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# The University of Georgia

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**Center for Agribusiness and Economic Development**

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## **Flint River Valley Farms Cantaloupe Brand Naming Feasibility Study**

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# **FLINT RIVER VALLEY FARMS CANTALOUPE BRAND NAMING FEASIBILITY STUDY**

## **Introduction**

This study examines the potential and feasibility of a brand named cantaloupe to be produced in Georgia. A group of cantaloupe producers in five counties of southwest Georgia (Baker, Miller, Mitchell, Decatur and Seminole Counties) believe the cantaloupes they grow have an added sweetness and flavor that excels other cantaloupes. This group would like to form a cooperative, called Flint River Valley Farms, that would work together to market the sweeter cantaloupe. In this marketing process, the group feels developing a brand name would allow them to capture higher prices and market share.

In order to determine the feasibility of this proposal, several issues had to be addressed. The first section of this paper discusses branding. The discussion includes the topics: what a brand is, how to acquire a trademark to protect a brand, and truth in advertising. The second portion of this paper examines the claim by the growers which asserts the Flint River grown cantaloupe is superior to other cantaloupe. This claim was tested by University of Georgia researchers in a scientific taste test. The results of this test are presented in this section. Finally, cooperatives and cooperative structure will be discussed.

## **Creating a Brand**

Fruit and vegetable growers in the Southeast have long been exploring different methods to expand sales and increase profits. One of the proposed methods for accomplishing this goal is to establish brand name recognition. The relative success of the Vidalia Onion in Georgia has created some eagerness to replicate this success.

Research is being conducted across the United States into the rewards of brand names. One such study was conducted on peaches that were guaranteed to be grown under integrated pest management techniques to ensure food safety. The study concluded that branding these peaches would not increase the value of the peaches (in terms of a premium price) but it would increase the market share commanded by the peach (Bagnara 1996). The importance of this study is that it suggests that profits to the cooperative from the brand name may accrue from the ability to sell more cantaloupes, but not necessarily at a higher price.

## **What is a Brand?**

A brand can be thought of as a collection of intangible, consumer-perceived product and organizational attributes and characteristics. Put simply, a brand is a product's personality and it cannot be created over night as it is a summation of consumers' interactions and experiences with a product, and with the product's parent company. Each time consumers have an interaction with a product, (i.e., purchasing, being exposed to advertising and media coverage or through word of mouth) an impression is created and retained. Over time, these impressions and

experiences form consumers' perceptions of a product, thus creating its brand. The image associated with a product's brand is the principle source of its competitive market advantage and is a valuable asset.

### **How to Develop a Brand**

Conveying a consistent, clear, memorable and positive message to consumers is critical to creating a successful brand. It is very important that interaction between a product and its consumers or potential consumers have a consistent theme or message. This consistency must be present in the name, logo, slogan, advertising and promotional campaigns, product packaging, organizational culture, company actions and every other point of contact with consumers. If a mixed or inconsistent message is delivered, consumers may have difficulty in creating a positive and memorable impression. An inconsistent message detracts from creating a successful brand. In order for Flint River Farms to develop a brand associated with quality, the group has to ensure they offer a quality product, their marketing mix delivers a message of quality and any consumer interaction with the product or parent company (i.e., customer service department) leaves them with the impression of a quality organization. It may be easy to develop a memorable marketing mix stressing a quality product, but if the product is inconsistent or the customer service department is not responsive, the marketing strategy will most likely fail.

The actions of a company are as important as more traditional marketing tools in creating a brand. For example, when a faulty product enters the market, a company may react by quickly recalling the defective or unsafe product. This will convey an image to consumers that the company puts its consumers' health and safety above corporate profits. Such actions will have a significantly larger impact on consumer perceptions than a multi-million-dollar advertising campaign directed at telling consumers the company is health and safety conscious.

Overall, a brand may be summed up as the one word or phrase consumers use to describe a product or company. Companies like Coca-Cola<sup>®</sup>, NIKE<sup>®</sup> and Xerox<sup>®</sup> have been very successful in branding their products. NIKE<sup>®</sup> invokes the image of athleticism while Xerox<sup>®</sup> is synonymous for photo copying. The NIKE<sup>®</sup> swish often appears alone in NIKE<sup>®</sup> advertising with no mention of the NIKE<sup>®</sup> name. The incredible branding of these products was not an accident and did not occur without significant planning.

