

A MARKETING PLAN FOR SYCAMORE FLATS HAY HARVESTING

Presented to the  
Faculty of the Agribusiness Department  
California Polytechnic State University

In Partial Fulfillment  
Of the Requirements for the Degree  
Bachelor of Science

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May 2012

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## CHAPTER 1

### INTRODUCTION

In today's economy, it is difficult for a small business to find a way to stay competitive when facing larger companies. This can be made even more difficult in the agricultural industry. Larger companies can more readily absorb the high costs of assets like land and heavy equipment. They are also at the advantage of competitive pricing, where a large company can have a narrower profit margin due to higher volume. This can also be applied to other aspects such as labor. However, in the hay market, harvest has been highly mechanized and thus needs few employees through planting to harvest and sales.

This area is where Sycamore Flats Hay Harvesting Company of Greenfield, California fits into the economy. Located in Monterey County, it a small harvesting operation composed of just two employees including the owner, Allen Bengtson Sr., and sells forage mix hay to Monterey, Santa Cruz, San Benito, and northern San Luis Obispo Counties. Through several years of purchasing hay harvesting equipment, the company has established itself as a full service hay harvesting operation with services that include planting, cutting, baling, stacking, and delivery as well as having grain harvesting capabilities (see table 1).

Table 1 Different Bale Types

Bale Type	Dimensions	Weight	Visual Appearance	Stacking Method
Rectangle	16"x24"x48"	About 90lbs-105lbs		
Square	102.3"x35.4" x31.5"-47.3"	600lbs-1000lbs		
Round	46.5" length x 30-42" diameter	400-1200lbs		

It also leases land for hay production to sell to a well-established customer base. As with any small business competing in a commodity market, this company caters to a specific niche of hay consumers who have need of high quality horse hay and hay for other livestock on a smaller scale. To better augment this company's current customer base and establish a target demographic for new costumers, it would be beneficial to compose a marketing plan to better define how this company and similar companies should present itself to a niche market consumer.

Problem Statement

Can a marketing plan help Sycamore Flats Hay Harvesting determine desirable traits to aid in hay sales?

### Hypothesis

The study will show that the five highly important product marketing factors to hay buyers are low foreign materials in the bales, delivery of the hay, competitive pricing, rectangle size bales, and high nutritional quality for the hay.

### Objectives

- 1) To survey the wants and needs of average hay buyers and to define said hay buyer.
- 2) To administer that survey to known hay buyers such as riding academies, horse sanctuaries, livestock ranches, commodity brokers, and feed stores around Monterey, Santa Cruz, and San Benito Counties.
- 3) To gain knowledge of the characteristics that affect desirability in hay products and services

### Justification

The hay industry was valued of production of about \$14.4 billion nationwide and California contributed \$971 million in 2010(USDA, 2011). A well-designed marketing plan would help Sycamore Flats Hay Harvesting and other such operations turn that value of production to revenue.

The study will show that with new knowledge of the wants and needs of hay buyers, the process of allocating which hay to sell to whom will be greatly streamlined, and that a marketing plan will help aid in improving marketability.

## CHAPTER 2

### LITURATURE REVIEW

#### Making Hay

The article “Making Hay” by John McCormick, James A. Young, and Wayne Burkhardt was published in the journal *Rangelands* in 1979 and established the importance and process of making hay. This article is a historical look at how and why hay was made and how it is becoming more industrialized as science and technology continue to advance the process of making hay (McCormick, Young, Burkhardt 1979). Yet, the fundamentals of hay making remain the same, even today. Hay must be cut, gathered, stacked, delivered, and stored before being sold and it is in these areas that the hay producer is responsible for to produce the highest quality hay.

#### Similar Senior Projects

In 2009, Johnathan Mark Restelli created “Hamilton Oaks Vineyard Marketing Plan” for his unpublished senior project. Restelli used a marketing survey to establish that a small winery in Orange County needed to increase its brand recognition investing in advertising and expanding the consumer base. This study establishes the importance of understanding your consumers though a survey to help a small business define its marketing needs. Kurtis Robert Wurster, used a similar approach to his study, “Marketing plan Focusing on the 4 P’s of the Marketing Mix for a Wine Bar in the City Of San Luis Obispo.” However, in Wuster’s study, the survey tool was used for a hypothetical business venture to help determine the market share said business might have access to (Wurster, 2010). One particular item that can be deduced

from this study was the problem of weighted survey sampling. With not enough variety in the target demographics sample size, the results reflected the views of mostly college students rather than the whole wine drinking population. In James Prichett's "Risk Decision Analysis: MBC Farms' Horse Hay Enterprise," a case study in decisions trees and payoff matrices is used to determine that feasibility of expanding a dairy to included selling of surplus hay (Prichett, 2004). This study, it suggests using economic tools to augment the hay market. Through these studies it can be inferred that an economic tool like a marketing plan can help a small hay harvesting business provided the right demographic is analyzed.

### Studies in the Hay Market

In the article "An Assessment of Hay Market Institutions and Coordination Functions" By Jeffrey H. Miller, Miller determines the hay market is largely disorganized on a national level as opposed to most other commodities. He proposes through a logical dissertation that orderly marketing leads to better quality hay and soil, category specialization, shifts in feeding styles (Miller, 1986). The importance of this article applies to the establishment of theory that the hay market is heavily regionalized, and has multiple categories depending on the quality of hay needed. "Ethanol's Impact on the U.S. Corn Industry" is a report that evaluates the impact of a new product being derived from a commodity. It shows that the growing demand for ethanol and high fructose corn syrup and how that is pushing up price and taking from the supply that is normally allocated to livestock feed. As hay is also a livestock feed, it can be inferred that this study shows there is potential for a growing demand for hay to substitute the more expensive corn (Taylor, 2006). In "A Multi-Period Analysis of Two Common Livestock Management Strategies Given Fluctuating Precipitation and Variable Prices" the authors use mathematical programming models to show that, in the long term, it could be beneficial for ranchers to keep



larger herd and supplement livestock feed in times of low forage yield, rather than culling down to a smaller herd (Bastian, 2010). This helps establish that there could be a growing market for “free range” livestock to buy hay as a supplemental feed. These articles establish that with competition in the hay market regionalized, and a growing demand for hay both to range livestock, and as a substitute for corn to other livestock, there is opportunity to capitalize on growing demand with limited competition.

### Studies in Characteristics that Affect Hay Cost

In Margaretha Rudstrom’s “Determining Implicit Prices for Hay Quality and Bale Characteristics,” a hedonic pricing model is used to determine that price of hay is largely dependent it’s quality and perceived characteristics though her estimate uses the relative feed value as the determining fixed variable (Rudstrom, 2004). The idea that hay quality is the main contributing factor in hay price is further corroborated by the survey study “Factors Affecting the Price of Hay at a Pennsylvania Auction” (Grisley, 1985). This study shows that the majority of survey takers made their purchases based on hay type, quality, and intended use.

To understand the wants and needs of the hay buyer, it must be determined what characteristics of hay are used to evaluate it as a commodity. Visual appraisal is a strong and commonly used tool to evaluate hay and can establish possible value points in the areas of storage, packaging or parceling, and quality of the hay itself. Characteristics of hay defined by storage can include the maturation level of the hay which contributes to the curing of hay or can refer to the structure or lack of structure that the hay is stored in (i.e. enclosed barn, open shed, completely exposed, etc.). The higher quality storage practice the better as sweeter hay is often favored by horses and vicariously horse buyers, and better enclosures that “retard the weathering

of hay is an important marketing advantage that should be indicated”(Gary et al., 1990.)

