

# **Economic Effects of Blending Kona Coffee—A Preliminary Analysis**

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## **Executive Summary**

This report is the result of a preliminary analysis of the economic effects of blending Kona coffee with non-Hawaiian coffees. Although based on a limited level of effort and limited data availability, it was possible to reach certain conclusions regarding the magnitude and incidence of economic impacts on growers and blenders. Two polar cases were analyzed: a Business As Usual (BAU) case and a No Blending case

**Under the BAU case--**The analysis concludes that blenders gain up to \$14.4 million in "economic rent" per year through the use of the Kona appellation on 10% Kona blends. Kona coffee growers experience an economic loss that may be on the order or possibly greater than the benefit to the blenders.

**Under the No Blending case--** The analysis shows an upper bound estimate of \$14.4 million loss per year to the blenders and marketers of 10% Kona coffee blends, with a corresponding gain to growers that may equal or exceed that loss. The blenders' loss in the No Blending case would be offset by the benefit of improving consumers' perception of the quality of "Kona Coffee" by avoiding attaching that appellation to a product whose taste is indistinguishable from commodity coffee.

With regard to the distribution of the impacts, the report concludes that the marketing of 10% Kona blends authorized by current Hawaii law results in a partial transfer of profit from growers to blenders and from in-state to out-of-state interests.



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# 1 Background

At present, the Hawaii Revised Statutes Chapter 486 -120.6 specifies that the geographic origin labeled coffee must contain a minimum of 10% of coffee from that geographic origin. The Hawaii State Legislature passed SCR 102 in 2007, a bill which among other items requested that the Hawaii Department of Agriculture (HDOA) study labeling requirements for Hawaiian-grown coffee with a geographic designation. In it the HDOA was asked to address a number of issues related to Hawaiian coffee including an economic analysis of increasing the minimum content from 10% to 50% for geographically designated coffees such as Kona coffee. This is the most recent of a number of inquiries regarding the use of the origin name Kona coffee.

The HDOA held several meetings with the concerned associations and industry groups. From these meetings the HDOA noted that the Kona Coffee Farmers Association favors restricting the Kona name to 100% Kona coffee while the Kona Coffee Council and the Hawaii Coffee Association favor retaining the current 10% minimum requirement. In its report to the Legislature prepared in response to SCR 102<sup>1</sup>, HDOA notes that coffee farmers in the Kona region have expressed concern that the use of the Kona geographic designation for blends with 10% Kona content has led to consumer confusion and is misleading. SCR 102 also includes the statement: “WHEREAS, existing labeling requirements for Kona coffee causes consumer fraud and confusion and degrades the ‘Kona coffee’ name;” The HDOA concluded that increasing the minimum content from 10% to 50% would have a significant economic impact on producers, processors and consumers. HDOA recommended that a new study be undertaken that would analyze these economic impacts. They received a quote of \$200,000 from the University of Hawaii CTAHR and another from the Kona County Farm Bureau for an estimated cost of \$98,000.

No funds have been allocated from the Legislature to conduct an economic study. Under the present financial conditions faced by Hawaii it is unlikely that funds will be available any time in the near future. Therefore the Kona Coffee Farmers Association (KCFA) decided to act on its own to fund a preliminary study to utilize existing data sources and previous studies to place some boundaries on the economic effects of alternative blending requirements. Resource Decisions was engaged to conduct this study. This report is the result of that study. Although the scope and budget for this preliminary study were severely limited, this report represents an effort to place some boundaries on the economic impacts of the current 10% minimum blending requirement versus the KCFA’s proposal to limit the use of the Kona name to 100% Kona coffee.

In the interest of full disclosure, the Principal of Resource Decisions, Marvin Feldman, owns and operates a small leasehold coffee farm in Captain Cook. He is a member of both the KCFA and the Kona Coffee Council.

## 2 Data Sources and Limitations

The primary source for data for this study is “*Hawaii Coffee*” a biannual publication of the HDOA and the National Agricultural Statistics Service (NASS) a branch of the US Department of Agriculture (USDA). In addition data was compiled from other HDOA publications and other publications as referenced.

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<sup>1</sup> HDOA, 2009

The *Hawaii Coffee* data present previous years' data in several issues. For ease of use, these data are compiled into tables including data from the 1997/1998 year through the latest available year 2008/2009. The tables are broken into Statewide, Big Island and Kona District Tables. The Kona District table was not published by the HDOA/NASS. Rather it was constructed from the Hawaii County table by assuming that Kona District production comprises 90% of the Hawaii County production, as estimated by M. Southichack<sup>2</sup>.

