

The results obtained during the INRAE/AgroParisTech molecular gastronomy seminars

Paris, 2000-2020
Hervé This vs Kientza

Preliminary note

Every month since 2000 (except July and August), public and free Molecular Gastronomy Seminars are the occasion to discuss "culinary precisions" (i.e., tips, tricks, technical indications...) and, above all, to test them experimentally.

Obviously the results are only valid in the particular conditions of the experiments, which you can consult in the complete reports.

Academic year 2020-2021

September 2020 :

For peeling easily tomatoes, it's 20 seconds in boiling water, with if possible a basin of cold water behind.

Academic year 2019-2020

February 2020 :

For sabayons, we whipped 1 yolk up to 160 g of water, and we obtained an abundant foam in the latter case. The water can be replaced by any other liquid: coffee, tea, broth, juice, wine ...

January 2020 :

1. olive oil has penetrated into French fries as much as sunflower oil.
2. washed potato sticks make lighter French fries, with a more regular appearance, but no flavour differences.

December 2019 :

1. no effect of corks on the cooking of octopus
2. corks do not prevent the white beans from bursting or cracking.

November 2019 :

1. no difference in smell between parsley chiselled or cut with a knife

2. Parsley crushed in mortar and pestle has more odor than chopped parsley.
3. a white sauce that has boiled does not taste like glue

October 2019 :

One can recognize by the flavour of the shortbread doughs that have been little or much worked; the least worked dough seems "crispier", and the so-called "burnt" is not so terrible!

September 2019:

1. by working egg yolk with butter, we obtain a marvellous preparation which has nothing to do with a béarnaise, but which resembles a butter cream; it may have been salted.
2. for a black butter: the preparation where the vinegar has been added to the butter is cloudy, while the preparation where the butter has been added to the vinegar is clear; there is more vinegar smell and taste for preparations where the vinegar has been added to the butter. Conversely, when the butter has been added to the vinegar, there is no smell of acidity.

Academic year 2018-2019

June 2019 :

1. the bechamel with Roquefort is liquefied a little; however, Roquefort brought about 2/3 of water, so that one adds, in this buttered bechamel, a quantity of water corresponding to that which was present in Roquefort, and one then observes the same fluidification as for the bechamel with Roquefort.
2. bream boiled with the juice of half a lemon thickens and does not liquefy (you almost have the viscosity of béchamel!).
3. boiled cream, thickened, then added vinegar (about 3 tablespoons) liquefies a little but does not slice. It shines well, very acidic.
4. Warmed milk slices when the juice of half a lemon is added.
5. boiled milk does not slice when a little lemon juice is added to it, after adding cream; but vinegar does slice.
6. boiled and thickened cream does not slice with vinegar.
7. cream doesn't slice when boiled; it gets thicker, yellowed, but we didn't see any slicing!

May 2019 :

1. artichokes do not take on a bitter taste when the tail is cut off with a knife.
2. it is not true that asparagus will be firmer if it is cooked, then dried, then plunged again in hot water.

April 2019 :

1. it is not true that a sauce bound with starch cannot be reheated, otherwise it will refluidify (neither with starch nor with flour).
2. it is not true that you can recognize (flour-bound) sauces that are too salty with small shiny dots.

March 2019 :

1. for a sauce bound with flour, there is a "floury" taste when the roux is not well cooked
2. Very baked roux have less thickening than light roux.

February 2019 :

There are notable differences in the making of Dutch sauces, depending on whether or not one makes a sabayon initially.

January 2019 :

We do not observe the addition of oil in the frying dough makes it crispy.

December 2018 :

1. we do obtain an emulsion when we add oil to hard-boiled egg yolk (tartar sauce)
2. A sauce similar to hollandaise is obtained by using hard-boiled egg yolk instead of raw egg yolk.
3. in a blind test, a solution of citric acid in water and lemon juice can be distinguished.
4. in a blind test, one can distinguish between a solution of citric acid and a solution of tartaric acid.