### **Reasons for Creating a Brand**

Branding a product provides a point of differentiation from competing products. Products are continually competing on price, quality, and service. Over time, trying to differentiate a product based on one of these characteristics alone is very difficult. Branding on the other hand, is a viable means of maintaining product differentiation over time. For example, *Sunkist*<sup>®</sup>. The name exudes confidence and trust as people rely on the consistent quality of the product. There may be a cheaper orange, but consumers have come to associate *Sunkist*<sup>®</sup> with quality and they trust that the brand will consistently meet or exceed consumer expectations.

Consumers then ask themselves, it is worth taking a risk purchasing a cheaper orange when they know nothing about it or its company?

Branding has been shown to have a significant influence on consumer purchasing behavior. Effective branding impacts the information search in the consumer purchasing process. Because consumers are familiar with a brand, they trust the brand and know it stands for value. The brand alleviates their need to seek information on the product or company. Branding also impacts consumers need to evaluate competing products, i.e., consumers are familiar with a brand's attributes while they know little about the competitor's attributes. Therefore, the brand has a significant impact on the purchase decision because consumers are more likely to buy products they are familiar with and trust.

Branding is an important ingredient in developing consumer loyalty. Brand loyalty can be thought of as a consumer's conscious or unconscious decision, expressed through intention or behavior, to continually repurchase a brand. A consumer repeatedly purchases a "brand" because they perceive it as being priced right and having the desired product features, image, and level of quality they demand. Consumers are creatures of habit and become comfortable with things that are familiar and safe and a level of trust is developed. ***To entice consumers to break their habits, a company marketing a new product or marketing to new consumers has to convince them that their product offers greater value, encourage them to initially purchase it and convince them to repurchase.*** Once a strong brand is created, competitors will have to entice loyal consumers to switch brands which is not easy to accomplish.

A loyal consumer has fewer incentives to engage in an extended information search among competing products. Purchase decisions can even be simplified or even become habitual as brand loyalty increases. This is attributed to the level of satisfaction and perceived value consumers associate with the brand.

In addition, branding<sup>1</sup> can:

- reduce marketing costs because of high brand awareness and loyalty among consumers.
- provide leverage with distributors and retailers because consumers expect them to carry the brand. New brands are typically given a few months to prove themselves in the marketplace.

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<sup>1</sup> Myron, Monique R. Brand Identify, Crucial to Sold Product Image, The Denver Business Journal, July 23, 1999.

- offer the opportunity to charge a higher price because of the product's perceived quality and value.
- allow line extensions (introducing new products under the brand name) because new products using the brand name reflect the same level of quality and value that is associated with initial products.
- provide some protection against price competition. There is a perceived value associated with a brand and therefore cheaper products may be perceived as being cheaper in quality and less of a value.

### **Consideration for Creating a Brand Name**

The first step in creating a brand is name selection. A name ultimately becomes synonymous with the brand and is the cornerstone for creating a strong brand. A product's name is often the first line of communication with consumers and triggers product recognition and recall (i.e., product attributes) creating an image in the consumer's mind. Therefore, name selection is extremely important in creating a brand. There are a number of considerations that should be evaluated before deciding on a "name."

The following provides some food for thought when selecting a product's name.<sup>2</sup>

1. Verbally describe the product. Include the product's strengths (competitive advantages), key characteristics and other unique qualities associated with the product.
2. Determine the image the name should convey. Brain storm to see how, or if, various names are easily associated with key features and/or attributes or desired images. The name should clearly describe the product to consumers. It is easier to promote a product that readily conjures a description of a product in consumers minds than it is to promote a product whose name is not easily associated with its use. A name that does not allow consumers to associate it with a product will require additional advertising dollars to educate consumers on what the name means and what product it represents.
3. Make sure you have researched the product's target market. Ensure that the name evokes product features and/or attributes and images that are aligned with the target market's perceptions.
4. The name should test the stand of time because packaging, slogans and advertising campaigns may change over time but the name has to remain the same or all brand equity may be lost.

