BIBLIOGRAPHY

GOMGOM-O, LYN P. APRIL 2008. <u>Consumers' Evaluation of Bugnay Fruit</u> <u>Wine in Bauko, Mountain Province.</u> Benguet State University, La Trinidad, Benguet.

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ABSTRACT

This study was conducted to determine the sensory evaluation and consumers' acceptability of bugnay fruit wine.

The study was conducted from December to January 2008. A total of 70 respondents from fruit wine consumers' in Benguet State University (BSU) and Otucan Bauko, Mountain Province were taken as the respondents of the study. A survey questionnaire was distributed to gather the necessary information needed. Product tasting was also employed to the respondents. The data were tabulated, analyzed, discussed and interpreted using descriptive statistics such as percentages, means, and frequency counts was used primarily to describe data.

This study reveals that a great majority of the respondents was residence of La Trinidad and most of them were in the age range of 18-40 years. There were slightly more male than female. Most respondents were single and more than half of the respondents were living with family with a household size of 2-4 and 5-7 members. Most respondents were college graduate and a fulltime employee they are receiving a salary below the cost of living.

The descriptive analysis indicates that the bugnay fruit wine has color ranging from light to dark. Regarding the taste the Lang-ay wine was bitter while the Pastora's wine is sweet. As to the strength/intensity, both wine are balance.

The two bugnay wine products are"liked" by consumers in terms of color, taste and strength /intensity.

Consumers are willing to buy Bugnay wine if available in the market with a given price of PhP 80 per bottle (700-750 ml) and a price of Php 960 per case. During trade fairs were the preferred of the respondents to bought bugnay wine. Most of them bought other local brands of wine such as strawberry wine, most respondents have been consuming wine for less than a year, and they just buy wine for the special occasion. Most respondents were alone in consuming wine within in the family, with a primary motivation in consuming is for health while for socialization is the first secondary reason.

Frequency of consuming wine is 2-3 times a week and is drunk anytime of the day. In addition, product information was the very important attributes considered in purchasing wine.

It is therefore recommended that fruit wine processors should improve the packaging in order to establish their own brand. They should also aware of attending seminars regarding wine production and marketing strategies in order for them to capture a bigger market share.

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INTRODUCTION

Rationale of the Study

Mountain Province particularly the municipality of Bauko has a moderate warm climate and is abundant in fruits of all kinds. Most of the people market their fruits as fresh. Fruits easily rot so most of the fruits when not sold are fed to pigs or used as fertilizers .Almost all households have fruit trees so the nearest town where fruit growers could market their products is Bontoc, which is one and a half hour ride by land.

Rice farming and gardening are the main sources of income in Mountain Province. Fruit processing is an alternative source of income if done properly so as last long for selling.

Wine making in Mountain Province started in Barangay Otucan, Bauko Mountain Province .Mrs. Corazon Andres, a native and resident of Otucan was the only person making wine until Mrs.Pastora Gomgom-o became interested and engaged in wine making, thus she partnered with Mrs. Andres.

In 1991, many residents joined the band and thus processing was extended to the nearly towns of Bila, Sabangan and Sagada.

In 1998, due to some problems encountered in processing and marketing, the Processors sought technical assistance from the Department of Trade and Industry (DTI) and the Department of Science and Technology (DOST).For this reason, the two Departments partnered in conducting training courses in wine making.



As a result, the wine products improved and became popular. It also became one of the most featured products during the "LANG-AY FESTIVAL" of Mountain Province in 2004, thus the market expanded.

In order to sustain the industry there is a need for improving product quality and producing according to the consumer requirement. It is in this line that a sensory evaluation of the consumers was done to improve sensory quality of the product and to be able to compete with other brands of fruit wines in the market.

This study was conducted to evaluate the sensory characteristics of two brands of bugnay wine in Mountain Province and to determine the consumers' acceptability of the wines.

Objectives of the Study

This study aimed to promote bugnay wine products from Mountain Province. It answered the following objectives:

- 1. To determine the sensory evaluation of the bugnay wine such as color, taste and strength.
- 2. To determine the consumers' acceptability of the bugnay wine.

Significance of the Study

The result of this study can be used as information or reference for future researchers who will be conducting similar studies and may also serve as guide for the fruit wine processors.



Scope and Delimitation

The study focused on two brands of bugnay wines produced in Mountain Province. The respondents included individuals who were willing to taste the wines. For ease of conduct, wine tasting sessions were done in the school and in Otucan, limiting the breadth of respondents.





METHODOLOGY

Locale and Time of the Study

The study was conducted in Benguet State University, La Trinidad Benguet and Bauko, Mountain Province from December to January 2008.

Respondents of Study

The respondents of the study were seventy (70) potential and actual wine consumers with characteristics described in the following sections.

Profile of the Respondents

Table 1 summarizes the profile of the respondents. Majority (61.4%) of the respondents were from Benguet State University while 38.6% were from Bauko, Mountain Province. Most (78.6%) of the respondents belonged to the age range of 18-40 years and the rest within the age range of 41-65 years. Out of the 70 respondents, 36 (51.4%) were male and 34 (48.6%) female. Most (71.4%) were single and only 28.6% were married.

The distribution of educational attainment was concentrated in College graduate (44.3%), high school graduate (35.7%) and College students (14.3%).Fifty-two (74.3%) was gainfully employed while 20% composed of students and 5.7% housewives. As to household characteristics, more than half are living with family with a household size of 2-7 members. As to the average monthly income of respondents, 68.6% have monthly income of less than Php 10,000. The rest have monthly income from Php 10,000-20,000.