November 2018 :

1. no difference in flavour between apple peeled with a knife or peeled with a peeler
2. To poach eggs, it is not the salt which allows to have a mass gathered, but the vinegar.
3. one can make the ribbon from eggs that have been "burnt" by the sugar, but it takes a lot of energy.

October 2018:

1. it is not true that 24 hours of rest will eliminate the sulphurous smell of overcooked hard-boiled eggs.
2. a white frozen and then thawed egg white rises well to snow, not firm or firm.
3. an emulsion is well obtained from an egg yolk frozen and then thawed

September 2018 :

The artichokes cooked first with olive oil are whiter (slightly green/blue), less yellow than without olive oil; with flour and lemon juice, the artichokes are more yellow.

Academic year 2017-2018**June 2018 :**

1. yes, eggshells clarify the broth... but that's because there was white sticking to it
2. A fish fumet cooked for more than 20 minutes (40 min) is not bitter, and is even considered better.

May 2018 :

1. for shortbread made with cooked egg, the crumbliness is the same as with raw egg; there is a difference in smell, but little difference in taste.
2. for quetsch compotes, there is a color change in storage (reddening) if the skin is left on.
3. rhubarb does not turn red when cooking when the stems are peeled.

April 2018:

1. a simple caraffage is not enough to significantly change the taste of a wine.
2. sentences to avoid in the room: "You're done" (when the plate is empty), "Good continuation", "Did

you like it?", a "small coffee".

March 2018 :

1. an initial overrun is maintained, during the realization of a hollandaise sauce
2. little difference when buns or doughs are baked in a hot or cold oven

February 2018 :

We can't say that there would be any difference between hollandaise sauces made in tinned copper pots, or in enamelled pots. Even better, we can even think that these differences do not exist.

January 2018 :

Contrary to what is said, the swelling of the quenelles does not depend on the thickness of the sauce.

December 2017 :

1. differences when (too much) salt is put into the pancake batter; the salted pancake is unanimously judged to be "harder", "drier".
2. no difference when swelling grapes in unsweetened water or light syrup.

November 2017:

1. smelling bread doesn't prevent mustard from stinging the nose
2. bones in the broth increase the taste (they do not decrease it, as has often been said).

October 2017:

1. salted onions or potatoes are browner, but no difference in crispness or tenderness.
2. Dr Jourdain-Lecointe's recipe for English sauce is not reliable.

September 2017:

No difference in crispness for chicken skin when lemon, or oiled, or massaged with salt.

Academic year 2016-2017

June 2017 :

Tips for note by note cooking

May 2017 :

1. bleached, soaked, directly sautéed or boiled pork always loses mass; color differences are very small.
2. for green beans, the ice-water tray at the end of the cooking process is of no use from a color point of view. It does not cause a loss of taste, but possibly a change in taste.
3. with the exception of water with strong tastes, the cooking of spaghetti does not gain significantly with the quality of the water.

April 2017 :

This seminar gives the complete prescriptions for successful puffed potatoes every time.

March 2017 :

1. potato slices fried with fat have a better taste, consistency and color than fat-free fried slices; butter gives color, and blind tastings do not distinguish between slices fried with butter or oil.
2. differences in taste and crispness for small cabbages brushed with fat (butter, oil) or not.

February 2017 :

No difference in bitterness depending on whether turnips are peeled with a knife or with a peeler.

January 2017 :

The "gibbs" and the "note by note gibbs", two inventions by H. This

December 2016 :

1. you can't turn garlic blue by chopping, salting and adding boiling water.
2. garlic cannot be turned blue by putting it in hot rice.
3. garlic on tomatoes that are candied does not turn blue consistently (never observed)
4. garlic stuffing poultry does not turn blue consistently (never observed).
5. no difference for sanded or creamed pâtes brisées.

November 2016 :

1. the chefs present point out that they have never made béarnaises with raw butter, although they judge them to be superior in taste.
2. differences in consistency for béarnaises made with raw butter or clarified butter
3. strong differences according to the cooks, as far as brown butter is concerned
4. No difference for teas made from microwave-heated water or the same water heated in a pot.