Appendix Tables 1, 2 and 3, report the HDOA/NASS data for the State, the Big Island, and Kona, respectively. In addition to the data reported in the publications, the tables include a column with the annual price of green coffee, calculated by dividing the total value of sales by the green coffee volume. Table 3 also contains a column presenting the Kona District coffee value as a percentage of the statewide value.

The HDOA/NASS data do not break out the price for the various grades of Kona coffee, notably Prime grade. The author estimates that this grade, the lowest grade that can be labeled Kona coffee sells at 75% of the average of all grades of Kona coffee.

This study is limited by the lack of data available from the blenders, who consider their data proprietary. The missing data includes the actual cost of production of Kona blend coffee, the annual volume of sales and tax revenues from sales of Kona blend. In the absence of hard data, these values were estimated using reasonable assumptions and professional estimates. The author would be happy to adjust the analysis accordingly if these data are made available.

### 3 Preliminary Analysis

Given the limited data presently available and the very limited scope of this study, analysis was limited to two polar cases and one intermediate case. The first case examines the economic impacts of business as usual, assuming that Kona blend absorbs the entire prime grade Kona and does not use any other Kona coffee. The second case assumes that all of the Kona prime grade production is sold as commodity coffee and there is no 10 percent Kona blend sold.

#### 3.1 Business as Usual (BAU) Case

Although in theory the category of “Kona Blends” could include any pure Kona content from the statutory minimum of 10% to 99%, in actual practice almost all Kona blend coffees are exactly 10% Kona. The vast proportion of Kona blends produced in Hawaii is produced by two Honolulu-based companies: Hawaiian Coffee Company (Lion and Royal Kona brands) and Hawaiian Isles Kona Coffee Company. HCC employs approximately 450 people<sup>3</sup> and is a subsidiary of Paradise Beverages<sup>4</sup> which is in turn a wholly-owned subsidiary of Topa Company. Topa is privately owned by John Anderson<sup>5</sup> who is a California resident. Hawaiian Isles Coffee Company Ltd., employs 150 people (125 in Honolulu) and has annual gross sales of \$36 million<sup>6</sup>. Hawaiian Isles Kona Coffee is owned by its president Michael Boulware<sup>7</sup>, who is a Hawaii Resident. Both companies also produce and market pure Kona coffee. All of their Kona blend coffees contain the minimum Kona content to

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<sup>2</sup> M. Southichack, July 2006, p. 10.

<sup>3</sup> [http://hoovers.com/hawaii-coffee/--ID\\_\\_117533--/free-co-factsheet.xhtml](http://hoovers.com/hawaii-coffee/--ID__117533--/free-co-factsheet.xhtml)

<sup>4</sup> [http://www.hoovers.com/hawaii-coffee/--ID\\_\\_117533--/freeuk-co-factsheet.xhtml](http://www.hoovers.com/hawaii-coffee/--ID__117533--/freeuk-co-factsheet.xhtml)

<sup>5</sup> <http://www.allbusiness.com/corporate-governance/103097-1.html>

<sup>6</sup> [www.allbusiness.com/companyprofile/Hawaiian\\_Isles\\_Kona\\_Coffee\\_Company\\_Ltd/AC60F66C89284B0DAC3112C1B4162AC4-1.html](http://www.allbusiness.com/companyprofile/Hawaiian_Isles_Kona_Coffee_Company_Ltd/AC60F66C89284B0DAC3112C1B4162AC4-1.html)

<sup>7</sup> <http://archives.starbulletin.com/1999/06/07/news/briefs.html>



permit the designation of Kona coffee: 10 percent. They are privately held companies so detailed sales information, notably the breakdown of sales of Kona blend coffee is not publicly available.

A number of assumptions must be made in order to estimate the current sales volume of Kona blend coffees:

1. All blends contain exactly 10% Kona coffee
2. Only the lowest grade coffee legally identifiable as Kona (“prime grade”) is used
3. All of the prime grade Kona coffee is used in blending

The first and second assumptions can be justified on the basis of common sense. The labels state the contents are at least 10% Kona coffee (the legal minimum requirement for Kona labeling). There is no reason for them to contain more than 10% nor is it likely that they contain Kona grades higher than prime grade<sup>8</sup>, because the Kona coffee content is not detectable, even to an expert cupper.”<sup>9</sup> Because the actual quality of Kona blend coffee is less critical than the cachet of the name Kona coffee, it would be illogical for blenders to use higher grades. This assumption has been verbally confirmed by Jim Wayman, President of Hawaiian Coffee Company, in public meetings.

