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The genie in the bottle

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I – Introduction

The American journalist and writer Mort Rosenblum, author of the book "Olives", says that "An olive, to many, is no more than a humble lump at the bottom of a martini. Yet a closer look reveals a portrait in miniature of the richest parts of our world. The olive trees have oiled the wheels of civilization since Jericho built its walls and ancient Greece was morning news. From the first Egyptians, they have symbolized everything happy and holy in the Mediterranean. But it is simpler than all that. Next time the sun is bright and the tomatoes are ripe, take a hunk of bread, sprinkle it with fresh thyme and think about where to dunk it. I rest my case".

Over the past ten years I have had the opportunity of observing at close quarters many extra-virgin olive oils, namely those from Southern Aragon, and learning from outstanding figures such as Juan Baseda, CRDOP technical director, –from whom I have learned almost everything I know about oil–, his wife María Ángeles Calvo, head of the Catalonia tasting panel, and Alfredo Caldú, president of Regulatory Council of the Designation of Origin "Bajo Aragón Oil", who has taught me the direct relationship between the olive tree and man, something we cannot understand unless you are close to them.

Out of their interests and concerns, of the day-to-day contact with them but also with other manufacturers in the area, a link with the extra virgin olive oil was established that has become my passion, something that also happens to another good friend of mine and an expert on the subject: José Carlos Capel, president of the International Gastronomy Congress "Madrid Fusión" and food critic for El País newspaper, from whom I take some words of one of his books on oil:

"The more delicate, sweet, slightly astringent and not spicy oils are well adapted to be used uncooked to dress salads or season vegetables and to boil white fish; the same oils that are used to set omelettes, prepare scrambled eggs, fry eggs, sauté mushrooms, enrich vegetable creams or to add a final touch of refinement to a great variety of dishes in modern and contemporary cuisine.

Oils of distinguished appearance offer greater versatility and can be adapted to all kind of preparations and because of their fineness they can be used as irreplaceable ingredients in mayonnaise sauces and confectionery recipes. No one disputes that the fruity and more or less fragrant, and sometime subtly bitter, oils enhance the flavour of fried food, especially potatoes, and improve most sautéed ingredients and stew bases. Within this group, the mildest oils with a medium level of fruity flavour may work out superbly with salads and, above all, they are irreplaceable in elaborating traditional dishes of our regional gastronomy: cod with pil-pil sauce, fish in green sauce, marinades and *gazpachos*, cold tomato soups.

Because olive oil is capable of changing the result of a dish it has to be used sensitively and judiciously. A salad dressed with an olive oil tinged with a hint of bitter almonds offers numerous sapid sensations: tastes change, the olfactory scale and even the style of the ingredients used may be modified. Wherever the presence of garlic is noted, the oils from Andalusia stand out on their own merit, namely those from Jaén and Córdoba. In egg sauces, such as mayonnaise, oils from Southern Aragon are just amazing. Thus, our culinary culture clings to and is founded on the olive oil.

The golden rule for cooking with olive oil is moderation. Never waste it or soak dishes in fat".

Extra virgin olive oil occupies the throne of quality oils. Just as with fine wines, olive oil has a very strong personality. Its colour is clear and has fruity flavours, enhanced by a multitude of secondary nuances. In the kitchen it is the oil that better enriches the taste of dishes and the best for fried food. Besides, it has health beneficial effects, since it prevents arteriosclerosis and cancer. Spain produces and consumes olive oil in abundance, but the average consumer is little acquainted with this part of the nation's gastronomy.

At first glance, there seems to be no difference between olive oils, except for the bright and colourful labels and the increasingly fanciful shapes and designs of bottles used to sell the best olive juices, particularly those at the top of the quality ranking, extra virgin olive oils.

However, apart from the media hype aiming at capturing consumers' attention, no other external feature yields clues as to what is to be found inside the containers. Typically, the varied colours of the oils, ranging from grass green to the finest gold, mean very little to buyers not knowledgeable on the subject.

The bottles of good oils do not unravel their mystery at first sight. The genie they enclosed, in other words, their culinary and health potentials, remain hidden for the uninitiated consumers.

However, olive oil is a condiment and dressing daily used in the Spanish cuisine. The objective of this presentation is to provide some keys to help identifying and appreciating the king of Mediterranean tables: olive oil, which in its maximum expression, is always extra virgin quality oil.

Among the top categories, no two oils are alike just as there are no two wines alike. Wines and oils, by the way, have quite a lot in common. In both cases there are types of processing, areas of origin, cultivated varieties, bouquet or even gradation; although in this latter case the degree of acidity and that of alcohol bear different meanings.

