

# Molecular Gastronomy

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# Deconstruction



## **Deconstructed corn chowder**

cream soup base with onions and peppers, corn puree, potato foam,  
bacon snow, freeze dried corn

## What is molecular gastronomy?

Molecular gastronomy is a scientific discipline involving the study of physical and chemical processes that occur in cooking. It investigates the mechanisms behind the transformation of ingredients in cooking, attempts to explain them and investigates the social, artistic and technical components of culinary and gastronomic phenomena in general (from a scientific point of view).

Source: Wikipedia

**I prefer the term “research driven cuisine” or “avant-garde cuisine”**

## Areas of investigation

How all the senses play their own roles in our appreciation of food.

The mechanisms of aroma release and the perception of taste and flavor

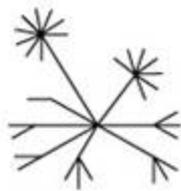
How our enjoyment of food is affected by other influences, our environment, our mood, how it is presented, who prepares it, etc.



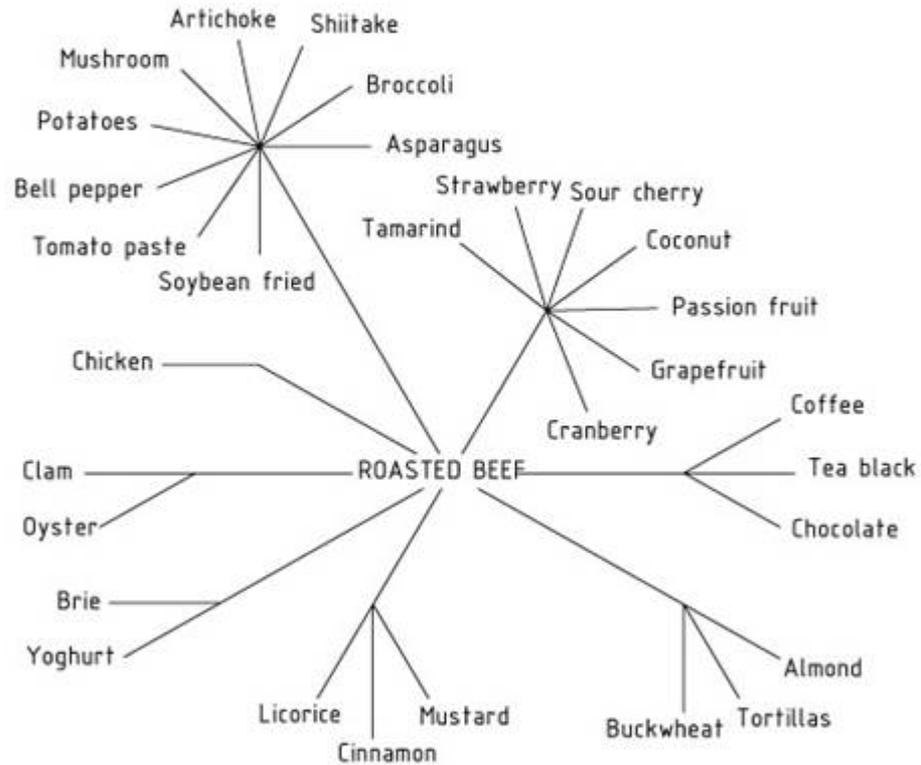
“Food combines with each other when they have major flavour components in common.”

A list was made of 250 food products each with their major flavour components. By comparing the flavour of each food product e.g. roasted beef with the rest of the food and their flavours, new combinations like beef with oysters can be made. The more flavours food products have in common the shorter the distance between the food products.

