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ACCEPTABILITY OF POMELO (CITRUS MAXIMA) JUICE AS SOURING AGENT IN SALAD DRESSING

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ABSTRACT

This quantitative study investigated the acceptability of Pomelo (Citrus maxima) juice as a souring agent in salad dressing. Thirty purposively selected evaluators from West Visayas State University–Himamaylan City Campus participated in the sensory evaluation. Salad dressings incorporating pomelo juice were assessed using a 9-point hedonic scale, measuring color, aroma, taste, texture, and overall acceptability. Findings revealed that the salad dressing with pomelo juice was generally acceptable across all attributes. Taste obtained the highest mean score, indicating strong consumer preference, while aroma received the lowest but remained within the acceptable range.

Statistical analysis confirmed no significant decline in sensory quality when pomelo juice was used as a souring agent. Results suggest that pomelo juice can be a viable alternative to conventional souring agents, offering a refreshing flavor and natural acidity. The study highlights the potential of utilizing pomelo, a locally available fruit, in creating innovative and health-conscious food products. This provides opportunities for culinary practitioners, food innovators, and local entrepreneurs to promote sustainable ingredient use while enhancing the flavor profile of salad dressings.

Chapter 1
INTRODUCTION

This chapter contains nine parts: (1) Background of the study; (2) Objectives; (3) Theoretical Framework; (4) Statement of the Problem; (5) Hypotheses, (6) Significance of the Study; (7) Definition of Terms; (8) Scope and Delimitation of the Study; (9) and Conceptual Framework.

Part One, Background of the study, contains the underlying context of the research paper.

Part Two, Objectives, measures our goals that serve as our roadmap for our research study.

Part Three, Theoretical Framework, offers the theoretical foundations necessary for comprehending and interpreting a given phenomenon or issue.

Part Four, Statement of the Problem, states the general and specific problems that the study wants to address and seek answer for.

Part Five, Hypotheses, states the hypothesis to be tested.

Part Six, Significance of the Study, states who will most likely to benefit the concluded data of this study.

Part Seven, Definition of Terms, operationally and conceptually define the terms used in the study in order to give clarity.

Part Eight, Scope and Delimitation of the Study, states who will most likely to benefit the concluded data of this study.

Part Nine, Conceptual Framework of the study, shows the relationships among the variables of the study.

Background of the Study

Research has also emphasized Pomelo (Citrus maxima) distinct flavor, a combination of sweetness and mild tartness, which makes it a promising natural souring agent. In addition to its flavor, the high vitamin C content in Pomelo (Citrus maxima) juice suggests it could be a viable alternative to conventional souring agents commonly used in salad dressings and other culinary applications. Souring is a technique in food preparation that induces both physical and chemical changes by exposing

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food to an acid. This acid can either be added directly, as in the case of vinegar or citrus juices like lemon and lime, or generated within the food through microbial activity, such as from lactobacillus (Frey, 2021).

A Pomelo (Citrus maxima) is an Asian citrus fruit that resembles a large pear or green-tinted grapefruit. This fruit can get quite large and sometimes grows up to the size of a cantaloupe. A bit sweeter and less juicy than its grapefruit cousin, a Pomelo (Citrus maxima) contains many beneficial vitamins, nutrients, and antioxidants that can add to a well-balanced diet. This article will explore the nutritional and health benefits of pomelo fruit and compare it to its citrus relative, the grapefruit. Pomelo tastes very similar to grapefruit but without any of the associated bitterness or tanginess (Todd, 2021).

Diets that emphasize fruits and vegetables are highly recommended for their numerous health benefits, including their rich content of essential vitamins, minerals, antioxidants, and dietary fiber. These qualities have earned fruits and vegetables a prominent role in food guidelines and sustainable nutrition strategies (McClements & Food and Agriculture Organization of the United Nations, 2020).

The current food systems in the Philippines focus on production of commodities, supported by high productivity oriented policies and technological development. Likewise, it is centered on empowering individuals, farming families, and agrarian communities towards creating a market surplus of staple commodities. It is managed in an attempt to secure domestic self-sufficiency and nutritional programs that are targeted beyond the lower socioeconomic groups and prioritize responsible food production, consumption, and utilization of nutritious foods (Philippine National Food System, 2021).

Reconnecting with local food heritage and fostering collaboration between communities and farmers is essential to sustaining agricultural traditions and biodiversity. Modern lifestyles often disconnect people from the realities of farming, leading to underappreciation of farmers' critical role in feeding communities and preserving agroecology. Advocacy for traditional and indigenous foods, especially those linked to local biodiversity, is vital to ensuring farmers' livelihoods and preserving cultural food practices. The Slow Food Movement, founded by Carlo Petrini in 1989 in Italy, emphasizes preserving traditional food cultures by promoting the use of local produce and supporting small-scale producers. This grassroots initiative now spans over 160 countries, advocating for "good, clean, and fair" food. This philosophy aligns with our study on the acceptability of Pomelo (Citrus maxima) juice as a souring agent in salad dressing, as it underscores the importance of utilizing locally available, traditional ingredients to promote sustainable and culturally rooted culinary practices (Negros Season of Culture, 2023).

Despite the known health benefits and culinary versatility of Pomelo (Citrus maxima), research focusing on its use as a souring agent in salad dressings is limited. While several studies have explored its nutritional and medicinal properties, little attention has been given to its sensory qualities and consumer acceptability in applications like dressings. This study aims to address this gap by assessing the acceptability of pomelo juice in salad dressings, evaluating factors such as taste, texture, and overall appeal.

Objectives

The objective of this study is to evaluate the sensory characteristics of salad dressings prepared using Pomelo (Citrus maxima) juice as a souring agent. Specifically, the study aims to assess the taste, aroma, texture, and appearance of the salad dressings to determine their acceptability and overall sensory quality. These attributes will help identify the potential of pomelo juice as a natural alternative to traditional souring agents in salad dressings.

Theoretical Framework

The sensory qualities of food play a crucial role in shaping consumer purchasing decisions, as these attributes create an immediate impression. Sensory evaluation, a scientific discipline, focuses on measuring, analyzing, and interpreting how individuals perceive food characteristics through the senses of sight, smell, taste, touch, and hearing. This approach not only assesses sensory properties but also evaluates and interprets consumer responses. Sensory testing has become an essential method in food production, emphasizing its importance in understanding consumer preferences and improving product quality (Gamis, De Jesus, Las Pinas Jr., Labalan, Espedido, 2024).

Pomelo (Citrus maxima), a large citrus fruit native to Asia, is packed with numerous health benefits, making it an excellent addition to a healthy diet. It contains a significant amount of vitamin C, a powerful antioxidant that supports the immune system. In addition to vitamin C, pomelo is also rich in other essential nutrients such as copper, fiber, and potassium. While its flesh can be green or yellow, the fruit's rind is thick and pale. Pomelo (Citrus maxima) has a similar taste to grapefruit but is slightly sweeter. It is known for its cancer-fighting antioxidants and overall nutritional value, which highlights its potential as a beneficial ingredient in various food products, including juices and salad dressings. Sensory properties, including color, texture, flavor, smell, and appearance, are crucial aspects of food quality. They play a key role in determining the product's overall appeal and consumer demand by ensuring its quality and acceptability (Liu & Qin, 2022).

