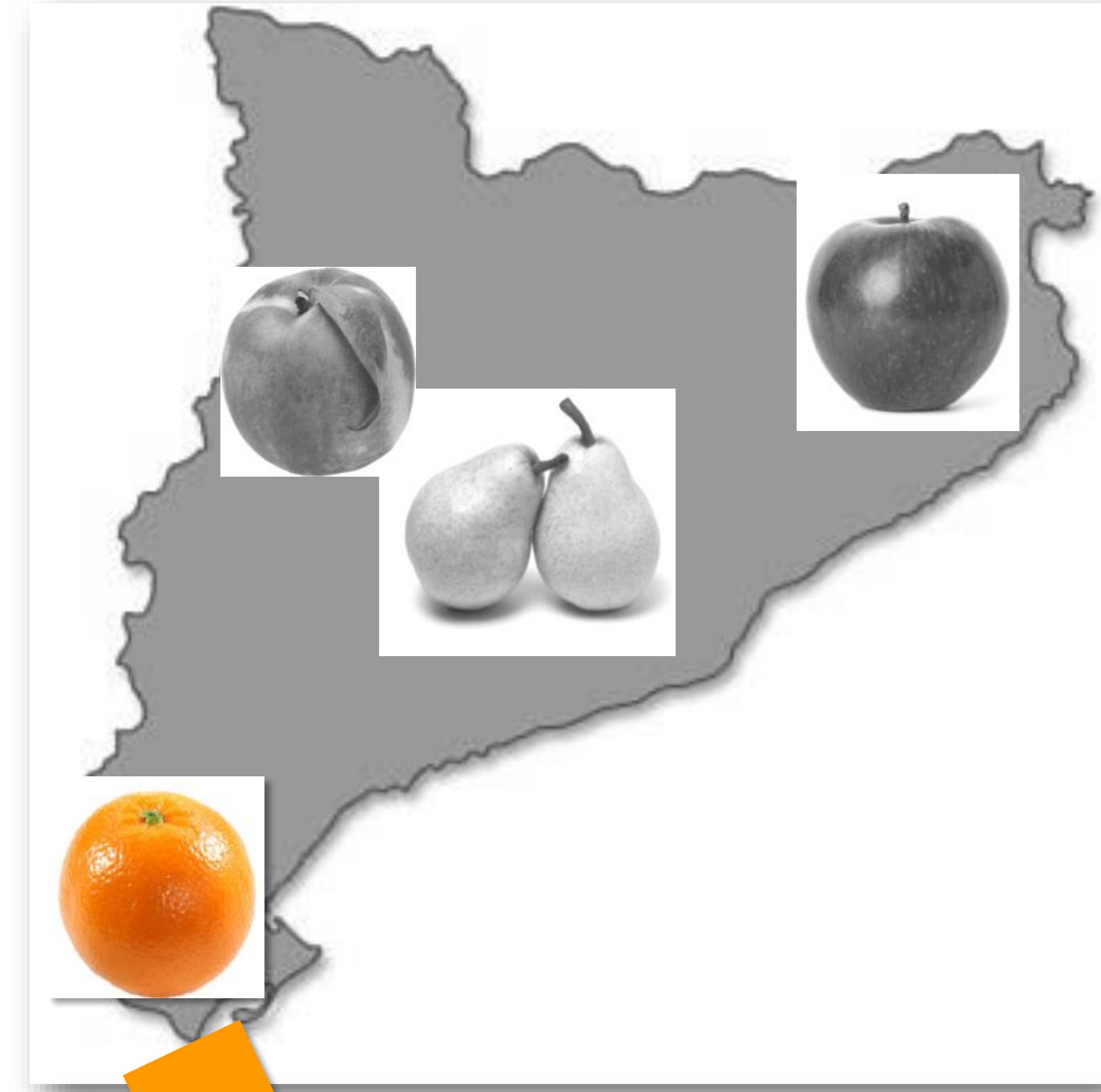


## Results of the application of the Fruit.Net Technical Guide for citrus fruits production in Catalonia (Spain)

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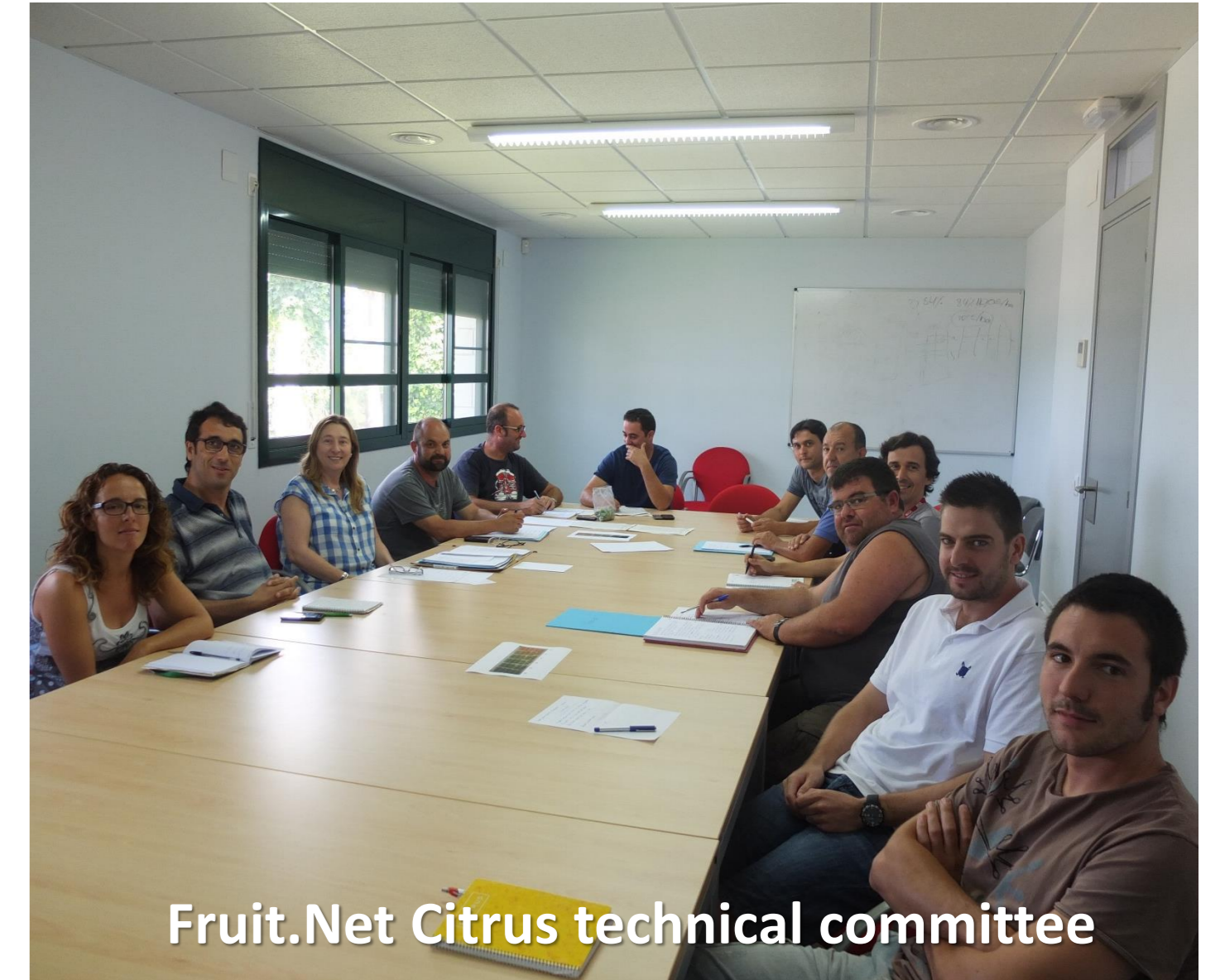
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### INTRODUCCION

Fruit.Net is a platform promoted by the Department of Agriculture, IRTA and Afrucat that integrates different agents involved in the phytosanitary protection of fruit and citrus crops. The Fruit.Net Program consists of a structure formed by a steering committee and a technical committee for each of the crops in which it is applied (apple, pear, peach and citrus) in which are involved technicians and researchers from the Agriculture Department, IRTA, universities and citrus sector. In April 2012 the Technical Committee of Citrus was launched, which counts on the participation of the following members from the local citrus industry: Viveros Alcanar, Soldebre, Agrofruit Export, Illa de Gràcia, Cítrics Terres De l'Ebre, Naturebre, Benifallet Fruits, Mercocámara and Exportadora d'Agrís d'Alcanar.