Source: [www.foodpairing.be](http://www.foodpairing.be)

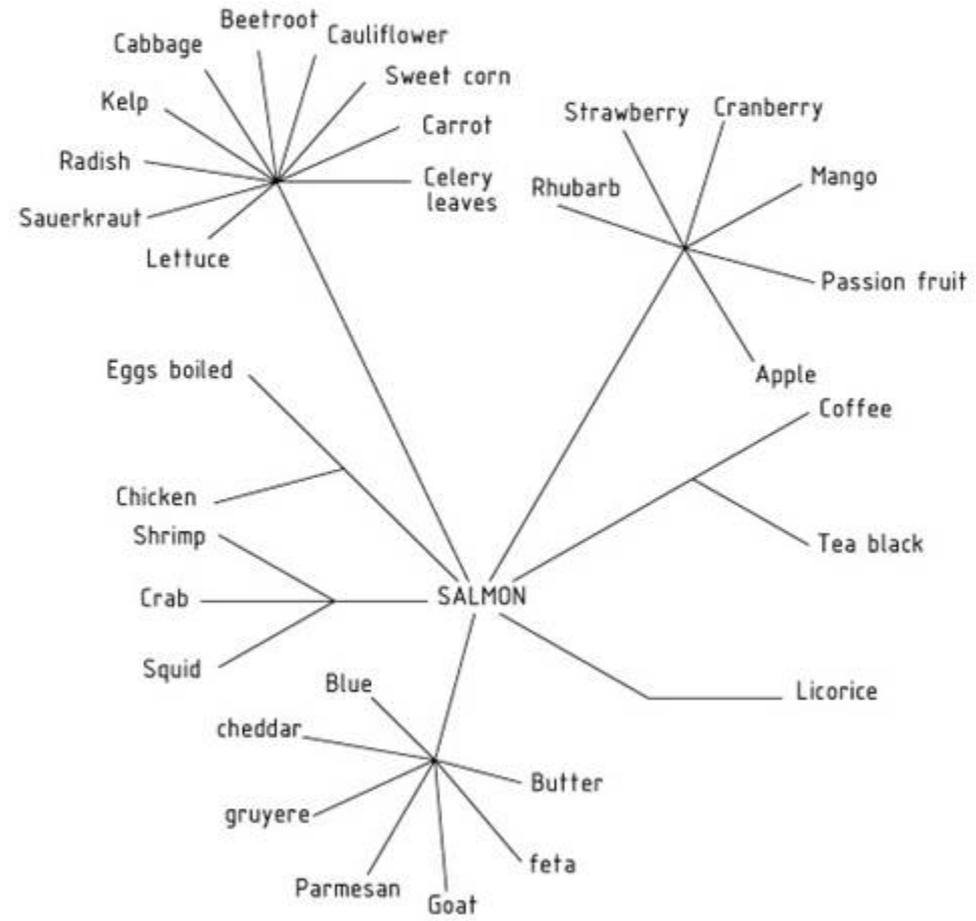


# ROASTED BEEF





SALMON



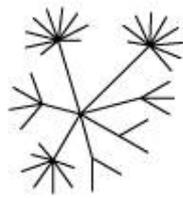


Salmon poached in liquorice gel, vanilla mayonnaise & pink grapefruit

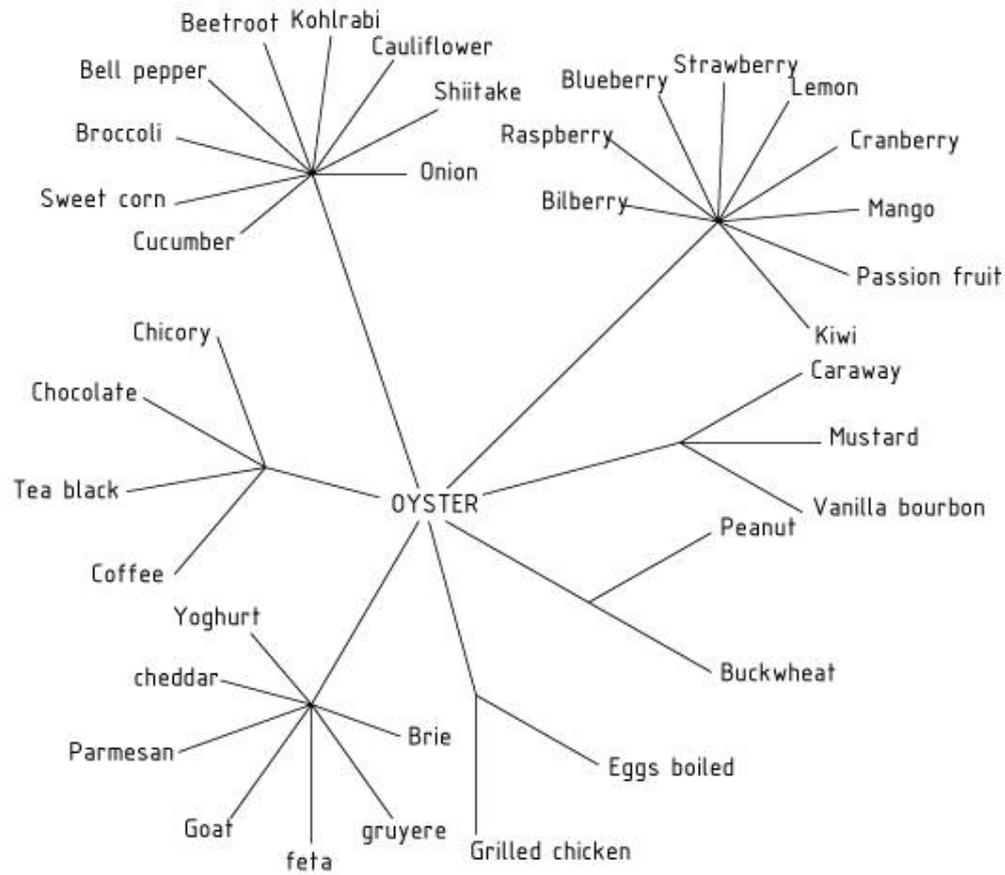


Pink grapefruit frozen with liquid nitrogen



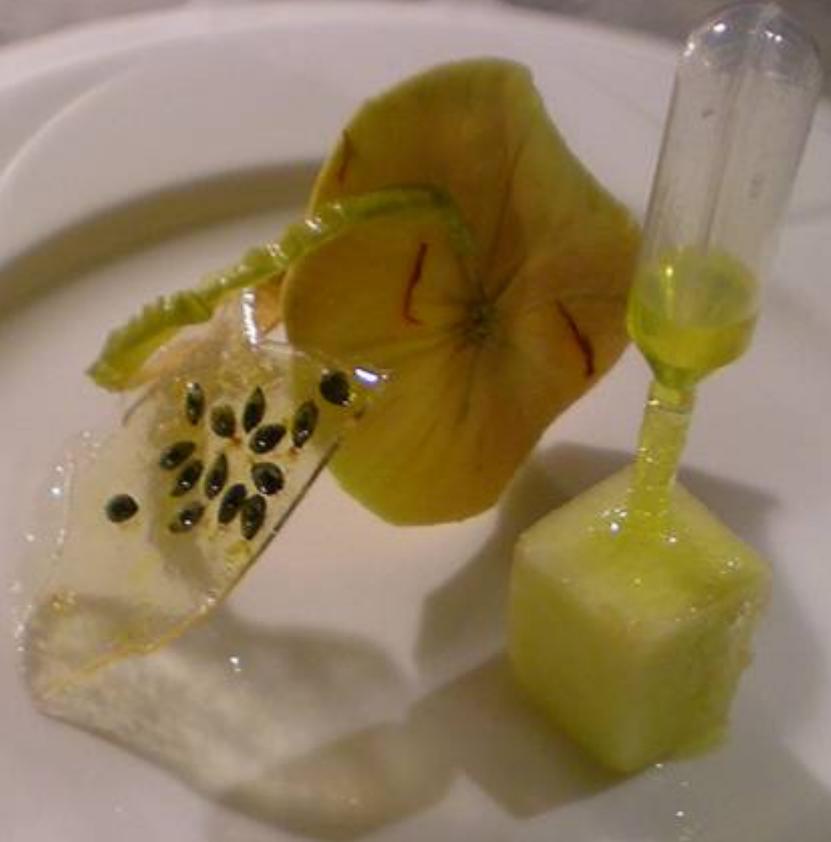


# OYSTER





Fat Duck- Oyster on horseradish cream with passion fruit jelly, lavender & sugar shards



Saffron apple crisp, carbonated apple with saffron syrup,  
passion fruit glass served on dry ice

## The Worldwide Leaders

Ferran Adria, El Bulli, Spain (\*1)

Heston Blumenthal, Fat Duck, England (\*2)

Pierre Gagnaire, Paris (\*3)

Jose Andres, Mini Bar, Washington D.C.