Packaging of hay can be defined by its size, what bindings are used, and the bale weight or density. Size includes squares, rounds, rectangles, or even loose hay and can vary in size of both the individual bale and stack size and should be appropriate for application, as in a small horse ranch would prefer bales that are easily handled. Some distributors prefer more dense bales for shipping for the reduced volume to weight ratio and typically bindings are chosen to match the bales density however mismatched bindings can lead to either broken bales (inadequate grade bindings) or to undo difficulties like the need for wire cutters for small bales. The quality of the hay is largely determined by the animal eating it, however many factors can help determine an estimated nutritional value. Factors that fit into this category include when the hay was cut, what color is the interior and what are the amounts and types of foreign materials in each bale.

Though general preferences towards the hay color and when it is cut are hard to ascertain, it is a good rule of thumb that the less foreign materials the better. All of these factors, though with varying degrees of importance, are used by both buyers and sellers to evaluate hay.

## CHAPTER 3

### METHODOLOGY

#### Procedures for Data Collection

To gather data for the marketing plan, a survey will be administered to known hay buyers (see table A for sample survey). These hay buyers will be questioned verbally either through telephone or in person interviews. The sample size is a percentage of hay buyers such as riding academies, horse sanctuaries, livestock ranches, commodity brokers, feed stores, and livestock associations around Monterey, Santa Cruz, and San Benito Counties. The participants of the survey will be questioned as to what factors the product and the services the company provides are most desirable. When the data has been collected it will be entered on an SPSS program to be analyzed

#### Procedures for Data Analysis

The Survey will be analyzed using SPSS. Each question will show the frequencies of each question. The tonnage of hay will be averaged based on the business that the tonnage is cross tabulated to. For questions 5 and 8, answers of “very important” or “extremely important” will be added together to be defined as “highly important.” Factors of high importance that receive over 50% of the survey takers answers will be used to develop a marketing plan.

This marketing plan may include recommendations for new baling or storage practices, how to better allocate varying hay quality to companies, and what factors should be mentioned to prospective hay buyers in specific situations.

### Assumptions

The study assumes that survey participants will give unbiased opinions and are representative of the population of hay consumers and potential new customers.

## CHAPTER 4

### DEVELOPMENT OF THE STUDY

#### Data Analysis Problems

There were a few problems with the data analysis, mostly to do with the sample size. Of the 100 prospective survey takers, only 52 actually agreed to take part in the survey. This was due to several reasons but a significant portion of these non-participants remarked that they left evaluation of hay up to the brokers they purchased from. Two of such people were convinced to take the survey regardless, but chose to omit the questions involving evaluating hays (question 5 and its categories). Both of these surveyed, identified themselves as feed stores.

#### Data Analysis of the Survey

The first question of the survey was a test question that asked if the survey taker purchased grain hay for livestock feed to establish a constant variable among those surveyed. All of those surveyed answered the question affirmatively so all 52 were allowed to proceed with the rest of the survey.

The second question asked the survey takers what kind of business they represented. 65.5% of those surveyed identified themselves as representing ranch with livestock which made them the largest group of the sample size. Those that identified themselves in the “other” category came in second with 11.5%, followed by animal sanctuaries and commodity brokers who both had 7.7% of the population, horse boarding and riding academies came next with 5.8% and feed stores came in last with just 3.8% of the sample size.

The third question asked for an estimated tonnage of hay purchased each year. This data was cross tabulated with the kind of business they represent to determine who the largest hay buyers are. Though commodity brokers only had 4 survey takers, they were, by far, the most prolific purchasers of hay with an average of 25,005 tons of hay purchased each year. Animal sanctuaries came next with an average of 10,015 tons, followed by feed stores at 2,025 tons, “others” at 89.8 tons on average, and horse boarding and ranches both coming in with just over 49 tons of hay purchased each year on average.

Next the question was asked, about the use of the hay once it is purchased. 86.5% of those surveyed said that they only used the hay for feed, with 7.7% using the hay for resale and 5.8% using it for both feed and resale. It is important to note that commodity brokers and feed stores make up the last two categories with the addition of one ranch with livestock how falls into the “both” category.

Next the survey asked the survey takers to choose how important certain characteristics of hay are to them during their evaluation process. As mentioned, two survey takers did not answer these questions so of the 52 surveyed, only 50 provided opinions, thus the need for a percent both valid and invalid. If it is assumed that the choice of “very important” or “extremely important” signifies a characteristic of high importance, than 68%-86% of those who answered indicate high importance for all characteristics.

Table 2 the importance of foreign materials

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very	0%	0%	0

important			
Somewhat important	11.5%	12%	6
Very important	34.6%	36%	18
Extremely important	50%	52%	26
Missing or no answer	3.8%	0%	2

Figure 1 graph of valid percentage for Foreign materials

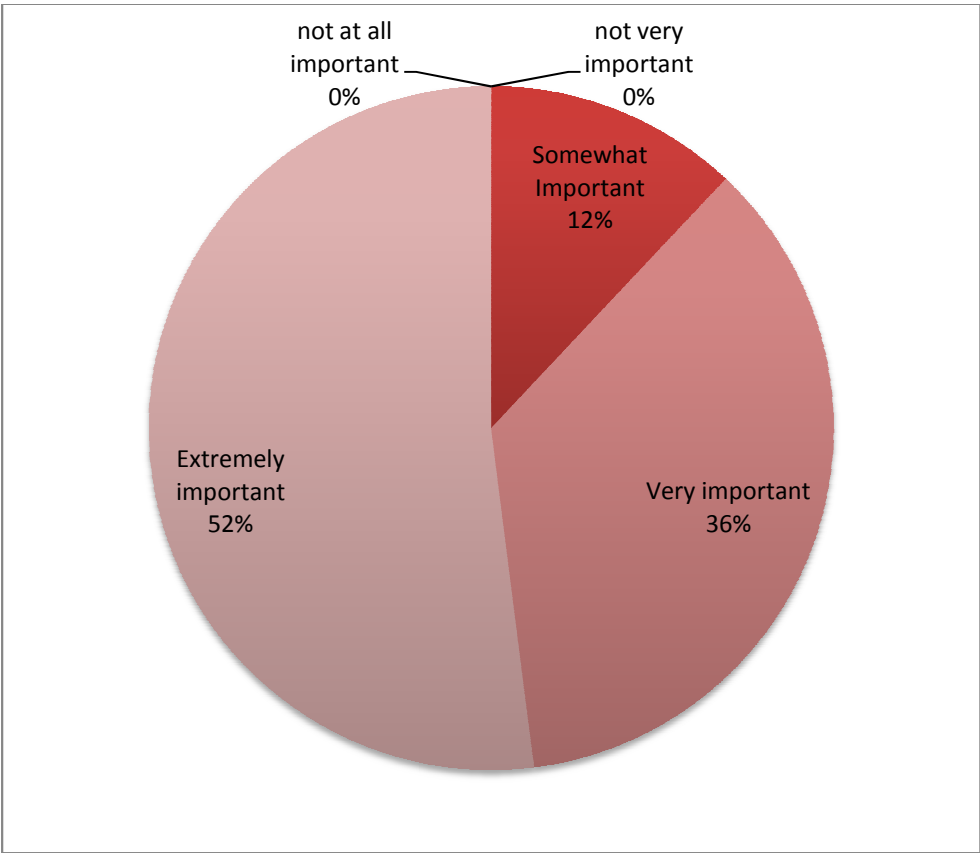


Table 3 Importance of level of weathering

52 survey participants	Percent	Valid percent	Frequency
Not at all important	1.9%	2%	1
Not very	5.8%	6%	3

important			
Somewhat important	15.4%	16%	8
Very important	44.2%	46%	23
Extremely important	28.8%	30%	15
Missing or no answer	3.8%	0%	2