Sustainable consumption and production are essential components of sustainable development. Sustainable food consumption, from a consumer perspective, involves adopting practices that balance food production and consumption while respecting the natural environment. Consumers play a crucial role in shaping food demand by choosing products that align with

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sustainability standards, such as those with geographical indications, local brands, or organic certifications. These choices influence the food
production process, promoting sustainability in the industry (Solis & Barska, 2022).

The ultimate outcome of this study is the application of Pomelo (Citrus maxima) Juice as a souring agent in salad dressings. By exploring the sensory attributes of Pomelo (Citrus maxima) juice such as taste, aroma, texture, and appearance and how they align with consumer preferences and acceptability, the research seeks to evaluate its potential in enhancing the flavor profile of salad dressings.

Statement of the Problem

The researchers' aims determine the feasibility of Citrus maxima Pomelo juice as souring agent in salad dressing.
The following questions were answered in this research:
1. What is the level of Acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing as a whole and in terms of appearance, aroma, taste, and texture when respondents are taken as an entire group and when classified as to age and type (students, faculty and restaurant owners/cooks)?
2. Is there a significant difference in the Acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing in terms of appearance, aroma, taste, and texture when respondents are classified as to the specified demographics?

Hypotheses

There is no significant difference in the acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing, when respondents are classified into appearance, aroma, taste and texture.

Significance of the Study

This study, entitled Acceptability of Citrus maxima Pomelo Juice as Souring Agents in salad dressing, aimed to determine the acceptability of Citrus maxima Pomelo juice as souring agent in terms of appearance, aroma, taste, texture and general acceptability.

Specifically, the result of this study would be beneficial to the following:

Vegetarian. This study holds potential in offering vegetarians a new ingredient that aligns with their dietary values, providing them with diverse and flavorful alternatives. By utilizing Citrus maxima Pomelo juice as a souring agent, the research highlights a plant-based option that meets both the nutritional and ethical preferences of many vegetarians. Additionally, it promotes sustainability by emphasizing the use of natural, locally sourced ingredients. This approach can attract vegetarians who prioritize innovative food choices that are not only nutritious but also environmentally friendly, enabling them to maintain a balanced diet while exploring unique and distinctive flavors.

Farmers. This research is beneficial to farmers by allowing them to use Pomelo (Citrus maxima) a raw material for creating new products rather than to be wasted. It may also increase the demand of Pomelo (Citrus maxima) and help generate greater profitability.

Restaurant Owners. This study provides restaurant owners with the chance to introduce a distinctive ingredient that broadens their menu variety. By using Citrus maxima Pomelo juice as a souring agent, the research highlights a plant-based option that suits the nutritional and ethical needs of vegetarian diners. Additionally, it promotes sustainability by advocating for the use of natural, locally sourced ingredients, appealing to Eco-conscious customers. Restaurant owners can attract health-focused patrons by offering creative, flavorful, and sustainable dishes, helping them maintain a balanced menu while delivering fresh and unique taste experiences.

Hospitality Management Faculty. This study is significant for the Hospitality Management faculty, as it offers valuable insights into the innovative use of Citrus maxima Pomelo juice as a souring agent in various culinary applications. Incorporating this research into the curriculum can deepen students' knowledge of plant-based ingredients, sustainable food practices, and modern culinary trends. Faculty members can use these findings to demonstrate the importance of using natural, locally sourced ingredients, encouraging students to create inventive and health-conscious dishes that align with current consumer preferences.

Hospitality Management Students. This research can serve as a valuable tool for students by encouraging them to explore innovative and creative approaches in culinary practices. It aims to develop their potential not only in cooking but also in enhancing their ability to think critically and come up with unique, out-of-the-box solutions in food preparation and presentation.

Future Researchers. This study may serve as reference and source of encouragement for future researchers in their continual exploration of best practices that could help enhance the students' skills and talents with the relevant topic.

Definition of Terms

For clarity and understanding, the following terms are given conceptual and operational definitions:

Appearance. Appearance refers to the visual characteristics of food, including color, shape, size, and surface texture. These visual cues play a crucial role in influencing consumer perceptions and decisions about food products, often affecting their overall quality attributes and sensory experiences (Fiveable Inc, 2024).
In this study, appearance refers to the visual characteristics of Pomelo (Citrus maxima) juice in salad dressing.

Aroma. The term aroma refers to a pleasant and distinctive smell. Throughout history, humans have discovered and appreciated the

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natural aromatic compounds found in spices, food, and essential oils derived from flowers and fruits. These enjoyable scents evoke feelings of freshness, well-being, positivity, and calmness in those who breathe them in (Khedkar and Mallick, 2020).
In this study, aroma refers to the smell of Citrus maxima Pomelo juice in salad dressing.

Pomelo. Pomelo (Citrus maxima) is a large citrus fruit characterized by its thick, fibrous rind and segmented flesh, which can vary in texture and juiciness depending on ripeness. Known for its unique flavors, which range from sweet to slightly bitter, pomelos come in several varieties that differ in size, shape, and sensory attributes (National Library of Medicine, 2024).
In this study, pomelo refers to the main ingredient in making Citrus maxima Pomelo juice in salad dressing.

Salad Dressing. Salad dressings are typically made by combining oil and vinegar, with the standard ratio being three parts oil to one part vinegar. Additional ingredients like salt, pepper, herbs, and Dijon mustard are often included. In France, a spoonful of drippings from a roast might be mixed into the dressing. Creamy dressings, on the other hand, are usually based on mayonnaise, sour or sweet cream, or a cooked sauce that includes eggs, flour, milk, or cream. These are often enhanced with ingredients like crumbled blue cheese, green onions, garlic, anchovy paste, tarragon, and parsley (as in green goddess dressing), or with ketchup, minced onion, olives, parsley, and egg (as in Thousand Island dressing). In the United States, commercial "French" dressing is a sweet, tangy blend flavored with tomato and vinegar (Ostberg, 2025).

In this study salad dressing is sauce for salads, typically one consisting of oil and vinegar mixed together with herbs or other flavorings.

Souring Agent. A souring agent is a component that introduces acidity or sourness to food and drinks, enhancing their flavor and serving as a preservative. Examples of common souring agents include citric acid, vinegar (acetic acid), and lactic
acid (Riaz, 2021).
In this study, souring agents refer to the tanginess of Pomelo (Citrus maxima) juice in salad dressing.

Taste. Taste refers to the ability to discern different flavors in your mouth. It allows you to identify whether a food is salty, sweet, or sour. This sensory perception plays a crucial role in our enjoyment of food and contributes to our overall flavor experience, (Vocabulary.com, 2024).
In this study, taste refers to the Citrus maxima pomelo juice in salad dressing.