October 2016 :

1. very small pH differences in the cooking water of beans, even with a small proportion of water
2. no difference observed when you put the yeast directly into the bread dough, or when you activate it first in warm water.

September 2016 :

1. warmed vegetables harden and then soften only with difficulty in boiling water.
2. the fat does not enter into turnips that are glazed.

Academic year 2015-2016**June 2016 :**

1. it is not true that frozen turnips absorb water and fat
2. It is not true that coffee (filter) that has been waiting in a thermos flask or that has cooled down is

bitter and takes on a darker color than when it has just been made.

May 2016 :

1. the comparison of puff pastry cooked on two plates or only one could not be done correctly; experiment to be redone.
2. inverted puff pastry develops more than direct puff pastry.

April 2016 :

1. asparagus cooked in too salty water is too salty (contrary to what is said, i.e. asparagus would not absorb the excess salt)
2. asparagus in too salty water is softer, and there is a difference in color: the head is greener, and more yellow in unsalted water.
3. pasta cooked in a hot oven is slightly more colorful.
4. puff pastry baked in a hot oven is slightly more puffy than puff pastry baked in a cold oven.
5. the consistency of the shortcrust pastry is the same whether it is baked in a hot or cold oven
6. the development of cold filled puff pastry is rather more regular than that of hot filled puff pastry.

March 2016 :

1. cooled, hard tiles soften when put back into the oven.
2. warmed and softened tiles harden again when cooled.

February 2016 :

There are two very different types of hollandaise sauces, which are proposed to be named differently, namely hollnadaise and aerated hollandaise sauces.

January 2016 :

For the same cooking time, pasta cooked with less water is softer than pasta cooked in a lot of water; no difference in color, no extra stickiness, no difference in saltiness.

December 2015 :

1. cutting poultry that is still warm (pigeons) causes more juice to be lost, and a fillet that has rested before cutting seems slightly softer.
2. if there is no resting of the pancake batter, the addition of beer is very important from a taste point of view, but it affects the smooth appearance of the pancakes.

November 2015 :

1. choux for which the protein (from the egg) has been coagulated before baking do not swell, whereas cabbages for which the eggs have been added to the cooled pancake batter (you could put your hand on the edge of the pan) swell perfectly.
2. comparison of potatoes starting with cold or hot water :
 - there is no difference between potatoes in cold or hot water.
 - peeled potatoes are saltier than unpeeled potatoes
 - the saltiest potatoes are those that have been peeled before being put in cold water
 - peeled potatoes put in cold water are saltier than peeled potatoes put in hot water.
 - unpeeled potatoes put in cold water are saltier than unpeeled potatoes put in hot water.

October 2015 :

This seminar fails to identify rules for the production of puffed potatoes.

September 2015 :

1. pricked beef loses more juice than unpricked beef.
2. the quilted piece is juicier than the other one
3. but this is not observed with pork ribs.

Academic year 2014-2015**June 2015 :**

1. the position of the fruits in a clafoutis depends on the density of the device
2. Cooking, by evaporating water, increases the density of the appliance, which can lead to the fruit changing places.
3. To have a density that does not vary during cooking, the dish can be covered.
4. to have fruit in the right place, you can introduce it when the appliance is already slightly cooked.

May 2015 :

1. the difference in swelling between choux made of frozen or unfrozen dough is not clear; on the other hand, cooked cabbages that are not frozen are more heterogeneous and lighter.
2. puff pastries, baked from frozen or unfrozen dough, have leavened in the same way, but frozen puff pastries are undercooked in the center.

April 2015 :

1. a velouté made from a slow-cooked roux seems to thicken more slowly (very little).
2. a velouté made from a slow-cooked roux is darker.

March 2015 :

1. washed endives are not observed to become bitter.
2. yes, crushed garlic tastes different from finely chopped garlic.

February 2015 :

1. unwashed French fries stick together
2. there is no difference in flavour between washed+dried fries and fries cooked directly after cutting.