The assumption that ALL of the prime grade production of Kona coffee is used for blending is conservative in that it tends to inflate the economic value attributable to the blended product.

These assumptions are generally substantiated by the available data. According to Southichack 2006, approximately 10% of all Kona coffee produced is prime grade, 30% is Number 1, 30% is Fancy, 20% is Extra Fancy and the remaining 5% is peaberry<sup>10</sup>. Data on Kona coffee production is not reported separately from the total production of Hawaii County, but Southichack estimates that Kona comprises 90% of the Island’s production<sup>11</sup>. Based on data compiled in Table 3, the average green production of all grades of Kona coffee in the past 10 years has been 2.7 million pounds. Thus approximately 270, 000 pounds per year of prime is available for blending, resulting in an estimated 2.7 million pounds of green Kona blend. Allowing 20% for the shrinkage due to roasting, results in 2.2 million pounds of roast 10% Kona blend being available under the BAU case.

(It should be noted that the estimated availability of prime grade Kona might be underestimated by as much as 5 percentage points (15% of the crop rather than 10%) based on comments by blending industry leaders at public meetings and data on coffee imports due to blenders. However, as these data could not be substantiated, the lower estimate of 10% based on Soutichuck was used).

### **Blenders Perspective**

From the blenders’ perspective, the value added by blending Kona and commodity coffee is based on the cost of the component green beans, plus the added cost of roasting and bagging. Commodity coffee is currently trading at \$1.40 per pound<sup>12</sup>, for an estimated delivered cost in Hawaii of \$1.50. According to Table 2, the average price of all grades of green Kona coffee was \$6.63 during the 2008/2009 season (see Table 2). Assuming that the lower grade “prime” Kona sells at 75% of the average of all grades yields a cost of approximately \$5.00 per pound. Thus a pound of 10% Kona and 90% commodity coffee currently costs \$1.85 per pound. Allowing an additional \$1.50 per pound for warehousing, roasting bagging and marketing, and applying a 20% shrinkage factor due to roasting, results in an estimated total cost of \$3.81per pound of roasted Kona blend.

<sup>8</sup> There are five grades of green coffee that can be designated as Kona coffee (in order of increasing quality): prrme, Kona #1, fancy, extra fancy and peaberry. Grade #3 (below prime) is not allowed to be designated Kona coffee.

<sup>9</sup> <http://www.coffeereview.com/article.cfm?ID=118>

<sup>10</sup> M. Southichack, July, 2006, p.10.

<sup>11</sup> Ibid.

<sup>12</sup> December Futures price for green coffee, NY Board of Trade.

[http://quotes.ino.com/exchanges/?r=NYBOT\\_KC](http://quotes.ino.com/exchanges/?r=NYBOT_KC) downloaded on 10/29/2009.



Kona coffee blends are sold at wholesale to stores and directly to retail through web sites. Hawaiian Coffee Company's website lists their Lion brand at \$16 per 20 ounces resulting in \$12.80 per pound. Hawaiian Isles coffee offers their blend at \$16 per two pound package resulting in a price of \$8.00 per pound. Averaging these two prices results in \$10.49 per pound.<sup>13</sup> Thus the spread between cost and retail price averages \$6.68 per pound of apparent net profit for internet retail sales. There is no public data on which to estimate the extent of retail internet versus wholesale sales to stores and distributors. The internet sales are no doubt far more profitable than the sales to the wholesale market. However, making the extreme assumption that all sales are retail sales, yields an extreme upper-bound estimate that the marketing of Kona blend yields an apparent net profit of \$14.4 million per year to the blenders. In economic terminology, the blenders receive an economic rent in the amount of \$14.4 million per year from the use of the Kona appellation.

### **Coffee Grower Perspective**

Growers receive an estimated \$1.4 million from the sale of prime Kona to the blenders. The higher grades (the remainder of the coffee production) are sold by the growers either through retail sales or to wholesalers who market pure Kona coffee. Many growers believe that purchasers of Kona blend are deceived by the label Kona coffee on blends and that the sale of blends degrades the appellation Kona Coffee by attaching it to an inferior product. For further discussion of this point, see Section 3.2. If this allegation is correct, the demand for pure Kona coffee is reduced as potential consumers reduce their willingness to pay the premium price for pure Kona coffee because it is not a differentiated product from non-specialty coffee.

