

Note by Note: Greek tragedy

ADVANCED MOLECULAR GASTRONOMY



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May 6th of 2022

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Introduction

In order to fully understand the note by note cooking, we have to firstly explore the molecular gastronomy. Molecular gastronomy is the scientific discipline that explores the phenomena occurring during culinary transformations. The founders of that gastronomy were Herve This and Nikolas Kurti, when they gave that gastronomy the specific title “molecular gastronomy” (Burke, This and Kelly, 2016). Although food science had existed for some centuries, its focus had historically been on the chemical composition of ingredients and on the industrial production and nutritional properties of food. Molecular gastronomy, on the other hand, focuses on the mechanisms of transformation that occur during culinary processes at the level of domestic and restaurant cooking, an area that had historically tended to rely heavily on tradition and anecdotal information. Molecular gastronomy seeks to generate new knowledge on the basis of the chemistry and physics behind culinary processes—for example, why mayonnaise becomes firm or why a soufflé swells (Myhrvold and Herve This, 2019).

Note by Note is an application of Molecular Gastronomy. The first proposal of such cuisine came in 1994, by Herve This, where for the food products, pure compounds and mixtures will be used. No meat, fish or vegetables are being used in the dish (Burke and Danaher, n.d.). The final goal of these dishes is not to create existing dishes, but new ones, where the compounds will be merged in such a way that new foods and flavours will be created (This, 2013). The first plate based on Note by Note was prepared by the chefs at Gordon Bleu school in Paris and each year a new one is being served. Other schools from different countries also invested Note by Note like School of Culinary Arts and Food Technology in Ireland, and participated in competitions where they won the first prize several times (Burke and Danaher, n.d.).

Aims and objectives

Based on the 10th International Contest for Note by Note cooking, it was asked from the students to produce savoury dices that will have a high percentage of dietary fibers, having gained importance in the human food consumption. The dishes that are going to be prepared will be:

- Will contain fibers
- Will try to stick as much as possible to the note by note cooking, meaning to use pure compounds
- Are good
- And, lastly are original

Having that in mind, it was decided to proceed with the savoury plate that will also have a homage to the individual's origin: Thus, it was decided to create a "Greek salad", made as much as possible from pure compounds.

The salad itself will contain a tomato dice (cube). Around the cube, two elements will surround it. Black olives pieces, made from pure compounds and olive oil powder. Lastly, on top of the cube a foam that will resemble the taste of cucumber will be spread.

Final Materials and Methods

Before going into the analysis of the recipes that were performed, it is noteworthy to say the equipment that was used:

- Digital kitchen scale (Soehnle, 1 g graduation)
- Digital pocket scale (Triton T3, 0,01 g graduation)
- Fridge (Coolhead)
- Hob (Electrolux)
- Stainless steel bowls
- Plastic white trays

- Pots
- Whisks
- Paper moulds
- Spoons, Knives, Forks

For the Greek Salad four different recipes were performed:

1. Tomato cube

Recipe	Tomato cubes Quantity (g)
Lactic acid	0,8
Water	120
Red coloring/ gel concentrate	2 drops
Gelatine	1,2
Tomato Flavoring (powder)	3,5
Vegetable flavor (liquid)	2 drops
Locust bean	0,2
Ripe tomato flavor (liquid)	1 drop
Xanthan gum	0,2
Inulin	6

Table 1: Tomato cube recipe

For the tomato cube the above ingredients were used.

All the ingredients were weighted either in stainless steel bowls or white plastic trays. After the weight measurement, gelatine was hydrated. The other ingredients were put into the pot, heated up, without reaching a boiling temperature, and gelatine was added to that point with the aid of a whisk, the ingredients were mixed. Afterwards they were transferred to the paper moulds, placed in the fridge for half an hour approximately.

Firstly, in order to get an appropriate texture of a cube that will resemble one of the tomato, gelatine was used that creates a stable but jelly mouthfeel that will be dispersed once you consume the product. Also, gelatine is firstly soaked in cold water, in order for it to bloom. If not, it will deliver a product with lumps (Stradley, 2017). Gelatine should not be boiled, as above that temperature, gelatine loses its efficiency. The texture of the product will be more stable by the addition of xanthan and locust bean gum. Xanthan (X)

and locust bean gum (LBG) are well known to exhibit strong rheological enhancement when mixed as a result of specific interactions between both gums. (Renou et al., 2013).