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<sup>2</sup> A brief Checklist for DO-IT-YOURSELF" Name Development.  
<http://www.namestormers.com/namingguide.htm>

Names may be derived from real-world places, events or phenomena. The advantage of using real-world names is that they are generally descriptive and conjure specific images in consumers' minds. One problem associated with using a real-world name, is that in many cases these names have been previously trademarked. Using the name of an individual person or place may be limiting in the future, i.e., the person for whom the name was created, retires or is no longer associated with the business.

Another naming option is using acronyms. IBM<sup>®</sup> (International Business Machines) is a good example of an acronym name. When using an acronym, be careful that the name does not represent jumble. It is easy to develop acronyms that may make sense to you, but have no meaning to consumers or are not easily related to your business.

## **Trademarks**

In many instances, discussions of new products, ideas, recipes and enterprises generally include patents and trademarks. In most cases, trying to protect a food recipe is a lost cause. Most food scientists can duplicate a recipe with supreme accuracy by making small changes to justify a different product. However, protecting a product name or label design should be considered. In the early stages of a product's life, you don't know the future success it might experience. A trademark can help decrease the chances of a competitor marketing a product with your logo or name. A trademark can protect the name or logo and prevent the use of the identical or similar name or logo by another company. A brief description of patents and trademarks is provided here. However, specific questions and concerns toward patents and trademarks should be addressed to the U.S. Department of Commerce, Patent & Trademark Office at 1-800-786-9199. Patents, copyrights, and trademarks are often confusing. Although there may be some resemblance by the rights of these three kinds of intellectual property, they are different and serve different purposes.

### **What is a Trademark?**

A TRADEMARK can be a word, phrase, symbol, design or combination thereof which identifies and distinguishes a product or item from others. A service mark is the same as a trademark except that it identifies and distinguishes a service rather than a product. A collective mark, according to the US Patent and Trademark Office is "a trademark or service mark used, or intended to be used, in commerce, by the members of a cooperative, an association, or other collective group or organization, including a mark which indicates membership in a union, an association or other organization." However, a collective mark can not be used to market products, only to identify cooperative members. Normally, a trademark appears on the product or its packaging, while a service mark appears in advertising for the services. Marks are used to indicate the source or origin of the items they protect. Marks protect against others using a confusingly similar mark, but not to prevent others from making the same goods or from selling them under a non-confusing mark. There are separate procedures for federal and state trademark

registration. The procedure relating to the federal registration of trademarks and some general information concerning trademarks is given in a separate pamphlet entitled “*Basic Facts About Trademarks*” available from the Patent & Trademark Office in Washington D.C.

**Federal Patent & Trademark Office** - A complete list of fees levied by the Federal Patent & Trademark Office can be obtained from the office at <http://www.uspto.gov/web/offices/ac/qs/ope/fees.html>, 1-800- 786-9199 or (703) 557-3158. As of October 1, 2000, the basic filing fee for a patent was \$790.00 for Utility applications, \$320.00 for Design applications or \$490.00 for plant applications. The application for registering a federal trademark is \$750.00 or \$325.00 for a small entity (independent inventor, small business or non-profit organization).

Federal trademark rights can exist indefinitely if the mark is used on its products or services. A Federal Trademark lasts for 10 years and can be renewed every ten years. There is one catch however, between the fifth and sixth year after the mark was initially registered, an affidavit must be filed containing certain information to keep the registration alive. Failure to file the affidavit will result in the cancellation of the trademark registration. More detailed information of federal trademarks may be obtained at [http://www.uspto.gov/web/offices/tac/doc/basic/basic\\_facts.html](http://www.uspto.gov/web/offices/tac/doc/basic/basic_facts.html). A federal trademark entitles the owner to use the mark nationwide. To search pending and registered trademarks visit <http://www.uspto.gov/main/trademarks.htm> and follow the instructions.

**State Trademark Registration** - Information concerning state Trademark registration can be obtained from the Secretary of State Office. For more information on Trademarking and Service Marking in Georgia, visit the following web site: <http://www.sos.state.ga.us/corporations/tmfaq.htm> or call at (404) 656-2861 or FAX (404) 657-6380.

