allowing producers to be more honest and open with their answers. However, when it came time to make direct contact with the producers to increase our response percentage, this was difficult to do based on the potential to call someone who may have attempted to answer anonymously. PASA decided to conduct another mailing, again including a cover letter, survey, return envelope and postage.

## **Questions & Results**

This first round of surveys yielded a good response (30%) and some operations that were no longer producing cider also replied, allowing us to clean up our contact lists and revise the PDA list. However, some of the entries obtained from AgMap did not actually produce cider, as many were simply retailers through on-farm stores or markets. The total list of names we used for this survey was 147. Our total number of responses was 100, a response rate of 68%.

### **Question 1**

#### **Define your farm/operation**

Farmer – full time = 64% of respondents

Farmer – part time = 26% of respondents

Cider/juice processor = 55% of respondents

Cider/juice sold off-farm via farm stand/market = 50% of respondents

Cider/juice sold wholesale = 27% of respondents

Cider/juice processed on farm = 62% of respondents

Cider/juice produced by off-farm processor = 23% of respondents

#### **Gallons of cider/juice produced annually** (*were asked how many gallons produced for themselves, other, total*)

Yourself (N=63)

0-1,000 = 35%

2,000 – 7,000 = 39%

8,000 – 13,000 = 6%

14,000 – 19,000 = 6%

20,000 + = 5%

Other (N=32)

0-1,000 = 40%

2,000 – 7,000 = 22%

8,000 – 13,000 = 9%

14,000 – 19,000 = 6%

20,000 + = 13%

Total (N=69)

0-1,000 = 25%

2,000 – 7,000 = 41%

8,000 – 13,000 = 13%

14,000 – 19,000 = 3%

20,000 + = 13%

### **Question 2**

**Has your operation been affected by the change in federal law that requires producers who wholesale cider to pasteurize their cider and juice OR producers who sell directly to consumers to label the product with a warning statement?**

Yes = 79%

No = 13%

No Response = 8%

Comments (not all 100 made additional comments, N=62)

*11% reported lost wholesale accounts*

*7% suggested the warning label concerns, the wording is too strong & consumers are scared off*

*7% commented the increasing costs of equipment, with no increase in sales and increasing costs of the cider does not allow them to compete with imports*

### **Question 3**

**The apple cider you currently produce/sell is:**

Traditionally pasteurized = 34%

Unpasteurized = 49%

Other FDA approved method (UV treated) = 16%

No Response = 4%

Comments (not all 100 made additional comments, N=33)

*9% reported that they are currently using UV treatment or are looking into it*

*3% commented that the costs of equipment are too high*

*6% suggested that since pasteurization creates a change in taste, their customers are not interested in purchasing pasteurized cider*

### **Question 4**

**Is cider production still an economically viable business for you? Why or why not?**

Yes = 66%

No = 27%

No Response = 7%

Comments (not all 100 made additional comments, N=82)

*7% reported that cider production is a way to use low grade, excess apples*

*8% commented that their profits were cut due to increase prices for equipment and/or labeling*

### **Question 5**

**Have you gained or lost customers/accounts because of these federal regulatory changes?**

Gained = 27%

Lost = 64%

No Response – 13%

Comments (not all 100 made additional comments, N=63)

*12% reported a loss of wholesale accounts*

*2% commented they actually gained custom press customers*

### **Question 6**

**If you are using pasteurization equipment – are you satisfied with the equipment?**

(i.e. cost to operate & maintain, etc.)

Yes = 20%

No = 60%

Not using pasteurization equipment = 50%

No Response = 16%

Comments (not all 100 made additional comments, N=32)

*Pasteurization unit quickly gets product build up & loses efficiency*

*We do not have the equipment since we only sell the cider at our fruit stand*

*Our cider is custom pressed & pasteurized by someone else*

*UV too costly and not reliable enough in my opinion*

*Getting UV light up and running*

*Costly to maintain parts & labor, companies who sell them do not offer repair services*

*UV allows me to provide a safe product, without altering taste or appearance. Not happy with cost of maintenance.*

*Cannot afford price of equipment, customers do not want pasteurized cider*

*There is not a way for a small producer to pasteurize cider a \$12-15,000 unit would never be paid off.*

*Cost of processing cider had increased 30% to write-off cost of equipment purchase.*