January 2015 :

The puffiness of puff pastry increases with the number of turns and it is for six turns that we have a good result (but you really have to see the description of the latter, as it is exciting).

December 2014 :

Comparisons of omelettes egg only, egg and water, egg and milk. Water and milk do not give different

results.

November 2014 :

1. crèmes prises cooked in a bain marie are browner than the others, and they are also higher (whereas the mass used was the same, weighed before cooking). They are smoother,
2. crèmes prises cooked without a water bath have probably swollen, before falling down.

October 2014:

1. French fries that are sponged immediately out of the bath take about 0.5 grams of oil (each!) less than fries that are sponged two minutes later.
2. you can tell the difference between sponged and unsponged French fries by taste... and you prefer French fries that have absorbed oil.

September 2014 :

The presence of salt in choux is not responsible for their cracking.

Academic year 2013-2014

June 2014 :

It is possible that meat previously stored in salt makes a crispier confit (but experiments to be continued)

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May 2014 :

A lot of egg yolk added to melted chocolate makes it massager.

April 2014 :

In the terrines too, the higher the core cooking temperature, the more the taste is lost.

March 2014 :

Experiments on the cooking of sugars to be redone.

February 2014 :

1. There is more foam when meat in a broth is cut into small pieces.
2. the taste of a broth appears more quickly if the meat is divided.

January 2014 :

Some grains are reversible.

December 2013 :

Flour and sugar added to water promote yeast growth.

November 2013 :

No cooking difference for pork or onions glazed in copper, iron and stainless steel.

October 2013 :

Fig leaves do not tenderize meat in stews.

September 2013 :

1. professionals make mixtures of whipped egg white/fused chocolate more homogeneous than individuals.
2. the two mousses prepared with sacrifice of whipped egg whites or not are similar in color and consistency.

Academic year 2012-2013**June 2013 :**

The quality of a meat broth is determined by the quality of the water used.

May 2013 :

Kugelhops vessels made of clay give better results than with other materials.

April 2013 :

1. clarification of an egg broth brings an egg taste.
2. discussion of the results of clarifications with leek green, egg.

March 2013 :

1. breading brings cheap material (compared to meat).
2. a piece breaded twice is covered with a thicker layer than a piece breaded once. On the other hand, a double-breaded piece has a breaded layer that comes off more easily.

February 2013 :

Presentation of H. This's invention: the "priestleys".

January 2013 :

Meat left in the refrigerator until the time of sautéing is more "cardboard"; meat taken out in advance is considered better.

December 2012 :

Basting poultry during roasting has no effect, except to lower the temperature when the oven is opened.

November 2012 :

You can very well make up for a hollandaise or béarnaise sauce that has gone sour by adding a little cold

water to it.

October 2012 :

No interest in flouring potato slices that are fried.

September 2012 :

No difference in the cooking of green beans depending on the water, except if calcium is present.

Academic year 2011-2012

June 2012 :

Washing strawberries does not take away their taste.

May 2012 :

The bacon is better desalinated if we go to cold water.

April 2012 :

Sifting the flour.

March 2012 :

Pricking sausages prevents some sausages from bursting (not all).

February 2012 :

Pricking shortcrust pastry prevents shrinkage.

January 2012 :

You don't see fat entering the meat when you massage it.

December 2011 :

Chocolate massage.

November 2011 :

1. a difference in appearance between a salted soup or not before cooking.
2. no difference between a salty soup before or after cooking.

October 2011 :

For fried potatoes, no difference in crispness with or without salt. But a difference in color.

September 2011 :

Contrary to what is said, soups (à la Parisienne) that have been put in a blender have more smell (and therefore taste) than soups that have been put in a mill.

Academic year 2010-2011

June 2011 :

No color difference for artichokes cooked with or without flour.

May 2011 :

It did not appear that rubbing a chicken with lemon preserves it whiter, with poaching.