Georgia’s designated Patent and Trademark Depository Library can be found at The Price Gilbert Memorial Library at the Georgia Institute of Technology. A state trademark registration only ensures against the same mark being registered in the state and has to be renewed every 10 years. There is \$15.00 fee to register a trademark in Georgia. The state and federal trademark offices do not communicate registrations. Therefore, for the best protection, a trademark should be registered with the state and federal offices. To search Georgia’s Trademark and Service Mark database visit the following web site: <http://www.sos.state.ga.us/corporations/marksearch.htm>.

### **What a Trademark Is Not**

A trademark plays an important role in protecting the rights of its holder. However, it is important to remember that a trademark only prevents another person or organization from using the name and logo to market a product. The acquisition of a trademark does not in anyway indicate a superior product. In other words, a trademark held by Flint River Valley Farms would prevent other persons/organizations from using the logo of Flint River Valley Farms to market

produce. However, the trademark itself does not stand as proof that Flint River Valley Farms grow a better tasting cantaloupe.

### **A Successful Trademark?**

Most Georgians will easily recognize the name and the trademark of the Vidalia Onion. To that end, this researcher did some investigation of the Vidalia Onion trademark. The trademark for the Vidalia Onion is actually held by the Georgia Department of Agriculture which serves in a regulatory capacity. This role was established by the Vidalia Onion Act in 1986. The growing area for Vidalia Onions is specifically laid out in the Act. This area was established based on the idea that the soil type in this region produces a sweeter onion than can be grown in any other region of the United States. Each producer must register with the Georgia Department of Agriculture in order to use the Vidalia Onion Trademark. Vidalia Onion producers have further formed several organizations to deal with the marketing of the onions.

The advantages to having the Georgia Department of Agriculture hold the trademark is a certain neutrality in regulatory issues. The proposed Flint River Valley cooperative will need to use caution in preparing its by-laws. These by-laws will need to include mention of how conflict regarding the trademark will be handled as well as designation of which cantaloupes can be marketed under the trademark.

### **Flint River Valley Farms Trademark**

In the event that Flint River Valley Farms is formed into a cooperative structure, the cooperative should strongly consider acquiring a federal trademark. The cooperative is not required to officially register a trademark with the United States Patent and Trademark Office. However, registering the trademark does provide benefits including the right to use the mark nationwide and assistance from the US Patent and Trademark Office in disputes with non-registered trademarks. A federal trademark is not restricted by state borders as is a state trademark.

The Flint River Valley Farms cooperative will need to follow several steps to federally register a mark. First, a search of existing and pending trademarks must be performed to avoid duplication. There are two main ways to search for existing and pending marks. A search can be done on-line at <http://tess.uspto.gov>. A search can also be conducted at a Patent and Trademark Depository Library, which as mentioned earlier, is located at in Georgia at Georgia Institute of Technology. Second, an application form needs to be completed and it must contain a drawing of the proposed trademark. The application requires a description of the item to be marked as well as a reason for the need for a trademark. There is a fee charged to file for a trademark. In the case of the cooperative, the group may wish to consider filing for a collective mark. All the paperwork for filing a trademark can be found on the US Patent and Trademark Office's web site at [www.uspto.gov](http://www.uspto.gov). The cooperative may wish to enlist the services of a patent and trademark lawyer to guide them through this process.



## Truth in Advertising and Claims

The goal of advertising is often to create a need, increase consumer awareness and ultimately influence consumers purchasing decisions. Many advertisements rely on Puffery to get consumers' attention. Puffery is a term used in the advertising industry to describe the hype and exaggeration that may be present in advertising to grab consumers' attention. Advertisements need to be creative, memorable, and effective in catching consumers' attention and building awareness.

Puffery is generally not considered deceptive advertising because it is so exaggerated that no reasonable consumer would take the claims literally. It is not uncommon for an advertisement to exaggerate product features in order to elicit consumer attention, i.e., the world's best hamburger. This is a subjective claim that cannot be proven true or false. As a result, it is classified as puffery. Deceptive advertising on the other hand, is used to intentionally mislead or confuse consumers, i.e., a recent study reveals that this is the world's best hamburger, when in actuality, there was no study to substantiate this claim. The line between deception and puffery is not always clear. Advertising claims including false product descriptions, absolute product characteristics, specific and measurable claims pertaining to the product and claims of superiority based on product testing are not considered puffery and must be substantiated.