## **3.2 Eliminate Kona Blends**

It is not the purpose of this report to elaborate on the extent of consumer deception inherent in the Kona blend products. These arguments are addressed in several papers and testimonial filing by the Kona Coffee Farmer's Association<sup>14</sup>. A statement that appeared in a refereed journal<sup>15</sup> summarizes some of these issues:

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<sup>13</sup> A weighted average of the two brands would result in a higher price, as HCC sells much more blended coffee than does Hawaiian Isles. However, as total sales figures are not publicly available, a simple average is used.

<sup>14</sup> See, e.g., the Kona Coffee Farmers Association's minutes of Board meetings of April 8 and 24, 2008 with HODA representatives pursuant to the request of the Legislature in Senate Concurrent Resolution No. 102 (2007).

<sup>15</sup> J. of Food Quality June, 1992. Abstract: Five focus group discussions were conducted in the four counties of Hawaii to investigate consumer attitudes toward product descriptors for: Kona Coffee, Kona Coffee Blend, Hawaii Coffee and Island Fresh. Results indicate that Kona Coffee was considered by consumers as an appropriate product descriptor for coffee products consisting only of 100% Kona coffee. Consumers also described the use of the following product descriptors as appropriate: Kona Coffee Blend, for coffee products containing at least 50% Kona coffee; Hawaii Coffee, for coffee grown only in Hawaii; and Island Fresh only for traditional, perishable foods that were grown, harvested, and/or slaughtered on the Islands (except milk, dairy products, and roasted whole coffee beans, which may also use the product descriptor). Consumer standards for a Kona Coffee Blend differ from those adopted by the industry in 1992. Because consumers at all five locations expressed similar views, results indicate that these findings could be representative of those of Hawaii residents. Results also indicate that Hawaii consumers are consistent with the rest of the nation and the Food and Drug Administration in their requirements for truthfulness in labeling.

*When asked what quality they expected of a 10% Kona Coffee Blend, consumers believed the blend would have less of the special Kona coffee characteristics than pure Kona coffee, since they felt that 10% was too small an amount to have an influence on the flavor. However, since some consumers preferred a mild coffee, they would try the 10% Kona Coffee Blend. Many expressed concern that tourists who buy Kona Coffee Blends do so without carefully reading the label. Consequently, these tourists may find Kona Coffee Blends not to be distinctive and may think that the leading descriptor Kona Coffee was not worthy of a special price. This reaction is similar to consumer attitudes toward trivial, easy-to-make brand extensions, which are perceived as an unjustified excuse to use an already established “brand,” in this case Kona, and may actually damage the brand’s image (Aaker and Keller 1990).*

Hodgson & Bruhn, 1992, p. 69

Dr. Hodgson confirmed to the KCFA in 2007 that, "Dr. Bruhn and I think that the results still apply today."<sup>16</sup>

Expert cupper Ken Davids, editor of Coffee Review, said that in his experience it would be very difficult to impossible for even an experienced cupper to determine which of two otherwise identical blends contained 10% Kona and which did not. Mr. Davids reviewed Kona Blends for the Coffee Review in April, 2006:

“Kona can’t be blamed for the indifferent quality of the three Kona blends we sourced. The Kona blends we sampled suggested that these companies tossed whatever vaguely low-acid, wet-processed coffee they had around the warehouse into their faux Konas without much real commitment to approximating the subtle Kona character.”

A 2004 report by the Hawaii Dept of Agriculture on the outlook for Hawaii’s coffee industry<sup>17</sup> states:

Quality maintenance and product differentiation are the major factors determining long-term success of Hawaii coffee industry. Product differentiation based on point of origin is critical because bean quality is partially determined by natural factors (soil composition, rain, temperature, and sunlight), which are location-specific, in addition to cultural practices and cherry processing.

A more detailed study might explore the economic effects of alternative blends including for example 20% and 50% Kona blends, which are presently marketed in small quantities. However, for this preliminary analysis a polar case of eliminating Kona blends will provide some insights. For this purpose the No Blending case assumes that all coffee identified by the geographic designation “Kona Coffee” contains only pure Kona coffee.