April 2011 :

1. salt only hardens pulses when it contains calcium.
2. sometimes tap water is so hard that the pulses don't cook: you have to add a pinch of bicarbonate of soda to them.

March 2011 :

It is perfectly possible to whip egg whites until stiff, stop beating and then start again.

February 2011 :

1. for pistou
 - with mortar, we obtain a fir green preparation, with length in the mouth.
 - When blended, the color is a spring green, with a powerful taste of pistou in the mouth.The conclusion is that it is ideal to mix the two.
2. Well beaten pancake batter is much more plump and soft.

January 2011 :

1. no, ice cubes do not stun the broths, and do not allow clarification.
2. a sauce bound with egg yolks can be heated to 90 °C without lumping.

December 2010 :

Buttered vessels help the soufflés to stick.

November 2010 :

1. the oven door can be opened for more than 2 minutes to cook soufflés without them falling out.
2. you can make a successful soufflé even without whipping the egg whites... if you cook by underneath.

October 2010 :

Beginning of a study of macaroons

September 2010 :

With cold eggs, it's faster to whip egg whites

Academic year 2009-2010**June 2010 :**

Test of a strange kettledrum

May 2010 :

Difference of flavour for a reduced wine sauce at high or low heat.

April 2010 :

A very small amount of water does not massage the chocolate, but more causes disaster.

March 2010 :

Extraordinary seminar on culinary training

The two poles considered these days are being discussed: training by repetition (training by doing) and training by understanding.

February 2010 :

When we press a terrine, the juice and fat go up

January 2010 :

One can blacken oil ("hazelnut oil") by adding to the oil the clarification residue where the oil is emulsified.

December 2009 :

Microscopic examination of the various intermediate products of a custard, especially when the yolks are "burned" by the sugar.

November 2009 :

The salted broth initially has more foam than the unsalted broth, but finally, after an hour, the difference disappeared. Meat in salted water seems more "dry".

October 2009 :

No difference in consistency for cooked shrimp skewered and spread or not.

September 2009 :

1. Scalpel-type blades give better results than conventional blades on plant tissue.
2. there is a difference in flavour depending on whether you cut an apple with a knife or a scalpel

(fresher taste).

Academic year 2008-2009

June 2009 :

Baking soda blocks the blackening of peeled potatoes.

May 2009 :

The yeast ferments whether or not the water has been boiled before.

April 2009 :

We can't conclude whether vinegar prevents blackheads from appearing on stored puff pastry.

March 2009 :

No seminar

February 2009 :

1. we obtain the curved shape of the madeleines when we go from a cold appliance to a hot oven (220 °C)
2. the shape of the mould is essential

January 2009 :

Beginning of unfinished experiments on madeleines and their curved shape.

December 2008 :

With washed eggshells, no clarification of the broths.

November 2008 :

No interest in poaching a meat, plunge it in ice water, and repeat seven times the operation.

October 2008 :

White wine does not dissolve the bones, nor the sorrel, nor the combination of sorrel and white wine.

September 2008 :

1. no difference in expansion between frozen puff pastry or not.
2. the salt causes differences in color for sautéed potato slices.

Academic year 2007-2008

June 2008 :

Experiments to be redone

May 2008 :

The consistency of the panade made from freshly baked bread is firm and supple; that made from oven-dried bread was soft and without body.

April 2008 :

No real difference between fresh and stale bread fillings.

March 2008 :

No seminar

February 2008 :

1. Lemon juice makes carrots paler, and zucchini yellow-greenish.
2. carrots cooked with tomatoes are a brighter orange, but no difference in consistency.
3. zucchini cooked with tomato looks very cooked, but it is normally cooked.

January 2008 :

You can tell by the consistency of the beaten meat (beef, 11 large pestle strokes), but not by tasting it.

December 2007 :

1. When the liquid of a risotto is added in small quantities, it evaporates more than when it is added all at once. And if this liquid tastes good, then the taste of the risotto is stronger because of the reduction made.
2. don't believe that "identical" pans (same brand, diameter, material, model, etc.) really are: considerable differences in mass are measured.