Texture. The feel of a food product in the mouth, which can be visually assessed through characteristics like smoothness or graininess (Fiveable, 2024).

In this study, texture refers to the quality of the looks of the Citrus maxima pomelo juice use as salad dressing.

Scope and Delimitations of the Study

The scope of this study is focus on evaluating the sensory characteristics of salad dressings prepared with Pomelo (Citrus maxima) Juice as a souring agent. The research will gather feedback from three distinct groups, representing 30 total participants. 12 of the participants will be Hospitality Management students from West Visayas State University-Himamaylan City Campus, who have a background in food preparation and evaluation. Another 8 participants will consist of faculty members from West Visayas State University-Himamaylan City Campus. The remaining 10 participants will be from professionals within the hospitality industry. Providing a broad range of perspectives from the professionals.

The study is limited to the geographical area surrounding West Visayas State University-Himamaylan City Campus. Additionally, the focus of the research is specifically on the sensory characteristics, taste, aroma, texture, and appearance of the salad dressings made with Pomelo (Citrus maxima) juice, without examining other factors such as nutritional value or cost-effectiveness. The target population for the study includes only HM students, faculty, and local community members, excluding other demographic groups. These boundaries allow the research to remain focused and manageable while providing meaningful insights into the acceptability of pomelo juice as a souring agent in salad dressings within the defined sample population.

Conceptual Framework

The Conceptual Framework of this study will show the research process. The Acceptability of Pomelo (Citrus maxima) Juice as Salad Dressing in terms of appearance, aroma, taste, and texture. In the diagram below, one large rectangular box on the left represents the independent variable, Pomelo (Citrus maxima) Juice as Salad Dressing, and one rectangular box on the right represents the dependent variable, the Acceptability of Pomelo (Citrus maxima) Juice as Salad Dressing as assess through appearance, aroma, taste, and texture.

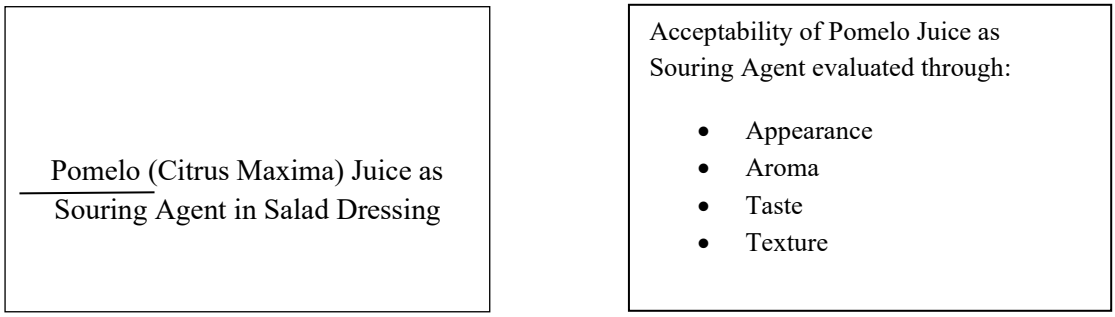
The "Appearance" the visual appeal of the salad dressing as assessed by respondents. A desirable dressing exhibits a natural, vibrant hue influenced by Citrus maxima Pomelo juice, reflecting its freshness and quality. It should have a smooth and uniform consistency without visible separation or undesirable color changes. The presence of natural pigments or subtle cloudiness from the juice should enhance its appeal, signaling its unique citrus-based formulation.

The "Aroma" the scent of the salad dressing as assessed by respondents based on its intensity and pleasantness. A desirable dressing features a distinctive, fresh citrus fragrance characteristic of Citrus maxima, balancing zesty, tangy, and subtly sweet notes. The aroma should evoke freshness, enhancing its overall appeal and complementing the dressing's flavor profile.

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The "Taste" he flavor profile of the salad dressing as assessed by respondents, focusing on the balance of acidity, citrus notes, and overall palatability. A well-rounded tanginess from Citrus maxima Pomelo juice is essential, providing a refreshing, slightly sour taste that enhances the dressing's complexity. The subtle sweetness and bitterness naturally present in the fruit contribute to a harmonious flavor balance, complementing other ingredients while maintaining a pleasant and appetizing experience.

The "Texture" consistency and mouthfeel of the salad dressing as assessed by respondents. A desirable dressing should have a smooth and uniform texture, ensuring proper coating on salad ingredients without excessive thickness or watery separation. It should achieve a balanced viscosity, allowing for easy pouring while maintaining adherence to leafy greens and other components. Any natural pulp or citrus elements from Citrus maxima Pomelo juice should integrate seamlessly, enhancing the dressing's overall consistency without disrupting its uniformity.



Paradigm of the Study

Figure 1: Paradigm of the Study showing the relationship between the Independent and the Depedent Variables of the Study.

Chapter 2
REVIEW OF RELATED LITERATURE

Chapter Two is comprised of three parts: (1) Related Studies; (2) Summary of the Review of Related Literature.

Part One, Related Studies, includes relevant researches and studies that may provide additional and concrete data related to the Acceptability of Citrus maxima Pomelo Juice as Souring Agent in Salad Dressing.

Part Two, Summary of the Review of Related Literature, provides summary of the conceptual literature and related studies.

Related Studies

Pomelo scientifically known as Citrus maxima belongs to the family Rutaceae and is one of the largest fruits among citrus varieties. Mainly Pomelo comes in different flesh colors such as red, pink, light pink, and white. The principal Pomelo (Citrus maxima) fruit polyphenols are phenolic acids, flavonoids, anthocyanins, and tannins. Pomelo (Citrus M Maxima) fruit generates a large number of wastes including peel, pomace, and seeds which are comprised of bioactive compounds. The bioactive compounds carried in waste improve health functionalities. The hesperidin, narirutin, naringin, and their aglycone (naringenin), which have traditionally been acknowledged to constitute a characteristic component of Pomelo (Citrus maxima), are the fruit's major constituents. Also, pomelo fruit juice is high in vitamins A and C, and the peel offers high protein, carbohydrate, and mineral content. Pomelo (Citrus maxima) production and processing of different byproducts have become a perfect and long-lasting resource for agriculture and the food industry. The wastes loaded with immense essential components in Pomelo (Citrus maxima) have great importance in terms of human health. To have unique goods, to increase high consumer acceptability, and to have health advantages, this work gives a summary of recent advancements made to date with nutritional benefits, bioactive elements, and health benefits of pomelo fruit (Sharma, Singh, Kaur, Srivastava, Sandhu, 2024).

Citrus fruits are acclaimed as important constituents for human consumption as they are cholesterol-free and rich in folic acid, vitamin C, flavonoids, phenolics, pectin, and dietary fibers. Citrus fruits are the most significant fruit crops with a total production of 120 million tons per year (Sharma et al., 2024).