*Love the UV, does a great job but it needs more support in the public eyes.*

### **Question 7**

**What type of pasteurization system are you using and what were the approximate purchase/installation costs?**

No response or not using = 69%

Heat/flash pasteurization = 14%

UV treatment = 11%

No Response = 6%

Comments

*UV light - \$14,000-18,000*

*Goodnature flash pasteurizer = \$25,000, building, heating & cooling, total \$73,000*

*Thermoline - \$50,000*

*Goodnature - \$65,000*

*Cider Sure UV light - \$19,000*

*Goodnature - \$40,000*

*UV light - \$26,000*

*Flash unit - \$70,000*

*UV light - \$17,000*

*Flash - \$30,000*

*Goodnature - \$25,000*

*\$40,000*

*UV light - \$20,000*

*True heat system - \$23,000*

*Goodnature flash system - \$19,000*

*\$35,000*

*UV - \$15,000*

*Heat system - \$10,000*

*Cider Sure - \$18,000*

### **Question 8**

**Do you have any interest in learning about pasteurizers that use alternative energy sources – such as solar or hydropower?**

Yes = 28%

No = 55%

No Response = 16%

Comments (not all 100 made additional comments, N=19)

*3% think costs are prohibitive*

*The cost of fuel isn't that much*

*It's always good to learn*

*Pasteurizers are not the only expense in the cider operation*

*This is the only practical way*

*It is the initial cost of the equipment*

*Customers have made it clear they way "true" cider*

*Not unless it is FDA approved & they will publicly support it*

*All our customers do not want pasteurized cider*

*Possible if the cost is not too high*

*Maybe but I already have a lot invested in the present system*

*Too much money for the return*

*Am very interested in this, would be willing to try one of these alternatives in my facilities with help from the state*

*If there is a unit for the small grower*

*Pasteurizers are unnecessary, too costly, run small clean operations out of business*

*I want to learn to see if I can start over*

*Anything to reduce energy & become more self-sufficient*

*Everything takes money*

*Would prefer UV treatment*

### **Question 9**

**How can we better support operations in the state?**

Form fruit cooperatives = 11%

Offering more grant/loan opportunities = 26%

Increased marketing efforts = 36%

More training/educational opportunities = 19%

No Response = 32%

Comments (not all 100 made additional comments, N=29)

*4% commented that they would appreciate help covering equipment costs*

*3% think there should be more education, tours (education on how to keep the apples and equipment clean)*

*Positive marketing to bring cider back*

*This new law doesn't benefit small producers*

*By relaxing on pasteurizing but keeping inspections as it was*

*Crack down on dirty operators, they make a bad name for us all*

*Any help would be a vast improvement*

*Getting the public to realize that cider is a safe & healthy product*

*You already did us in forget about helping us*

*Training for small scale operations*

### **Question 10**

**Additional comments** (not all 100 made additional comments, N=47)

*The one-size fits all concept of regulations is daunting*

*Our compliance has not been in any way acknowledged by the enforcing agency*

*Make sure we do not lose the right to produce raw cider as has happened in other states*

*The rule should be "no drops." There have been no cases of disease from tree borne fruit.*

*The loss of our wholesale account finished cider-producing desires. Could not afford pasteurization equipment.*

*Pasteurization should be standardized for producers – not by retail or wholesale*

*99% of people that come to buy cider said that if we pasteurized they would find another source*

*Cider making is losing ground; the small operator is not able to meet requirements*

*Education is the key to success*

*If cider must be pasteurized, the equipment is too expensive*

*The HACCP and recordkeeping seem more appropriate for large operations*

*We are a small orchard and are able to use the lesser grade apples for cider production*

*Apple cider is a large part of our operation*

*Bellefonte – We had all cider commercially done. When the new regulations came into effect, had to install a cider press, to keep customers, had to install a pasteurization unit & training in HACCP is cost prohibitive for a small operation such as ours. To install a press was a severe financial burden to our operation.*

*Canton – Perplexed as to why some producers have to treat their product and not others? I wholesale to supermarkets, fruit stand, schools and retail for a few months during the fall. I invested \$13,000 in a UV processor and had to sell 28 acres of my farm to pay off the debt. Two miles away a fruit stand makes cider and sells it at festivals & flea markets and never had to invest in equipment. The net result of this ill-conceived policy is an inequity in the marketplace. Pennsylvania should embrace the same law now in effect in New York State that all cider produced must be treated, either by pasteurization or ultraviolet equipment.*

