

## WHITEPAPER

# Better bite and improved shelf life with Intra Eco Shield

## Apple and pear trial



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Intrahorti has set up a trial in the Netherlands to look into the effect of using Intra Eco Shield on apple (Elstar) and pear (Conference) trees. With more and more threats from pathogens, a lesser amount of products allowed to use and the desire to be more organic, there is a high need to protect and improve crops to stay vital and strong. The goal of this trial was to prove there is a way to armour, maybe even shield the fruits for improved quality.

Intra Eco Shield ensures the formation of strong and healthy crops, with a better defense mechanism and improved nutrient uptake. Intra Eco Shield makes sure that elements, such as calcium and silicon are deposited in the outer cell wall of plants, creating a natural shield.

### Set-up trial

In this trial, 135 apple trees and 135 pears trees were dosed with Intra Eco Shield by foliar treatment. The set-up consisted out of two rows of plots alternating with control trees and treated with Intra Eco Shield, all other conditions being the same. The growers applied five times Intra Eco Shield, appeared (table 1), starting when the first tight cluster leaves appeared. Apple and pear fruits were collected to measure the dry matter content and firmness of the fruit.

MOMENT OF APPLICATION	NUMBER OF APPLICATION (MINIMUM 7 DAYS INTERVAL)
Cell dividing period	3x
Cell elongation period	2x

Table 1: Moment of application of Intra Eco Shield

### Stronger fruits with increased firmness

In the vast majority of the results, Intra Eco Shield showed higher uptake of nutrients, such as nitrogen, phosphate and calcium. This can be explained by the fact that Intra Eco Shield contains a unique blend of orthosilicic acid. Intra Eco Shield affects nutrient binding and increases plant-available nutrients.

Dry matter is examined because it represents the accumulated sugars, cell walls, proteins and starch. In other words, it is an indicator of flavor and shelf life, which eventually leads to consumer satisfaction. As well for the apple trees as for pear trees, when treated with Intra Eco Shield, the fruits showed an increase in dry matter content (up to 2%), therefore also an improved shelf life of the fruits. In addition, the firmness of the fruits was analyzed by Proefcentrum Fruitteelt VZW. Flesh firmness is a criterion used around the world to determine the maturity and quality of apples and pears. Firmer fruit (higher firmness) is considered to be better quality fruit easier for handling and storing the fruits. As visible in figure 1, both apple and pear fruits treated with Intra Eco Shield showed a higher flesh firmness.

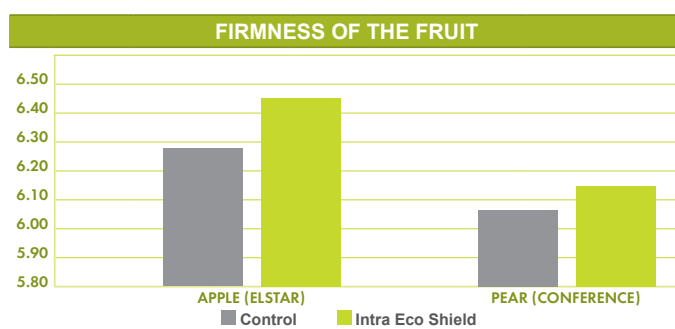


Figure 1: The firmness of apple (Elstar) and pear (Conference) fruits.

### Conclusion

With a minimum of five treatments, Intra Eco Shield increased the firmness and dry matter content of the fruits creating a better bite for the consumer. Therefore, the fruits are easier for handling and storage after harvest.