For the flavor of the products, lactic acid was used. It is the acid that is naturally with the highest presence in a tomato and adding it will resemble the tomato's sourness (Bartkiene et al., 2013). Also, various flavors from the Company SOSA were used: Vegetable and ripe tomato liquid aromas, as also a powdered tomato flavor.

For the food coloring, a tiny proportion of red concentrated gel was used, intended for cake decorations

Lastly, as in the assignment it was asked to make a cube that will be high in fiber, inulin was also added. Inulin is rich in fiber and by adding it, it does not affect the taste and the texture of the product and it gives a creamier mouthfeel (NCC food ingredients, 2019).

2. Cucumber foam

Recipe	Cucumber foam Quantity (g)
Lactic acid	2
Water	120
Green coloring/gel concentrate	2 drops
Albumin	14
Cucumber flavor (Conq)	7 drops
Xanthan gum	0,2
Vegetable flavor (liquid)	2 drops

Table 2: Ingredients used for the creation of a cucumber foam

The above ingredients were used.

All of the ingredients were measured in a stainless bowl or in a plastic tray. In a warm water, the other ingredients were added. The mixture is being whipped until a desirable foam is achieved.

The stability of the foam is hugely related to albumin. Albumin contains both hydrophilic and hydrophobic portions. This amphipathic duality makes it an excellent surfactant (a substance that decreases the surface tension of a liquid). Those albumin molecules adsorb

to the air-water interface, decrease the surface tension, and allow foam to be generated/stabilized as the newly entrained air is dispersed within solution (Rishi, 2020). Also, foam is stabilized more by the aid of a polymer, like xanthan gum and an acid, like lactic acid.

Xanthan gum enhances the gelling properties of the foam, while acid drops the pH and in synergy with albumin, results to a better end-foam product.

Lactic acid is also used for the flavour, as it depicts the tiny sourness that a cucumber may have. Also a cucumber flavour was used to mimic the ones of an authentic cucumber.

For the colour of the foam, a green colour gel concentrate was used.

3. Black olives pieces

Recipe	Black olives pieces Quantity (g)
Lactic acid	0,8
Water	120
Black coloring (liquid)	0,2
Agar Agar	1
Olive flavor (liquid)	6 DROPS
Locust bean	0,3
Xathan gum	0,2
Vegetable flavor (liquid)	2 drops

Table 3: Ingredients used for the black olives' pieces.

For the black olives pieces the above ingredients were used.

In order to create this product, all the ingredients were measure in a stainless bowl or in a plastic tray. Afterwards, they were transferred to a stainless pot, where the water reached a boiling temperature. At this process, the water solution was constantly mixed with the aid of a whisk. Afterwards the liquid is transferred to the carton paper mould and stored in the fridge for approximately 30 minutes. Then it was cut to smaller black pieces, giving the end product.

Agar-agar is a hydrocolloid extracted from red seaweeds that is widely used as a gelling agent in the food industry. In its gelling power, agar is outstanding among the

hydrocolloids. Among its major properties one can mention its high gel strength at low concentrations, low viscosity in solution, high transparency in solution, thermo-reversible gel and sharp melting/setting temperatures (Bruno, 2019). According to the bibliography it gives a brittle texture in the end product (Hervé This, 2014). Xanthan and locust bean were used for the stability of the end product, just like the tomato cube.

For the flavour lactic acid and black olives flavour from SOSA company were used, as well as the vegetable flavour in the other recipes.