Grant Achatz, Alinea, Chicago

Homaro Cantu, Moto, Chicago

Wylie Dufresne, WD-50, NYC

### In Canada

Claudio Aprile, Colborne Lane, Toronto (4 stars in Toronto Life)

\*San Pellegrino/Restaurant Magazine - World's Top 50 Restaurants 2007



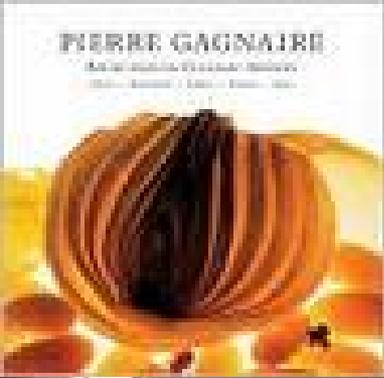
Iced powder of foie gras  
with foie gras consommé



The Fat Duck  
heston blumenthal

Nitro bacon and egg ice cream on pan perdu with  
tomato relish





Liquorice ice cream, maraschino cherries in a carrot 'skin'





## Deconstructed clam chowder





## Edible flavored menu



*Palinea*

## Inside out crème brulee





## Avant-Garde French Onion Soup





Frozen lemon curd pearls, meringue ball, lemon curd, pomelo & lemon pop rocks





## Gourmet whips



- ☞ Thermo whip for hot liquids
  - ☞ Cream Profi for cream
  - ☞ Gourmet whip for cold liquids, soups, sauces, espumas
- 
- ☞ Cream cartridges for hot or cold (N<sub>2</sub>O - nitrous oxide)
  - ☞ Carbonated product can be made soda cartridges (CO<sub>2</sub>- carbon dioxide)



Whipped asparagus cream  
on chilled potato and leek soup with king crab

## Frozen Tomato & Olive Oil Dressing “Popcorn Style”





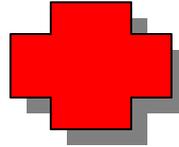
Carbonated strawberries



# Spherification

## **Sodium Alginate (algin)**

- 👉 This flour is a brown algae extract
- 👉 It has no discernible flavor.



## **Calcium chloride**

- 👉 This supplies calcium ions in solution and cause the setting of alginate.
- 👉 Highly soluble calcium salt