The emphasis is on simplicity, favoring natural ingredients like tamarind, lime, and tomatoes over synthetic vinegar. Just a splash of lime juice, a few tomatoes, or a spoonful of tamarind extract can elevate the dish, imparting its own unique taste (Kumar, 2021). Salad dressings, which can be either liquid or semi-liquid, are used to enhance the taste of salads. Their flavor typically remains unchanged by cooking, and their quality is largely determined by the ingredients selected (Katipunan, 2023).

Acidic ingredients can enhance the flavor of vegetable dishes by adding brightness and depth. Various vinegars, acidic fruits (like lemon, lime, and pineapple), and certain dairy products introduce tang and balance. For example, apple cider vinegar in quick-pickled vegetables and tomatoes in salads provide a zesty contrast to mild ingredients. Balsamic vinegar pairs well with roasted vegetables, while citrus vinaigrettes bring out the natural sweetness in salads. Citrus zest, rather than juice, is ideal for maintaining the vibrant colors of green vegetables. Acidic dairy-based dips, like yogurt and lemon juice, create a tangy complement for raw veggies. Using multiple acidic sources can amplify flavors in creative ways, making them popular in school

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recipes to add interest and brightness to vegetable dishes (Culinary Nutrition, 2024).

Sensory analysis evaluates a product's characteristics—such as texture, flavor, appearance, and aroma using panelists' senses. Historically, it supported food safety and quality assessment, but it has evolved into a vital tool in product innovation, helping ensure that final products meet consumer expectations. Traditional methods like descriptive and preference tests have advanced to faster, more detailed techniques, including CATA (check-all-that-apply), temporal dominance of sensations, and flash profiling. These sensory methods, combined with statistical analysis, guide food product development, and they are especially valuable when paired with consumer research to better understand market needs. Several studies demonstrate sensory analysis' applications across diverse food products. For example, researchers used sensory profiling to assess the acceptability of soy-enriched maize porridge in sub-Saharan Africa and to evaluate the sensory impact of natural spice extracts on meat products, replacing artificial preservatives. Studies also explored consumer reactions to alternative ingredients, such as steviol glycosides as sweeteners and insect-enriched foods. Other investigations focused on consumer perceptions of sensory characteristics in foods, including yogurt and fish products, and identified preferences that guide product enhancement or reformulation. Using tools like facial expression tracking and consumer surveys, studies have also examined reactions to new and hybrid food products. Such methods help developers refine sensory attributes, aligning products with consumer expectations and preferences. While sensory analysis techniques are well-established, there's potential for further advancements. By addressing consumer interests in new flavors and experiences, sensory evaluation supports innovative product development, positioning companies to better meet market demands and gain a competitive edge (Capillas & Herrero, 2021).

The restaurant industry faces various challenges, including attracting customers and staying ahead of competitors. One effective strategy to boost profits and stand out is sourcing local ingredients. Locally sourced food is not only fresher and more flavorful, but it also supports local farmers and businesses, which can enhance a restaurant's appeal. Local ingredients typically have superior quality because they are fresher, retaining more nutrients and natural flavors. They are also grown using sustainable methods, reducing the risk of harmful pesticides. Additionally, sourcing locally provides better traceability, ensuring that ingredients meet safety and quality standards. This transparency is crucial for maintaining customer trust. Cost-wise, buying local can be more affordable, as it eliminates the need for expensive transportation and international import fees. By purchasing directly from regional farmers or markets, restaurants can access discounts or better deals, making it a cost-effective choice without compromising on quality. In summary, sourcing local ingredients brings numerous benefits, including enhanced freshness, superior quality, better traceability, and cost savings, which help restaurants differentiate themselves and thrive (Khachatryan, 2023).

Summary of the Review of Related Literature

The current study investigates the potential of Pomelo (Citrus maxima) juice as a nutritious and flavorful souring agent in salad dressings, capitalizing on its distinct taste profile and health-promoting properties. As one of the largest citrus fruits, pomelo is known for its rich content of bioactive compounds like polyphenols, flavonoids, and phenolic acids, which contribute both flavor and medicinal benefits. High in vitamins A and C, Pomelo (Citrus maxima) juice is already recognized for enhancing culinary applications, especially in acidic dishes (Sharma et al., 2024). The incorporation of pomelo juice in salad dressings aligns with existing practices of using citrus-based acids to enhance flavor, as commonly seen with other citrus fruits in traditional Filipino cuisine. Its natural acidity offers a balanced taste that can elevate salads by enhancing the sweetness and freshness of vegetables (Kumar, 2021).

The literature highlights sensory analysis as an effective tool to evaluate the acceptability of pomelo juice as a novel ingredient. Techniques like preference and descriptive testing can provide insights into consumer reception of pomelo-based dressings in terms of flavor, aroma, and overall quality. Additionally, sourcing locally grown ingredients, such as pomelo, benefits both product quality and sustainability by enhancing freshness, traceability, and cost efficiency, while supporting the local economy (Capillas & Herrero, 2021).

Collectively, these findings suggest that pomelo juice not only serves as a viable alternative to traditional souring agents in salad dressings but also aligns with the growing trend toward locally sourced, health-enhancing food products, which could contribute to its commercial appeal in the food industry.

Chapter 3
RESEARCH DESIGN AND METHODOLOGY

This chapter consists of eight (8) parts: (1) Research Design; (2) Research Method; (3) Respondents of the Study; (4) Materials, Tools and Equipment; (5) Data Gathering Instrument; (6) Data Gathering Procedure; (7) Data Analysis Procedure; and (8) Ethical Considerations.

Part One, Research Design, describes the general arrangement or design of the study.

Part Two, Research Method, pertains to method used by the researchers.

Part Three, Respondents of the Study, describes the population of interest and the sampling of subjects used in the study.

Part Four, Materials, Tools and Equipment, refers to a set of tools or other objects commonly used to achieve a particular objective in the study.

Part Five, Data Gathering Instrument, presents the instrument used to gather the data.

Part Six, Data Gathering Procedure, provides a step-by-step process in gathering the data and in conducting the study

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Part Seven, Data Analysis Procedure, guides the researchers in selecting the appropriate statistical tools employed in data gathering and interpretation.
Part Eight, Ethical Considerations, a set of principles that guide the research designs and practices.

Research Design
This research would utilize quantitative approach. The researcher will aim to determine the Acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing, using a researcher-made questionnaire that will be assessed by respondents. The design will employ statistical methods to describe and analyse the Acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing, focusing the following variables: appearance, aroma, taste and texture.

Research Methodology
The researchers will use the experimental method, which will involve the variation of components on a variable. The sensory Acceptability of Pomelo (Citrus maxima) Juice as a Souring Agent in Salad Dressing will be determined in terms of appearance, aroma, taste, and texture.