II – Acidity: What does it mean?

Acidity is measured in degrees and has been the main parameter used to classify the different types of olive oils. Nowadays the level of acidity cannot exceed 0.8 degree in extra virgin olive oil, that is, the equivalent to 0.8 grams of free fatty acids, expressed as oleic acid, per 100 grams of oil.

Some more stringent rules, such as that regulating extra virgin olive oil under the "Bajo Aragón" Designation of Origin, set up a lower acceptance threshold, at 0.5 degrees. In general, virgin oils, which do not reach the extra category, may reach 2 degrees of free acidity.

In scientific terms, acidity refers to the amount of free fatty acids present in olive oil, although it is necessary to stress that this parameter has nothing to do with neither flavour nor colour of the olive juice; within certain limits it is just an indicator of the product *healthiness*. Acidity is the result of anomalies in the harvested fruits, during the oil elaboration process or its storage. Similarly, acidity is not a measure of more or less intense flavours.

Extra virgin oils, however, stand out because their flavour, odour and colour are irreproachable, perfect, so to speak. When savouring them, they only taste as fresh olives, even though a professional taster could discover secondary aromas, textures and flavours, thus allowing for a more in-depth organoleptic (sensorial) analysis, which will not invalidate the layman's who finds that extra virgin olive oil is, simply, olive juice.

Due to a deep-rooted but erroneous belief, the Spanish often suppose that low acidity means mild flavours and that more acidity refers to fruity, stronger flavours; a big mistake, as shown by many extra virgin oils of great quality and intense flavour, whose acidity is lower than 0.2° or 0.3°, or even less.

Acidity is a parameter that will probably be removed from labels in the future. So, why do oil-producing companies insist on providing this disconcerting information? There is a simple explanation. There is a direct relation between the biological condition of the olives and the free acidity of the oil they produce. Low acidity means that the oil comes from healthy fruit and has been processed in optimum conditions, but only when talking about virgin or extra virgin oils. This is obviously something worth boasting about.

III – Classes of virgin olive oil

Extra virgin olive oil is at the top of all virgin olive oils. To deserve the first place in the ranking, as pointed out above, it should not exceed 0.8 degree of acidity. Also it has to comply with other, even more important analytical indexes, like peroxide index, UV absorbency, stability, humidity, etc. However, the sensorial analysis performed by an approved testing panel is also mandatory for establishing the quality of a virgin oil

In terms of quality, there are other classes of oils classified below the extra virgin: (fine) virgin olive oil, ordinary virgin olive oil and lampante virgin olive oil. On a lower rank we find olive oil and pomace olive oil.

Fine or virgin olive oil does not exceed 2 degrees of acidity. Those showing higher acidity are called lampante virgin olive oil and must be refined.

On the other hand, the olive oil category is the result of a mixture between refined olive oil and virgin oils that are added in order to improve it and add flavour in an operation called blending.

Oils classified as ordinary virgin oil are commonly used to blend with refined oils. The mixture final acidity cannot exceed 1.0 degrees.

Refining is carried out with oils of more than 2 degrees or even less if they have some sensorial defects. When performing this operation oils are subjected to a series of processes which diminish their taste and aroma properties and bleach them. The virgin oils added to the refined oil before they are marketed make them suitable for consumption while giving them some of the characteristic sensorial properties of the virgin oils.

Finally, olive pomace oils are a blend of refined pomace oil and non-lampant virgin olive oils. As in the previous case, its acidity must not exceed 1.0 degree. Pomace is an olive byproduct which is used to make lower quality olive oils.

However, as stated above, the olive sensorial characteristics are more important than acidity in classifying the different kinds of olive oil, established by the European Union. These are specifications that must appear clearly on the labels, bearing several factors in mind, as stated above.

The commercial categories are as follows:

A/ EXTRA VIRGIN OLIVE OIL: It is the best one, just olive juice of irreproachable taste, adequately obtained from olives harvested in their best ripening stage, thus reproducing the fruit odours and flavours. Its organoleptic score, assigned by a tasting panel, should be equal to or higher than 6.5. Its acidity must not be higher than 0.8°

B/ VIRGIN OLIVE OIL: It is oil that may present slight deterioration, either in the sensorial analysis or in the analytical indexes. Its organoleptic score should be equal to or higher than 5.5. Its acidity should not be in excess of 2°

C/ OLIVE OIL: It consists of variable proportions of refined olive oil and virgin olive oil. Its acidity cannot be in excess of 1.0°.

D/ OLIVE POMACE OIL: This oil is a mixture of variable proportions of refined pomace olive oil and virgin olive oil. Its acidity cannot be in excess of 1.0°.