Fruit.Net Citrus technical committee



Participating companies



### Main objective

Develop strategies that favor alternative control techniques, optimizing the use of phytosanitary substances in the control of diseases and pests that affect citrus agroecosystem while minimizing the pesticide residues in fruits.

### The Fruit.Net Program is based on:

- Design of research program to implement new control strategies
- Validation and commercial application of control strategies
- TT of the results obtained to the end-users

Through a series of annual meetings, the **Committee** plans and agrees on the strategies to be applied in the Fruit.Net plots that are compared with standard plots. A final meeting, held in November, assessing the strategies applied, the post-harvest disease control guidelines are defined, how multi-residue analysis samples will be managed, and the design of experiments for the following year to the criteria of the technical committee.

### Joint Work

- Catalan citrus industry
- Administration
- Research Institutes
- Universities

To improve the control of pests, and diseases in citrus production chain, by developing new strategies more sustainable and respectful of the environment and human health.

## RESULTS

During the five in which the program was applied, as observed in fruit harvest results (Fig. 1 and 2), the percentage of fruits affected by the main pests in clementines, *Aonidiella aurantii* and *Tetranychus urticae*, were similar. On the other hand, Fruit.Net strategies have achieved a substantial reduction of residues of active ingredients in the fruit. In the Fruit.Net plots, in no case more than one active material was detected at harvest and in very large percentages, from 60 to 100% according to the year, no residue was detected (Fig 3). In the Fruit.Net plots the number of treatments with respect to the standard were reduced from 15 to 38% and the number of a.i. from 22 and 45% (Fig. 4). The agents of the Catalan citrus sector, including technical advisors, is strongly linked. The technical decisions have been widely agreed within the committee, that therefore integrates most of the local producers.