Figure 2 graph of valid percentage for the level of weathering

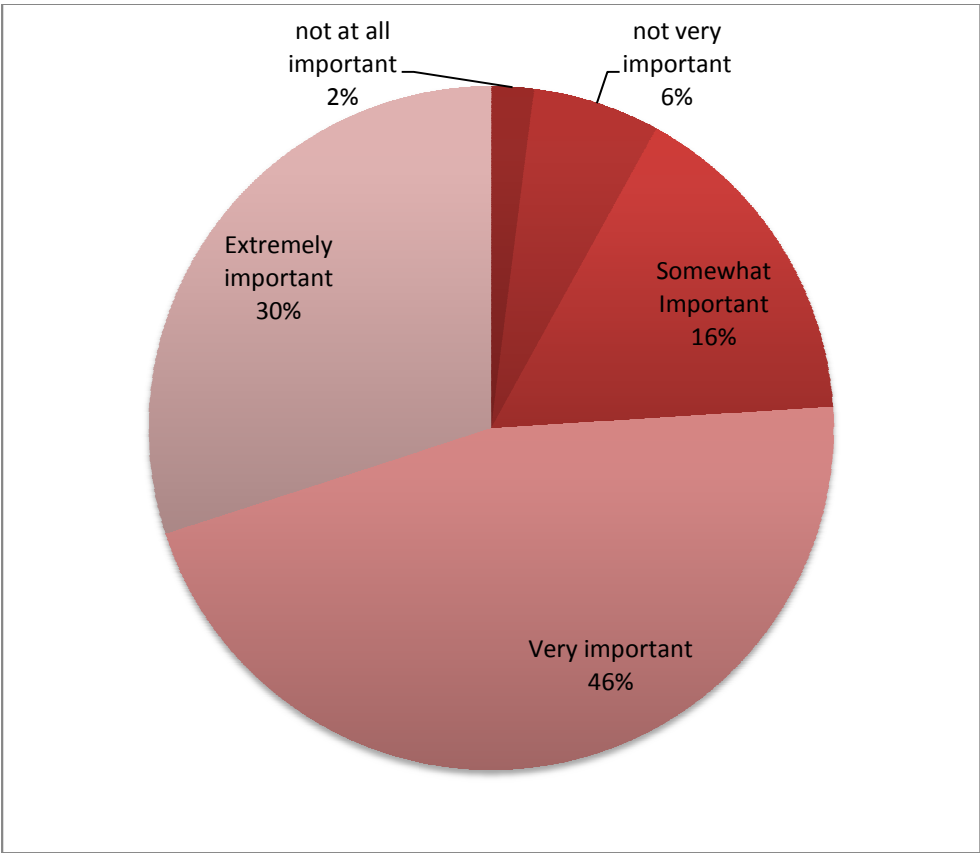


Table 4 Importance of nutritional feed value

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very	1.9%	2%	1



important			
Somewhat important	11.5%	12%	6
Very important	28.8%	30%	15
Extremely important	53.8%	56%	28
Missing or no answer	3.8%	0%	2

Figure 3 Graph of the valid percentage of nutritional feed value

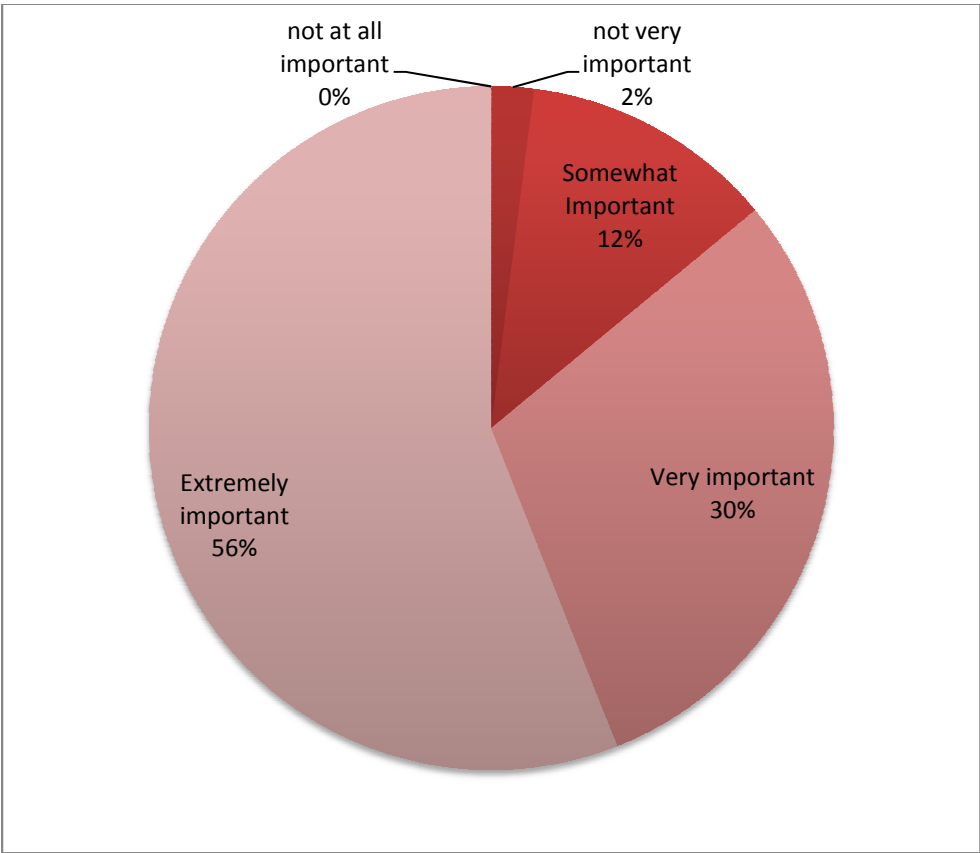


Table 5 Importance of the level of moisture

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very	9.6%	10%	5

important			
Somewhat important	13.5%	14%	7
Very important	38.5%	40%	20
Extremely important	34.6%	36%	18
Missing or no answer	3.8%	0%	2