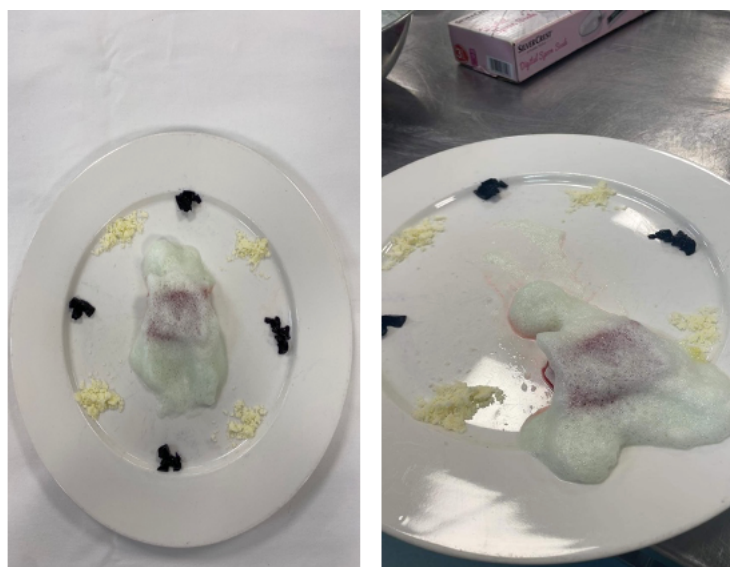
For the colour a black-colour concentrated gel was used.

4. Powdered olive oil

For the creation of a powdered olive oil, the technique that was taught in the courses of Molecular gastronomy was used. A portion of olive oil was added in a stainless bowl, while constantly mixing with the whisk, maltodextrin was added to the olive oil, until a powder version of it was achieved.

To set the final table a tomato cube was put in the centre of a plate. Above it, the cucumber foam was placed. Around the table, black olives and powdered olive oil were placed in the table.

*Figure 1: Final Dish
Presentation*



Results

10 people participated afterwards in an informal sensory analysis for the evaluation of the plate. All of the participants were colleagues of the FIPDes Cohort 10 Master Program. They were asked to evaluate the plate in terms of visual appearance, texture, flavour and acceptability from 1-9. 1 means that they did not like it at all and 10 means that they liked it very much. Below is the table of their responses and the average for each attribute.

ATTRIBUTES	Texture	Visual appearance	Flavour	Acceptability
	7	2	6	5
	7,5	2,4	6,5	7
	6,5	3	6,3	6
	7,3	3,2	6	5,5
	7,2	2,7	5	4,5
	7,1	2,8	4	4
	6,8	2,9	7	4
	7,1	2,5	7	4,8
	7,2	3,5	6,5	5
	7,2	3	7	4,5
AVERAGE	<u>7,1</u>	<u>2,8</u>	<u>6,13</u>	<u>5,03</u>

Table 4: Score of the participants of the sensory analysis

For the further analysis of the results, a spider plot was conducted via the Excel Program. The average price was taken for each attribute.

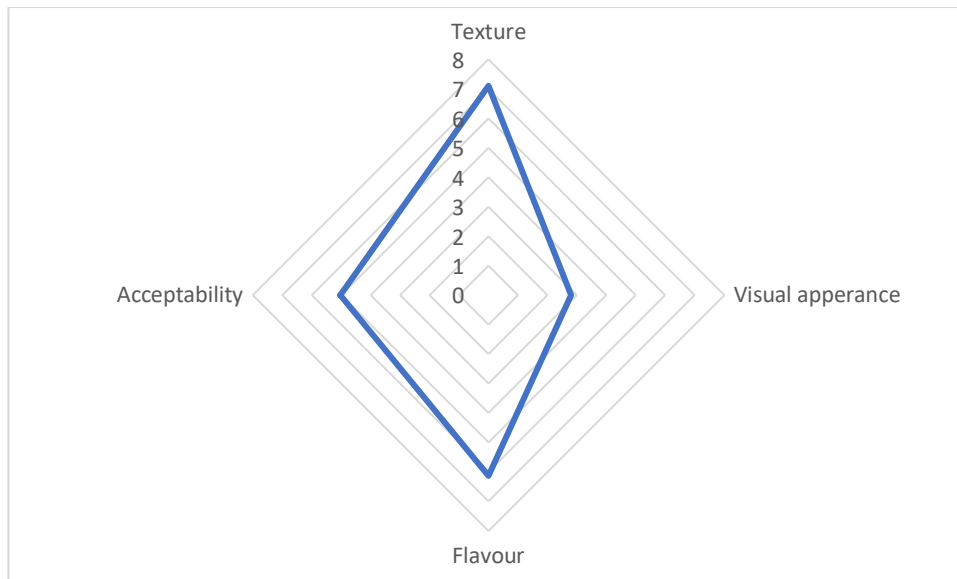


Figure 2: Spider-plot for the attributes of the plate

Discussion

As an individual can clearly see from the previous section, the plate did not have the desirable results. The tomato cube had a good texture, which was depicted in the spider plot and in the preferences of the panellists, regarding the texture, as the tomato cube was the ingredient most responsible for that attribute. However the flavour of the tomato cube was described as good, but not as intense. The black olives and the powdered olive oil had a good texture. Eaten individually, black olives were deemed odourless, but provided a good synergy, accompanied with the powdered olive and the tomato cube.