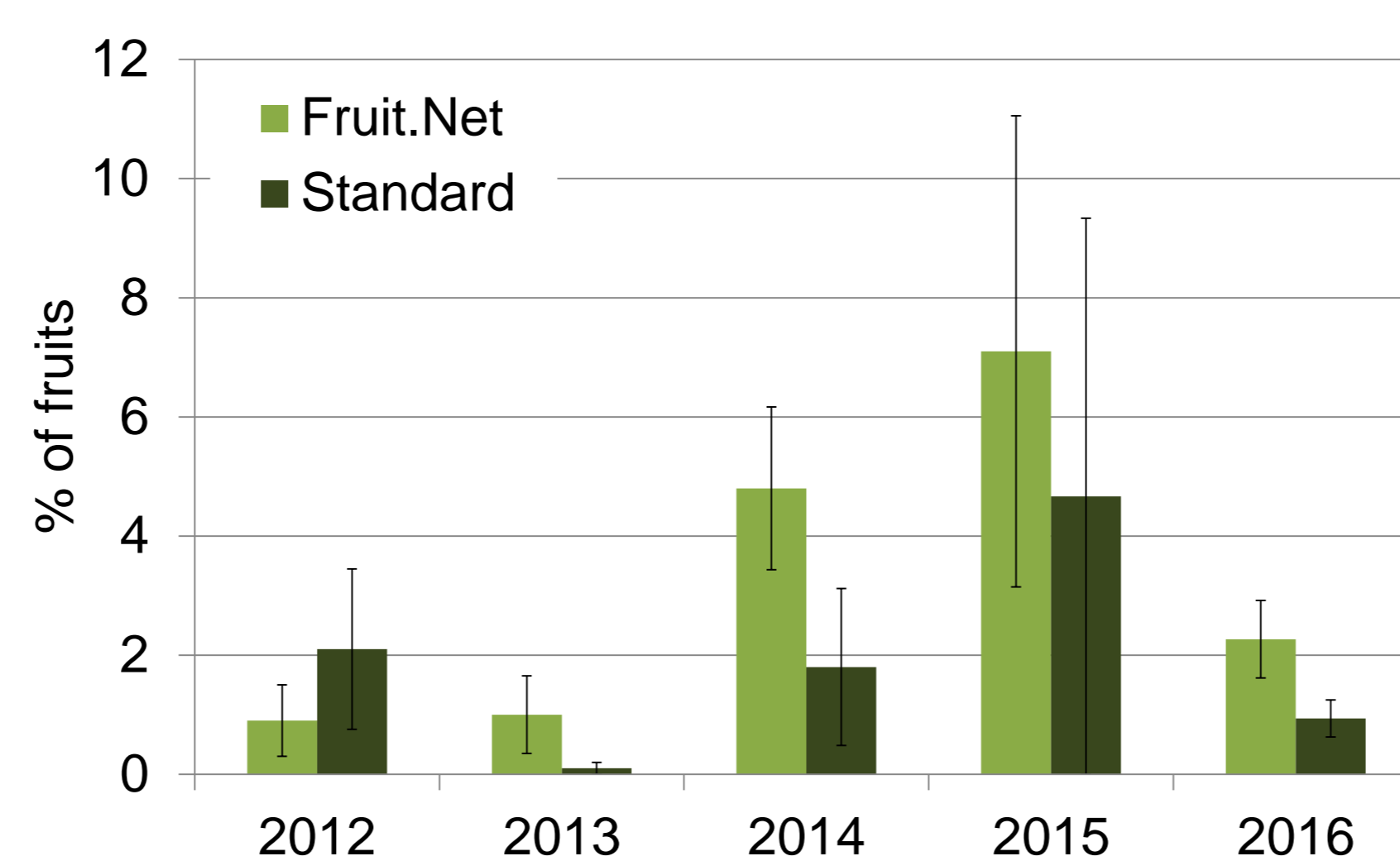


Figure 1.- Percentage of fruits with ≥ 3 A. aurantii scales

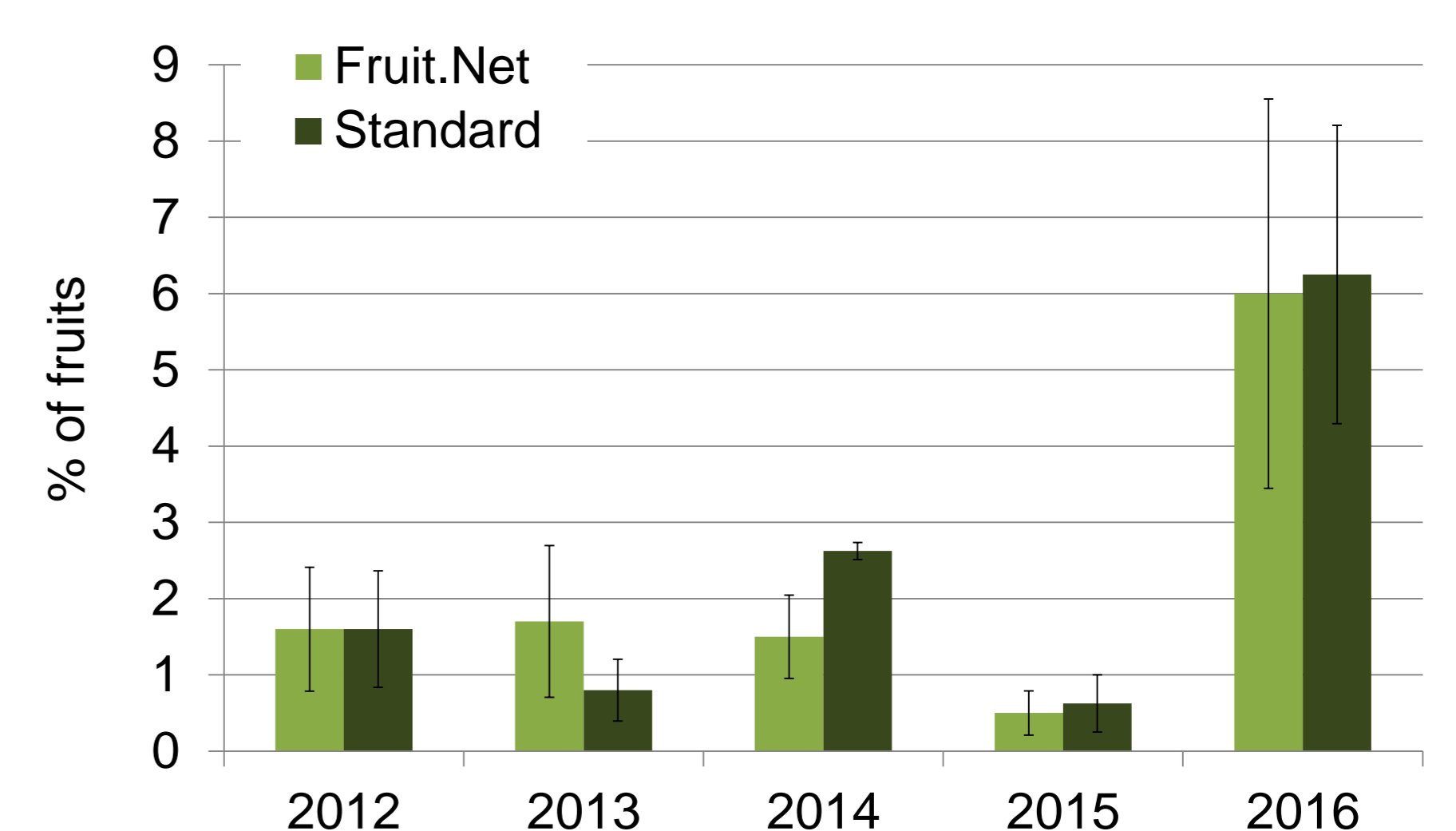


Figure 2.