PARTICULAR	FREQUENCY	PERCENTAGE	
ADDRESS			
BSU La Trinidad	43	61.4	
Bauko	27	38.6	
TOTAL	70	100	
AGE (years)			
18-40	55	78.6	
41-65	15	21.4	
TOTAL	70	100	
SEX	And the second states		
Male	36	51.4	
Female	34	48.6	
TOTAL 70		00	
CIVIL STATUS	1916		
Single	50	71.4	
Married	20	28.6	
TOTAL	70	100	
HOUSEHOLD DESCRIPTIO	N		
Living Alone	30	42.9	
Living with family	40	57.1	
TOTAL	70	100	

Table 1. Personal Profile of the Respondents



Table 1 Continued...

PARTICULAR	FREQUENCY	PERCENTAGE
HOUSEHOLD SIZE		
2-4 members	19	27.1
5-7 members	19	27.1
8-10 members	2	2.9
No answer	30	42.9
TOTAL	70	100
EDUCATIONAL ATTAINM	ENT	
Elementary graduate	3	4.3
High school graduate	25	35.7
College graduate	31	44.3
College level	10	14.3
Graduate school	1	1.4
TOTAL	70	100



Table 1. Continued....

PARTICULAR	FREQUENCY	PERCENTAGE
OCCUPATION		
Farmer	13	18.6
Part time employee	14	20.0
Full time employee	16	22.9
Self-employed	6	8.6
Business person	3	4.3
Housewife	4	5.7
Student	14	20.0
TOTAL	70	100
AVERAGE MONTHLY INCOM	1E	18104 B
<p10, 000<="" td=""><td>48</td><td>68.6</td></p10,>	48	68.6
P10, 000-P15, 000	17	24.3
P16,000-P20,000	5700 (100	7.1
TOTAL	70	100

Data Collection

Bugnay wines produced by two different processors in Mountain Province were served to the respondents for sensory evaluation. Each sample was coded. A questionnaire was filled up by each respondent while tasting the wine.



The sensory evaluation in La Trinidad was done at the Chrysanthemum hall Benguet State University (BSU) while in Mountain Province the said sensory evaluation was done at the Otucan Norte Barangay Hall.





REVIEW OF LITERATURE

At present, Filipinos are just beginning to discover the pleasure of wine consumption. However, some common alcoholic drinks are made by local farmers such as "basi" in the Ilocos, "tuba" in the Visayan and Tagalog regions, "tapuy" in the Mountain Province and "meding" in some provinces of Luzon.

In the future, it is expected that when the use of wine will become popular in the typical Filipino home, big establishments for wine production could be set up. For the prospect of producing quality wines in the Philippines is indeed very bright (Sanchez and Dizon, n.d.).

Factors influencing Consumers Perception and Behavior

Tigo (2004), cited that one perception of a certain thing determine the over Behavior exhibited under a given condition. Perception is the process of becoming aware of objects, qualities, relation or a problem which is closely related to action. Myers (1981), as cited by Tigo (2004), stated that perception refers to how we comprehend the objects and events in external reality around us.

A person's buying decisions are also influenced by psychological factors such as: motivation, perception, learning and beliefs and attitudes. A need becomes motive when it is aroused to a sufficient level of intensity. A motive is a need that is sufficiently pressing to direct the person seeks satisfactions of the need (Kotler, 2000).People have choices that depend upon the information they received, the influenced of the



environment. Preferences of people are based on their taste, what they see and what ever information they hear about the product.

Consumers perception are also influenced by personal characteristics, this include the consumer's age, occupation and personality.

Product Development

Product Development is production of commodity or good through invention or innovations. A commodity is produced or developed as a result of several research experimentation trials. Thus product development takes a full knowledge, skills and capital investment to produce product that are acceptable to consumers (Kotler, 1986).

The process of product development needs to be undertaken carefully and methodically. Considerations need to be given to all steps in the development process from creating a prototype and testing a product's marketability to intellectual property protection and how you will source your raw materials you should also consider ways in which you will guarantee the quality of you products, and think about future possibilities of their expansion and improvement (Anonymous, 2006).

Anderson (2006) stated that the consumers are key decision maker in development of simple processing. Their taste and preference influence the types and quality (size, shape and color) of the product and most likely for consumers to find a readily acceptable product. The purchasing power is the determining factor on the quality and acceptability of the product.



Product Attributes

Product attributes are characteristics by which products are identified and differentiated. It usually comprises features, functions, benefits, and uses. Market research (UK, 2003) defines products as a combination of attributes or features, and that the attributes can be specified at different levels. This is consistent with a key principle in marketing: consumers do not consume products but rather they benefits conferred by the features of products.

Brand Preferences of Consumers

Brands are some total of all images that people have in their heads about a particular company; brands represent promises made regarding what we can be expected from a product, service, or company (Gordon, 2002).

Branding is an important part of marketing decision and the marketing mix because one of the major ways that organizations identify their product(s) is by the brand. Some concepts related to branding are brand name, brand marks, trade marks and trade name (Lusch and Lusch, 1987).

Consumers view a brand as an important part of the product and branding can add value to the product. Branding has grown so strong that today almost everything is branded (Kotler, 2000).