However, the cucumber foam did not have a good performance on the plate. Probably due to higher addition of albumin and xanthan gum than it should be, the foam was deemed thick and not easy to handle. Also, most of the people gave a description of the foam as odourless and so thick that when it was consumed, it stuck in the mouth of the participants. Except from the percentage of the albumin and xanthan gum, a major impact in the stability of the foam could have been that the method of whisking was used instead of that of a syphon, which creates a smoother foam than that from the method of whisking.

The effects of the cucumber foam in the plate, in combination with the poor setting of the plate led to an acceptability score of 5. Based in the bibliography, a mean liking score

of 7 or higher on a nine-point scale is usually indicative of highly acceptable sensory quality (Everitt, 2009).

Finally, it is worth mentioning that the levels of gelatine, agar-agar gum, locust bean gum, xanthan gum is *quantum satis*, therefore meaning that the mentioned quantities in the products follow the European legislation (Regulation No. 1333/2008)

Also, food colourings that were used in that plate, were described in the package as food decoration for food products as cakes. During the bibliographic research, there was no limitations found for these colourings, under the regulation of 1333/2008. Regarding the flavours, they were used according to the recommend dosages of SOSA company that was found in their website. Not much information was found for the cucumber flavour on the website and the dosage that should be applied to the dish, according to the supplier's recommendation.

Conclusions

Based in the last sentence in the section of Discussion, the plate was not deemed acceptable by the panellists. The setting of the plate even received a comment from professor Danaher as "Greek tragedy", which, in my personal belief could not agree more.

One of the things that should be changed was surely the cucumber foam and the percentage of albumin in the mixture may be lowered. In addition, may the siphon technique should be used instead of the regular whisking method. Also, raise the percentage of the flavour compounds in the tomato and cucumber product mimics.

Another aspect was the repetition of the trials that were conducted. In order to give an appropriate and tasteful result, maybe more repetitions should be needed than 4, number of trials that were conducted during the course of the Molecular Gastronomy.

To conclude, Herve This in a recent interview claimed that note by note is the future of food, solving world problems, having many applications in the traditional cuisine (World Association of Chefs Societies, 2020). My personal belief is that note by note, with the combination of nourishing substances for the human body could be the revolutionary future of the food industry.

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Logbooks

MODULE CODE: TFPD9022

MODULE TITLE: Molecular Gastronomy

STUDENT NAME: Antonis Stamatakis

FOOD PRODUCT: Greek Salas

WEEK NO.: 1

DATE: 28/03/2022

Weekly Aims and Objectives

Aim: Developing a fine structure and taste for the tomato cubes that are going to be on the “Greek salad”, made entirely of pure compounds.

Objectives

Trial No 1:

See if agar-agar locust bean gum and xanthan gum work, in order to mimic the structure of a real tomato. Check also if the flavours and the acids are doing a good representation of the tomato flavour.

Trial No 2:

Adjust the percentage of both agar-agar and flavors, in order to have a more intense taste and more loose texture than trial #1

Materials and Method (Ingredients, Equipment and Method)

The table below shows the ingredients with their quantities that were used during the first week for the two different trials

Date	28/3/22	28/3/22
Recipe	Trial No1	Trial No2
	Quantity (g)	Quantity (g)
Lactic acid	0,25	0,4
Water	120	120
Red coloring	0,05	0,05
Agar Agar	1,5	1

Tomato Flavoring	0,8	3,7
Vegetable flavor	0,05	0,15
Locust bean	0,1	0
Xanthan gum	0,1	0,15
Total	122,85	125,45

Table 5: Ingredients amount for Trials 1 and 2..