- Percentage of fruits with T. urticae symptoms

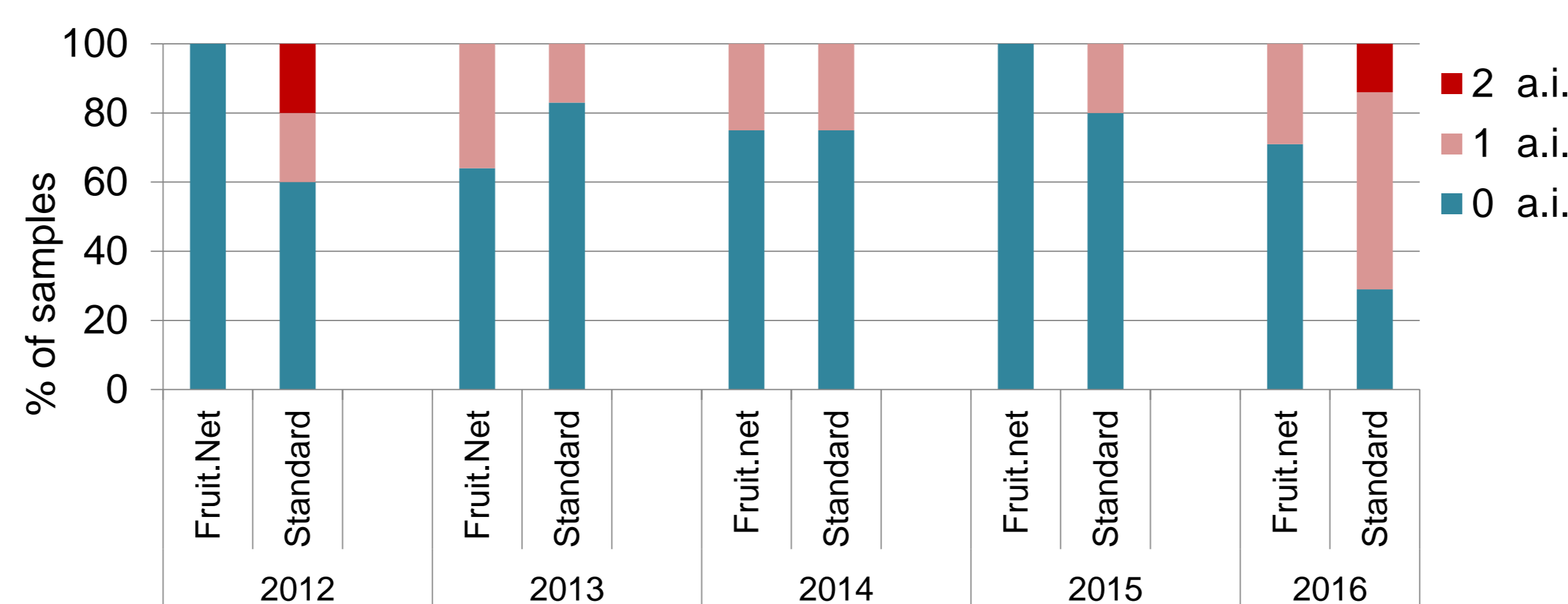


Figure 3.- Percentage of fruit samples according to the number of active ingredients (a.i.) detected