According to Roscoe B. Starek, III of the Federal Trade Commission, there is a significant difference between deceptive and false advertising and puffery. According to Mr. Starek, "The FTC does not pursue complaints involving subjective claims or puffery-- *this is the best hair spray in the world*. However, if there is an objective component to the claim -- such as *more consumers prefer our hair spray to any other*, or *our hair spray lasts longer than the most popular brands* -- then you need to be sure that the claim is not deceptive and that you have adequate substantiation before you make the claim. These requirements apply both to explicit/expressed or implied claims. Also, a statement that is literally true can have a deceptive implication when considered in the context of the whole advertisement, even if that implication is not the only possible interpretation<sup>3</sup>."

The following information discusses common myths regarding "claims" in advertising and was taken from Prepared Remarks of Commissioner Roscoe B. Starek, III, Federal Trade Commission<sup>1</sup>.

1. Myth #1 – A claim can be substantiated if it has several studies supporting it.  
Truth: A claim is only **substantiated** if the studies were scientifically controlled and support the claim in the view of experts in the field and the party conducting

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<sup>3</sup> Myths and Half-Truths About Deceptive Advertising. Prepared Remarks of Commissioner Roscoe B. Starek, III, Federal Trade Commission before the National Infomercial Marketing Association, Las Vegas, Nevada, October 15, 1996.

the study had no incentive to obtain particular results. A claim may be **substantiated** if there is an absence of relevant studies contradicting the results

An **unsubstantiated** claim may arise if other studies contradict or raise questions about the study findings, the study has a design flaw(s) or was conducted by persons with an incentive to obtain particular results.

2. Myth #2 – If your product has some benefit, the advertisement will not be challenged. Truth: Even real product claims must be substantiated with scientific evidence.
3. Myth #3 – Testimonial are substantiation. Truth: Testimonials are not considered to be substantiation for a claim. Even if the testimonials are backed up with affidavits from individual users stating the product performed as promised. The FTC does not consider anecdotal evidence (i.e., testimonials) sufficient to support a claim. An endorser should be an expert in the area for which he is acting as a spokesperson and their message should be based on evaluation or tests that other experts in the field would find sufficient to support the expert endorser's statements.
4. Myth #4 – If endorsers actually use and like the product, it is safe to use their endorsements. Truth: Given that the endorser uses and is making truthful statements about the product, the claim must consider whether the results the endorser experienced are typical. If the results are not substantiated, then the claim needs to be qualified by a clear and prominent disclosure of the generally expected results for users of the product (i.e., results may not be typical).
5. Myth #5 – If a deceptive claim is followed with a disclosure, liability is removed. Truth: If a claim cannot be substantiated do not make it. The claim may have to be narrowed down to what can be substantiated. Disclosures that flatly contradict a deceptive claim, or purport not to make the claim does not remove liability.
6. Myth #6 – The use of a “results may vary” statement is adequate to remove liability. Truth: Even while the disclosure is very prominent and obvious, it does not keep consumers from believing that these results are typical of what they can expect from using the product. Therefore, there is liability.
7. Myth #7 - Dietary supplement advertisements are not regulated. Truth: Dietary supplement claims are regulated by both the FTC and Food and Drug Administration (FDA). The FDA is responsible for label claims while the FTC is responsible for advertising claims. The FDA is currently creating guidelines for substantiating labeling information. The FTC requires substantiation of all claims made in all dietary supplement advertising.

8. Myth #8 – Infomercial producers are not liable for deceptive claims. Truth: This is wrong! The FTC will determine whether the producer actively participated in creation of the advertisement with a deceptive claim and whether they new the claim was misleading, false or unsubstantiated.
9. Myth #9 – Advertising rules do not apply on the Internet. Truth: This is incorrect. The FTC standards that apply to more traditional advertising media also apply to Internet advertising.

Conclusion: A rule of thumb - do not make objective claims that cannot be scientifically substantiated. Subjective claims are generally considered to be puffery and cannot be substantiated.

### **Flint River Valley Farms and Advertising**

The myths above provide Flint River Valley Farms with strong advice about the legal ways to advertise their cantaloupe. This advice is especially necessary for the Flint River group as they wish to market their cantaloupe as a sweeter and, therefore, superior melon. The advice strongly indicates the cooperative must have scientific proof that their cantaloupes are sweeter. To prove this claim, the Center for Agribusiness and Economic Development contracted with a neutral third party to conduct taste tests. The results are presented in the next section.