Figure 4 Graph for the valid percentage of moisture

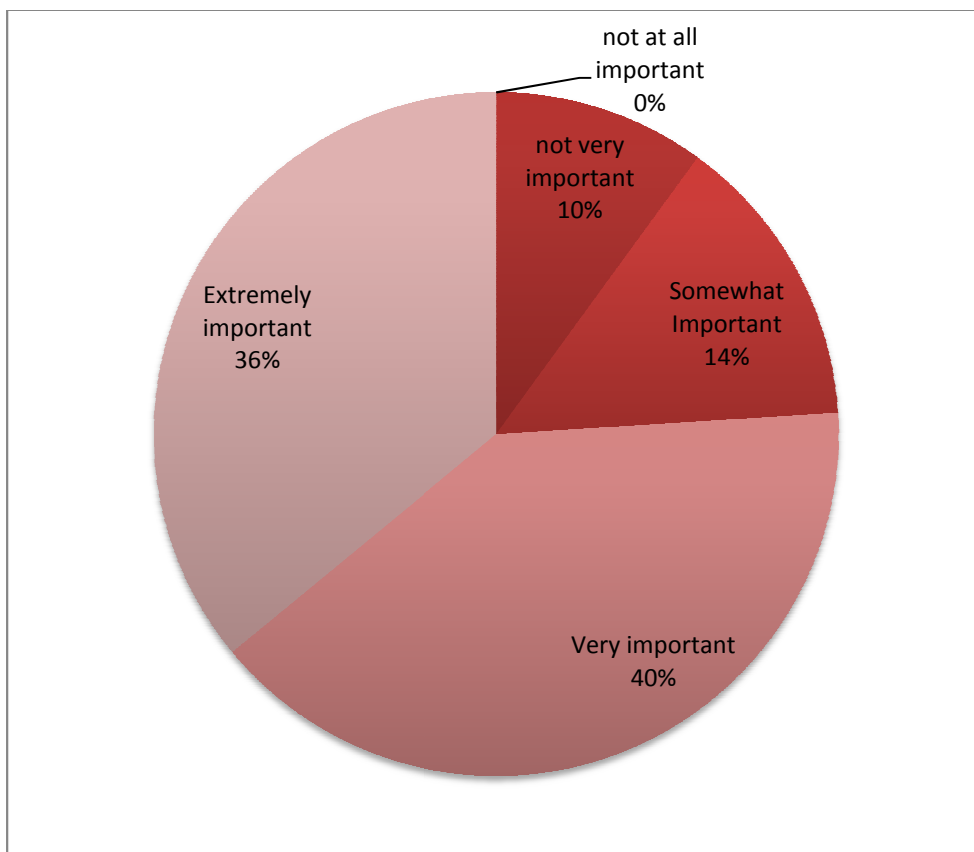


Table 6 Importance of physical damage

52 survey participants	Percent	Valid percent	Frequency
Not at all important	1.9%	2%	1
Not very	9.6%	10%	5

important			
Somewhat important	19.2%	20%	10
Very important	34.6%	36%	18
Extremely important	30.8%	32%	16
Missing or no answer	3.8%	0%	2

Figure 5 graph for the valid percentage of physical damage

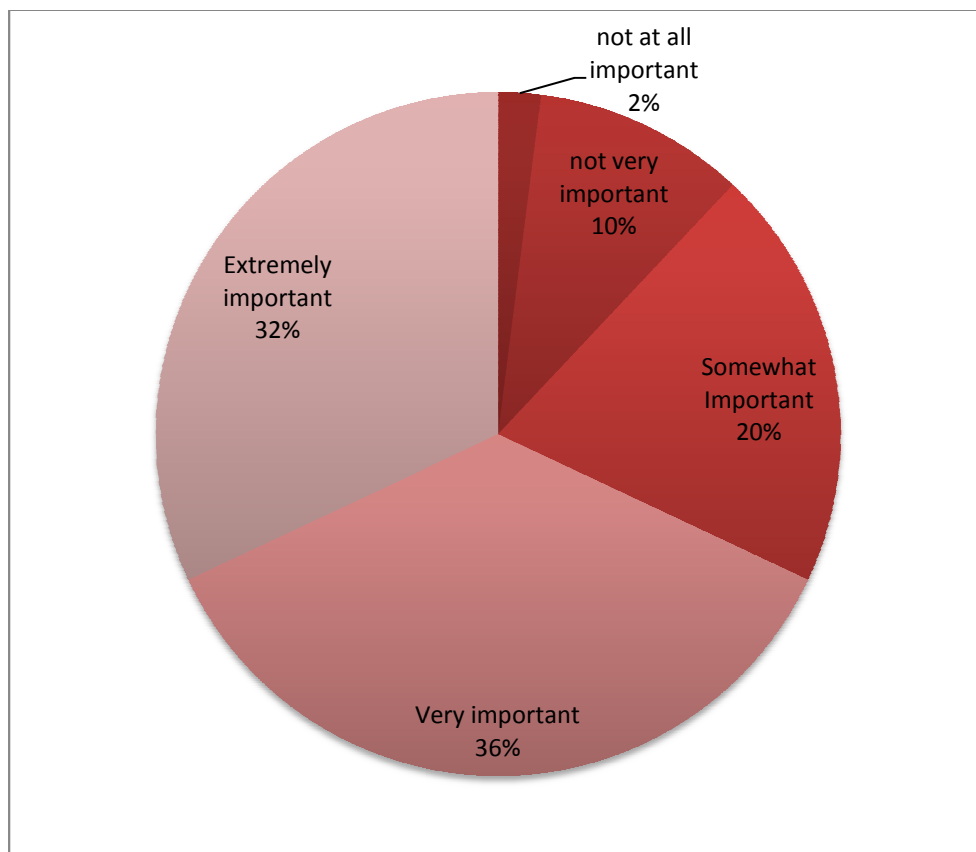


Table 7 Importance of the color inside of the bales

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very	7.7%	8%	4

important			
Somewhat important	13.5%	14%	7
Very important	40.4%	42%	21
Extremely important	34.6%	36%	18
Missing or no answer	3.8%	0%	2

Figure 6 graph for the valid percentage of the color inside of the bales

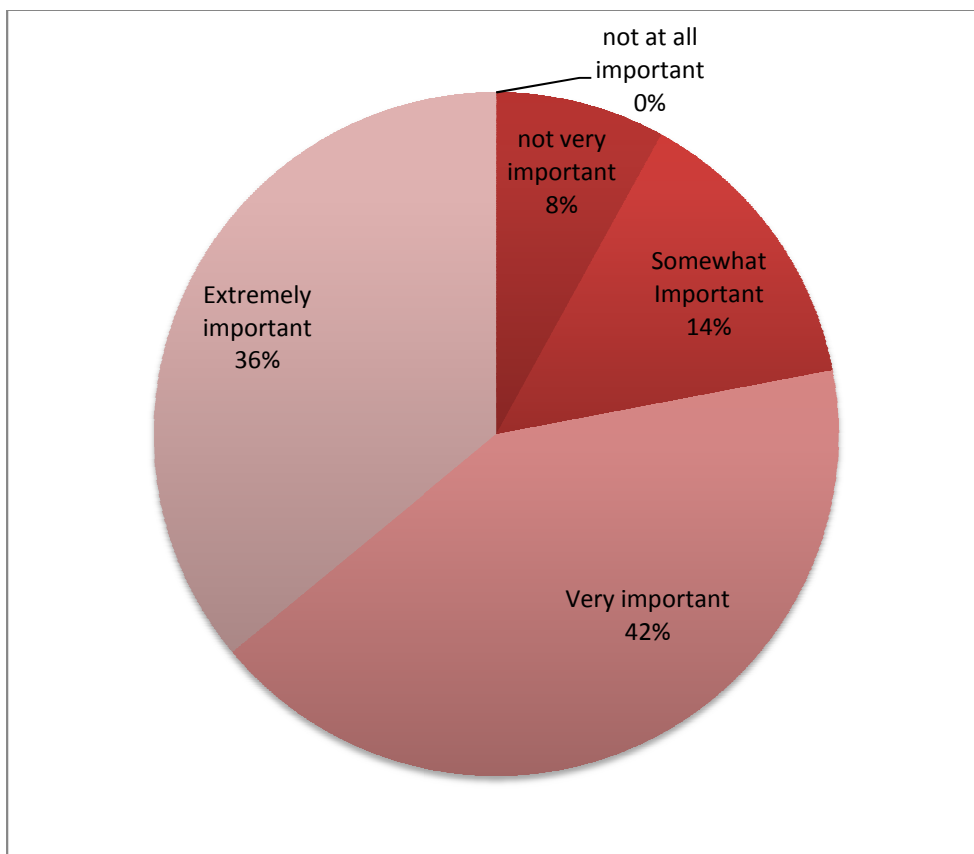
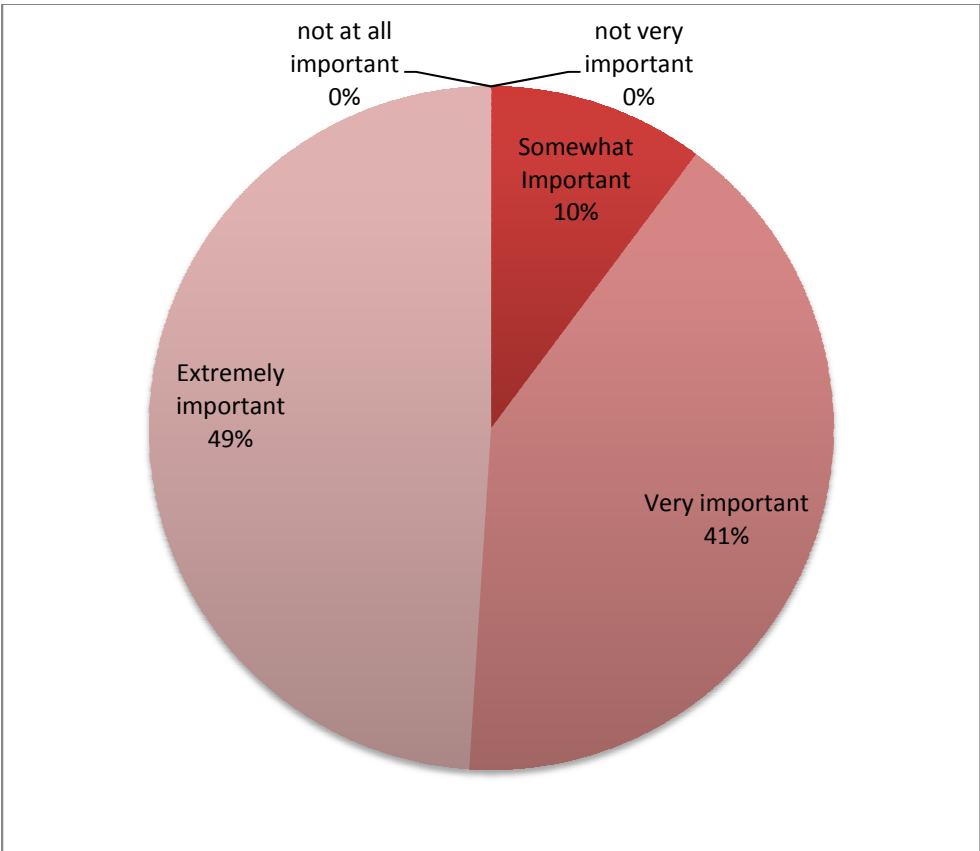