Branding helps buyers in many ways; brand names tell the buyer something about the product quality. Buyers who always buy the same brand know that they will get the same quality every time they buy the same product. Thus, branding results is more



product variety and choices for consumers; it also provides much more information about the product and where to find them.

Brand choice of consumers may also depend on the price level, advertising, and promotional activities of the product (Pride and Ferrell, 1983).

Quality

Jongen (2000) describes quality with respect to food products as "to meet the expectations of the consumers".

Quality includes durability, reliability, precession, ease of operation and repair and other valued attributes. In the case of fruit wine, consumer's choice of brand would also depend on its quality. Quality here pertains to the taste, texture, nutritional value, packaging and labeling of the product.

A good sign of quality is balance. A wine is balanced when all of the wines components (sweetness, acidity, tannins) blend together. The balance or potential to be balanced after ageing is a sign of quality.

Quality is a characteristic of wine that is both difficult to define and to communicate. The level of quality required may vary upon a variety of circumstances including the consumption occasion (Quester and Smart, 1998). The quality of the wine however is difficult to evaluate objectively.

Groves et al. (2000) suggests that wine quality is compost of hedonistic and aesthetic components of wine consumption. These are the felt experiences resulting from the pleasure of drinking wine.



The ability to evaluate the over all quality of a wine is largely based the taste upon the taster's previous experience. All judgments of wine are subjective, influenced by the memory of wines previously tasted. Thus, wine quality is easier to recognize than it is to define. A wine maker's ability to recognize wine quality can be enhanced by frequent, regular tasting of many different wines. In addition it is helpful, especially for the in experienced, to taste wines, using a standardized and systematic method (Cooke,n.d.).

Price

The price of the product is one of the highest influencing factors that determine the behavior of consumers. For some consumers, they perceive a product with low price as less quality and a high price product as a quality. However, most buyers nowadays are practical. They sacrifice the other attributes of a product for low price.

Koewn and Casey (1995) found that pricing was extremely important to all respondents in a study of wine purchasing influences. Generally, price is an important cue to quality when there are few cues available, when the product cannot be evaluated before purchase, and when there is some degree of risk of making a wrong choice (Cox and Rich, 1967).

Bottling

Bottling is an important stage for wine making. If it is done carelessly it can ruin all the efforts during the early stages.



Here are some important considerations in wine making bottling:

1. Selecting the type of bottle

The effect of different colored bottles is an important thing to remember. Wine in dark colored bottles usually show fewer tendencies to oxidize them the same wine in light colored bottles to prevent loss or reduction in color while white wines must be stored in clear glass bottles.

Use bottles that are round and uniform in size. They can be stored more easily and are not difficult to accommodate in the storage room.

2. Cleaning and sterilizing bottles

All bottles should be cleaned very well with hot water and detergent using a bottle brush to reach all angels inside. Finally, rinse with clean and fresh water. Let them drain in an inverted position thus causing the minimum entry of air born impurities. To sterilized the bottles place a 2% sulfur dioxide solution in it. Allow to stand for 15 minutes and drain. Swirl the bottle with little amount of boiled top water. Drain. Cover with foil until ready for use.

3. Choice of Seal

Plastics covers are now widely used since these are easier to clean and are reusable. But these do not sell as tightly as corks do.

4. Filling the Bottles

The easiest method of filling the bottle is to use a clean sterile funnel in pouring the wine from the bigger storage vessel. Bottles must be filled up to 1-1.5 inch head space using tygon tubing. Cork them at once right after filling to prevent much exposure of wine to atmospheric oxygen that causes oxidation.



Before storing wine, it should be properly labeled. This is a convenient guide in knowing the age of the wine, the fruit it is made of and other important information about it. In writing the label, use water proof drawing ink. If the storage room is damp, the labels maybe removed after a while. The label should centrally placed between the seams of the bottle and do not overlap them, as an eye appeal is important.

For a more complete data, keeping a record book is a suggestion. In this book, all information given on the label as well as other information related with the manufacture of wine is jotted down. This helps a wine maker to avoid past errors and serves as guide for future improvements. Wine labels help to established a winery's image and define brands (Fowler, 2000).

Packaging

In wine marketing, packaging and labels assume undeniable influence with packaging forming an integral part of wines promotions and consumption (Thomas 2000, Charters et.al. 2000).Wine packaging includes the front label, back label, bottle and bottle shape, cask, package and awards.

Taste

When asked they choose a particular wine, Koewn and Casey (1995) found that the taste of the wine was a dominating factor for wine consumers. Thompson and Vourvachis (1995) found that taste was the most highly correlated attribute relating to wine choice and no tend that this was to be expected as it is frequently found to be the



key attitudinal factor in studies of wine choice. The taste of the wine represents one of the major perceived by Mitchell and Greatorex (1998) they found that the taste of wine was the risk that concerned consumers most.

Concept on Sensory Evaluation

<u>Sensory evaluation.</u> The institute of Food Technologist's (IFT) Sensory Evaluation Division USA defines evaluation as a "scientific discipline used to evoke, measure, analyze and interpret sensations as they are perceived by the senses of sight, smell, taste, touch, and hearing" (Prell, 1976).

Sensory evaluation is the science of judging and evaluating the quality of food by the use of the senses, i.e. taste, smell, sight, touch, and hearing (Meilgard et al., 1991).

Simply stated, sensory evaluation is divided into two methods, subjective and objective testing. Subjective tests involve object panelists, while objective testing employs the use of lab instruments with no involvement of the senses. Both tests are essential in sensory evaluation and necessary in a variety of conditions (Meilgard et al.,1991).