The following equipment was used during the experiment:

- Digital kitchen scale (Soehnle, 1 g graduation)
- Digital pocket scale (Triton T3, 0,01 g graduation)
- Chili Blaster
- Stainless steel bowls
- Pots
- Whisks
- Paper moulds
- Spoons

All the ingredients were weighted either in stainless steel bowls. After the weight measurement, they were put into the pot, heated up. Afterwards they were transferred to the paper moulds, placed in the chili blaster. Lastly, they were evaluated regarding the texture, taste and smell

Results and discussion

Regarding Trial #1, the sample produced by that trial had a brittle, tough texture with no taste.

By adjusting both the level of the thickeners and the flavors on the second trial, we managed to get a better result on that sample. Still, there is room for more improvement to be done.





Figure 2: Sample in paper mould before being inserted to the Chili blaster



Figure 3: Sample #2 after being cooled down

Conclusions

Agar- Agar, along with xanthan gave a very promising result for the texture of the product. However, it was a little too brittle for the texture that was desired to be for a tomato. Overall, the taste was good and people who tasted the sample #2 find it satisfying.

Recommendations for next course

Use instead of agar-agar, gelatin to have a softer texture. Also, try to work on the other 2 cubes that are desired for my dish (cucumber and black olives).

MODULE CODE: TFPD9022

MODULE TITLE: Molecular Gastronomy

STUDENT NAME: Antonis Stamatakis

FOOD PRODUCT: Greek Salad

Trial NO.: 2

DATE: 01/04/2022

Aims and Objectives

Aim: After observing how different thickeners and hydrocolloids are working like agar agar, gellatin, locust bean gum, etc. a fine structure and taste for the tomato, olives and cucumber cubes that are going to be on the "Greek salad", made entirely of pure compounds, is going to be developed. Also try to construct the final version of the olive oil (with maltodextrin) for the final plate.

Objectives

Trial No 1 (tomato cube):

After standardizing the recipe in the previous trial, regarding the taste and the smell, in this trial we will try to finalize the structure of the tomato, by replacing the agar agar with gelatine, making the product more jelly and try to resemble more the texture of the tomato.

Trial No 2:

Based on the structure of gelatine, try to develop a flavour and structure, for cucumber cubes.

Trial No 3:

Based on the structure of agar agar, try to develop a flavour and structure for olives cubes

Trial No 4:

Infusing olive oil with maltodextrin, in order to form the olive oil powder.

Materials and Method (Ingredients, Equipment and Method)

The table below shows the ingredients with their quantities that were used during the first week for the two different trials

Date	1/4/22
Recipe	Trial No1 (tomato cubes)
	Quantity (g)
Lactic acid	0,4
Water	120
Red coloring	2 drops
Gelatine	1
Tomato Flavoring (powder)	3,5
Vegetable flavor	2 drops
Locust bean	0,2
Xanthan gum	0,2
Inulin	5
Total	130,3

Date	1/4/22
Recipe	Trial No2 (cucumber cubes)
	Quantity (g)
Lactic acid	0,3
Water	120
Green coloring	2 drops
Gelatine	1
Cucumber flavor	4 drops
Locust bean	0,3
Xanthan gum	0,2
Inulin	6
Total	127,8

Date	1/4/22
Recipe	Trial No3 (olives cubes)
	Quantity (g)
Lactic acid	0,6

Water	120
Black coloring	2 drops
Agar Agar	1
Olive flavor	8 drops
Locust bean	0,3
Xathan gum	0,2
Inulin	5

Total **127,1**

Table 6: Ingredients amount for Trials

As for the trial of maltodextrin olive oil, a small amount of maltodextrin was used with a small amount of maltodextrin. Both of them were not weighted.

The following equipment was used during the experiment:

- Digital kitchen scale (Soehnle, 1 g graduation)
- Digital pocket scale (Triton T3, 0,01 g graduation)
- Chili Blaster
- Stainless steel bowls
- Pots
- Whisks
- Paper moulds
- Spoons

All the ingredients were weighted either in stainless steel bowls or white plastic trays. After the weight measurement, they were put into the pot, heated up. The special about gelatin, is that the pots containing that ingredient should not be boiled, as gelatin will be naturated and will have no effect to make the product jelly. Afterwards they were transferred to the paper moulds, placed In the chili blaster. Lastly, they were evaluated regarding the texture, taste and smell

Results and discussion

The tomato cubes had a very good texture with gellatin. This is not to be said for the cucumber, as the texture was too watery and did not stand as a cube in the final plate. Black had a desired brittle texture and a decent taste.