November 2007 :

A marked meat is difficult to distinguish from an unmarked meat, when cooked in wine for 30 minutes.

October 2007 :

It is not true that ice cubes added to a broth make the fat rise faster.

September 2007 :

1. In the old days, cream that had been whipped was left to rest on a sieve or a muslin to drain.
2. in summer, in the south of France, it is impossible to make whipped cream or whipped cream go up without cooling down (container, ice cream...).
3. you can recover a whipped cream that has turned into butter, by making an emulsion before beating it up again

4. it has been forgotten that guar gum was used as a fixative for whipped cream in the second half of the 20th century.
5. whipped cream with sugar at the end is whiter.
6. whipped cream with sugar at the beginning is firmer and more yellow.

Academic year 2006-2007

June 2007 :
Synthesis.

May 2007 :
1. clove increases the taste of the burnt.
2. salt reduces the bitterness and increases the sweetness.

April 2007 :
Pungency, bitterness and the effects of bleaching are discussed.

March 2007 :
Extraordinary seminar "Testing culinary precision".
No significant difference in flavour, during blind tasting, between shallots and onion-shallot hybrids.

February 2007 :
Considerable differences in flavour and appearance for bread "baguettes" made with different waters.

January 2007 :
Pastry is not more precise than cooking, but it is often a precision of another kind.

December 2006 :
1. the optimum, for Italian meringues, is to cook the syrup just below 127 °C.
2. the meringues left in the oven are dry and crispy; the meringues taken out of the oven are also dry on the surface, but have a slightly sticky heart under the tooth.
3. analyses of the work of waiters.

November 2006 :
Confirmation of October results.

October 2006 :
Heavily beaten omelettes take on a soft consistency.

September 2006 :

1. depending on the vinegar, acidity decreases or increases with the reduction of the vinegar.
2. perfect shortbread with roasted flour

Academic Year 2005-2006

June 2006 :

1. melted chocolate mass when water is added.
2. conversely, no massage if you put chocolate in water, as with whipped chocolate.

May 2006 :

1. a dough is "brisée" when the flour and water are worked first, before adding butter
2. a dough is "sablée" when a gluten network is avoided, for example by first mixing butter and flour and then adding water without working
3. the dough shrinks when it does not rest (to be confirmed)
4. the drops of melted fat in a wine sauce with butter are larger when the sauce is winnowed than when it is whipped: you can smell more wine in the winnowed sauce, and more butter when the sauce is whipped.

April 2006:

Extraordinary seminar "Le lien social" ("The social bond")

1. the dishes must be well constructed in all three dimensions: (1) social; (2) artistic; (3) technical
2. art and social bonding courses should be introduced into the culinary teachings (these teachings should be explicit)
3. do not confuse the beautiful to see (for painting, sculpture, etc.) and the beautiful to eat, which is the right one.

March 2006:

Synthesis

February 2006 :

1. confirmation of the January results on the genoise (sponge cake); moreover, the cold genoise is less fragile to mixing.
2. the pancake dough that does not rest is more cardboard; the rested pancake is more "soft", less "thick".

January 2006 :

1. no difference for sponge cakes with or without 55°C heating
2. Whole milk in a refrigerator helps remove odours.

December 2005 :

Experimental results to be redone

November 2005 :

1. marinades with wine, vinegar and oil protect the meat, and allow it to soften in good conditions.
2. oil where coffee powder is stored tastes wonderful.

October 2005:

1. when carrots are cooked at a low temperature, they harden, and then they can no longer be softened.
2. potatoes soaked in a sauce that is too salty do not correct it

September 2005 :

1. no difference in "shine" for wine sauces made with butter, whether whipped or wine-whipped.
2. whipped sauces are whiter than vannées sauces (the presence of air bubbles makes them whiten)

2004-2005 Academic Year**June 2005 :**

First session "puffed potatoes", with demonstrations by Georges Roux (no measurement)

May 2005 :

1. oil added to butter does not prevent blackening
2. you can't make brown butter with clarified butter.