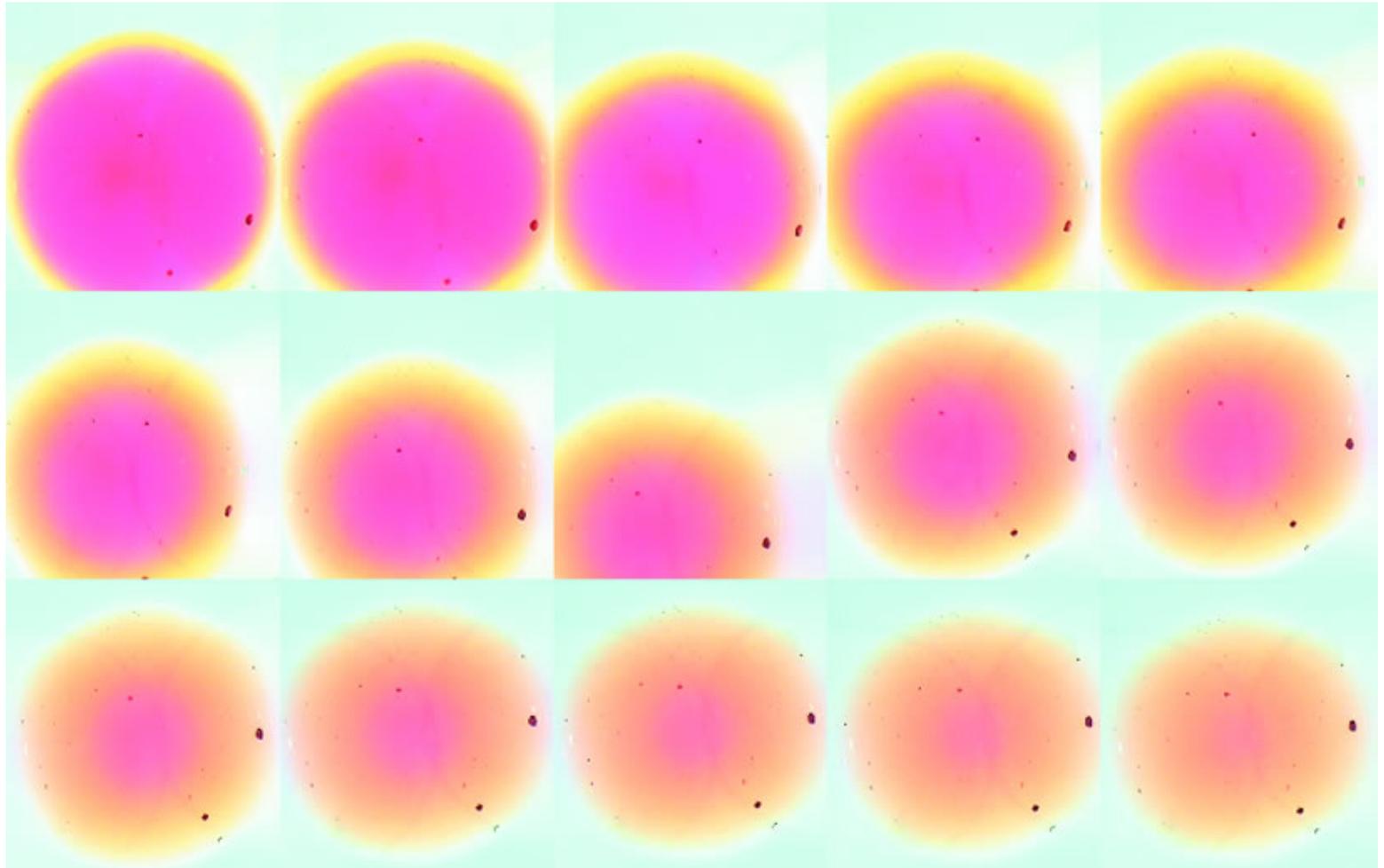
Savoury V8 Plus Caviar



Mango caviar and mango ravioli



## Sperification in motion



## Mixology and Bacardi

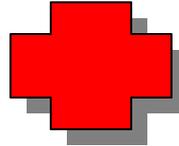
- 👉 Bacardi teamed up with one of the world's top molecular mixologists Eben Freeman, to reinvent the Mojito of the future.
- 👉 Bacardi spokesperson “We were interested to find that the ingredients are all the same brown sugar, carbonated water, fresh lime and mint. The difference here is gelatin and Xanthan gum is added to the mix to sweeten and thicken the drink, giving it an altogether more satisfying overall flavour”.



