Smart fertilizer: first results of Nano fertilizer application in open field (kiwi - Actinidia chinensis ssp Jintao)

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The agricultural of the future needs new technology in order to improve Nutrient Use efficiency, reduce pollution and at same time improve quality and yield. The Smart fertilizers are the answer at this challenge.
The aim of the study was evaluation of Nano Iron fertilizer compere to the Iron chelated (EDDHA) in open field.
The *Nanofertilizer* ($FePO_4$) were tested (North Italy) in Kiwi orchard (Jintao yellow variety).
Three different theses were tested: control (Iron EDDHA 1.18kg/ha), Nano1 (*NanoIron* 0,5 kg/ha solution at 1.0% of Fe) and Nano2 (*NanoIron* 0,5kg/ha solution at 1.7 % of Fe). The experimental design was randomized block with three replications.
Fruit were harvested at commercial maturity (6^{th} of November 2018) and weighed immediately. Then were cold stored at 0°C in Normal Atmosphere for 9 weeks.
At harvest and monthly during post-harvest storage, dry matter, total soluble solids content, firmness, pulp color, chlorophyll content and yield were determined. The results obtained showed that *NanoIron* fertilizer has got the same result of iron EDDHA chelated: no difference in chlorophyll content, yield and pulp color. Instead, at harvest time, were founded difference in soluble solids content, dry matter and firmness pulp (in favor of *NanoIron*). These results were reached apply 57% less of iron per hectare.