Figure 1: Olive cubes samples being heated



Figure 2: Sample in tomato cubes paper

Conclusions

Gelatin, along with xanthan and locust gave a very promising result for the texture of the tomato cubes. It is worthy to mention that even if we added the same proportions of flavours/acids, the taste was more intense. This probably has to do with changing the agar-agar with gelatine. As for the olives cubes, it has a texture, as it was brittle and resembled the one from the olives. However the flavour was not satisfying, as it was odourless. As for the cucumber cubes, the final texture was not desirable, as the jelly texture did not resemble a cucumber.

Recommendations for next course

Increase/use different flavours for the olives cubes and use agar-agar instead of gelatine for the cucumber cubes, to improve the texture. However, it has to be noticed that probably the ingredients contributed to the flavour have to be increased.

MODULE CODE: TFPD9022

MODULE TITLE: Molecular Gastronomy

STUDENT NAME: Antonis Stamatakis

FOOD PRODUCT: Greek Salad

Trial NO.: 3

DATE: 04/04/2022

Aims and Objectives

Aim: To further develop the texture and taste of the tomato, cucumber and black olive cubes. After forming the mentioned cubes, a plate will be served and will be evaluated by Pauline Danaher.

Objectives

Trial No 1 (tomato cube):

After standardizing the recipe in the previous trial, regarding the taste and the smell, in this trial we will try to finalize the structure of the tomato, by replacing the agar agar with gelatine, making the product more jelly and try to resemble more the texture of the tomato.

Trial No 2:

Instead of doing a cube with gelatin, a cube with agar agar will be formed.

Trial No 3:

Based on the structure of agar agar, try to develop a flavour and structure for olives cubes

Trial No 4:

Infusing olive oil with maltodextrin, in order to form the olive oil powder.

Materials and Method (Ingredients, Equipment and Method)

The table below shows the ingredients with their quantities that were used during the first week for the two different trials

Date	4/4/22	Date	4/4/22	Date	4/4/22
Recipe	Trial No1 (tomato cubes) Quantity (g)	Recipe	Trial No2 (cucumber cubes) Quantity (g)	Recipe	Trial No3 (olives cubes) Quantity (g)
Lactic acid	0,8	Lactic acid	0,8	Lactic acid	0,8
Water	120	Water	120	Water	120
Red coloring	2 drops	Green coloring	2 drops	Black coloring	0,2
Gelatine	1,2	Agar Agar	1	Agar Agar	1
Tomato Flavoring (powder)	3,5	Cucumber flavor	5 DROPS	Olive flavor	6 DROPS
Vegetable flavor	2 drops	Locust bean	0,3	Locust bean	0,3
Locust bean	0,2	Xanthan gum	0,2	Xathan gum	0,2
Ripe tomato flavor	1 drop	Vegetable flavor	2 drops	Vegetable flavor	2 drops
Xanthan gum	0,2	Inulin	6	Inulin	5
Inulin	6				

Table 7: Ingredients amount for Trials

As for the trial of maltodextrin olive oil, a small amount of maltodextrin was used with a small amount of maltodextrin. Both of them were not weighted.

The following equipment was used during the experiment:

- Digital kitchen scale (Soehnle, 1 g graduation)
- Digital pocket scale (Triton T3, 0,01 g graduation)
- Chili Blaster
- Stainless steel bowls
- Pots
- Whisks
- Paper moulds
- Spoons

All the ingredients were weighted either in stainless steel bowls or white plastic trays. After the weight measurement, they were put into the pot, heated up. The special about gelatin, is that the pots containing that ingredient should not be boiled, as gelatin will be naturated and will have no effect to make the product jelly. Afterwards they were transferred to the paper moulds, placed In the chili blaster. Lastly, they were evaluated regarding the texture, taste and smell

Results and discussion

The tomato cube had a jelly texture, a good taste and resembled tomato a lot

For the cucumber cubes, the texture was very good and the flavor also was desirable.

