

Test and validation

2025WP3_Aure_004

Status: Completed



Business case

Problem Owner:
Aurea Imaging

Involved:
Wageningen Research
Aurea Imaging
Delphy
One Planet Research Center
Kubota
Agromanager
FRC Randwijk
2 praktijklocaties

Open Field
Cultivation



Evaluation Report – Camera System Business Case

Testing and validation of the business case for the Treescout camera system in fruit production in 2025.



Broad knowledge question

How can precision sensor technologies, such as the Treescout camera system, contribute to more efficient and sustainable fruit production in the Netherlands in terms of increasing yields, reducing labour and reducing crop protection inputs?

Approach

Experiments were set up at three locations in Elstar apple orchards, comparing precision thinning based on the Treescout system with standard thinning practice (all trees receiving the same treatment). Based on blossom counts, blossom classes were created and treated differently as part of the precision thinning approach. To measure the effects, fruit counts were carried out after the June drop and before harvest. Fruit size measurements were taken before harvest. In addition, exploratory research was conducted into the effect of large variations in fruit load on the harvest quality of apples (blush, firmness and %Brix).

Objective

The objective is to demonstrate the potential added value of using precision technologies in fruit production under practical conditions.

Results and reflection

A carry-over effect from the 2024 precision thinning trial at FRC Randwijk was a demonstrable reduction in biennial bearing. The effectiveness of thinning agents is an important factor in the successful application of precision thinning. In 2025, the effects of the additional thinning agents were often disappointing. Fruit load affects the harvest quality of Elstar apples, including fruit size, blush, firmness and %Brix. As firmness and Brix are important factors in storage, a more uniform fruit load offers opportunities to improve storage quality and reduce losses during storage.

The report can be found at: <https://doi.org/10.18174/720182>

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