*Girard – We sold a lot of cider until pasteurization became law. A few rare cases of E.coli are ridiculous and had almost put us out of business. My customers do not want pasteurized product. For me to get back to my normal production & expand, the pasteurization issue must disappear. I can't afford the equipment.*

*Spring Church – Importation of cider that sells for \$1.00 gallon hurts our business and we can't compete. We have to sell our apples for deer apples.*

*Spring Glen – The inspection of cider processing facilities is not equitable. Last year I had three Federal inspectors and one State inspector within a three-week period. I know of some processors who make a lot more cider than me that have never had a visit. I know a lot of processors that are not registered. Grant opportunities would greatly help with meeting mandates of pasteurization related issues, especially grants allowing for new equipment and upgrades. Increased marketing efforts by state and federal agencies concerning the safety of cider products. Allowing and promoting pasteurization types.*

*Jonestown – Our apple business has been a real joy for our family and myself. Our customers wait until the 5<sup>th</sup> or 6<sup>th</sup> of October when we start making cider. The public wants unpasteurized cider.*

*Pine Grove – The only reason we're still producing cider is that we already had the Sani-Feed system and press before the regulations changed. Primary question is whether insurance companies will allow us to continue to sell untreated cider.*

*Dallas – People get confused pasteurized, preservatives, warning labels – too many other juice products to buy.*

*Leesport – To fulfill FDA regulations is both cumbersome & expensive. Pasteurization has added a huge ongoing expense to the operation. It is very difficult to recoup.*

*Boyertown – I feel that we should be allowed to continue pressing unpasteurized cider as long as all apples are washed & graded prior to the pressing. As long as cider processors are trained & understand the importance of sanitation, hopefully there should not be any problems. The customers often tell me that they are glad they can purchase unpasteurized cider; otherwise they might as well go to the grocery store and buy apple juice.*

*Bird-in-Hand – Apple cider has become a large part of our business. Currently it is all 100% juice from apples, no preservatives, sugar, etc. We are working on several possibilities to promote spring/summer sales. We are planning to produce cider year round starting this year.*

*Paradise – I am comfortable with the current set-up with a warning label. We sell our cider at our home-based farm market. I believe in giving consumers choices of what they want to buy.*

*New Holland – We have many customers who want unpasteurized cider. I haven't heard anyone say they like pasteurized better but many comment they don't want it they still want fresh cider.*

*Bedminster – Producing cider is important to the operation of this farm. It is an income we can always count on even if we have an apple crop failure we can always purchase apples from other orchards.*

*Effort – We are a small orchard and making cider is a way for us to use lesser grade apples. With the cost of the UV machine, I'm not sure we will ever recoup that cost.*

*New Hope – The HACCP regulations and record keeping seem more appropriate for large operations.*

*Waynesboro – When random samples are pulled from the shelf at the store level, a copy of the laboratory results should be provided to the processor within a couple of business days. This information is beneficial to the processor and that a feeling of working together would be beneficial to everyone – including the consumer.*

*Orefield – The safety course I took was a good idea, but you have to have your classes refer to the products they are working with*

*Cambridge Springs – Cider making is losing ground. The small operator is not able to meet requirements successfully.*

*Mt. Pleasant – I quit producing cider years ago. We produced fresh apple cider from clean, hand picked, washed apples. Never had infractions from PDA inspectors. Could not afford pasteurization equipment. The loss of our wholesale accounts finished our cider producing desires.*

*Titusville – 99% of the people that come to buy cider said that if we pasteurized, they would find another source.*

*New Kensington – I am not sure if this whole pasteurization business is to protect the customer or put the small orchard out of business. The rules are putting the small farm in a real bind. I think most small farms are foolish to plant apples. There is little to do with the culls or excess apples.*

*Collegetown – The one size fits all concept of regulation is daunting*

*Prosperity – I live in Washington County, which has been underserved. I have tried to get any type of educational meetings in this county- we need meetings on pruning, tree fruit production, crop insurance, etc.*

*New Brighton – Supermarkets sell cider at a low price to pull in customers. It's hard to compete with cider that is sold for \$2/gallon when we sell ours for \$4/gallon. Our cider tastes better and has no chemical preservatives – our marketing points.*

*Rochester – The pasteurization requirement has closed down all the old fashioned, traditional custom cider presses. Thus the most common local fruit drink cannot be made from cull apples by backyard or small orchards. Small orchards like mine depend on utilization of these apples for viability.*