Table 8 The importance of curing

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very	0%	0%	0

important			
Somewhat important	9.5%	10.2%	5
Very important	38.5%	40.8%	20
Extremely important	46.2%	49%	24
Missing or no answer	5.8%	0%	3

Figure 7 graph for the valid percentage of curing



Next two questions involve what kind of bales people prefer to buy. With 86.3% of surveyed preferring twine to wire bindings, it would seem twine is the preferred binding. Aside from the test question at the beginning of the survey, the question of preferred bale style is the

only unanimous consensus of those surveyed with everyone choosing rectangle style bales over square or round style bales.

The final question is a study of what characteristics of a hay business do hay buyers find important. Once again, all traits are seen by survey takers to be highly important by more than half; however there are a few stand-out statistics. Firstly, 76.9% of those surveyed stated that consistent quality is extremely important. If we add those that chose very important, than 92.4% of those surveyed found quality highly important. Another interesting statistic was that all survey takers rated customer service as somewhat to extremely important with 88.5% being highly important.

Table 9 The importance of consistent quality

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very important	3.8%	3.8%	2
Somewhat important	3.8%	3.8%	2
Very important	15.4%	15.4%	8
Extremely important	77%	77%	40
Missing or no answer	0%	0%	0

Figure 8 graph for the valid percentage of consistent quality

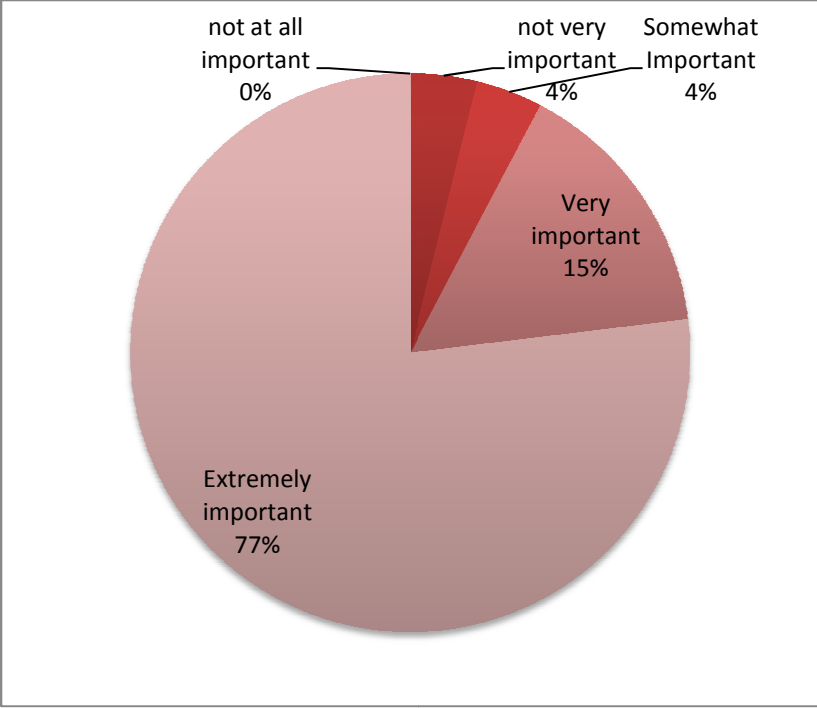


Table 10 The importance of consistent quantity

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very important	5.8%	5.8%	3
Somewhat important	19.2%	19.2%	10
Very important	46.2%	46.2%	24
Extremely important	28.8%	28.8%	15
Missing or no answer	0%	0%	0