Source: [www.bacardi.com](http://www.bacardi.com)

# Reverse Spherification

**Calcium rich food**



**Sodium alginate**

👨‍🍳 Mozzarella, whey liquid and cream

👨‍🍳 Dissolved into water



Mini mozzarella balls with tapenade

## Maltodextrin (malto)

- 👉 Has no discernible flavor.
- 👉 It's produced from starch (often tapioca) and is usually a white powder.
- 👉 Easily digestible, being absorbed as rapidly as glucose.
- 👉 Often used in products as a bulking agent





Sound of the Sea  
Fried eel powder, seaweed, ice lettuce, razor clams, cockles,  
seaweed stock foam with the sound of the sea via an ipod.



Deconstructed peanut butter cup with gold flake  
(using chocolate and peanut butter)

# Activa (transglutaminase)

Used here to create a Salmon & Sea Bass Napoleon





**Salmon & Sea Bass Napoleon  
with Asian flavored “snow”**

# Thermal Immersion Circulator by Polyscience

- 👤 Exceptional control of liquid heating to within 0.09°F (0.05°C)
- 👤 Three preset buttons make the selection of frequently used cooking temperatures fast and fool-proof
- 👤 One-touch control enables you to quickly set or adjust cooking temperature
- 👤 Controls liquid heating up to 300°F (150°C)
- 👤 Easily selectable high and low pump speeds provides precise control over cooking liquid circulation



## Pacojet



Intensifies the flavors by shaving the herbs,  
spices and ingredients to a powder or paste  
Emulsifies mousses, pates, sorbets or ice creams



Pineapple and mint sorbet with a “pop”



Whipped doughnut ice cream/frozen berry niblets

# Anti-griddle



- 👨‍🍳 Grant Achatz (Alinea, Chicago) inspired “Anti-Griddle” is a traditional cooktop with an amazing twist: the device quickly freezes sauces and purees instead of heating them!
- 👨‍🍳 This unique innovation allows you to effortlessly freeze sauces and purees solid or develop semi-frozen creations with stable, crunchy surfaces and cool, creamy centers.