### **Taste Testing Flint River Valley Farm Cantaloupe**

Flint River Valley Farms claims to grow a sweeter cantaloupe. However, making that claim is dependent on being able to support acceptable standards. The first step is to determine if there is a difference in the sweetness of Flint River Valley Farm's cantaloupe versus other available cantaloupes. This can be done through scientific testing and taste testing. Researchers must establish differentiation between Flint River Farm cantaloupes and other cantaloupes available on the market. Researchers utilized two methods to establish this differentiation. A taste test took place on June 6, 2001 in Griffin, Georgia at the University of Georgia's Center for Food Safety and Quality Enhancement. A Brix test was also done for the Griffin faculty on June 6<sup>th</sup>.

Both the Brix test and taste test utilized five different cantaloupe samples. Of the four, three Athena samples were provided by the Flint River Valley Farms group. These cantaloupes were produced under varying growing and cooling conditions (See Table 1). In addition, two cantaloupes were purchased at the Atlanta Farmer's market. One of these cantaloupe was an Western variety grown in Mexico and shipped to Atlanta via Arizona and the other was an Athena cantaloupe grown in Florida.

The cantaloupes were subjected to different cultural practices as suggested above. The three Flint River Valley Farms cantaloupes were each grown with different practices. One variety was grown on wide plastic with trickle irrigation. The melon was then cooled prior to shipping. A second variety was also grown on wide plastic with trickle irrigation. These melons were then hydro-cooled prior to transportation. The third variety of melon was grown on narrow plastic with pivot overhead irrigation. This melon was not cooled prior to shipping. It is unclear what cultural practices were used on the non-Flint River Valley Farms cantaloupe varieties.

In the test lab, all precautions were taken to ensure all cantaloupes were treated identically. The cantaloupes were cut 30 minutes prior to tasting. The samples were then cut into strips and only the juicy ripe middle of each strip was cut into bite size pieces. The Brix test samples were derived using the same techniques.

During the preparation of cantaloupes for the taste test, researchers noted varying degrees of ripeness. The ripeness of the different cantaloupe samples may have contributed to the results in both the Brix and taste tests. Some of the Decatur county cantaloupes had not reached 3/4 or full slip and appeared to be immature. The Western cantaloupes appeared to be over mature. These problems are often encountered in taste testing fresh produce. The unseasonably cool weather experienced in the Decatur County area prior to the harvesting of the test cantaloupes may have affected these results.

The taste test group consisted of 58 people. These participants were recruited from the Griffin area. The taste test demographic profile of the participants can be found in appendix 1. Once they arrived, they were asked to sign-in, given a brief explanation of the process and provided with a cash payment of \$10.00. The participants were asked to taste and then rate each of the five cantaloupe samples on seven product attributes; overall color, aroma, flavor, sweetness, juiciness, and mouth-feel. The participants sampled each cantaloupe and then used a nine point Likert scale to evaluate the sample. The scale ranged from Dislike extremely to Like Extremely (See enclosed survey).

## Results

A summary of the results of the taste test are found in table 1. Table 1 provides the mean rating for each of the eight product attributes for each of the five product samples.

<b>Attributes</b>	<b>Florida Athena A</b>	<b>Flint-wide, trickle, cooler B</b>	<b>Western C</b>	<b>Flint- wide, hydro- cool trickle D</b>	<b>Flint-Narrow, no cool, Pivot E</b>
Overall	6.02	6.59	6.16	6.63 <sup>A</sup>	7.41 <sup>A-D</sup>
Color	7.14	7.16	6.89	7.29	7.46 <sup>C</sup>
Aroma	5.57	6.36 <sup>A</sup>	6.14	6.32 <sup>A</sup>	6.57 <sup>A</sup>
Flavor	5.68	6.36	6.04	6.57 <sup>A</sup>	7.22 <sup>A-D</sup>
Sweetness	5.68	6.14	6.02	6.52 <sup>A</sup>	7.23 <sup>A-D</sup>
Juiciness	6.66	7.11 <sup>C</sup>	6.34	7.32 <sup>AC</sup>	7.29 <sup>AC</sup>
Mouth-feel	6.66	6.88 <sup>C</sup>	6.15	7.05 <sup>C</sup>	7.41 <sup>A-C</sup>
Appearance*	3.30 <sup>C</sup>	3.14 <sup>C</sup>	2.50	3.14 <sup>C</sup>	3.45 <sup>C</sup>

<sup>A-D</sup> Indicates that the value is significantly higher than the corresponding value in the column labeled A-D.