The absence of Kona blends would in all likelihood have a positive effect on the Kona coffee market due to improved consumer perception of the quality of Kona coffee. As evidenced by Hodgson and Brand’s 1992 consumer preference study, many consumers are disappointed in Kona blend quality and are deceived in thinking that this inferior product is representative of Kona coffee. These consumers might not try Kona coffee again. In the absence of Kona blends these consumers would not be eliminated from the market, thus shifting the demand for Kona coffee upward. Other consumers who might have continued to buy Kona blend for the snob appeal or as gifts would be lost

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Consumers want to know if label information is correct and accurate in order to assess quality in relation to price and make informed decisions.

<sup>16</sup> Statement of Dr. Hodgson to Christine Sheppard, editor of the KCFA newsletter, The Independent Voice, January 2007.

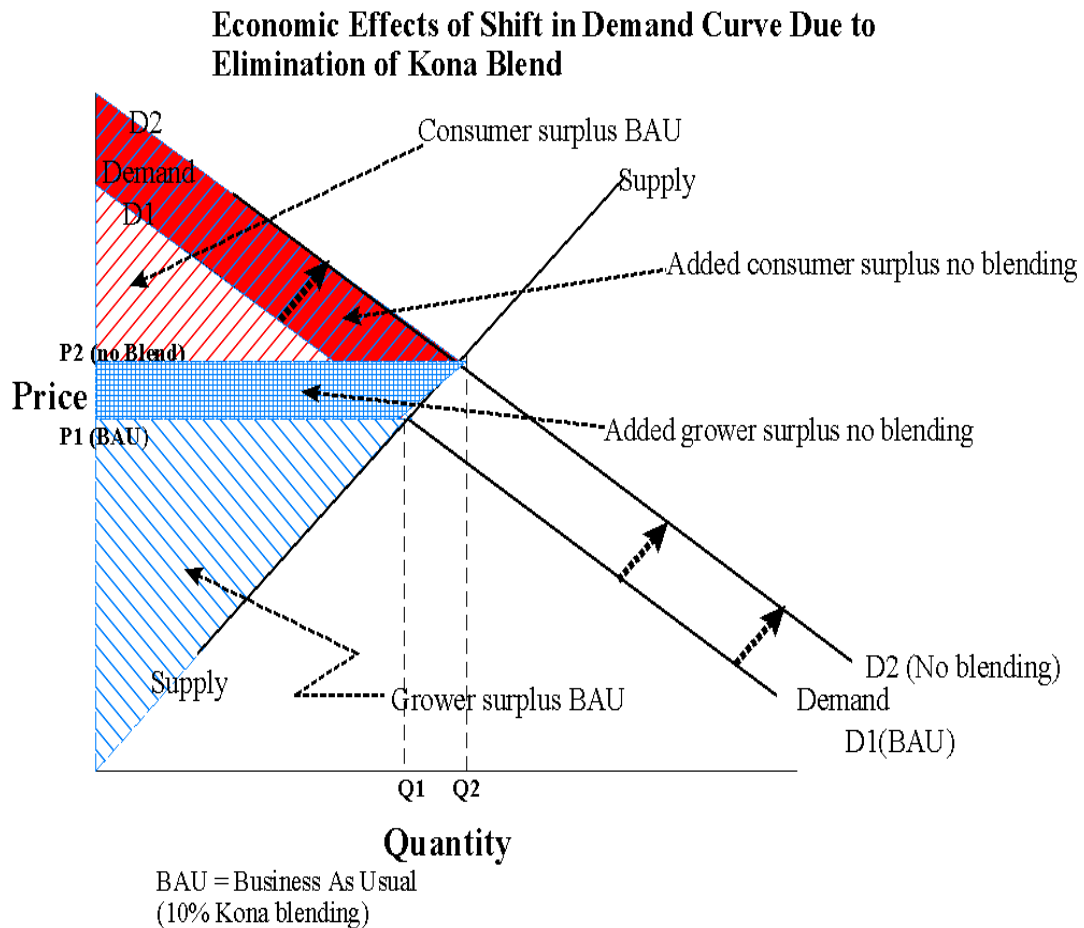
<sup>17</sup> Southichuck, 2004 <http://hawaii.gov/hdoa/add/research-and-outlook-reports/Coffee%20Outlook%202004.pdf>





to the market. However, without Kona blends, anyone who tries Kona coffee would be exposed to the actual flavor of Kona coffee. Given the perception of Kona as one of the great specialty coffees of the world, it is reasonable to anticipate that the eliminating Kona blends from the market will enhance the overall perception of the quality of Kona coffee and hence the shift the demand for Kona coffee upward, qualitatively illustrated in Figure 1 shown below and discussed further in Section 4.

