

## NATURAL MICROTALC USE (MTN) IN THE ELABORATION OF THE VIRGIN OLIVE OIL

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One of the technological helping more used during the elaboration process of virgin olive oil, is the "Natural Microtalc" (MTN); it is an hydrated magnesium silicate, its use is authorized by the Spanish legislation (order of January 13, 1986) when its quality is for nourishing use, so that it does not produce alterations in the physical and organoleptic characteristics of the oil.

Its principle of working is by the phenomena of physical adsorption on its surface, therefore, chemical processes that are against the virgin olive oil definition, do not take place

Its use is recommended when the so called "difficult pastes" appear, they are recognized because it appears as a very fluid and little consistent mass, that during the beaten does not allow a clear oil separation, the trowels of the beater do not leave cleanings the mass, in many cases, there is not a change of color of the paste. This paste originates, during the solid-liquid separation, very dirty oils, that forces to sift them before making the cleaning by the vertical centrifuge, being made this last one with difficulties. As a result of this situation, the obtained by-products, paste and fruit juice, usually go with high a fat content, which supposes an important loss in the yield of the process.

In order to avoid this situation as far as possible, it is recommended the MTN use, which allows to improve the physical structure of pastes, in such a way that the operations of beaten and centrifugation can be performed with more effectiveness. The oil clarification, when coming out of the horizontal centrifugal decanter, and a reduction in the fat levels in by-products, is the most visible signs of the use of the MTN.

Its use, nevertheless, has to be made in a correct way and only when the olive paste demands it, since an indiscriminate use of this one, in the dose, moment and place of addition, can cause the opposite effect, because the talc can retain oil on its surface, since the MTN is eliminated through the paste, it can produce an increase on its grease content.

The talc addition demands a continuous analytical control (grease and humidity) of paste and fruit juice (this last one if it works with three phases systems), in this way it will be able to regulate the dose of talc adapted to the type of paste which is being processed, and that can vary from 0.5 to 2% in weight of olive, normally. In general, as the greater the water content of olive is (principles of the campaign), the more elevated the dose of talc is, being reduced as the harvest advance. The immediately grinding of the olives, just collected from the tree, certain Spanish varieties as the "Picual" and the "Hojiblanca", and even olives coming from trees that have entered again sap when coming out of the winter, constitute typical situations for the use of the MTN.

The proportion of the added talc must be made by the "talc dispensers" use, which once programmed, allows adding a constant amount in relation to the processed mass. The use of the "dipper", is totally disadvantageous, since it does not allow the uniform addition of the MTN. The point where to make the talc incorporation depends on the type of beater. In general, in horizontal beaters of three bodies, the incorporation has to be made in the central body and in the unloading point of the beaten paste of the superior body; in beaters of two bodies, it will be made in the lower one and in the more far away point of the suction zone of the mass pump.

Since the point of view of oil quality, in different studies made by many investigators, as much in this Center as in other organisms, and with the normal doses of application, significant alterations in the classic parameters of quality with the talc use, have not been observed. However, doses over the habitual ones can cause light losses of flavor.