Respondents of the study
There will be 30 respondents in this study, consisting of 12 Hospitality Management students from West Visayas State University-Himamaylan City Campus, 8 from the Hospitality Management faculty of West Visayas State University-Himamaylan City Campus, and 10 from the restaurant owners/cooks within Himamaylan City. The researchers will select these respondents specifically because they are expert when choosing the best taste, texture, appearance and aroma. And the researchers also chose the Hospitality Management students and faculty of West Visayas State University-Himamaylan City Campus because, they are accessible to us and had the idea about the survey. The responses of the evaluators will be the sources of data in this study. The evaluators would rate the level of acceptability of the products as to aroma, appearance, taste, texture, and general acceptability.

Table 1.
Distribution of the Respondents

Group	n	Percent (%)
Restaurant Owners within Himamaylan City	10	33.3%
WVSU-HCC Students	12	40%
WVSU-HCC Faculty	8	26.6%
TOTAL	30	100%

Materials, Tools and Equipment
Materials
Tools: The tools used in the conduct of the study were mixing bowl, measuring cups, measuring spoons, knife, fork, peeler, chopping board, plates, plastic container, juicer. Standardize Recipe for Pomelo (Citrus maxima) Juice use as a Salad Dressing.

Ingredients
The ingredients for making a fresh salad include Pomelo (Citrus maxima) juice, which adds a tangy and nutritious citrus flavor. The salad also features crisp lettuce and cucumber, providing a refreshing base and texture. Red onions and tomatoes contribute a balance of sweetness and tang, enhancing the overall flavor profile. Olive oil serves as a healthy and smooth dressing, tying all the ingredients together. To season the salad, a touch of salt and black pepper is added, bringing out the flavors and completing the dish with the right amount of seasoning.

Procedures
1.To prepare the salad, start by extracting the juice from the Pomelo (Citrus maxima). In a separate bowl, mix the Pomelo (Citrus maxima) juice with olive oil, salt, and black pepper to create the dressing.

2.Next, wash and prepare the salad ingredients, including the lettuce, cucumber, red onions, and tomatoes.

3.Once the vegetables are ready, pour the pomelo juice dressing over the mixed ingredients and toss everything evenly, ensuring that the salad is well-coated with the dressing.

Data Gathering Instrument
This research study utilized an adapted questionnaire. The modified sensory evaluation score sheet based on a Nine-point Hedonic Scale was used to gather data. There were several treatments formulated in this study. Each treatment was evaluated using the following scores and their corresponding descriptions: Nine (9) as "Like it a lot" – Highly Acceptable (HA); Eight (8) as "Like it very much" – Very Acceptable (VA); Seven (7) as "Like it moderately" – Moderately Acceptable (MA); Six (6) as "Like it slightly" – Slightly Acceptable (SA); Five (5) as "Neither like nor dislike it" – Neither Acceptable/Unacceptable (N); Four (4) as "Didn't like it slightly" – Slightly Unacceptable (SU); Three (3) as "Didn't like it moderately" – Moderately Unacceptable (MU); Two (2) as "Didn't like it very much" – Very Unacceptable (VU); and One (1) as "Didn't like it at all" – Highly Unacceptable (HU). These scores were assigned to evaluate the products in terms of

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the level of acceptability based on the sensory attributes of aroma, appearance, taste, and texture of the product.

The 9-point Hedonic Scale was used to determine the level of acceptability of Pomelo (Citrus maxima) juice as a souring agent in salad dressing. This scale, originally developed by Peryam and Pilgrim (1957), provides a reliable and widely accepted method for measuring food preferences. The scale ranges from 1 to 9, with verbal anchors describing increasing levels of liking or disliking. For this study, the mean scores were interpreted using the following descriptive ranges: a mean of 8.50 to 9.00 was considered Highly Acceptable (HA), corresponding to "Like Extremely"; 7.50 to 8.49 was interpreted as Very Acceptable (VA) or "Like Very Much"; 6.50 to 7.49 was rated as Acceptable (A) or "Like Moderately"; and 5.50 to 6.49 was regarded as Slightly Acceptable (SA) or "Like Slightly". A neutral response, 4.50 to 5.49, was labeled Neither Like nor Dislike (N). Scores from 3.50 to 4.49 were categorized as Slightly Unacceptable (SUA) or "Dislike Slightly"; 2.50 to 3.49 as Unacceptable (UA) or "Dislike Moderately"; 1.50 to 2.49 as Very Unacceptable (VUA) or "Dislike Very Much"; and finally, 1.00 to 1.49 was considered Not Acceptable (NA) or "Dislike Extremely". These interpretations provided a clear framework for analyzing and discussing the sensory evaluation results of the salad dressing samples.

The level of Level of Acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing was determined using an adapted and slightly modified Level of Acceptability Scale. The mean range was interpreted as follows: 8.50–9.00 as Highly Acceptable (HA), 7.50–8.49 as Very Acceptable (VA), 6.50–7.49 as Moderately Acceptable (MA), 5.50–6.49 as Slightly Acceptable (SA), 4.50–5.49 as Neither Acceptable/Unacceptable (N), 3.50–4.49 as Slightly Unacceptable (SU), 2.50–3.49 as Moderately Unacceptable (MU), 1.50–2.49 as Very Unacceptable (VU), and 1.00–1.49 as Highly Unacceptable (HU).

Level of Acceptability Scale

Score	Mean Range	Verbal Description	Verbal Interpretation
9	8.50-9.00	Like it a lot	Highly Acceptable
8	7.50-8.49	Like it very much	Very Acceptable
7	6.50-7.49	Like it moderately	Moderately Acceptable
6	5.50-6.49	Like it slightly	Slightly Acceptable
5	4.50-5.49	Neither like or dislike it	Neither Acceptable/Unacceptable
4	3.50-4.49	Didn't like it slightly	Slightly Unacceptable
3	2.50-3.49	Didn't like it moderately	Moderately Unacceptable
2	1.50-2.49	Didn't like it very much	Very Unacceptable
1	1.00 -1.49	Didn't like it at all	Highly Unacceptable

Evaluation of the Product

The finish products will be labeled as sensory evaluation by the group of evaluators who will determine the acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing in terms of appearance, aroma, taste, texture, and general acceptability of the finished product.

The researchers will personally administer the evaluation of the products. Prior to tasting, the assessors will provide the responders with instructions on how to rate the products. Before tasting each product, the assessors will be instructed to drink water to ensure that the flavor of each treatment is unaffected. The researcher will send a letter to the City Mayor and Campus Administrator of WVSU-HCC to distribute the instrument to the restaurant owners within Himamaylan City, students and faculty randomly of West Visayas State University – Himamaylan City Campus.