\* Cantaloupes were rated using a four point scale

According to the survey information, the Flint River Valley Farms' Athena Cantaloupe grown on narrow plastic with overhead irrigation and not cooled was rated the overall favorite. In fact, it rated higher than all the other cantaloupes on each of the measured attributes, excluding juiciness. It was rated significantly higher on flavor and sweetness than any of the competing cantaloupes. It was also rated significantly higher than the Western and Florida Athena cantaloupes on every measured attribute.

The Flint River Valley Farms' Athena cantaloupe grown on wide plastic with trickle irrigation and hydro-cooled was rated higher than the western cantaloupe on all the attributes and significantly higher than the western cantaloupe for juiciness and mouth-feel. The wide plastic, hydro-cooled trickle cantaloupe was considered to be slightly juicier than the Flint River Valley Farms' Athena Cantaloupe grown on narrow plastic with overhead irrigation and not cooled.

The respondents were asked to rate the overall appearance of the five different cantaloupe samples using a five-point likert scale where 1= least appealing and 5= most appealing. The Flint River Valley Farm's Cantaloupe grown on narrow plastic with pivot irrigation received the highest average overall rating score. The Western Cantaloupe was received the lowest appearance score and was rated significantly lower than the four Athena cantaloupes.

A second test for estimating the "sweetest" cantaloupe was done using a BRIX test. The BRIX test is a technical measurement used to determine the quantity of solids contained in the

cantaloupe's juice. In simple terms, everything that is not water is considered to be BRIX. Each of the five different cantaloupe samples were tested using the BRIX test fourteen times. The results of the BRIX test can be found in table 2.

<b>Cantaloupe</b>	<b>Cooling Method</b>	<b>Plastic</b>	<b>Irrigation Method</b>	<b>Average BRIX Score</b>
Flint River Athena	None	Narrow	Over head Pivot	12.66
Western	Unknown	Unknown	Unknown	12.36
Flint River Athena	hydro-cooling	Wide	trickle	9.96
Flint River Athena	cooler	Wide	trickle	9.16
Florida Athena	Unknown	Unknown	Unknown	8.87
The Flint River and Western Cantaloupes' BRIX scores (above the dashed line) are significantly higher than the scores for the remaining cantaloupes (below the dashed line).				

The higher the BRIX score the higher the sugar content. The results shown are an average of the fourteen test results for each sample. On average, the Flint River Valley Farms' Athena Cantaloupe grown on narrow plastic with overhead irrigation and not cooled had the highest sugar content. The Western cantaloupe was a close second while the Florida Athena had the lowest sugar content. Statistical testing indicates that the difference between the Flint River Valley Farms (12.66) and Western (12.36) cantaloupes were not significantly different. However, the BRIX scores for these two cantaloupes was significantly higher than the BRIX scores for the remaining three cantaloupes.

The BRIX score does not provide enough evidence on its own to say that the Flint River Valley Farms' Athena Cantaloupe grown on narrow plastic with overhead irrigation and not cooled is the sweetest. However, this combined with the taste test results provide strong evidence for making that claim.

### **Cultural Practices**

One issue needing to be further investigated by the Flint River Valley Farms cooperative is which cultural practice in growing cantaloupes will be used for the final branded product. As seen above the narrow plastic with overhead irrigation, a uncommon approach, produce the sweetest tasting cantaloupe. The researchers can hypothesize that the other melons were pick premature, or the wide plastic with trickle irrigation may have made the soil moist enough to lower the concentration of soluble sugars. Research needs to occur with different growing practice to decide the final acceptable practice in terms of economic inputs and final product.