Figure 9 graph for the valid percentage of consistent quantity

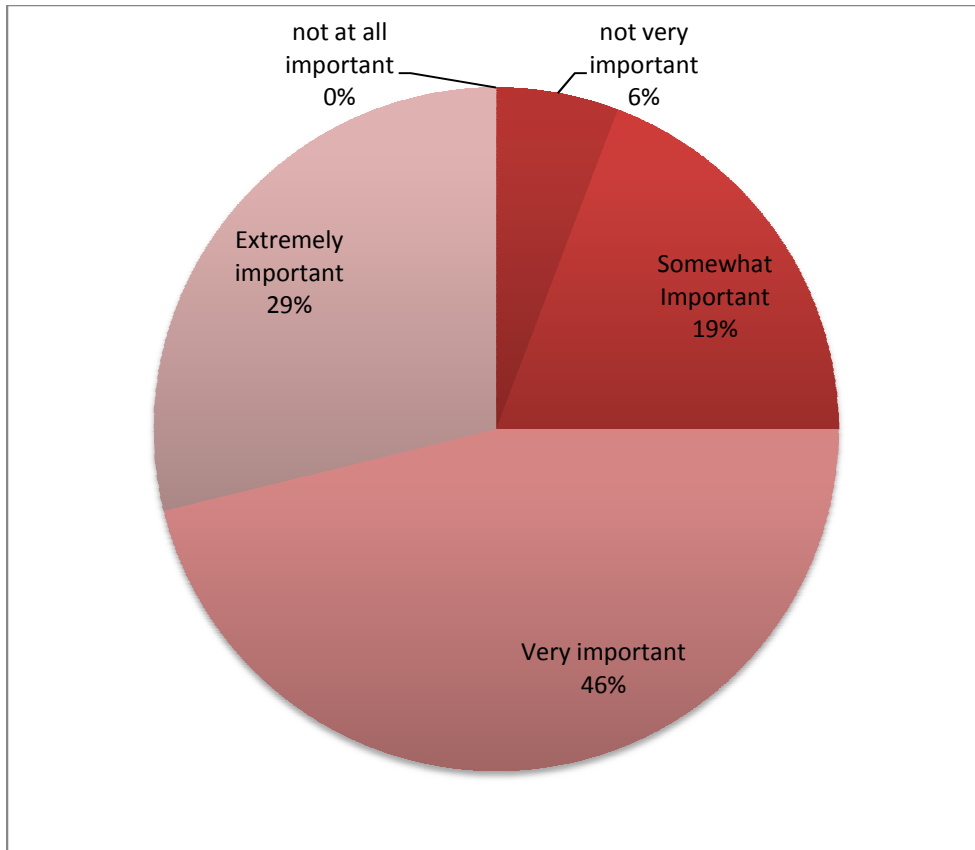


Table 11 The importance of relatively competitive prices

52 survey participants	Percent	Valid percent	Frequency
Not at all important	5.8%	5.8%	3
Not very important	0%	0%	0
Somewhat important	9.6%	9.6%	5
Very important	23.1%	23.1%	12
Extremely important	61.5%	61.5%	32
Missing or no answer	0%	0%	0

Figure 10 graph for the valid percentage of competitive prices



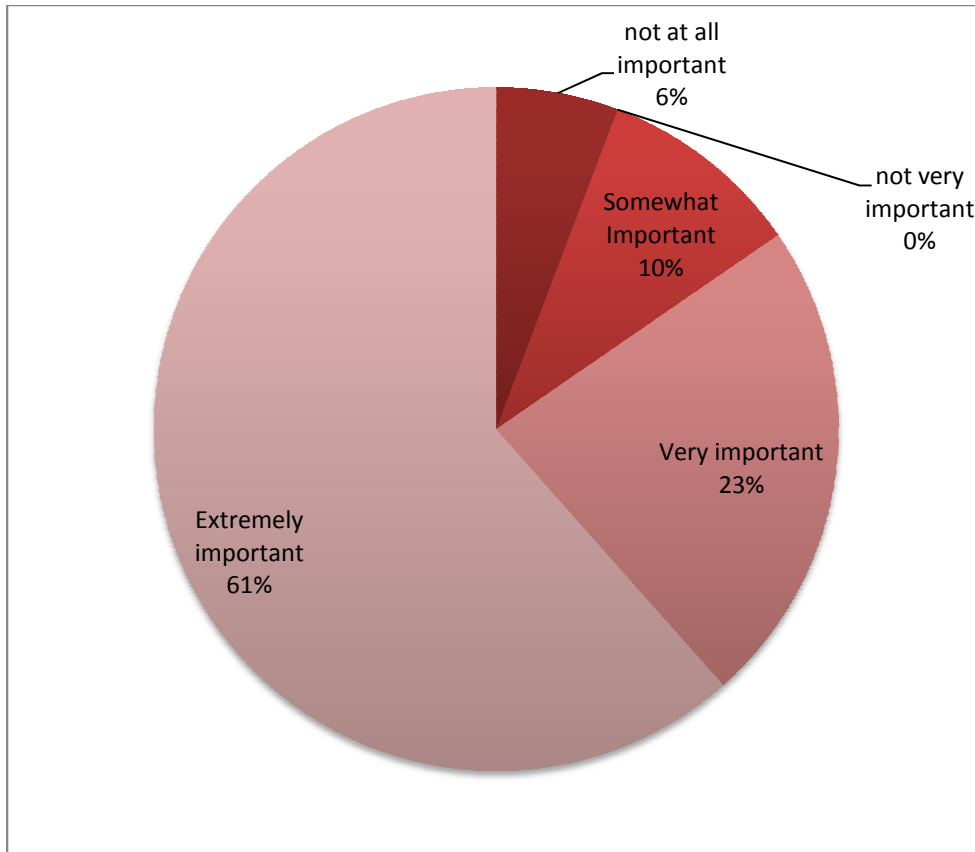


Table 12 The importance of a convenient location

52 survey participants	Percent	Valid percent	Frequency
Not at all important	7.7%	7.7%	4
Not very important	7.7%	7.7%	4
Somewhat important	23.1%	23.1%	12
Very important	36.5%	36.5%	19
Extremely important	25%	25%	13
Missing or no answer	0%	0%	0

Figure 11 graph for valid percentage of convenient location

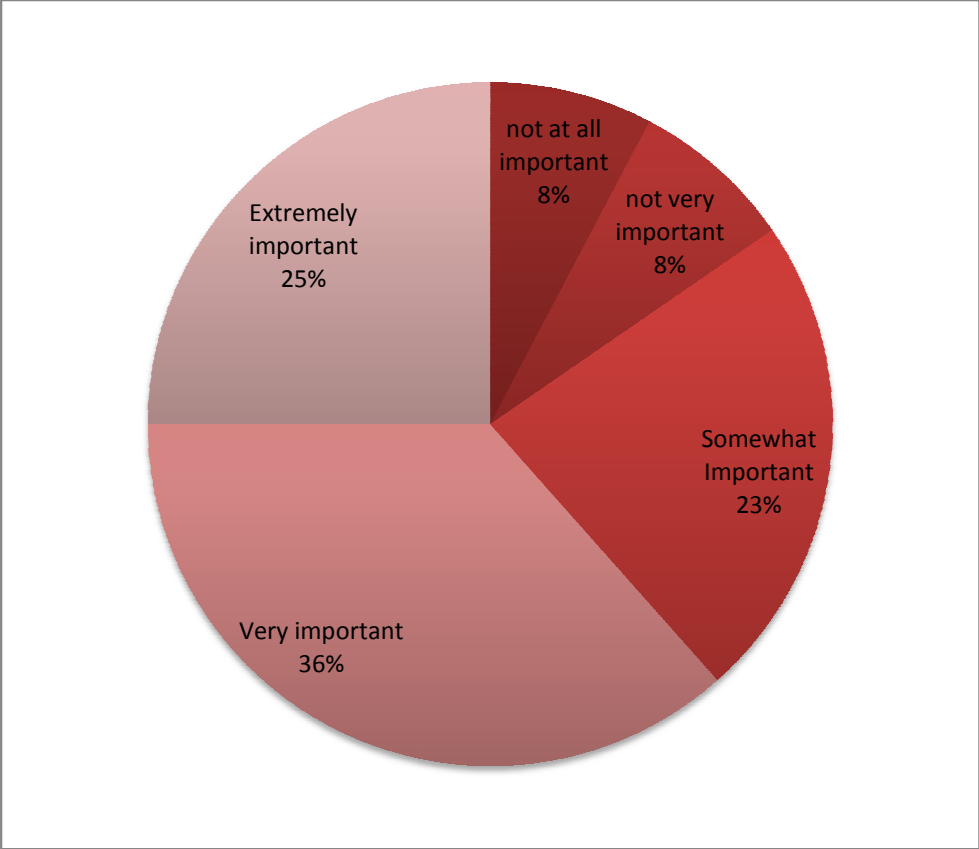


Table 13 The importance of the option for delivery

52 survey participants	Percent	Valid percent	Frequency
Not at all important	5.8%	5.8%	3
Not very important	3.8%	3.8%	2
Somewhat important	7.7%	7.7%	4
Very important	32.7%	32.7%	17
Extremely important	50%	50%	26
Missing or no answer	0%	0%	0