Anti Griddle  
@Colborne Lane

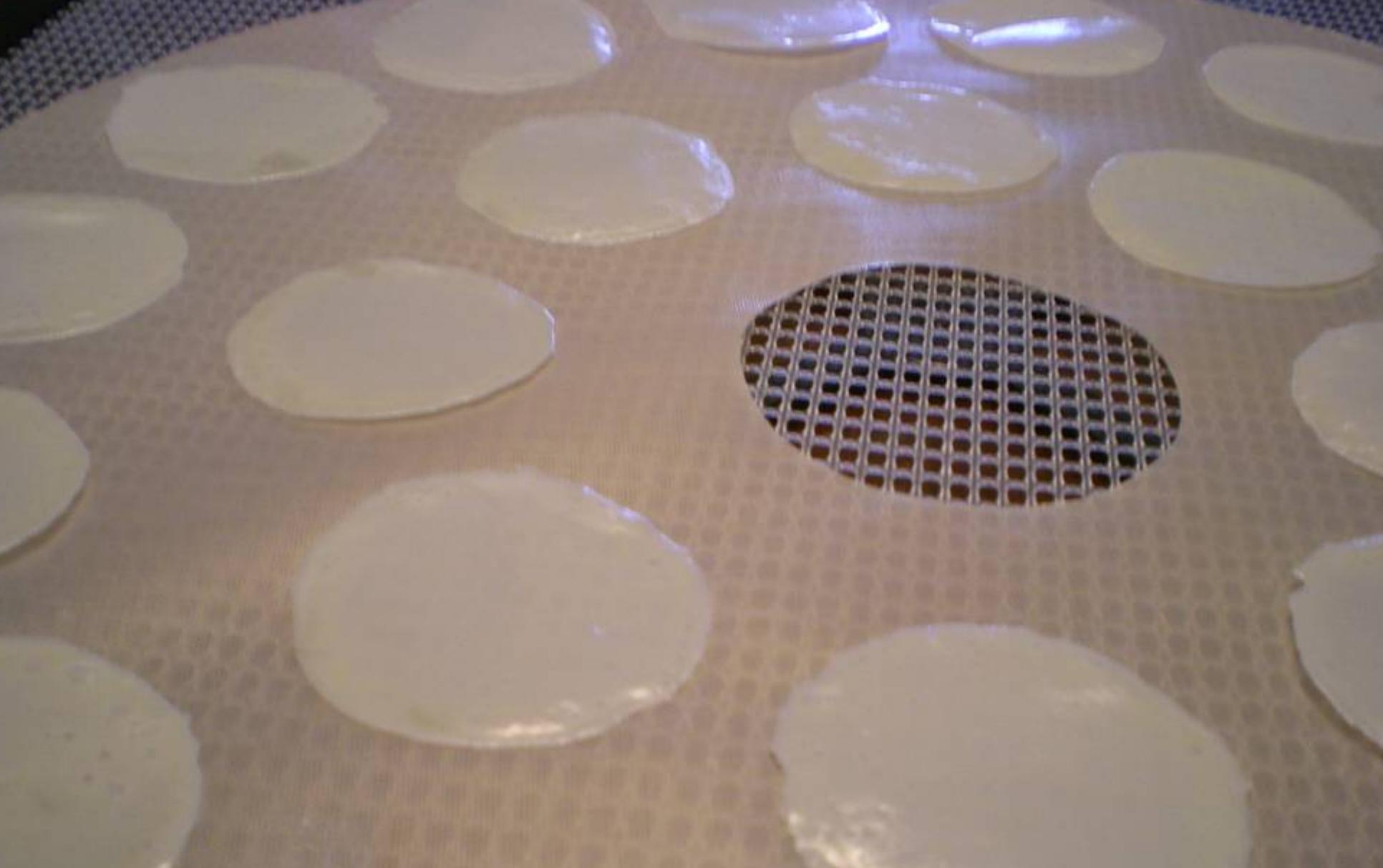


Raspberry sorbet on  
freeze dried raspberries

# Dehydrators



- 👤 Professional dehydrators quickly and easily extract moisture from all kinds of foods.
- 👤 Prepare quality, nourishing and tasty dehydrated foods and doing away with the need for preservatives or colourings.
- 👤 Most have user-friendly controls for timers and visual display for temperature selection.
- 👤 For unique recipes and stencils- go to [www.albertyferranadria.com](http://www.albertyferranadria.com) and click on the ingenios tab



Dehydrated yogurt crisps using Croquantier stencils and yogurt powder (Yopol)



Yogurt crisp with caramelized banana and mini kiwi

Create a dessert with multiple techniques for that “wow” factor

Carbonation  
Spherification  
Dehydration  
Freezing  
Pacotizing



Carbonated cherries, rose petal ice cream, mango wafers, raspberry capsules and melon caviar

### ***Essential reading***

A day at elbulli by Ferran Adria

Alinea by Grant Achatz

Under pressure by Thomas Keller

Molecular Gastronomy by Dr. Herve This

Kitchen Mysteries by Dr. Herve This

On Food and Cooking by Harold McGee

Essence by David Everitt – Matthias

El Bulli 1998-2004 and 2003-2004 by Ferran Adria

In Search of Perfection by Heston Blumenthal

Further Adventures in Search of Perfection by Heston Blumenthal

CookWise by Shirley Corriher

The science of cooking by Peter Barham

### ***Tasting menus in North America***

Colborne Lane, Toronto (10 or 15 course menus)

WD-50, NYC (12 courses)

Mini Bar, Washington D.C. (27 courses)

Moto, Chicago (5, 10 or 16 course menus)