One such subjective test is the use of the hedonic scale method this rating scale method measures the level of the liking of foods, or any other product where an affective tone is necessary. This test relies on people's ability to communicate their feelings of like or dislike. Hedonic testing is popular because it maybe used with untrained people as with experienced panel members. A minimum amount of verbal ability is necessary for reliable results (OMahony, 1986).



Sensory evaluation is food science and technology, designed to translate qualitative information into numerical data by applying a statistically valid experimental design and controlled testing conditions. These sensory evaluation methods are widely used by food industry and academics (Van Oirshot, QEA et. al. n.d).

Sensory evaluation can derived from two different types: 1st rating/rankingscaling and making. Can be done along several dimensions on category or graphics (line) scales. This is done to quantify relatively big differences between products. Second is difference testing such as paired comparison and triangle test. This is use to demonstrate the existence of small differences. The results are analyzed using binomial statistics. Alternatively, sensory evaluation can be divided based not upon the tools used but upon what is being measured (Delwiche, 2002). Sensory evaluation is a procedure that is quite often in food science and technology because such sensory characteristics of food products as flavor (odor and taste), color and texture are closely involved with consumer appreciation and acceptance (Wasserman, 1981).

The use of sensory evaluation adopted from industrial practice would contribute to the researcher's achievement of higher level of attainment particularly in attainment target number 3: planning and (marketing) making. Within UK, as in all industrialized societies and food companies need to ensure that they develop products that are appropriate for increasingly sophisticated consumer markets to which the flavor of food and drink is important. Sensory evaluation is used in a manner of ways to ensure that the company's product is maintained or increased or if not, will be acceptable to consumers.

Sensory evaluation as it used with consumers, depends upon the human ability to asses and the physical stimuli of the individuals' socio-cultural context. It is rare that a



product, particularly food and drinks, stimulates only one sense. Assessment of food and drinks depends mainly on responses to taste, smell, and pain (trigeminal nerve response), triggered by chemical receptor cells in the mouth and nasal cavity. These combined responses refers to as flavor triggered sight, hearing and touch; and are affected by the mouth, feel and after taste of food and drinks (Pratt,n.d.).

Food perceptions and preferences are very complex as they are formed through sensory and non-sensory influences. This is to evaluate the overall preference; sensory related segmentation is often used. This approach takes unto account sensory, hedonic and cognitive aspects (Januzewska, 2006).

In this modem age, there is undeniable impetus in the use of sensory evaluation as a tool of measuring product characteristics and acceptability. For commodities, this concept has been greatly utilized in the determination of product attributes and quality level relative to degree of consumer preferences (Daget, 1977).

Today's consumers are discerning, demanding and more knowledgeable about food and expect products which are safe, good value and high sensory quality. Therefore, knowing consumer's preference and perceptions of the sensory characteristics of a food/drink product is very important to food manufacturers and retailers alike.

Total or overall sensory evaluation of foods is highly complex because it involves the use of several senses, each of which evaluating one sensory parameter (Kramer, 1973a). Although sensory evaluation is the ultimate measure of sensory qualities of food products, it is always subjective, time consuming and costly (Noble, 1975).

Products evaluation may also include development of objective test procedures on the basis of sensory data. Perhaps correlation studies between known chemical and



physical test and sensory evaluation results could be done. It is of great importance especially to the industry to be able to translate sensory information into those measurable by instruments. This way, data could be anchored to some objective test (Elliot *et al.*, 1969).

The use of a range technical, symbolic and other means of representation for sensory evaluation contributes to high quality product development in the food industry. Without appropriate sensory analysis, there is a high risk of market failure.

Sensory analysis is too frequently often overlooked as a requirement before Product launch, and is often carried out to poor standard (Arazi and Kilcast, 2001).

Sensory testing has been developed into a precise, formal, and structured Methodology that is continually being updated to refine existing techniques. The developed methods serve economic interests and can establish the worth or acceptance of as commodity. Sensory tests offer a course to select the product that optimizes value for Money. Sensory evaluation is used as a practical application in product development by aiding in product matching, improvements, and grading. Research is another area where Sensory evaluation is frequently used. Evaluation of product maybe needed to determine the effects an experiment had on its subject. Finally, quality control and marketing is yet another application of sensory testing (Meilgard *et al.*, 1991).

Market research is therefore about consumer's reaction to a product rather than the actual product itself. Traditionally tests to identify acceptability of a product or preference for one of a range of product are used. Scaling (hedonic) test to express the degree of like and dislike of the consumers response to products are integrated an order to identify the characteristics of the product to be developed. The techniques for product



evaluation and development are the sensory characteristics of food, simple one sense tests; and a range of statistical test (Pratt, n.d.).

Commercial winemakers have the formidable task of properly and reliably evaluating wine quality, as well as developing and applying an understanding of consumer taste preferences. Fortunately hobby winemakers need only be concerned with pleasing their own tastes. Even so, certain skills are helpful, such as the ability to recognize volatile acidity, or tartness (acidity levels) and sweetness or lack of sweetness (Is the wine dry or slightly sweet?) practical methods for sharpening these kinds of tasting skills are given in how to test and improve your wine judging ability.

A survey of 30 food industries in Metro Manila revealed that sensory test by a single expert was heavily relied upon as a quality control tool for product inspection (Gatchalian, 1978). Interest was geared towards identification of defects or unexpected characteristics easily observable on the products. Most of the time, this was done by the product line inspectors. None reported using sensory evaluation as an aid to produce quality maintenance, although this is a major quality control function for many progressive industries in developed countries.