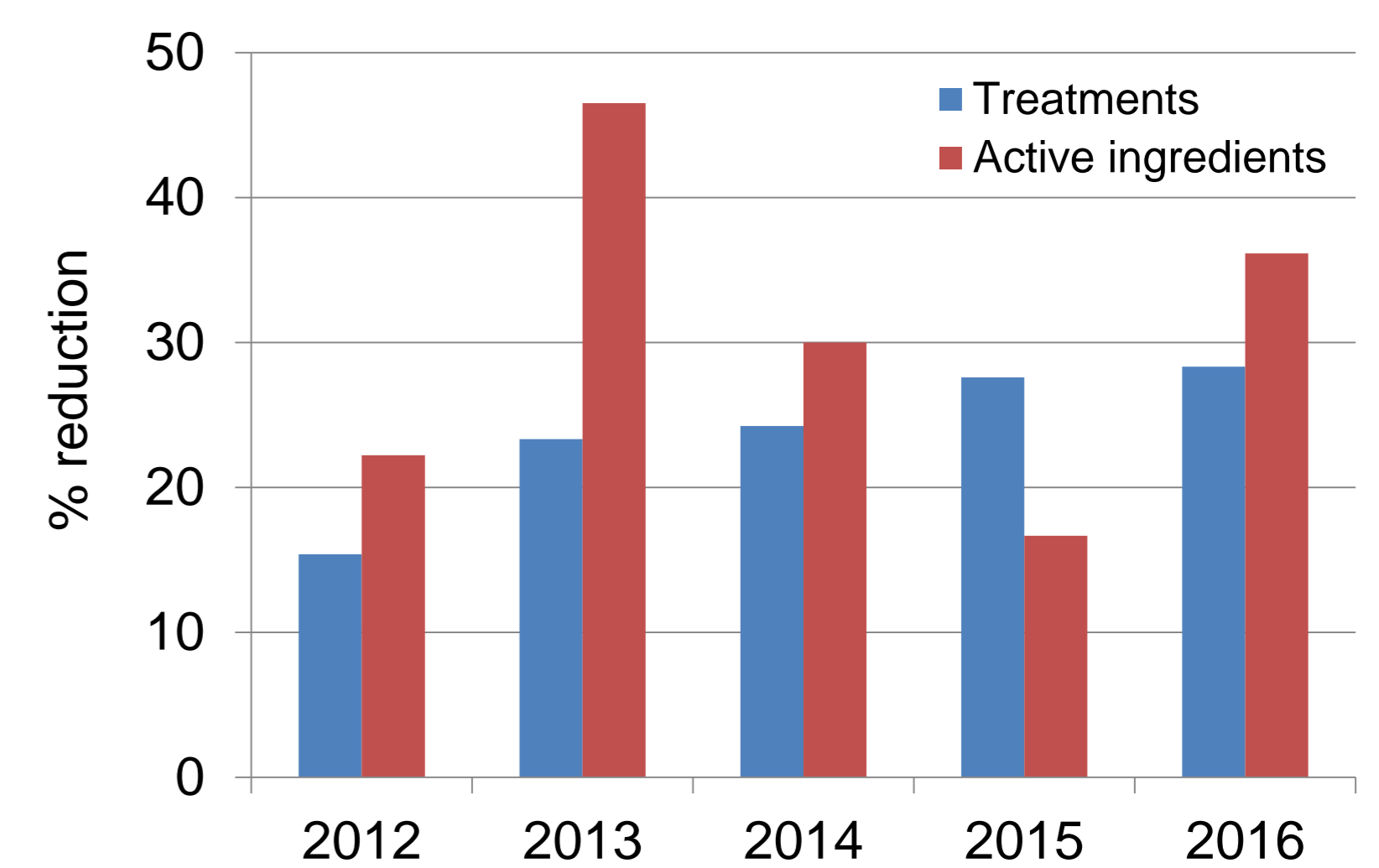


Figure 4.- Reduction of the number of treatments and active ingredients (a.i.) in the Fruit.Net plots compared to the Standard plots

The aim for the following years is to consolidate the Fruit.Net program in citrus and increase participation to at least 9 Fruit.Net plots. According to the complexity of the citrus agroecosystem as regards pest species and natural enemies, one of the most important consequences of applying the Fruit.Net Program should be to improve its balance. The continuity of the techniques proposed by Fruit.Net should contribute to enhance biological control by conservation and thus to prevent citrus pest outbreaks.

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