Figure 12 graph for the valid percentage of the option for delivery

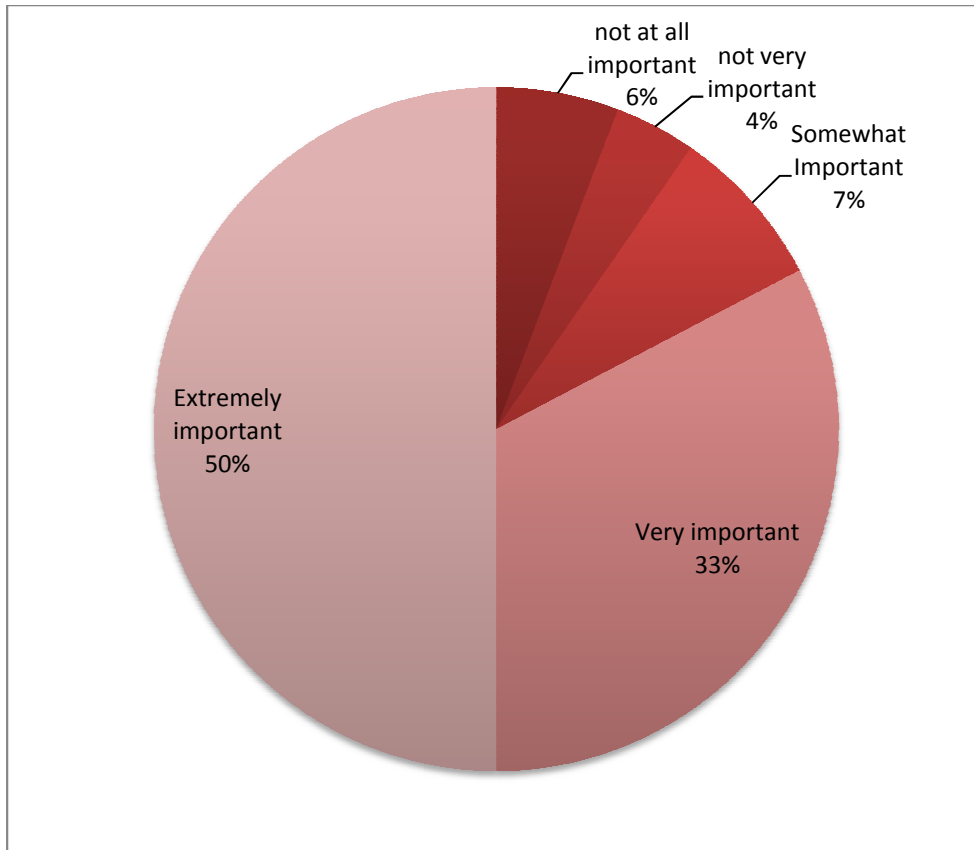


Table 14 The importance of customer service

52 survey participants	Percent	Valid percent	Frequency
Not at all important	0%	0%	0
Not very important	0%	0%	0
Somewhat important	11.5%	11.5%	6
Very important	42.3%	42.3%	22
Extremely important	46.2%	46.2%	24
Missing or no answer	0%	0%	0

Figure 13 graph for valid percentage of customer service

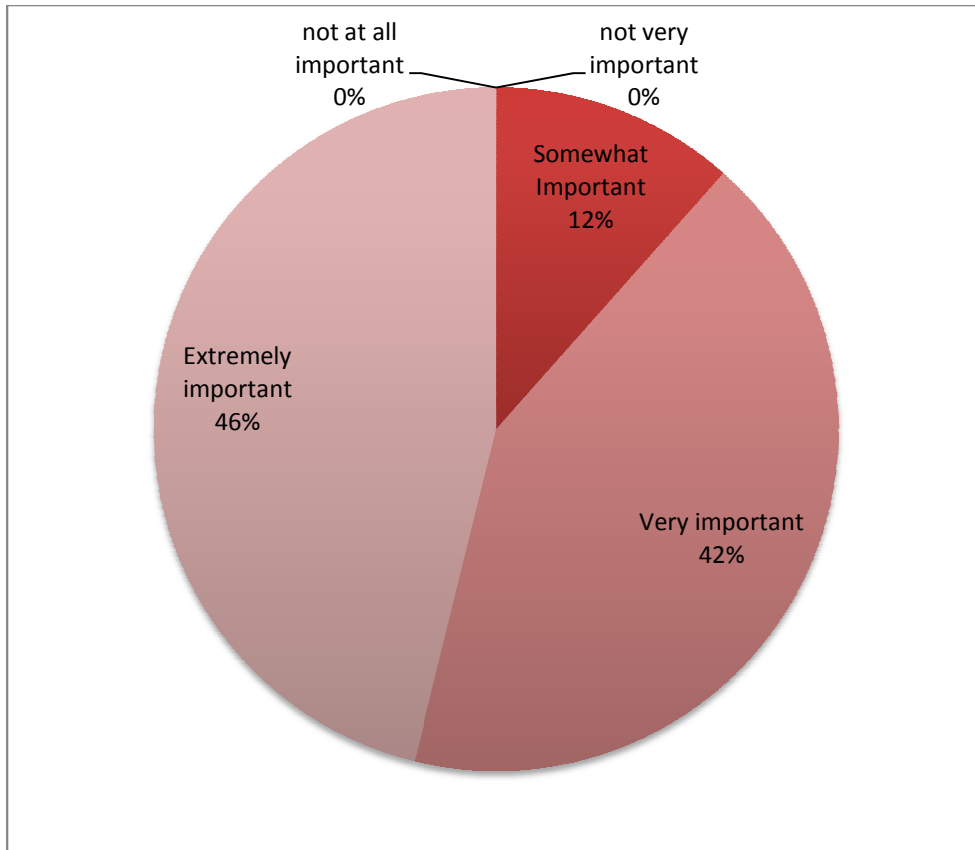
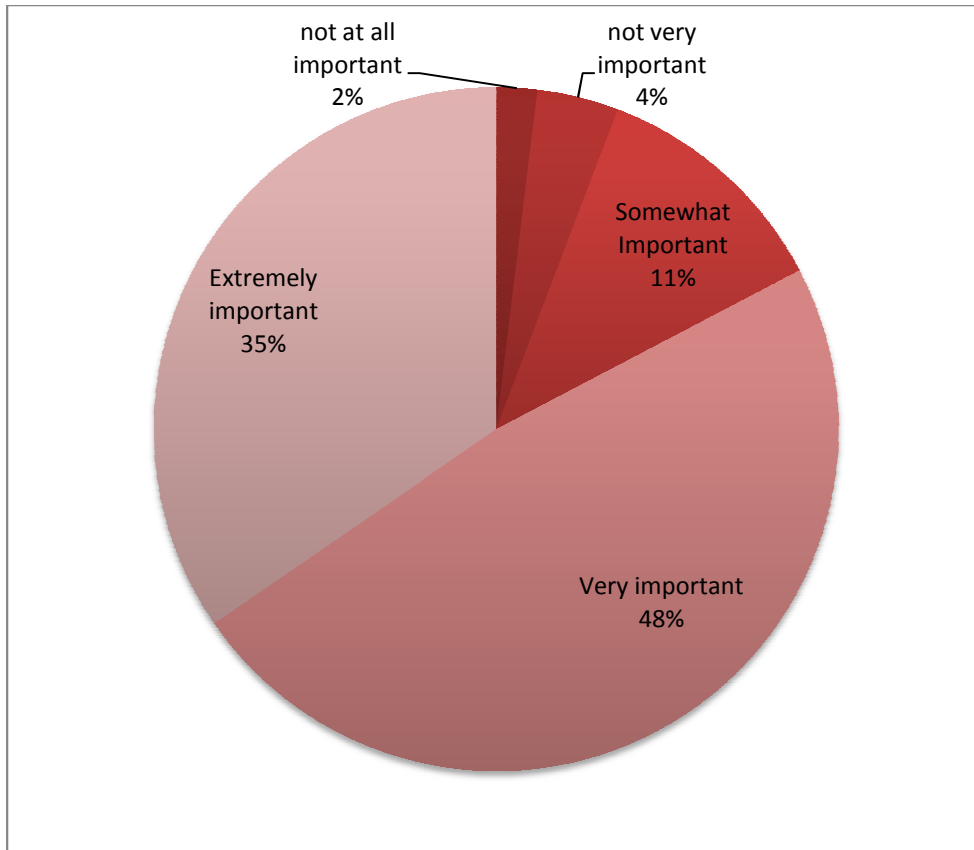