Although majority of researchers and discoveries in the field of sensory evaluation coverage greatly on the area of foods, it maybe well to emphasize at this point that other than flavor and taste qualities, most sensory tests can be utilized for qualities measurable by the human senses. Thus, texture measurement could be applied to textile, leather, wood, fiber, paper etc.



The concept of sensory tests has been utilized even at the earliest period of Human's existence. Man since his creation, has relied on his senses and experienced in the selection of commodities that he needs (Gorman, 1975).

With the passage of man's desires and the levels of selectivity increased in degrees of sophistication (Wurhmah, 1977). With varied types of product made available for needs, the choice was no longer only for survival but also for satisfaction. Thus a product's lifetime in the market could be measured by the degree of satisfaction it provides its consumer who invariably put a lot of weight on their preferences through this senses. There appears then the need to identify the factors associated with the commodity that could provide information on man's basics for selection. Necessarily this would involve sensory characteristics which can identify with the use of his sense. Texture can be characterized by the senses of feel or touch; color or appearance by the sense of sight; flavor by the sense of test; and odor by the sense of smell; each sense being a function of a particular human organ.

Perhaps the most important and essential tools available to winemakers are their senses. With sight one can critically examine a wine's appearance; with smell detect pleasing and non-pleasing odors; with tests perceive desirable and undesirable flavors. Thus, sensory analysis not only is the ultimate test for evaluating wine quality, it is the best method for controlling quality throughout wine making.



RESULTS AND DISCUSSION

This chapter presents the discussion and analysis of the findings from the data gathered from 70 respondents.

Respondents evaluated the product by comparing bugnay wine processed by two processors as to its color, taste, and strength/intensity.

<u>Color.</u> The color of foods contributes immeasurably to a person esthetic appreciation of them. It does not only send a message of expectation but also provides clues to the condition of the foods (Navarra, 2005).

The evaluations of the respondents as to color of the two wines are presented in Table 2. A weighted mean of 2.82 was computed from the ratings of Lang-ay wine which means that the color is more of dark. On the other hand, Pastora's wine was given a rating of 1.84 meaning more of light color.

WINE		RATING		MEAN	DESCRIPTION	
	1	2	3	4		
Lang-ay wine	1	13	53	3	2.82	dark
Pastora's wine	13	55	2	-	1.84	light

*Rating description: 1-verylight 2-light 3-dark 4-very dark



Taste. Table 3 presents the weighted mean ratings of the respondents in terms of taste of two wines. Lang-ay wine obtained a weighted mean rating of 2.41, this shows that the taste is bitter, while the Pastora's wine has a sweet taste as indicated by a weighted mean of 1.94 by the respondents.

WINE	I	RATING		MEAN	DESCRIPTION
	1	2	3		
Lang-ay wine	11	19	40	2.41	bitter
Pastora's wine	8	58	4	1.94	sweet
*Rating descriptio	n: 1-sour	2-sweet	3-bitter	They are	

Table 3. Taste rating of two wines

<u>Strength/Intensity.</u> Table 4 of this study presents the evaluation of the respondents on the two wines in terms of strength/intensity. A weighted mean was computed as 2 for Lang-ay wine which implies that the strength/intensity is balance. For Pastora's wine the weighted mean was computed as 2.12, the result implies that the strength/intensity is also balanced.

WINE		RATING			MEAN	DESCRIPTION
	1	2	3	4		
Lang-ay wine	15	41	13	1	2	balanced
Pastora's wine	5	53	10	2	2.12	balanced
*Pating description	n 1 aaidi	10 7 h	alanaa	2 rich	1 tort	

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Table 4. Strength/Intensity rating of two wines

*Rating description: 1-acidic 2-balance 3-rich 4-tart

<u>Consumer's Over-all Acceptability.</u> As shown in Table 5, the two wines did not significantly differ in over-all acceptability. They were all evaluated as "liked" by the respondents. For Lang-ay wine the computed weighted mean is 3.57. On the other hand, Pastora's wine has given a rating of 3.81. The result implies that both wines are equally liked by the respondents.

WINE		RATING				MEAN	DESCRIPTION
	1	2		3	4		
Lang-ay wine	3	5	13	47	2	3.57	liked
Pastora's wine	2	4	8	47	9	3.81	liked

Table 5. Consumers' over-all acceptability rating

*Rating description: 1-extremely disliked 2-disliked 3-neither liked nor disliked 4-liked 5-extremely liked

Willingness to buy Bugnay Wine if Available in the market

Table 6 presents the willingness of the respondents to buy the tasted fruit wine if available in the market. Sixty-four (91.4%) of the respondents were willing to buy Pastora's wine while 60% were willing to buy Lang-ay wine.

WILLINGNESS TO BUY	LANG-AY WINE		PASTORA'S WINE	
	F	%	F	%
Yes	60	85.7	64	91.4
No	10	14.3	6	8.6
TOTAL	70	100	70	100

Table 6. Willingness to buy Bugnay wine

Preferred Price of Bugnay wine

For a given price of PhP80 per bottle (700-750), 72.9% were willing to buy Langay wine while 74.3% Pastora's wine(Table 7).

The same is true per case of 12 bottles (Table 8). Majority of the respondents chose the lowest price of PhP960 per case but there are still few 24.3% and 17.1% for Lang-ay wine and Pastora's wine, respectively who were to pay for a higher price of PhP1,200 per case.