The EXTRA VIRGIN OLIVE OIL FROM Southern Aragon is of exquisite and mild, fluid texture, fruity at the start of the campaign, becoming sweeter and more delicate as the campaign progresses. That mildness makes it different from the other extra virgin olive oils on the market. It is so mild that it can be consumed by children, who will not perceive any strong or unpleasant taste.

IV – A matter of colour

Although the colour is not considered as a quality characteristic by the tasting panel, consumers normally appreciate it.

The colour of virgin olive oils shows, although not only, the maturation level of the olives used, the time when they were harvested. Thus, a golden yellow tone indicates a late harvest, whereas a dark green colour means that the fruit was harvested early, when the ripening process was not completed.

It should be noted that in the case of 'Empeltre', the most widely farmed variety in Southern Aragon, its characteristic golden colour does not depend on the time the tree was harvested, but it is the natural colour of this oil. Besides, it should be borne in mind that the coloured-glass bottles used by certain brands mask the real colour of the oil. In any case, the more fruity and aromatic oils are obtained at the beginning of the maturation period. It has been verified that the wealth of flavours decreases as the harvest is delayed, which in the "early harvesting" areas of Aragon region starts in November and finishes in February.

V – From the olive tree to the table

The supreme quality of extra virgin olive oil is the result of a summary of factors: the weather, the soil, the olive variety, the cultivation techniques, the processing and even the type of container in which the oil is marketed. Indeed, the virtues of the oil are better preserved in glass or tin containers.

Another essential feature of extra virgin and virgin olive oils is that they go directly to consumers, whereas in the case of lampante oils they have to be subjected to a refining process which delays the moment they reach the consumers' table and kitchen. In accordance with regulations, only virgin oils of less than 2 degrees of acidity can be used for direct consumption.

Once in the mill, the olives from which extra virgin olive oil will be extracted, that have to be harvested from the olive tree branches and never from the ground, have to be milled immediately to avoid its storage before milling, since that practice results in a loss of oil quality, including higher acidity.

The principle that rules the elaboration of top quality oils is that raw material will not be subjected to any process that may alter its composition.

VI – Homeland of the olive oil

The olive cultivation and the elaboration and conservation of extra virgin olive oil follow standard methods that take into account all minute details. From such a thorough control an homogeneous product with identical flavour, colour and aroma would be expected. This would be the case in these high-quality oils if there were no other more or less random factors such as the climate, the type of soil or the olive variety cultivated, which vary from county to county or even from town to town.

Suffice it to say that 262 olive varieties are catalogued in Spain. Seven of them stand out from the rest because they are widely grown. These varieties are named 'Picual', 'Cornicabra', 'Hojiblanca', 'Lechín de Sevilla', 'Empeltre', 'Arbequina' and 'Blanqueta'. And the picture becomes more complicated when oils are blended, an art that opens up a whole new world of flavour possibilities to those mastering the art of "coupage". At present you can find on the market extra virgin olive oils from one single variety (single varietal oils) or blended oils.

Certain regions where the olive trees have been traditionally grown have achieved great reputation in the processing of high quality oils and thus have protected designations of origin (PDO). Bajo Aragón, Les Garrigues, Siurana, Priego de Córdoba, Sierra de Segura, Sierra de Mágina and Baena are among the Spanish PDOs. These Spanish regions, located in the northeast and south of the country, enjoy worldwide recognition.

VII – The tasting: the realm of the senses

The interaction between climatic, geological and biological conditions yields an incredible variety of flavours and textures that fit the extra virgin category. Moreover, it can be said that one of the distinguishing features of the best oils is their multiplicity of flavours, from the sweetest and mildest to those with a bitter or spicy palate, through the entire scale of intermediate nuances.

Oil and wine are similar in another way: they offer an endless range of flavours, aroma and colours that have to be unveiled by tasters, although gourmands may detect and enjoy them if they set their minds to it.

The purpose of any tasting is to classify oils based on parameters such as flavour, appearance, colour, aroma, taste and, as strange as it may seem, touch. The term flavour refers to the sum of two sensory impressions: the taste and smell of oil.

The appearance may be clean, as in the case of extra virgin olive oil, but also veiled or dark, which entails a negative assessment.

Colour includes all shades of yellow and green in quality oils, whereas the whitish, reddish, brownish or dark colours are considered defective.

Aroma and taste are also assessed independently and have resulted in a vast list of metaphoric expressions which are used, as is the case of wine, to define in a practical manner the enormous variety of secondary flavours that a trained palate is able to distinguish when tasting extra virgin olive oil; of course bearing in mind that primary flavour and aroma are only and exclusively derived from good olives in liquid state.