Table 15 The importance of continuing patronage

52 survey participants	Percent	Valid percent	Frequency
Not at all important	1.9%	1.9%	1
Not very important	3.8%	3.8%	2
Somewhat important	11.5%	11.5%	6
Very important	48.1%	48.1%	25
Extremely important	34.6%	34.6%	18
Missing or no answer	0%	0%	0

Figure 14 graph for the valid percentage of continuing patronage



### Development of the Marketing Plan

#### I. Mission

Sycamore Flats Hay Harvesting Company (SFHH) offers high quality hay to the customers of Monterey, Santa Cruz, and San Benito counties.

#### II. Strategy

SFHH heavily relies on the expertise of life long hay harvester and owner operator Allen Bengtson Sr. and its well-established customer base to progress forward in the future by maintaining a competitive advantage in both production and sales.

#### III. SWOT Analysis

##### a. Strength

SFHH derives its strength from three specific areas: Allen Bengtson Sr.'s

expertise in producing high quality hay with low foreign materials that is baled in ideal conditions for the color inside of the bales, and ideal moisture levels with high nutritional feed value; a hay retriever that can deliver a stack of hay to very hard to reach locations, and a well-established customer base that provides good word of mouth advertising.

b. Weakness

The Company's main weakness comes from a limited amount of hay that can be produced due to the company's small size. As the company also does not irrigate to keep overhead down, each year's crop is at the whim of the amount of rainfall and the timing of that rainfall.

c. Opportunities

With better delivery capabilities, SFHH can accommodate ranches that are large enough to need at least 4 tons of hay a year but are hard enough to reach that a tractor trailer make delivery extremely costly if at all possible.

d. Threats

San Benito County is home to a large hay industry that is very competitive and several feed stores, namely LA Hearne Company is the largest, are stiff competition for a small hay producer.

IV. 4 P's

a. Price

Price is largely determined by the current market as is the case with most commodities. However, SFHH can get a leg up on the competition here. As a producer, SFHH does not have to mark up its hay because of middle men like

brokers or feed stores do and thus have competitive prices, which is important to hay buyers. This also allows some flexibility in that SFHH can also charge a bit above market price for deliveries.

b. Place

Though SFHH has been around Monterey County for a couple decades, the main advantage for the company is that ability to deliver to places that are inaccessible to tractor trailer loads. Monterey County has a mountainous topography with most ranches hidden in the hills of the Gavalan or Santa Lucia mountain ranges which are difficult if not impossible to access with tractor trailer loads and are often not near feed stores. San Benito County is similar to Monterey County. Santa Cruz County is more heavily populated especially in the hills surrounding the coast but the SFHH retriever is smaller and only has two axels thus is better for navigating city streets and narrow drive ways in slightly more urban environments.

c. Promotion

SFHH is not of ample size to afford a budget for advertising. Thus new clientele are either referred to by current customers, or, if it is a year of heavy surplus, a simple craigslist.org ad can add a few more clients.

d. Product

SFHH has great farmland in the foothills above King City that is ideal for growing dry-land grain hay. The hay is rectangular style with twine bindings and weighs between 100-110 lbs. per bale and is sold in 80 bale stacks. A portion of each year's crop is stored in pole barns to reduce weathering.

## V. Summery

With a focus on high deliverability and higher quality hay, SFHH can compete with in the hay market by drawing new customers to establish lasting business relationships with local hay buyers.



## CHAPTER 5

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### Summary

Using a survey on desirability of hay buyers in Monterey, San Benito and Santa Cruz Counties, Sycamore Flats Hay Harvesting now has a better understanding of what is important to hay buyers. It can now use this marketing plan to cultivate new and lasting relationships with customers both current and prospective. With this new information, this company will be better prepared to meet the needs of its market and will see a degree of success because of it.

#### Conclusions

Though this Study is very focused on a certain region, it lays ground work for applying marketing tools, such as survey, and applying them to a small business. Though this is nothing new to most products, hay is most often treated like a common commodity and thus opportunities to expand a smaller hay operation due to a lack of market interest can now possibly be remedied by understanding the wants and needs of the common buyer. Though results will differ in different regions and also for different commodities it does point out the importance of having an understanding of the way products are evaluated by consumers. This Marketing Plan can greatly help not just Sycamore Flats hay harvesting but other potential businesses.

#### Recommendations

This study can easily be expanded on by those with interest in such things. The desirability study can be expanded to include degrees of the characteristics, as in “do you prefer green, light-green, or yellow color inside of the bales.” Also the individual kinds of business can be studied along with other regions or even different types of hay such as alfalfa.

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Sample Survey

1. Do you purchase grain hay for livestock feed?(circle one) 1-Yes 2- No (if you answered no then discontinue survey)
2. Define your business:
 

1 Feed Store	4. ranch with livestock
2. Riding Academy	5. commodity broker
3. Animal Sanctuary	6. other_____
3. What is you estimated tonnage of hay purchased each:  
\_\_\_\_\_ tons/ year
4. Do you purchase hay for:(choose one)
  - 1-Resale
  - 2-Feed
  - 3-Both Feed and Resale
5. The following are characteristics of hay that may or may not be used to determine whether or not you will purchase a specific lot of hay. Please select one per row that best describes the level of importance to you when purchasing hay:

Characteristic	Extremely Important	Very important	Somewhat important	Not Very Important	Not at all Important
Low foreign materials	5	4	3	2	1
Level of weathering	5	4	3	2	1
Level of nutritional feed value	5	4	3	2	1
Moisture	5	4	3	2	1
Damage to Bales	5	4	3	2	1
Color Inside the Bales	5	4	3	2	1
Level of Curing	5	4	3	2	1

6. Which is your preferred style of bale:(choose one)
  - 1-Rectangle    2- Square    3- Round
7. (skip question if 6 is loose) Which is your preferred binding?
  - 1-Wire   2- Twine
8. The following are characteristics of hay companies that may or may not be used to determine whether or not you will purchase from a specific hay company. Please select one per row that best describes the level of importance to you when purchasing hay:

Characteristic	Extremely Important	Very important	Somewhat important	Not Very Important	Not at all Important
Consistent quality	5	4	3	2	1
Consistent quantity	5	4	3	2	1
Competitive prices	5	4	3	2	1
Convenient location	5	4	3	2	1
Options for delivery	5	4	3	2	1
Customer service	5	4	3	2	1
Continuing patronage	5	4	3	2	1