In regards to the competition the researchers perceive problems with finding consistent cantaloupes in maturity. Often cantaloupes that are shipped are picked early in slip then those with little distance to travel. This create bias in the testing of sugars and sweetness. Less mature melons will have lower soluble sugars and hence taste differently then high soluble sugar

cantaloupes. This may become an issue the Flint River Valley Farms people face if the increase their travel distance to markets outside the one day drive area.

### **Market Specifications for Cantaloupe**

Research conducted by the University of California's Vegetable Research and Information Center suggest that cantaloupes should be well-shaped, spherical and uniform with limited obtrusions (bruises, abrasions, scars, and sun-scald). Melons should be firm, "feel heavy," and show limited signs of stem attachments (3/4 to full slip) as stems are an indicator of a premature harvesting. According to the Vegetable Research Center, the most reliable measure for internal quality is the concentration of soluble solids (sugars).

The grading standards for cantaloupe in the United States are Fancy, No.1, Commercial, and No 2. The differences in the grades are based on the cantaloupe's exterior appearance and Federal regulations specifying that Fancy grade cantaloupes have a 11% sugar content, a 10% sugar content for the No. 1s and Commercial grades at 9% sugar content for the No. 2's.

According to the United State Department of Agriculture's Agricultural Marketing Service, an inspection plan needs to be in place at packing sheds and wholesale outlets. A sample of 7 cantaloupes is taken from the lot of shipment and tested for soluble sugars. USDA tolerates up to 8% total defects to quality of No. 1's. This includes 6% for serious defects or damage, 4% for serious damage by permanent defects and not more than 2% decay or mold. The No 2. Grade has slightly higher percentages but for purpose of this study the cantaloupes will be considered No.1 for the retail market. The definitions for the damage categories can be found on the AMS website, [www.ams.usda.gov/standards](http://www.ams.usda.gov/standards). Click under the fresh vegetable icon.

Research completed by Dr. William Hurst of the University of Georgia, Department of Food Science Technology, indicates that cantaloupes produce high levels of ethylene. Ethylene limits the types of other fruits and vegetables that can be co-stored with cantaloupes. It also causes cantaloupes to continue to ripen. Over ripening may be a problem during distribution and short-term storage. Remember that cantaloupes should not be harvested until  $\frac{3}{4}$  to full slip, allowing the sugar concentrations to develop to match consumers' preferences. So harvesting early is not the answer to the over ripening caused by the ethylene. Periodic ventilation of the storage room or truck is a low cost method for keeping ethylene at acceptable levels.

Grading standards exist, however few producers, brokers, wholesalers or retail people practice these standards. Speaking to several brokers it was found that find buyers do not strictly adhering to these standards but work off relationships built on consistent quality and quantity. Producing a cantaloupe that grades better does not always guarantee sales, but producing a large number of these cantaloupe consistently over years may increase sales or earn a premium.

**Conclusion**

Armed with the sweetness test results, Flint River Valley Farms can start to develop a marketing strategy. It is important to understand that there is no single formula for success or “silver bullet” marketing strategy which will guarantee success. Instead, marketing is more like an art than a science in that it is a creative process rather than an exact formula that should be followed in all situations. However, developing a marketing plan is critical to developing a successful marketing strategy. The marketing plan does not guarantee success, it only reduces [the chance of failure](#).

The cooperative needs to start out slowly with the branding process. The best produce should carry the brand name and be placed into the correct demographic markets. Brand names take time to establish but can be destroyed quickly. Placing the best produce into the correct markets is one step forward. Building a reputation in the produce industry will take time but is a profitable venture.



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## **APPENDIX 1 - Taste Test Demographic Profile**

<b>Griffin Taste Test Profile</b>	
<b>Characteristic</b>	<b>Percent</b>
<b>Gender:</b>	
Male	14%
Female	86%
<b>Race:</b>	
White	70%
Black	15%
Other	15%
<b>Average age (years)</b>	43.45
<b>Educational achievement (average)</b>	Some college
<b>Household Size (average)</b>	3.02
<b>Household Income (average)</b>	\$35,000
<b>Marital Status (average)</b>	Married
<b>Years lived in GA (average)</b>	29.7
<b>Frequency of purchasing cantaloupe (average):</b>	Once ever three weeks
<b>Feeling about cantaloupe</b>	100% indicated they like cantaloupe

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**J. Scott Angle, Dean and Director**