PRICE	LANG-AY W	INE	PASTORA'S W	INE
	F	%	F	%
PhP80	51	72.9	52	74.3
PhP100	14	20.0	17	24.3
PhP120	5	7.1	1	1.4
TOTAL	70	100	70	100

Table 7. Preferred price of bugnay wine per bottle (700-750ml)



PRICE	LANG-A F	Y WINE %	PASTOR F	PASTORA'S WINE F %	
PhP960	52	74.3	56	80.0	
PhP1, 200	17	24.3	12	17.1	
PhP1,400	1	1.4	2	2.9	
TOTAL	70	100	70	100	
TOTAL	70	100	70	100	

Table 8. Preferred price of bugnay wine per case of 12 bottles

Place of Buying Bugnay Wine

Table 9 shows the buying place of bugnay wine. The respondents bought bugnay wine in trade fairs (44.3%), at La Trinidad Public Market (32.9%) in processors' stores (32.9%),"pasalubong"stores (21.4%),wine stores (15.7%),Baguio City Market (8.6%),and the rest at Benguet State University and supermarkets and groceries.



PLACE/OUTLET	FREQUENCY	PERCENTAGE
La Trinidad Market	23	32.9
Baguio City Market	6	8.6
Supermarket/grocery	3	4.3
Processors stores	23	32.9
Pasalubong center	15	21.4
Trade fairs	31	44.3
Wine stores	11	15.7
BSU Marketing	2	2.9
Strawberry farm	2 and the second	2.9
*multiple answer	DAD -	
Other Kinds of Wine Bous	oht	

Table 9. Buying place of bugnay fruit wine

Other Kinds of Wine Bought

Since majorities (61.4%) of the respondents were residing at La Trinidad, 50% indicated that they bought strawberry wine, the most popular product in the locality. Other respondents bought cherry wine (45.7%), Yakon wine (14.3%), rice wine 7.1% other locally made fruit wines. Their were few respondents who bought imported brands' like Novelino (Table 10).



KINDS OF WINE	FREQUENCY	PERCENTAGE
Strawberry wine	35	50
Yakon wine	10	14.3
Cherry wine	32	45.7
Guava wine	4	5.7
Sorrel wine	4	5.7
Honey wine	1	1.4
Mango wine		2.9
Rice wine	5	7.1
Novelino		2.9
*multiple answer	H a a	

Table 10. Other kinds of wine bought by the respondents

Number of Years in Consuming Bugnay Wine

As presented in Table 11, 42.9% have been consuming wine for less than a year, closely followed by 41.4% who have been consuming wine for one to two (1-2) years, while the rest (15.7%) for more than three (3) years.



NUMBER OF YEARS	FREQUENCY	PERCENTAGE
Less than 1 year	30	42.9
1-2 years	29	41.4
More than 3years	11	15.7
TOTAL	70	100

Table 11. Number of years in consuming wine

Reasons for Buying Bugnay Fruit wine

Consumer's preference to buy a certain food items is influenced by several reasons. In the case of bugnay wine, several reasons were identified by the respondents (Table 12).Majority (67.1%) of the respondents bought wine for special occasions. Thirty two (45.7%) indicated that they bought wine for gifts/pasalubong, and 24.3% bought wine for personal/family consumption.

REASONS	FREQUENCY	PERCENTAGE	
Personal/Family Consumption	17	24.3	
Special Occasions	47	67.1	
Gift/pasalubong	32	45.7	

Table 12. Reasons for buying bugnay wine

*multiple answer

Consumers of Bugnay Wine in the Family

Table 13 shows who consumed bugnay wine in the respondents' family, thirty one (44.3%) indicated" me alone",15.7% me and my friends, another 12.9% respondents indicated that they consume wine with all the family members, followed by 8 (11.4%) respondents indicated that they consume wine with their spouse and 2.9% spouse only.

CONSUMERS	FREQUENCY	PERCENTAGE
Me alone	51	72.8
Spouse	and 2	2.9
Me and spouse		11.4
All family members	9	12.9
	18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3
TOTAL	70	100

Table 13. Bugnay wine consumers in the family

Important Reasons for Consuming Bugnay Fruit wine

Table 14 indicates the primary and secondary reasons for consuming bugnay wine. The primary motivation for consuming bugnay wine in this cluster is for health (41.4%) while the first secondary reason as indicated by the respondents is for socialization (47.1%).



REASONS	PRIMARY	REASON	SECONDARY REASON		
	F	%	F	%	
Health reason	29	41.4	-	-	
Appetizer	13	18.6	13	18.6	
Part of meal	1	1.4	7	10	
Relaxation	18	25.7	17	24.3	
Socialization	9	12.9	33	47.1	
TOTAL	70	100	70	100	

Table 14. Primary and secondary reasons for consuming bugnay wine

Frequency of Bugnay Wine Consumption

Table 15 shows the frequency of consuming bugnay wine by the respondents. Result shows that 30% of the respondents consume wine two to three (2-3) times a week, 27.1% two to three (2-3) times a month, 22.9% consume wine once a month. Other respondents are consumed wine once a year (10%), 8.8% daily and only 1 % occasionally.