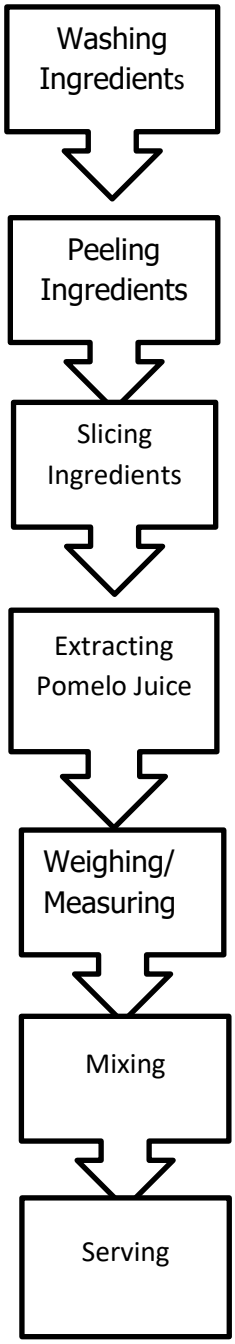
Data Gathering Procedure

The researcher will send a letter to the WVSU-HCC Campus Administrator asking for authorization to administer the assessment to restaurant owners within Himamaylan City, instructors and students pursuing a Bachelor of Science in Hospitality Management at West Visayas State University's Himamaylan City Campus. After receiving approval, the researchers disseminated the questionnaire to the respondents using printed materials. After the data is collected, the researchers will tally and compute the data using mean and standard deviation to get the Level of Acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing.

Phase 1- Preparation of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing.

After purchasing and picking the ingredients, the following processes will be followed:

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Phase II-Try- out of Recipe

The ingredients that are required will be ready. Every ingredient's quantity will be precisely measured, and standard operating procedure will be adhered to. The product will be closely observed. Every stage of the preparation process will be documented. The evaluators will assess the final product following each preparation. The panel of evaluators' opinions, critiques, assessments, and recommendations will be gathered. Every recipe will have gone through the same evaluation process in terms of appearance, texture, taste, and aroma. The test and re-test of the Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing will be done until the acceptability blend of the ingredients will be achieved.

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Table 2
Standardized Recipe of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing Per Serving

Ingredients	Quantity	Unit
Pomelo (Citrus maxima) Juice	2	Tablespoons
Olive oil	1 1/2	Tablespoons
Lettuce	40	Grams
Onions	5	Grams
Carrots	20	Grams
Croutons	10	Grams
Tomatoes	5	Grams
Salt and Pepper	1	Teaspoon

The following procedures and proportions were followed in trying out the Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing.

1. Wash and peel the skin of Pomelo fruit then extract the juice.
2. Wash and chop all the ingredients.
3. Mix all the ingredients and incorporate the salt and pepper to taste.
4. Then, add the Pomelo (Citrus maxima) Juice into the salad mixture.
5. Put it into plastic containers and serve.

Data Analysis Procedure

The accomplished questionnaires collected, the data will be tabulated and analyzed using the appropriate statistical tool. Mean and standard deviation were use in the descriptive analysis to evaluate the process of producing Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing using the adapted instrument as assessed by the participants.

To answer objective number 1, What is the level of Acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing as a whole and in terms of appearance, aroma, taste, and texture when respondents are taken as an entire group and when classified as to age and type (students, faculty and restaurant owners/cooks)?

To answer objective number 2, Is there a significant difference in the Acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing in terms of appearance, aroma, taste, and texture when respondents are classified as to the specified demographics?

Further, if significant different exist, then post hoc analysis will be performed.

Ethical Considerations

The researchers will send a letter to the Campus Administrator of West Visayas State University-Himamaylan City Campus to seek approval to conduct the study. Upon receiving approval, the researchers will distribute the questionnaires to the respondents using printed materials while ensuring the proper observation of ethical guidelines. Participant data will be kept confidential to ensure privacy, with all identifying information securely stored and accessible only to authorized personnel. The study will be conducted from October 2024 to May 2025. Once the respondents have completed the questionnaires, the researchers will collect them for tabulation and analysis using the appropriate statistical tools.

Chapter 4
RESULTS AND DISCUSSIONS

This chapter contains the (1) Descriptive Data Analysis; and (2) Inferential Data Analysis.

Part One, Descriptive Data Analysis, aims to describe, summarize, and present data points in a constructive manner, allowing patterns to emerge that met the conditions of the data.

Part Two, Inferential Data Analysis, focuses on generalizing the results obtained from a random (probability) sample to the broader population from which the sample was drawn.

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Descriptive Data Analysis

Table 3.
Acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing

Variable	Category		Appearance	Aroma	Taste	Texture
Sex	Male	Mean	8.54	7.92	7.69	8.23
		N	13	13	13	13
		SD	.52	.49	.85	.73
	Female	Mean	7.47	7.35	5.94	7.35
		N	17	17	17	17
		SD	.94	1.00	1.09	1.32
Type of Respondents	Restaurant Owners/Cooks	Mean	7.33	7.44	5.89	7.22
		N	9	9	9	9
		SD	1.12	1.13	.78	1.09
	Students	Mean	8.46	7.85	7.69	8.23
		N	13	13	13	13
		SD	.66	.55	.85	.73
	Teachers	Mean	7.75	7.38	6.00	7.50
		N	8	8	8	8
		SD	.71	.92	1.41	1.60
	Total	Mean	7.93	7.60	6.70	7.73
		N	30	30	30	30
		SD	.94	.86	1.32	1.17

Note: 8.51-9.00 Highly Acceptable; 7.51-8.50 Very Acceptable; 6.51-7.50 Moderately Acceptable; 5.51-6.50 Slightly Acceptable; 4.51-5.50 Neither Acceptable/Unacceptable; 3.51-4.50 Slightly Unacceptable; 2.51-3.50 Moderately Unacceptable; 1.51-2.50 Very Unacceptable; 1.00-1.50 Highly Unacceptable

Table 3 shows the acceptability ratings of pomelo (Citrus maxima) juice as a souring agent in salad dressing based on sensory attributes: appearance, aroma, taste, and texture. Male respondents rated the product higher across all attributes, with appearance receiving the highest mean score of 8.54, interpreted as "Very Acceptable" to "Highly Acceptable." Female respondents gave lower ratings, particularly for taste (M = 5.94), which falls under "Slightly Acceptable." When grouped by type of respondent, students provided the highest ratings, especially for appearance and taste (both M = 8.46 and 7.69, respectively), suggesting a strong acceptance. Restaurant owners/cooks gave the lowest scores, particularly in taste (M = 5.89), indicating they were more critical of the product. Overall, the average ratings suggest that the pomelo juice is generally acceptable as a souring agent, with the attributes of appearance, aroma, and texture ranging from "Moderately Acceptable" to "Very Acceptable," while taste received the lowest overall mean (M = 6.70), indicating room for improvement in flavor perception.

According to Fadzil and Othman, (2021) Citrus fruits are among the most cultivated fruits around the globe. The production increased due to the rising demands as humans becoming more aware of the health concerns and the nutrients confined in these citrus fruits. Vitamin generated by the juice from citrus-processing industries accounts for almost 50% from the initial fruits mass and the remaining considered underutilized. Hence, these citrus wastes undergo extraction processes to obtain the valuable chemicals compounds in the citrus wastes such as pectin, flavonoids, essential oils and phenols as raw materials and source of energy. The article aims to present the high-value compound in the citrus wastes and their extraction methods for obtaining the value-added products as well as their corresponding applications.

