



Almina

Olive



Evaluation Report of Trial of the Product Named Almina

Established in Karataş region of Adana by Minitalya Tarım (01.02.2023)

At the Bozdoğan farm in Adana Karataş region, on 12-year-old Gemlik-type Olive trees. The applications started with a dose of 1 kg of Almina per tree, applied to the crown projection area. Starting from 2 weeks before the flowering phase, 5 foliar applications were made at a dose of 1.5 kg Almina / 100 lt water in 3-week periods.

Effects of the Application on the Olive Trees



Thanks to Almina, the development and general physiological appearance of the plants have progressed positively. Despite a semi-arid season, especially on a seasonal basis, no nutritional deficiency symptoms were observed in the plants. On the other hand, it was determined that there were 28% to 39% positive differences in the number of shoots and shoot lengths compared to the untreated (control) trees.

Thanks to the silicon and other trace elements it contains, Almina creates strong shoot growth and strong stem structure in addition to yield and quality.

As a result of the application of Almina from the soil, the nutrients bound in the soil which cannot be taken by the plants were transformed into the form that the plants can take. Almina also ensures the preservation of soil moisture with its water-retaining structure.

Almina provides protection against heat stress on the leaf surface of the plant. It creates an effective shadow effect on the leaf surface by refracting the sun's rays with its 'translucent' structure in terms of preventing the heat on the plant surface, which occurs in hot weather, and creating an air layer with its porous structure. In addition, it absorbs the dew drops formed on the leaf surface and prevents burning by lens effect, and also prevents moisture loss. All these features allow the stomata to remain open longer and create a more efficient photosynthetic environment.



Effect of Application on Yield and Quality :

Average yield of treated trees	:	33 Kg / tree
Average yield of untreated trees	:	24 Kg / tree
Effect of Almina on yield	:	37,5 % difference

Effect on oil yield :

Oil ratio of olives in the treated trees	:	1 Lt oil / 5,8 Kg Olive
Oil ratio of olives in untreated trees	:	1 Lt oil / 7,1 Kg Olive
Effect of Almina on oil yield	:	22,4 % difference



Oil Acidity Ratio (Lower is better)

Acidity level of the oil obtained from the applied olives	:	%0,3 (3 diziem)
The acidity of the oil obtained from untreated olives	:	%0,5 (5 diziem)

Olive Size:

Average 100 olive kernel weight of the treated trees	:	381 gr.
Average 100 olive kernel weight of trees that cannot be treated	:	295 gr.
Effect of applied Almina on grain size	:	29 % difference



The application of Almina to the olive tree during the formation of the core house positively affects the size of the fruit.

Almina application is very important in terms of yielding every year because it causes the elongation of the shoots and the formation of fruit budding locations that will hold fruits next year.

The fact that the olives do not fall and remain on the tree in the examination we have made after the hail is an indication that the grain stalk increases the binding strength. In addition, it has been determined that the traces in the grains with weak dents minimize the hail damage in the following days.

Blackening on the branch:

The olive fruit that does not darken during the harvest period, no matter how large it is in terms of caliber, cannot be offered for sale as olives and is necessarily subject to oil extraction in the status of olives for oil. In other words, if your grain does not darken, it becomes a product that is evaluated as an olive oil and evaluated at low prices, not as table olives that find market value at a high price.

Blackening in olives begins with the secretion of a substance called anthocyanin. The earlier and more intensely this substance is secreted in trees, the higher the blackening of olives.

Almina ensures homogeneous maturation and darkening of the olive branch.

**The effect of olive shake off on Polyphenol:**

The average number of fruits shaken off from trees that are not treated is 243/tree,

The average number of fruit shaken off from the treated trees is 67/tree.



Another effect seen in the application is that the olive stalks are very strong. It has been observed that the stalks holding the fruit are usually removed from the tree with the fruit and remain on the olive. The high amount of silicon in the product provides a very high strength in the stem of the berry, causing the stem of the olive to remain on the berry, not on the tree. It has been determined that due to Silicon in Almina increasing the strength of the fruit stalks, the shaking off of the fruits decreases and the profitability of the producer increases significantly.

In addition, the oxidation begins as soon as the olive is cut from the stem. When oxidation begins, Oleuropein (Polyphenol), which has volatile properties in the fruit and is known as the world's strongest antioxidant, begins to move away from the olive grain. It has been determined that the stalk remaining on the olive, thanks to Almina, continues the nutrition of the olive grain and prevents the removal of these volatile polyphenols from the olive grain.



CONCLUSION:

When evaluated in terms of plant nutrition, Almina has proven once again with this study that it has a very rich content in terms of supporting the necessary nutrients for olives. It has been clearly seen that Almina is effective in the physiological growth of plants, as well as in yield and quality increase. Almina, with its natural and completely organic structure, has an important place in both the protection of human health and the development of resistance of the plant against biotic and abiotic stress conditions.

- There is no risk of negative residue or toxicity as a result of the application.
- Almina is a reliable product for organic production and certified producers.
- Provides protection against sunburn.
- It increases photosynthesis.
- It provides an increase in the oil rate, decreases the fatty acid, increases the polyphenol rate.
- Alginic Acid is present in the structure of Almina, which has completed the biomineralization phase.
- It contains more than 50% Silicon.

When the mechanism of action is examined, it can be underlined that the use of the Almina in other areas of agriculture is of high importance.