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FREQUENCY OF WINE CONSUMPTION	FREQUENCY	PERCENTAGE
Daily	6	8.6
2-3 times a week	21	30
2-3 times a month	19	27.1
Once a month	16	22.9
Once a year	7	10
Occasionally	1	1.4
TOTAL	70	100

Table 15. Frequency of bugnay wine consumption

Time of Consumption

Table 16 shows that majority (65.7%) of the respondents consumed wine anytime of the day as they needed. Some respondents (31.4%) also consumed wine at dinner and few (2.9%) consume wine at lunch time.

Table16.	Time of	of consum	ption
----------	---------	-----------	-------

FREQUENCY	PERCENTAGE
2	2.9
22	31.4
46	65.7
70	100
	2 22

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Bugnay wine Attributes Considered in Purchasing Wine

The Bugnay wine attributes considered in purchasing wine is shown in Table 17.

Considered Very important for almost half (48.6%) of the respondents was product information followed by price (40%). The latter was also rated as important (38.6%). Around 20-26% considered label, brand and product information as moderately important. Likewise, label and brand were considered of little importance by 31.4% and 34.3%, respectively.

Table 17. Wine attributes and importance	influencing consumer's preference

PARTICULAR	PR	ICE	LA	BEL	C C	OLOR	B	RAND	PRO	DDUCT	' INFO
	F	%	F	%	F	%	F	%	F		%
Very important	28	40	3	4.3	3	4.3	2	2.9	34		48.6
Important	27	38.6	3	4.3	14	20	14	20	12		17.1
Moderately impt.	9	12.9	17	24.3	11	15.7	18	25.7	15		21.4
Little important	4	5.7	22	31.4	15	2 1.4	24	34.3	5		7.1
UN important	2	2.9	25	35.7	27	38.6	12	17.1	4		5.7
TOTAL	70	100	70	100	70	100	70	100	70	100	



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SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

<u>Summary</u>

This section presents the summary of the findings of this study. This was conducted at Benguet State University, La Trinidad Benguet and Bauko, Mountain Province from December to January 2008. The study aimed to determine the sensory evaluation (color, taste and strength) and the consumers' acceptability (color, taste, strength and over-all acceptability) of bugnay fruit wine. The data was gathered through the use of questionnaires issued to the respondents.

Sensory evaluation was employed to determine the sensory characteristics and consumer's acceptability of the product. There were 70 respondents composed of: farmers, part time and fulltime employees, self-employed, businesspeople, housewives and students of the place where the study was conducted

The bugnay wine products have color ranging from very light to very dark. In terms of color characteristics, the Lang-ay fruit wine is described as dark and also majority of the respondents described that Pastora's fruit wine is light. In terms of taste characteristics, Lang-ay fruit wine is bitter as indicated by most respondents while sweet for the Pastora's best fruit wine. As to the strength characteristics, respondents indicated that both wines (Lang-ay fruit wine and Pastora's best fruit wine) are balance. On the over-all acceptability, the two (2) bugnay fruit wine have the same acceptability rating (majority) or the two wines are also found that they are accepted/liked by the respondents.



On the willingness of the respondents to buy the tasted wine, more than half liked to continue consuming/buying the bugnay wine. In terms of price respondents suggested that both wines(Lang-ay and Pastota's fruit wine) are worth PhP 80 per bottle and PhP 960 per case.

For the purchase area/outlet, trade fair has obtained the highest percentage. As to the other kinds/brands of wine bought almost half (50%) of respondents indicated strawberry wine. In terms of the length of time in consuming bugnay wine, less than one year has the highest percentage while the reasons for buying wine it is mostly for special occasions and me alone got the highest percentage for the consumers of wine in the family.

The primary motivation in consuming wine is for health reason and the secondary reason is for socialization. As to the frequency of consuming wine 2-3 times a month has obtained the highest percentage while for the time of consumption most respondents consume wine anytime of the day.

As to the importance/attributes influencing the consumer's preferences in buying bugnay wine product information got the highest importance value and the least importance is color.

Conclusions

Based on the findings of the study the following conclusions are derived:

1. The bugnay fruit wine product formulated produce sensory characteristics that are acceptable to the consumers, as indicated by the results of consumer's over-all acceptability test.



2. Generally, both wine samples of bugnay fruit wine product are liked/accepted by the respondents, despite the differences on the result in terms of color, taste, strength and the over-all acceptability.

Recommendations

In the light of the findings and conclusions of the study the following recommendations are presented:

1. Fruit wine processors should be aware of attending seminars regarding on fruit wine production and marketing to gain and/or enhance their knowledge in managing their business.

2. Fruit wine processors or entrepreneurs would be better of branding their products as it tends to give the impression to consumers of quality and safeness for consumption.

3. It is also recommended that feasibility study should be done to identify the profitability of bugnay fruit wine.

4. The result will be the basis of the product processors in improving or making innovations on the product.

5. Promote consumption of fruit wine especially bugnay as to its health benefits from it.

6. It is important for processors of bugnay fruit wine product to include their labels, product information's such as ingredients, nutrition information, alcohol content, BFAD certification and number, processors and others. This is a vital for small enterprises whose products and brand are not yet known in the market.



7. Small-scale bugnay fruit wine processors may find it costly to establish their own brands and label. A municipal or provincial "Seal of Quality" may be explored where the local government unit in partnership with concerned line agencies and processors who would comply with set standards. This strategy is being done in many provinces to promote there specialty products.





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APPENDIX

A. Survey Questionaire

Dear Respondent,

You are kindly asked to compare the two wine prepared from bugnay/bignay wine by two processors. The comparison focuses on the color, taste, strength and overall acceptability of the two wines. On the next page, you are also kindly requested to provide your details.