April 2005 :

Discussions about gelling agents, and discussion of molecular cooking menus.

March 2005 :

Extraordinary seminar: cooking with additives

- various gelling agents
- beware when using essential oils
- cooks don't want ready-made flavourings, but they would take compounds in solution to make their own mixtures (as stipulated by the "note to note kitchen")
- presentation of additives

February 2005 :

The browning of brown butter is slowed down by adding water or, better yet, an aqueous solution (wine, lemon juice, etc.).

January 2005 :

1. onions brown when they are salted
2. characteristics of gels obtained from various gelling agents

December 2004 :

Real differences between knife cut fries and machine cut fries.

November 2004:

1. sweating carrots increases the taste of the broth because the fat (which then emulsifies) dissolves the odorant compounds.
2. squid is not softened by cork.

October 2004:

1. discussion of the words of flavour: the word "aroma" applies only to the odors of aromatic plants/aromates
2. Freezing the octopuses makes them tender.

September 2004 :

Discussions about sweeteners.

Academic year 2003-2004

June 2004 :

Confirmation of differences in taste depending on the water used for cooking the pasta.

May 2004 :

1. no difference in softness observed for pork ribs cooked in water or milk
2. differences in flavour when the meat is poached in waters with different flavours.

April 2004:

1. no difference in consistency is observed for pasta cooked with tap water and pasta cooked with distilled water.
2. on the other hand, pasta cooked in milk is more yellow than pasta cooked in water.
3. the flavour of pasta cooked in milk differs from pasta cooked in water.
4. pasta are more sticky when cooked in milk
5. meat broths with a large amount of water extract more than a small amount of water in total

March 2004 :

Chocolate and oil mix well together in any proportions.

February 2004 :

1. Hervé This's invention named "wind crystals" is reported : https://www.pierregagnaire.com/pierre_gagnaire/travaux_detail/69
2. it is possible to make " aerated veloutés", which are "gay-lussacs".
3. Experiences about confisage
4. The oil in the dressing can go into potatoes.

January 2004 :

Extraordinary seminar on "innovation"

December 2003 :

We can make puff pastry when the butter has been replaced by :

- butter whipped with an aqueous solution
- chocolate
- foie gras
- the fat from foie gras

November 2003 :

After a national consultation, it was decided to call "coction" transformations without heating (Tahitian style, ceviche, etc., by acids, bases, alcohol...).

October 2003:

Results of cooking in salt crust.

September 2003:

1. confirmation that there is no difference in flavour between fine and coarse salt.
2. discussion on confisage.

Academic year 2002-2003**June 2003 :**

1. An egg white with added sugar can be successfully whipped in a meringue preparation.
2. it is very unlikely that food placed in a couscous maker or steamer will be salted by the salt added to the cooking water... except in the case of splashes.

May 2003 :

1. differences in flavour between fleur de sel and ordinary salt only when you perceive the crunchiness
2. no difference in flavour between fine and coarse salt

April 2003 :

In a steam oven, the smell can move from one product to another.

March 2003 :

Extraordinary seminar on "naming dishes"

1. the Codex alimentarius is to be revised, as far as the hollandaise and béarnaises are concerned, because it is very faulty (see the Glossary of Taste Professions: <http://www2.agroparistech.fr/1-Glossaire-des-metiers-du-gout-en-chantier-pour-toujours-merci-de-contribuer.html>)
2. emulsions are dispersions of fat in an aqueous solution, while foams are "aerated", or "foamed", with

dispersion of air bubbles or other gas.
3. butter at room temperature is a gel, not an emulsion!

February 2003 :

Results of experiments on caramels.