*Elizabethtown – Many younger consumers, under 30 years old do not know what cider is. Our apples are now processed into cider at a local market, which invested in pasteurization. We are pleased with this set-up. Labor issues had become an issue anyway.*

*Anonymous – Law should be “no drops,” there are no cases of disease from tree borne fruit.*

*Honesdale – We will not be making cider if we must pasteurize, buying equipment is not reasonable.*

*Renfrew – Education is the key to success*

*Allensville – Pasteurization is putting the small producer out of business, which is bad because the small producer has much better control over quality than the larger operations. The larger producers go after quantity – not quality.*

*Kutztown – At least one half of our customers were homeowners at some of them want to make vinegar or wine with their cider. Once cider is pasteurized it cannot be made into vinegar or wine.*

## **Conclusions**

While recent changes implemented by the Food and Drug Administration (FDA) may not have had a great impact on larger cider/juice processors in the state, the effects are still being felt among the state's small to mid-sized orchards and presses. According to this survey conducted in the spring of 2006 and 2007, 79% of respondents said their operation has been affected by the federal law changes. Of the respondents who commented, the greatest loss came from wholesale accounts.

Results also showed that 64% of those responding are farming full-time and 62% process cider/juice on the farm, with 50% selling via a farm stand/market versus 27% selling to wholesale markets. Several of these smaller orchards and farm operations use lesser grade apples for cider making, creating an added income for what otherwise would go unused.

Although 64% of respondents noted that they have lost customers/accounts because of the federal regulations, 66% reported cider production is still economically viable for them. About 8% reported they have had a drop in profits due to purchases of equipment and/or label requirements.

Many producers voiced concerns over the cost of pasteurization equipment. Producers want to supply their customers with a safe product and adhere to the rules, but costs of pasteurization equipment are prohibitively expensive and with smaller quantities of cider being produced, would not be recovered in the short term. Producers noted that the regulations seem geared towards larger operations where labor and costs are not as much a factor as in smaller orchards.

Of those responding, 34% reported cider they produce is traditionally pasteurized (heated), 49% is unpasteurized, 16% is treated with UV and 4% did not respond. Many producers who are not currently using pasteurization equipment suggested their customers do not want treated cider. Others noted that the warning label to some consumers is like "a skull & crossbones," which deters people from buying cider.

When asked to gauge their satisfaction with their chosen pasteurization equipment method, the response was overwhelming dissatisfied (60%). Comments included the unit quickly gets product build up and loses efficiency; costly to maintain parts, labor and the companies that sell the units do not offer repair services. 20% are satisfied and those responding mainly touted the benefits of UV treatment. Comments included UV treatment allows them to provide a safe product, without altering taste or appearance, this method works well, but needs more support in the public eyes. Costs of maintenance are still a factor with this treatment method as well.

A range of costs were reported when asked, if using pasteurization equipment, how much were the installation fees. 11% of producers are using UV treatment, with 14% using heat/flash pasteurization and 69% not using any pasteurization. Costs ranged from \$14,000 - \$26,000 for UV treatment to \$19,000 - \$65,000 for heat/flash equipment. These figures also did not factor in routine maintenance costs.

When asked if interested in learning about pasteurizers that use alternative energy sources such as solar or hydro power, 55% responded negatively with 28% interested in alternatives (16% did not respond).

What can we do to better support smaller cider/juice operations in the state? 36% stated increased marketing efforts, 32% did not respond, 26% asked for more grant/loan opportunities, with 19% interested in more training/educational opportunities and 11% interested in forming fruit cooperatives. Many producers are interested in grant/loan programs that may help cover costs to become compliant with the FDA regulations. Marketing is also a key to success, with several respondents asking for a positive campaign to get the public to realize cider is a safe and healthy product.

### ***Recommendations***

Upon reviewing the outcomes of this survey, PASA would like to offer the following recommendations to both PDA and the small to mid-sized cider producers in Pennsylvania.

#### ***Keep Unpasteurized Cider Sales Legal***

It will be up to PDA to continue to allow small to mid-sized cider producers in the state to sell unpasteurized cider directly to consumers. Although some respondents to this survey noted major losses in wholesale accounts when the new FDA regulations were brought into effect, these producers could explore marketing alternatives to increase direct sales opportunities in their area.

Pennsylvania producers, on average grow 500 million pounds of apples each year. For the smaller orchard, the chance to utilize lesser grade apples for cider and/or juice making can be an economically viable endeavor.