I. PERSONAL PROFILE

1. Name:	UI
2. Home Address:	
3. Age:	
() 18-40 Young Adult	() 41-65 Old Adult
4. Sex:	
() Male	() Female
5. Civil Status:	
() Single	() Married
6. Educational attainment:	
() Elementary Graduate	() College Graduate
() Highshool Graduate	() others (pls. specify)

7. Occupation:

() Farmer

() Retired

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() Employed (part time)	() Housewife
() Employed (fulltime)	() Student
() Self-employed	() Others (pls.specify)
() Businessman/woman	

8. Household description:

() Living alone

() Living a family with____ members

() others (pls. specify)

9. Household average monthly income

() P10, 000-P15, 000

() less than P10, 000	() P16, 000-P20, 000

Task 1: Compare two fruit wine (check for each sample)

Score	Color	Sample XX	Sample XY
1	Very light		
2	Light	Taga B	
3	Dark		
4	Very Dark		

Score	Taste	Sample XX	Sample XY
1	Sour	A AND AND A	
2	Sweet		
3	Salty	7910	

Score	Strength/Intensity	Sample XX	Sample XY
1	Acidic		
2	Balance		
3	Rich		
4	Tart		

ACIDIC-a wine with a noticeable sense of acidity

BALANCE-all of the wines components (sweetness, acidity, tannins) blend together RICH-a sense of sweetness in the wine that is excessively sweet TART-a wine of high level of acidity

Score	Overall Acceptability	Sample XX	Sample XY
1	Extremely disliked		
2	Disliked		
3	Neither liked nor disliked		
4	Liked		
5	Extremely liked		



1. Would you liked buy the tasted wine if they were available in the market?

	Sample XX	Yes (1)	No (2)			
	Sample XY	Yes (1)	No (2)			
2. How much you pay for single bottle? (Suggest a price)						
	Sample XX	80	100	120		
	Sample XY	80	100	120		
3. Ho	w much you pay for th	ne case of 12 bot	ttles? (Suggest a price)			
	Sample XX	960	1200	1400		
	Sample XY	960	1200	1400		
II. BU	JYING AND CONSU	MPTION PATT	TERN			
	1. Where do you usu	ample XX 80 100 120 ample XY 80 100 120 nuch you pay for the case of 12 bottles? (Suggest a price) 1400 ample XX 960 1200 1400 ample XX 960 1200 1400 ample XX 960 1200 1400 ample XY 960 1200 1400 Maple XY 960 1200 1400 NG AND CONSUMPTION PATTERN Where do you usually buy bugnay/bignay wine? () Public market, pls. specify place () La Trinidad () Baguio City Market () Public market/Grocery () Trade Fairs () Supermarket/Grocery () Trade Fairs () Processor's stores () others (pls. specify) () Pasalubong Center () others (pls. specify) () Strawberry wine () other local brands (pls. specify)				
() Public market, pls. specify place						
() La Trinidad () Baguio City Market						
	() Supermarket/Gro	() Trade Fairs				
	() Processor's store	8	() Wine stores			
() Pasalubong Center () others (pls. specify)						
2. What other kinds of wine do you buy aside from bugnay/bignay wine?						
	() Strawberry wine () other local brands (pls. specify) _			fy)		
	() Yakon wine () Imported brands (pls. specify)					
	() Cherry wine					

3. How long have you been a bugnay/bignay wine consumer?



() less than 1 year	() 1-2 years () more than 3 years
---------------------	-----------------------------------

4. What are your reasons for buying bugnay/bignay wine?

() Personal/family consumpt	ion () Gift/Pasalubong				
() Special Occasions	() Others (pls. specify)				
5. Who consume bugnay/bignay wine in the family?					
() Me alone	() me and spouse				

() Other (pls. specify) () Children

() Spouse

6. What are the most important reasons for consuming bugnay/bignay wine? Indicate the primary and secondary reasons. (Pls.check one for each column)

Motivation	Primary	Secondary
Health reasons (heart-healthy- immunity booster antioxidant, help reduce weight etc.)		
Appetizer		
Part of meal(routine)	and a serie	
For relaxation	Ch Ch Anon	1
Socialization	1016	C
Others(pls. specify)	4910	

7. How often do you consume bugnay/bignay wine?

- () Daily () once a month
- () 2-3 times a week () once a year
- () 2-3 tomes a month

8. A what moment of the day do you consume bugnay/bignay wine?

() Lunch () Dinner () Anytime

III. THE IDEAL BUGNAY/BIGNAY WINE

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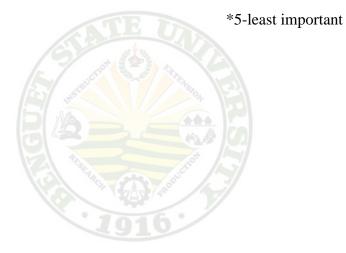
We want you to consider each wine using the features that are important to you.

Please rank the following:

Some attributes which maybe considered when purchasing Bugnay Wine are:

Attributes	Description	Ratings	
		XX	XY
Price Price per bottle(700-750ml) of wine			
Labeling	The attractiveness of the bottle label		
Color	Color The color of wine weather dark or light		
Brand	The wine processor		
Product information	The presence of product		
	information (ingredients, alcohol content, sugar content, BFAD#,expiry date etc)		

*1- is the most important



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