Alinea, Chicago (12 courses)

## ***Useful information:***

The Cookbook Store [www.cook-book.com](http://www.cook-book.com)

Decoding Ferran video (with Anthony Bourdain)  
[contact@zeropointzero.com](mailto:contact@zeropointzero.com)

Research Chef's Association [www.culinology.org](http://www.culinology.org)

Food pairing [www.foodpairing.be](http://www.foodpairing.be)

## ***Who sells key ingredients***

OTB Foods Inc. (Toronto) Hector Szulansky [www.otbfoods.com](http://www.otbfoods.com)  
(905) 889-3323

## ***Websites***

[www.khymos.org](http://www.khymos.org)

[www.egullet.org](http://www.egullet.org)

[www.experimentalcuisine.org/](http://www.experimentalcuisine.org/)

[www.texturasebulli.com](http://www.texturasebulli.com)

[www.curiouscook.com](http://www.curiouscook.com)

## ***Mixology link***

[www.liquorious.com](http://www.liquorious.com)

**OTB FOODS INC**

*Only The Best*

## OUR PURPOSE

To search, find, import and deliver the best quality products to our customers, with the best service in the market and at a fair price.

## ONLY THE BEST ?

**YES.** There are many excellent products in the market but only one is the best for each kind.

We do not incorporate any product to our list unless we have solid proofs that it is the best in it's category.

## NOT ONLY THE PRODUCTS

Through being more efficient than our competitors in many areas, we are able to offer a better quality, a better service and very often a better price.

These efficiencies are related to our logistics, financing, administration and customer service.

## WHAT WE DO

- 👨‍🍳 If you think we just sell products, you are wrong.
- 👨‍🍳 If you think we just sell services, you are wrong.
- 👨‍🍳 We are selling ***satisfaction*** through products and services.
- 👨‍🍳 For us, customer satisfaction is not an option, it is a must.

# OUR PRODUCTS (so far)

**TEXTURAS** from Albert & Ferran Adria



## **SPANISH SAFFRON**

In Powder

In Treads

## **SPANISH PAPRIKA**

Hot

Sweet

Smoked

## **TRUFFLE PRODUCTS**

Black and White Truffle Oil

Porcini Mushroom Olive Oil

Truffle Salt

Truffle Paste (Bianchetto & Scorzone)

Truffle Slices (Bianchetto & Scorzone)

Truffle Sauce

## **E.V.O.O. Extra Virgin Olive Oils from Spain**

Pure Picual with DOP & DOR

Blend (Picual + Arbequina + Cornicabra) Organic Certified

Pure Arbequina, Organic Certified

# OUR PRODUCTS (so far)

## **AGED BALSAMIC Vinegar from Modena**

2 Years of Aging – Excellent for making sauces through boiling / condensation

5 Years of Aging – Excellent for table service

12 Years of Aging – Incredible with desserts and small serving units like canapés

## **OLIVES and Olive Products (Arbequina)**

Arbequina Olive Pate

Arbequina Olives in Brine

## **SUN DRIED TOMATOES**

Real dark color as it must be (consequence of the natural oxidation by exposure to the air and sun light)

## **SLICED DRIED PORCINI MUSHROOMS** from British Columbia.

## CONTACT US

By phone: (905) 889-3323

By e-mail: [info@otbfoods.com](mailto:info@otbfoods.com)

Visit us at the net

[www.otbfoods.com](http://www.otbfoods.com)

## Post demonstration sampling

- 👨‍🍳 61°C beef striploin with truffle snow and balsamic cream sauce
- 👨‍🍳 Lobster salad with grapefruit capsules and white balsamic dressing
- 👨‍🍳 Liquid centre mini mozzarella balls with tomato and tapenade
- 👨‍🍳 Caramelized banana with yogurt crisp and gold flake
- 👨‍🍳 Liquid nitrogen poached cinnamon chocolate ice cream

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