Figure 1 illustrates a shift in the demand curve due to increased perceived quality of Kona coffee due to the elimination of blending. With this perception change, the quantity demanded at each price would increase. This figure is qualitative due to data limitations. The actual degree to which the supply and demand curves will shift and the shape of these curves remains to be quantified.



**Figure 1.**

**Blenders Perspective**

The blenders would lose the \$14.4 million per year of economic rent that is gained by attaching the Kona name to 10% Kona 90% commodity coffee. This loss would likely be offset by additional sales of their pure Kona coffees as all major blenders also sell pure Kona. It is not clear whether the offset would be partial, or completely recovered by these additional pure Kona sales. This would depend on the change in buyer perceptions about Kona coffee in the absence of blends. Thus the \$14.4 million in economic rental obtained by blenders for the use of the Kona appellation is an

upper-bound estimate of the loss to blenders from the elimination of Kona blends. The profits due to blending are shared by the employees involved in blending, packaging and marketing Kona blend and the owners of the blending companies. In the case of the largest blender, HCC, all of the proprietor's income (profit) leaves Hawaii and accrues to Topa, the parent company, which is owned by a California resident John Anderson. Hawaiian Isles Coffee appears from public information to be Hawaiian owned. The proportion of the labor income that might be lost due to the elimination of blend would affect Hawaii residents. Again, it is not clear how much of this loss would be offset by gains in the sale of pure Kona coffee by the current blenders, processors and direct retail sales growers.

### **Growers Perspective**

The prime grade coffee that would otherwise be used in blends would most likely be included in the estate grade coffee sold by growers through the retail market<sup>18</sup>. If the prime coffee is sold on the wholesale market it would likely receive the same price as is presently paid by the blenders, resulting in no net change in the market for prime. This coffee might otherwise be sold as 100% Kona coffee at the presumed lower price of \$6.63 per pound or mixed in with higher grades of Kona coffee. It is unlikely that the additional 10% of the volume of Kona coffee represented by the prime grade output would produce a glut of Kona coffee. According to the Hawaii Coffee Association (an organization largely comprised of large growers, roasters, blenders and distributors) in past years all Kona coffee demand typically exceeds supply<sup>19</sup>. Therefore it is likely that growers would not experience any economic loss due to the elimination of Kona blends.

As seen in Figure 1, the area under the shifted demand curve at price P2 (blue square pattern) represents the additional producer surplus accruing to the growers. As a large percentage of Kona coffee owners are Hawaiian residents most of this surplus would remain in Hawaii. All of the additional labor income needed to provide the higher equilibrium quantity supplied would remain in Hawaii.

## **4 Preliminary Conclusions that can be drawn from existing data**

There is no data on which to base a quantitative demand curve, but the qualitative relationship is illustrated in Figure 1. The shaded area A shows the loss of producer surplus (net profit) that result from this effect. Note that this producer surplus is lost to all retail sellers of pure Kona coffee (vertically integrated growers, roasters, and blenders to the extent to which they also market pure Kona coffee). With the available information it is not possible to quantify the demand curve and its shift and thus to determine whether the gain in producer surplus to the vendors of pure Kona coffee completely or partially offsets the loss of economic rent obtained by the blenders for the use of the Kona appellation.

We have demonstrated that a maximum of \$14.4 million of producer surplus or economic rent is obtained through the use of the Kona appellation in Kona 10% blends. Growers experience no benefit from blending as is now practiced. In fact they experience a loss that is possibly on the order or greater than the gain to the blenders. The net efficiency (blenders gain versus growers loss) cannot be estimated from the existing data.

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<sup>18</sup> "Estate" grade coffee includes a mixture of all grades of coffee produced on a given farm.

<sup>19</sup> Hawaii Coffee Association Weighs in Against 75% Blending Requirement. 2007 Hawaii Coffee Association testimony before the Hawaii Legislature.