According to Data Intelligence, (2025) consumers' increasing focus on health and wellness is driving demand for pomelos. The fruit's high vitamin C content, antioxidants, and dietary fiber made it appealing to those seeking nutritious and immune-boosting foods. Pomelos are gaining popularity in various culinary applications. Pomelos' versatility extends to salads, cocktails, desserts, and savory dishes, making them valuable for enhancing a diverse array of recipes. Innovation in pomelo-based products, such as juices, jams, and snacks, is expanding the market. These value-added products appealed to consumers looking for convenient and unique options. In March 2022, White Claw introduced four new seltzer flavors featuring yuzu and pomelo fruits. Pomelo and grapefruit are combined with a combination of lime, orange, and lemon to create the tropical pomelo smash.

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Table 4

Differences in the Acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing in terms of appearance, aroma, taste, and texture when respondents are classified as age and type (students, faculty and restaurant owners/cooks).

	Age			Type of Respondents		
	Wilcoxon W	*Z*	*p*-value	Kruskal- Wallis *H*	*df*	*p*-value
Appearance	189.50	-3.36	.001	8.63	2	.013
Aroma	226.50	-1.76	.123	2.08	2	.354
Taste	176.50	-3.74	.000	14.20	2	.001
Texture	218.00	-2.03	.059	4.90	2	.086

**significant if p < .05*

The table shows that there is a significant difference in the acceptability of pomelo juice as souring agent in salad dressing when respondents are grouped according to age in terms of appearance, $Z = -3.36$, $p = .001$ and taste, $Z = -3.74$, $p = .000$, both in favor of the female respondents.

Kruskal-Wallis Test was employed to examine the differences on the acceptability of the respondents of pomelo juice as souring agent in salad dressing. Results reveal that there was a statistically significant difference in the acceptability of the pomelo juice as souring agent in salad dressing when type respondents is considered in terms of appearance, $\chi^2(2) = 8.63$, $p = 0.013$ and taste, $\chi^2(2) = 14.20$, $p = 0.001$.

Kruskal-Wallis H test is an omnibus test statistic and cannot tell which specific groups of independent variables are statistically significantly different from each other; it only tells that at least two groups were different. Since there are three groups in the present study design, determining which of these groups differ from each other is important. Hence, it is essential to perform a post-hoc test to identify which specific groups differ from each other.

The Bonferroni correction is a statistical method used to address the problem of multiple comparisons by adjusting the significance level to control the family-wise error rate (FWER). This adjustment is particularly important when conducting multiple pairwise comparisons, as it reduces the likelihood of Type I errors (false positives).

Petrescu, Vermeir, Burny and Petrescu-Mag, (2022) exploratory factor analysis reveals six factors that contained food quality cues perceived as similar by consumers. The first factor, named "Environmental-Social", comprises cues related to environmental protection and social equity. Regression analyses indicate a set of variables that can predict the perceived relevance of environmental-social cues in food quality evaluation. The present study contributes to understanding of consumer food quality evaluation by extending the analysis to a large number (59) of food quality cues. From a practical stance, the study can guide managers' efforts to enhance environmentally sustainable behavior based on the relevance of environmental-social cues in consumers' food quality evaluation

According to Agricultural Sciences, (2023) The purchase of fresh fruit such as pomelo comes almost spontaneously and requires little scanning for information. Some features can be derived from cultural, social, personal or psychological factors behind any purchasing decision. Each of these variables has parameters that could be used in marketing. These variables can be used so strategically by marketers that consumers may not even be understood or noticed. Knowing the various elements that trigger a customer's buying activity can help a business manager use appropriate sales techniques. Thus, given a snapshot of understanding consumer preferences on how the pomelo fruits purchased has been illustrated and what considerations are taken to avoid facing a problem while purchasing causes the farmers not to offer a reasonable price with a good quality produced in the future.

Table 5

Post Hoc Test for the Acceptability* of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing *In Terms of Appearance

Type of Respondents		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Restaurant	Students	-1.13*	.36	.013	-2.05	-.21
owners/cooks	Teachers	-.47	.40	.937	-1.45	.62
Students	Teachers	.71	.37	.204	-.24	1.67
In Terms of Taste						
Restaurant	Students	-1.80*	.44	.001	-2.92	-.68
owners/cooks	Teachers	-.11	.49	1.000	-1.37	1.14
Students	Teachers	1.69*	.44	.003	.53	2.85

**Note: The mean difference is significant at the 0.05 level.*

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In the context of comparing the acceptability of pomelo (Citrus Maxima) Juice as Souring Agent in Salad among chefs, students, and teachers, the Bonferroni post hoc test was applied following a significant Kruskal-Wallis test. The results indicate that in terms of appearance, a significant difference was found between chefs and students (p = 0.013).

The table presents the comparison of perceptions on appearance among three types of respondents: restaurant owners/cooks, students, and teachers. A statistically significant difference (p = .013) was found between restaurant owners/cooks and students, with restaurant owners/cooks rating appearance 1.13 units lower on average than students. No significant differences were observed between restaurant owners/cooks and teachers (p = .937) or between students and teachers (p = .204), as indicated by their higher p-values and confidence intervals that include zero. This suggests that restaurant owners/cooks have a notably more critical view on appearance compared to students, while teachers' perceptions are relatively similar to both groups.

On the other hand, in terms of taste, significant differences were observed between chefs and students (p = 0.001) and students and teachers (p = 0.003).

The table shows significant differences in taste ratings among restaurant owners/cooks, students, and teachers. Restaurant owners/cooks rated taste significantly lower than students, with a mean difference of -1.80 (p = .001), indicating a more critical assessment from culinary professionals. Meanwhile, there was no significant difference between restaurant owners/cooks and teachers (p = 1.000), suggesting similar evaluations between these two groups. Additionally, students rated taste significantly higher than teachers, with a mean difference of 1.69 (p = .003). These results suggest that students had the most favorable perception of taste, while restaurant owners/cooks were the most critical, and teachers had moderate evaluations.

Widely explored in literature, yet it is unclear which food quality cues consumers find most relevant. The increasing consumers' concern for sustainability aspects in their food buying decisions warrants special attention to environmental-social aspects as food quality indicators. Consequently, this study explores consumer evaluation of food quality and highlights the role of environmental-social cues in food quality evaluation.

The study of , Putra, (2020), Nowadays, visualization of food appearance has become an important factor in influencing customer satisfaction which is creating an unforgettable experience when people visit to the restaurant. The aspect of visualizing the appearance of food must also be balanced by good food quality in the restaurant. The purpose of this study was to identify the effect of visualization of food appearance and food quality in achieving customer satisfaction in Tutup Panci Bistro. In this study, visualization of food appearance has five important factors that support in achieving customer satisfaction, which are; component of the material used, color selection, food texture, shape and size, and layout. Therefore, in previous study, quality of food has three important factors, which are: the taste of food, the variety of menus, and the nutritional content of food.