January 2003 :

1. Confirmation of meat cooking experiments (see December 2002)
2. "Glucose caramels" are "peligots".

December 2002:

1. nothing goes into a boiled meat (the meat contracts and expels juices) as long as the fibers do not separate.
2. no flow of juices into the heart of a sautéed meat (on the contrary, the juices are expelled by the contraction)
3. salt will only enter a meat if the meat is resting and the fiber bundles are perpendicular to the cut surface.
4. the three "laws of Hervé This" to make a successful soufflé:
 - to make a crust on the top before baking
 - make very firm whites
 - above all, cook from underneath

November 2002 :

1. at 180°C, differences in evaporation between a luteted and non-luteted vessel
2. culinary details about soufflés

October 2002 :

Lutage does not prevent the evaporation of odorous compounds.

September 2002 :

1. custards should have 16 egg yolks per liter of milk; with only 8 yolks, they are "light custards".
2. Bechamels are smoother with a whisk than with a wooden spoon.
3. the so-called "impurities" of the béchamels are in reality a crusting sauce.

Academic year 2001-2002

June 2002 :

1. attention to the difference between acidity in the mouth and measured acidity, especially in the case of flambéing
2. at the surface of the alcohol that flames, the temperature remains below 80 °C.
3. there is a sensory difference between custards where the ribbon has been made, and the same custards where the ribbon has not been made; the former, which remain aerated after cooking, are "softer".
4. you can make up for custards that have curdled by shaking them with milk, mixing them, passing

them through a strainer... but the taste of cooked egg is not eliminated.

May 2002 :

We get different results depending on whether we whip (for a long time) whole eggs, or if we mix whipped egg whites with yolks that have been overrun with water.

April 2002 :

1. broths clarified with a fritted glass and a vacuum system are clearer than broths clarified with whipped egg whites
2. ethanol remains in a flambéed preparation (with Grand Marnier in particular)

March 2002 :

Extraordinary seminar dedicated to culinary utensils

Egg whites whipped by hand, with an iron whisk and copper bowl, by a Meilleur Ouvrier de France, have about 25% more volume than with robots.

February 2002:

Button mushrooms absorb a lot of water and oil; they absorb more oil than water.

January 2002 :

Evaluation discussion

December 2001 :

Experiments to be redone

November 2001 :

Collections of culinary details

October 2001 :

1. green beans turn brown when cooked in an acidic environment (already demonstrated in the program *Côté cuisine/côté labo*)
2. green beans cook faster when sodium bicarbonate is added to the cooking water (already demonstrated in the program *Côté cuisine/côté labo*)
3. green beans stay greener when cooked in a basic medium, with ash lye or bicarbonate of soda (already demonstrated in the program *Côté cuisine/côté labo*)
4. no color difference between green beans simply drained after cooking and green beans put in iced water tank.

September 2001:

It is not contraindicated to pepper mushrooms, but it is the excess of pepper that is to be avoided (from an artistic point of view; nothing to do with the technical question)

Academic year 2000-2001

June 2001 :

1. red fruits put in tin covered copper pans turn to blue-purple if the tin is oxidized; if it is clean, no change of color
2. raspberries turn green in soda (do not consume!)

May 2001 :

1. Cooking cauliflower in the microwave oven gives it a different taste from cauliflower cooked in water
2. the different kinds of processes for cooking cauliflower lead to differences in color
3. no significant differences when adding salt to egg whites that are whipped

April 2001 :

1. vacuum-cooked cauliflower has an odor
2. whipped egg whites that have gone down can be whipped again

March 2001 :

Review of experiences made by seminar participants.

February 2001 :

1. oil on the surface of the cooking water of a cauliflower completely eliminates the smell in the kitchen
2. adding a piece of bread into the pan where cauliflower is cooked does not seem to be effective against the smell of cauliflower during cooking
3. cauliflower cooked in water with lemon remains firmer than that placed in water with no lemon.
4. cauliflower cooked in water with lemon has a slightly pinkish hue, while the piece cooked in pure water has a fresher hue, tending towards yellow.

January 2001 :

1. the salt put before cooking on meat does not go into sautéed entrecôte.
2. no color differences when salt is added before sauteing the meat

December 2000 :

Preparation of experiments on sautéed beef and the influence of salt.

November 2000:

Installation of the seminar, definition of the rules.