There are equity issues at stake as well, both from the consumer perspective and from the growers' perspective. These issues go to the fairness and possibly the legality issues of: whether the blenders' economic rent is justified at the expense of the erosion of the Kona appellation (see Aaker and Keller (1990)).<sup>20</sup> They are not economic issues per se. The appropriation of the Kona appellation by the blenders has been generally understood by researchers to be misleading to consumers. Despite the fact that Kona blend labels do disclose the 10% minimum percentage of Kona many consumers see the name Kona prominently displayed on the label and incorrectly infer that they are buying a superior product. Professional taste tests indicate that this is not the case. Furthermore, the distribution of the economic impacts represents a transfer of profit from growers to blenders and from in-state to out-of-state interests. Bruce Corker, President of the KFCA states: "We are aware of no region anywhere in the world, other than the State of Hawaii, which authorizes the use of the name of one of its specialty agricultural products with only 10% genuine contents." The Hawaii Department of Agriculture Market Outlook Report states "Quality maintenance and product differentiation are the major factors determining long-term success of Hawaii coffee industry. Product differentiation based on point of origin is critical because bean quality is partially determined by natural factors which are location-specific, in addition to cultural practices and cherry processing."

## 5 Options for further study

As noted above, data limitations and the scope of the current study limit the definitiveness of the conclusions that can be drawn at this time. Further research in the following areas would help to further refine the economics effects of changing the blending requirements:

- Gather data from blenders on volume of sales, costs and profitability of the blended coffee products currently being sold.
- Information from blenders on the employment attributable to blended coffee sales and regarding the portion of proprietors income remaining in Hawaii.
- Quantification of the degree to which consumers of Kona blends are misled in thinking they are purchasing a true Kona coffee.
- Investigation of the economic effects of intermediate blending scenarios such as a minimum of 50% pure Kona in products identified as Kona coffee.
- Fiscal revenue implications for the state of Hawaii and Hawaii county resulting from the current blending requirements and the impacts of alternative blending requirements.
- Quantification of the supply and demand curves qualitatively represented in Figure 1 of this report.

Additional information regarding consumer preferences for Kona blends is NOT a high priority at present because past research has already adequately addressed these issues. Nor will additional economic research help to define equity issues related to the blenders' current ability to extract economic rent from the Kona appellation and thus erode the quality perception of the Kona coffee brand.

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<sup>20</sup> Aaker, D.A.; Keller, K.L. (1990)

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## APPENDIX

**Table 1: Statewide Hawaii Coffee Production and Marketing**

County and crop year Farms /1	Farms	Acreage		Yield /2	Marketed	Farm Prices		Value of Sales	Green Production	Parchment Production/7
		In Crop	Harvested			Cherry	Parchment			
	Number	Acres	Acres	1,000# per Acre	1,000 #	Cents/#	Cents/#	\$1,000	1,000 #	1,000 #
<b>State</b>										
1997/98	585	7,000	5,800	1.60	9,400	NA	300.00	28,200	7,720	9,264
1998/99	610	7,400	6,100	1.60	9,500	NA	260.00	24,700	7,600	9,120
1999/00	650	7,700	6,400	1.60	10,000	NA	210.00	21,000	8,100	9,720
2000/01	670	7,900	6,800	1.30	8,700	NA	265.00	23,055	7,000	8,400
2001/02	700	8,000	6,300	1.30	8,000	NA	245.00	19,600	6,400	7,680
2002/03	710	7,200	5,900	1.30	7,500	NA	310.00	23,250	5,900	7,080
2003/04	715	7,300	5,900	1.40	8,300	NA	290.00	24,070	6,600	7,920
2004/05	750	7,700	5,800	1.00	5,600	NA	355.00	19,880	4,500	5,400
2005/06	790	7,900	6,100	1.30	8,200	NA	455.00	37,310	6,600	7,920
2006/07	820	8,200	6,300	1.20	7,400	NA	430.00	31,820	5,900	7,080
2007/08	830	7,800	6,400	1.20	7,500	NA	425.00	31,875	6,000	7,200
2008/09	830	7,800	6,300	1.40	8,600	NA	340.00	29,240	6,900	8,280
<b>Average 1998-2008</b>	722	7,658	6,175	1	8,225	NA	324	26,167	6,602	7,922

Sources and Notes: See Table 3 below.