After reviewing comments from this survey, a majority of the smaller operations currently do not pasteurize their cider and wish to continue direct sales to consumers. Although some respondents felt pasteurization should be standardized across the board and not by retail or wholesale, overall a majority of those participating in this survey are now selling unpasteurized cider directly off their farm at a stand or market.

The quantity of cider currently being produced by those participating in this survey, showed 25% produce between 0-1,000 gallons per year and 41% between 2,000 –7,000 gallons per year. With this scale of operation, it seems unlikely that the purchase of pasteurization or UV treatment equipment would be paid off quickly, coupled with the fact that several customers at these types of operations do not want a pasteurized product.

### *Education*

Offering educational opportunities geared to small to mid-sized producers to learn more about direct marketing, educating their customer base and learning more about improving their cider operation overall would be beneficial to the industry.

Several surrounding states, including New York and Maine regularly offer intensive training sessions or daylong workshops on the latest advancements in the cider production industry. These workshops include topics such as; ensuring good agricultural practices for cider production; liability issues; new product availability i.e. small-scale pasteurizers, heat exchangers, and different presses; taste tests of the product from various pasteurization methods. These events are usually coordinated as a group effort between the state's Department of Agriculture, Apple Marketing Board and Extension. In Pennsylvania it would also be beneficial to include the Pennsylvania Fruit and Vegetable Growers, the Penn State Fruit Research Station and even PASA to help coordinate and promote educational opportunities for smaller producers.

### *Marketing*

Several producers indicated that help with marketing cider and education of consumers that cider is a safe product would be beneficial. It would be important to be sure that the small to mid-size producers in the state were aware that they can take part in PDA programs such as PA Preferred and Simply Delicious, as well as programs of the Pennsylvania Apple Marketing Program and even PASA's *Buy Fresh, Buy Local* efforts.

Education of consumers is also a key to the success of smaller cider producers. Support of a marketing/education program geared to the cider industry would be welcomed. A few respondents felt that since the E.coli scare that sparked the FDA regulations, cider still has a "bad name." Useful marketing to consumers to better understand how cider is produced, what pasteurized and UV treated all mean would be a step in the right direction.

### *Grant/Cost-Share Programs*

Producers would also welcome establishment of a grant/loan/cost-share program for producers wishing to purchase pasteurization or UV treatment equipment. Several smaller operations have chosen to stop making cider under these new regulations for wholesaling, since the costs are high for various treatment equipments. If PDA, the Apple Marketing Program or a federal agency (USDA) could offer a program to help producers pay for the cost and/or regular maintenance of this equipment, it would be beneficial to the industry.

## *Project Objective Two*

### *Conduct a minimum of two educational programs on cider production*

On September 21, thirty farmers and consumers gathered at Solebury Orchards in New Hope (Bucks Co.) for a tour hosted by owner Brian Smith. Smith guided participants through his fields, storage, and pressing facilities. Alternative energy expert Vertis Bream shared insights on how Solebury Orchards might incorporate alternative energy sources into current farm operations, including using solar power to fuel cider presses. Solebury Orchards updated their processing equipment to comply with federal pasteurization standards for apple cider. Smith expressed that his hot temperature, short time method of pasteurization affected the flavor of his cider less than a slower, longer pasteurization process. He does not sell any unpasteurized cider, even though he has an on-farm stand where he sells direct to customers. He argued that it is easy to treat all of the cider in the same manner, rather than try to reconfigure his bottling process each time he would have to switch between pasteurized and unpasteurized product. Attendees of this field day were surveyed about their experience and there was uniform agreement that the day was useful and well organized.

On September 28, eighteen farmers and consumers gathered at Sally's Cider Press in Harmony (Butler Co.) for a field day showcasing Tom and Sally Davis' newly installed solar-powered ultraviolet (UV) light processor. The twenty-panel photovoltaic system, with inverter, runs an FDA approved UV processor and finisher/pulper. UV light has been used for more than 40 years as an effective treatment for the elimination of various microorganisms in water and has been approved as a processing method for apple cider and juice. The Davis' prefer this method for processing their cider because UV treatment does not alter the taste or texture of cider or juice. The field day also featured guest speaker Darrell Frey, who detailed the cost of installation and acquisition of materials for a solar-powered unit. Surveys collected after the field day showed participants thought the material presented was useful.