The black olives also had a decent result

Conclusions

After serving the plate, placing small cubes of tomato, cucumber and black olives with powdered olive oil and small drops of vinegar, Pauline Danaher inspected the plate. She recommended to not have many cubes on the plate and keep only one: the tomato one with small pieces of black olive and powdered oil around the table. She also suggested that the cucumber should be on top of the tomato, in a form a foam or a maringue

Recommendations for next course

Try to replace the cucumber cubes with the foam that lecturer Danaher suggested and present a final table.

MODULE CODE: TFPD9022

MODULE TITLE: Molecular Gastronomy

STUDENT NAME: Antonis Stamatakis

FOOD PRODUCT: Greek Salad

Trial NO.: 4

DATE: 25/04/2022

Aims and Objectives

Aim: To serve the final plate, according to Mrs Danaher's advice: a soft tomato cube, little black olives pieces, powdered olive oil and cucumber in the form of a foam with.

Objectives

Trial no1 (tomato cube):

Replicate the same recipe, as the previous experiment. The result is a tomato cube, based on gelatin.

Trial No 2 (black olives pieces):

From the previous experiment, a sample was stored in the kitchen in the form of cubes, where they were cut and placed in the dish as small pieces.

Trial No 3 (cucumber foam):

In that trial, air was incorporated in the mixture of water, flavours that resemble cucumber, xanthan gum and albumin via the method of whipping. The result of this was a stable cucumber foam.

Trial No 4 (olive oil powder):

Infusing olive oil with maltodextrin, in order to form the olive oil powder. Sample was kept from the previous time.

Materials and Method (Ingredients, Equipment and Method)

The table below shows the ingredients with their quantities that were used during the first week for the two different trials

Date	4/4/22	Date	4/4/22	Date	4/4/22
Recipe	Trial No1 (tomato cubes) Quantity (g)	Recipe	Trial No2 (cucumber cubes) Quantity (g)	Recipe	Trial No3 (olives cubes) Quantity (g)
Lactic acid	0,8	Lactic acid	2	Lactic acid	0,8
Water	120	Water	120	Water	120
Red coloring	2 drops	Green coloring	2 drops	Black coloring	0,2
Gelatine	1,2	Albumin	14	Agar Agar	1
Tomato Flavoring (powder)	3,5	Cucumber flavor	7 drops	Olive flavor	6 DROPS
Vegetable flavor	2 drops	Xanthan gum	0,2	Locust bean	0,3
Locust bean	0,2	Vegetable flavor	2 drops	Xathan gum	0,2
Ripe tomato flavor	1 drop			Vegetable flavor	2 drops
Xanthan gum	0,2			Inulin	5
Inulin	6				

Table 8: Ingredients amount for Trials

As for the trial of maltodextrin olive oil, a small amount of maltodextrin was used with a small amount of maltodextrin. Both of them were not weighted.

The following equipment was used during the experiment:

- Digital kitchen scale (Soehnle, 1 g graduation)
- Digital pocket scale (Triton T3, 0,01 g graduation)
- Chili Blaster
- Stainless steel bowls
- Pots
- Whisks
- Paper moulds
- Spoons

All the ingredients were weighted either in stainless steel bowls or white plastic trays. After the weight measurement, they were put into the pot, heated up. The special about gelatin, is that the pots containing that ingredient should not be boiled, as gelatin will be naturated and will have no effect to make the product jelly. Afterwards they were transferred to the paper moulds, placed In the chili blaster. Lastly, they were evaluated regarding the texture, taste and smell

Results and discussion

The tomato cube had a jelly texture, a good taste and resembled tomato a lot

For the cucumber foam, the texture was very good and the flavour also was desirable.



Conclusions

After observing the final setting of the plate and how the elements were placed, Mrs Danaher found a very beautiful name for the situation of it: "Greek tragedy". The elements were placed wrongly. The tomato cube did not have the appropriate height of a cube to stand in the dish, the elements around the dish were not scattered even and the foam was not spread in order to result to a good picture.

10 people tried the dish and valued it in terms of texture, visual appearance, flavour and acceptability. Texture had an average of 7,1, flavour of 6,1 and acceptability of 5. The score of the acceptability was greatly affected by the visual appearance, which none liked and had an average score of 2,8.

Thus, in order to be promoted to a molecular gastronomy competition, the dish needs further improvement.