**Table 2:  
Hawaii County Coffee Production and Marketing**

	Farms	Acreage In Crop		Yield /2 1,000# per Acre	Marketed		Farm Prices		Green Coffee Price	Value of Sales	Green Product ion	Parchment Production/7
		Number	Acres		Acres	1,000 #	Cherry Cents/#	Parch. Cents/#				
<b>Hawaii</b>												
1997/98	575	2,490	1,900	1.50	2,850	135.00	700.00	570.00	7.06	16,245	2,300	2,760
1998/99	600	2,800	2,170	1.60	3,500	130.00	500.00	460.00	5.75	16,100	2,800	3,360
1999/00	635	3,200	2,400	1.20	3,000	70.00	360.00	310.00	3.88	9,300	2,400	2,880
2000/01	650	3,350	2,700	1.40	3,800	85.00	425.00	400.00	5.07	15,200	3,000	3,600
2001/02	675	3,430	2,850	1.10	3,100	85.00	425.00	425.00	5.27	13,175	2,500	3,000
2002/03	680	3,500	2,850	1.40	4,100	90.00	405.00	390.00	5.00	15,990	3,200	3,840
2003/04	690	3,600	3,000	1.30	4,000	85.00	365.00	380.00	4.75	15,200	3,200	3,840
2004/05	710	3,750	3,300	1.00	3,200	110.00	660.00	465.00	5.81	14,880	2,560	3,072
2005/06	745	3,800	3,300	1.80	5,800	120.00	670.00	535.00	6.60	31,030	4,700	5,640
2006/07	775	3,800	3,000	1.30	4,000	135.00	765.00	640.00	8.00	25,600	3,200	3,840
2007/08	790	3,800	3,000	1.30	3,900	140.00	820.00	650.00	8.18	25,350	3,100	3,720
2008/09	790	3,800	2,900	1.40	4,000	115.00	680.00	530.00	6.63	21,200	3,200	3,840
<b>Average</b>												
<b>1998-2008</b>	693	3,443	2,781	1	3,771	108	565	480		18,273	3,013	3,616

Sources and Notes: See Table 3 below.



**Table 3**  
**Estimated Kona Coffee Production /6**

	Farms	Acreage In Crop	Acreage Harvested	Yield /2 1,000# per Acre	Marketings 1,000 #	Value of Sales \$1,000	Green Production 1,000 #	Parchment Production/7 1,000 #	Pct of State Parchment	Value of Sales as % of State
<b>Kona (estimated)</b>										
1997/98	518	2,241	1,710	1.5	2,565	14,621	2,070	2,484	26.8%	51.8%
1998/99	540	2,520	1,953	1.6	3,150	14,490	2,520	3,024	33.2%	58.7%
1999/00	572	2,880	2,160	1.2	2,700	8,370	2,160	2,592	26.7%	39.9%
2000/01	585	3,015	2,430	1.4	3,420	13,680	2,700	3,240	38.6%	59.3%
2001/02	608	3,087	2,565	1.1	2,790	11,858	2,250	2,700	35.2%	60.5%
2002/03	612	3,150	2,565	1.4	3,690	14,391	2,880	3,456	48.8%	61.9%
2003/04	621	3,240	2,700	1.3	3,600	13,680	2,880	3,456	43.6%	56.8%
2004/05	639	3,375	2,970	1.0	2,880	13,392	2,304	2,765	51.2%	67.4%
2005/06	671	3,420	2,970	1.8	5,220	27,927	4,230	5,076	64.1%	74.9%
2006/07	698	3,420	2,700	1.3	3,600	23,040	2,880	3,456	48.8%	72.4%
2007/08	711	3,420	2,700	1.3	3,510	22,815	2,790	3,348	46.5%	71.6%
2008/09	711	3,420	2,610	1.4	3,600	19,080	2,880	3,456	41.7%	65.3%
<b>Average</b>										
<b>1998-2008</b>	624	3,099	2,503	1.4	3,394	16,445	2,712	3,254	42.1%	61.7%

**SOURCE:** (For all but Kona breakout and parchment #): HI Dept. of Ag "Hawaii Coffee" Aug. 2003, Jan2007 and Sept. 2009.



**NOTES:**

- 1/ Coffee harvesting occurs throughout the year in Hawaii. The main harvest normally begins in late summer and extends to be early part of the following year.
- 2/ Average yields based on parchment equivalent marketings and harvested acreage.
- 3/ Expressed in parchment equivalent pounds. Coffee marketed in cherry form was converted to an equivalent parchment weight and added to parchment marketings.
- 4/ Represents an average farm price for parchment equivalent sales. Obtained by dividing farm revenues from the sale of cherry and parchment coffee by total marketings (parchment equivalent basis).
- 5/ Kauai, Maui, and Honolulu counties combined to avoid disclosure of individual operations.
- 6/ Kona estimated based on 95% of total Hawaii County. Southchack, 2006, page
- 7/ Based on an assumed ratio of 1.2 # parchment to 1# green.