From the "a" of almondy, to the "s" of soil, oils can have many qualifying adjectives, both positive and negative, which help defining flavour in exact terms: almondy, fruity, bitter, fusty, herbal, metallic, etc.

The oil also leaves a tactile impression as it passes through the mouth. It leaves a trace of some density, of a more or less thick structure which is analysed by the taster.

VIII – The essence of the kitchen: cooking with olive oil

There are plenty of reasons to recommend the use of extra virgin olive oil for cooking, where it proves to be extremely versatile. In the sphere of gastronomy, there is also a parallelism between oil and wine; gourmets maintain that there is an appropriate oil for each kind of food. The oil must be chosen carefully because, regardless of whether it is used as seasoning or for frying, it is of decisive influence in the flavour of the dish.

Ultimately, the choice of one oil type or another depends on each individual's taste, but even so an unwritten rule insists on the fact that smoother extra virgin olive oils are ideal for salads and vegetables, while more strongly flavoured oils are more suitable for frying, grills and roasts.

One thing that is generally accepted as true is that virgin olive oil is perfect for frying because it is not damaged at high temperatures, it does not lose its qualities and it can be reused, unlike other vegetable oils. It also goes further on the frying pan: it increases (its volume) visibly through the effect of heat. When frying, virgin olive oil does not penetrate into the food; in other words the food does not become oily, also implying that a certain quantity of food does take less oil if it is olive oil instead of any other vegetable oil.

The olive oil of highest quality is best appreciated if taken raw, when it allows one to savour all the nuances that make up its flavour. In this respect it is clearly differentiated from insipid oils made from seeds whose taste is neutral and standardised.

It should not be forgotten that more intensely flavoured oils run the risk of drowning the flavour of the food or that lighter texture oils are hardly noticed if they accompany strongly-flavoured dishes.

Unlike good wines, oils do not mature or improve with the passage of time. The indication "Best before..." means that the oil inside will not deteriorate noticeably before the stated date, more or less than one year since the packaging, mainly depending on the variety. But once open, the bottle should be used up fairly quickly because the oil will not be so protected from oxidation during much time since that opening, thus becoming deteriorated and rancid. Therefore, when buying a bottle of extra virgin olive oil it is very important to check the packaging date.

Bottles or cans of virgin olive oil should be stored in a cool dry place away from light and heat.

IX – A very healthy habit

The benefits of extra virgin olive oil go further than gastronomy. The juice from olives, which is being used in the Mediterranean Basin since around 6000 years ago, decorates the dishes, provides healthiness and energy for the body and lubricates arteries, protecting against cardiovascular diseases.

Olive oils contain monounsaturated fatty acids which help controlling blood cholesterol levels. Medical research has shown that in olive oil consuming countries there is a lower incidence of heart attacks than in those countries using animal fats or butter.

Together with fish, fruits and vegetables, the juice from olives is an essential component of the Mediterranean Diet, which offers unquestionable benefits for the health and prevents coronary problems. Olive oil is a customary ingredient in the more balanced diets. It contains vitamin E, a kind of tocopherol, an antioxidant which plays an important role in protecting against cancer.

Olive oil also stimulates bone growth and mineralization, and thus is recommendable both for children and the elderly.

Because of its cell regeneration capacity, olive oil keeps skin smooth and young. Since it has moisturizing and lubricating properties, a spoon of olive oil –better if virgin– on an empty stomach can help avoiding the discomfort caused by constipation. If externally applied as a liniment it acts as a healing balm for burns.

Phytotherapy treatments, where herbal healing is used, only utilize extra virgin olive oil.

The best of olive juices, the extra virgin olive oil has multiple beneficial effects and is a never-ending source of health, a natural medicine which is also and above all a daily gastronomic delicacy in Spain.

X – Learning to read the labels

Labels on the packages provide increasingly accurate information of interest regarding the packed oil. There are also booklets tied to the neck of the bottles in which recommendations and cooking advices are given and the sensorial characteristics of the oils are described; these are real taste cards and provide basic data to help you choose the oil you are looking for.

It should be borne in mind that within the commercial categories –extra virgin, virgin and olive oil– the reference to acidity on the labels is unrelated to taste and even quality, as a virgin olive oil of 2° is better than an olive oil of 0.4°. Oil of low acidity simply means it comes from healthy fruit, but only if it is a virgin or an extra virgin oil.

To be sure that the oil in a bottle is in good condition, one must be sure that it has been properly stored. In any event, it is essential to observe the best before date ("Best before ..."), which is usually indicated in very small lettering.