Vorasiha, Soonthornpipit, Chuvichian & Khan, (2024) The study found that consumer motivation, including that of tourists, had a significant positive impact on both their attitude and intention to purchase pomelo products in Samut Songkhram Province. This indicates that as consumer or tourist motivation increases, so does their favorable attitude and willingness to buy pomelo products from the area. These findings align with the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), which propose that strong consumer motivation enhances purchase intentions. The study further supports existing research showing this relationship. Additionally, consumer attitude was shown to be a key factor influencing purchasing decisions. According to the Theory of Reasoned Action, an individual's intention to carry out a specific behavior—such as buying a product—is mainly shaped by their attitude and social influences. The study also suggests that motivated consumers are more likely to seek out, evaluate, and remember information that matches their needs or interests, which helps shape their attitudes toward specific products. This supports previous research findings in the field.

These findings suggest that the acceptability of pomelo varies across different groups, with restaurant owners and cooks rating it differently from students, and students differing from teachers in terms of taste.

Chapter 5
SUMMARY, CONCLUSIONS AND RECOMMENDATION

This chapter contains the: (1) Summary of the Problem, Methods and Findings; (2); Conclusions; and (3) Recommendations.
Part One, Summary of the Problem, Methods and Findings, presents the findings obtained from the results of the study.
Part Two, Conclusions, presents the conclusions of the study.
Part Three, Recommendations, presents the suggestions based on the results and conclusions derived from the study.

Summary of the Problem, Methods and Findings

The purpose of this study was to examine the level of Acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing through a sensory evaluation conducted among BSHM students, faculty and staff of West Visayas State University-Himamaylan City Campus and restaurant owners and cooks within Himamaylan City. The data collected were compiled to validate the study's objectives. This comprehensive presentation aimed to address the research questions and guide the interpretation of the findings.

The study focused on evaluating the acceptability of Pomelo (Citrus maxima) Juice as Souring Agent in Salad Dressing.
This study specifically sought to answer the following questions:

1. What is the level of Acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing as a

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whole and in terms of appearance, aroma, taste, and texture when respondents are taken as an entire group and when classified as to age and type (students, faculty and restaurant owners/cooks)?

2. Is there a significant difference in the Acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing in terms of appearance, aroma, taste, and texture when respondents are classified as to the specified demographics?

Conclusion

An experimental research design was employed to ascertain the acceptability of Pomelo (Citrus Maxima) Juice as Souring Agent in Salad Dressing among Students, Faculty at West Visayas State University Himamaylan Campus and Restaurant Owners/Cooks within Himamaylan City. The researchers conducted sensory evaluation focusing on appearance, aroma, taste, and texture to assess the potential of Pomelo juice as an alternative souring ingredient. In the descriptive analysis, mean and standard deviation were utilized to measure its acceptability across different demographic groups. Results revealed that Pomelo juice was rated from moderately acceptable to very acceptable in all sensory attributes, with students giving the highest scores. The study further showed significant differences in perception based on sex and type of respondents, particularly in appearance and taste, as indicated by the Wilcoxon and Kruskal-Wallis tests. Overall, the findings indicate that Pomelo (Citrus maxima) juice is an acceptable souring agent in salad dressing, especially favored by younger and non-professional participants.

Recommendations

Based on the results and conclusions, the following recommendations were drawn:

1. Additional research and development projects are encouraged to explore Pomelo (Citrus maxima) juice as a souring agent in various culinary applications beyond salad dressing. Future studies may investigate its use in marinades, sauces, dips, and traditional Filipino dishes that require sour components. Variations with different proportions and blends should be tested to enhance sensory qualities.
2. As aroma was rated lower compared to appearance and texture, it is recommended to experiment with natural aromatic enhancers such as citrus zest, herbs, or essential oil extracts (e.g., lemongrass, basil) that are safe for food use. These additions could improve olfactory appeal without compromising health-conscious or eco-friendly standards.
3. The acceptability ratings varied by demographic group, with students rating it higher than chefs and faculty. Therefore, it is important to refine the formulation based on continuous consumer feedback and targeted market testing. Sensory evaluation sessions can help adjust sourness intensity, texture balance, or even color enhancements to suit a broader market.
4. Pomelo juice is a locally available, natural, and vitamin-rich ingredient that supports sustainable sourcing and healthy food choices. Promoting this product in local markets, restaurants, or health-conscious communities may increase its commercial potential. The idea of a mass-producible and marketable citrus-based dressing aligns with eco-friendly and functional food trends.
5. Given the novelty of using pomelo as a souring agent, this product may appeal to culinary tourism and street food innovation. Salad dressing sachets, dip cups, or infused condiments can be developed as part of quick-serve meals or travel-friendly packs, targeting both locals and tourists seeking unique Filipino flavors.
6. The results showed that male respondents and students gave higher acceptability ratings compared to chefs and female respondents. Marketing strategies and future sensory improvements should take into account these differences in taste preferences and expectations, especially if the product is to be introduced in the food service industry or retail.

It is recommended that restaurant owners, chefs, and culinary practitioners consider Pomelo juice as an alternative natural souring agent in salad dressings. Its acceptability in terms of appearance, aroma, and texture, and particularly taste among various respondent types, indicates its potential to add a fresh, tropical, and health-enhancing twist to traditional salad preparations.

Citrus growers and local farmers are encouraged to recognize the potential of Pomelo not just as a fresh fruit but also as a value-added ingredient in food products. Promoting and distributing Pomelo juice for culinary use may open new market opportunities and contribute to local agricultural sustainability.

Health enthusiasts and vegetarians are recommended to use Pomelo juice in their daily meals, especially in salad preparations, due to its rich vitamin C content, natural acidity, and antioxidant properties. It offers a nutritious and chemical-free alternative to synthetic or processed souring agents like vinegar.

Hospitality and culinary students should be encouraged to experiment with locally available fruits like Pomelo in their food innovations. This can develop their skills in product development while embracing sustainable and culturally relevant ingredients. Educators may also use this study as a teaching reference in food science or menu planning subjects.

Future researchers are encouraged to conduct shelf-life studies to determine the stability and longevity of Pomelo juice when used as a souring agent in salad dressings. Additionally, exploring other culinary applications of Pomelo juice, such as its use in marinades and sauces, may further showcase its versatility as a natural flavor enhancer. Comparative studies between Pomelo juice and other common souring agents like calamansi, lemon, and vinegar in terms of cost-effectiveness, sensory qualities, and nutritional value are also recommended. Furthermore, investigating the preferences of a larger and more diverse group of consumers can help improve the generalizability of the findings and provide deeper insight into its market potential.

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Small-scale food entrepreneurs are encouraged to develop salad dressing products incorporating Pomelo juice, emphasizing their natural, local, and healthy appeal. This product innovation may cater to the growing market for organic and tropical-flavored condiments.

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