METHODOLOGY FOR THE ORANGE PRODUCTION FORECAST UPDATE FOR THE 2015-2016 SEASON OF THE SÃO PAULO AND WEST-SOUTHWEST OF MINAS GERAIS CITRUS BELT

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Forecast Dates

2015-2016 Season
1st orange production forecast update: September 10, 2015
2nd orange production forecast update: December 10, 2015
3rd orange production forecast update: February 11, 2016
April forecast (final orange production estimate): April 11, 2016

This publication is an integral part of the orange production forecast research for the 2015-2016 season.

1 – INTRODUCTION

This publication presents the methodology for the orange production forecast update conducted by Fundecitrus with the cooperation of Markestrat, FEA-RP/ USP and the Exact Sciences Department of FCAV/UNESP. The conduction of this forecast update is justified insofar as two of the four parameters used to forecast the crop become measurable from June to the harvest season. Such parameters are "fruit loss from droppage" and "fruit size", that is the number of oranges to reach the weight of 40.8 kg (box) at harvest.

These parameters are components of the direct expansion method used to estimate the crop. By the time the forecast was published, in May, the calculation of these parameters was made based on the historical data from the 2004-2005 to 2014-2015 seasons. It should be emphasized that climate plays an important role in the rate of fruit loss from droppage and fruit size, rendering the premise adopted for these parameters uncertain, therefore, the actual values must be measured throughout the season.

For this reason, the orange production forecasted in May is updated and published in four different moments: September, December, February and April, and the respective release takes place on the 10th day or on the first subsequent business day of each of these months. Only the "rate of fruit loss from droppage" and "fruit size" require to be adjusted throughout the season, the other parameters – "number of bearing trees" and "number of fruit per tree" – had been already assessed in the field and remain unchanged until the final orange crop estimate.

2 – OBJECTIVE SURVEY METHOD FOR THE ORANGE PRODUCTION FORECAST UPDATE

The update of the "rate of fruit loss from droppage" and "fruit size" parameters occurs through a monthly observation conducted by Fundecitrus in a sample of 900 blocks drawn from the 2,500 used in the stripping. The number of this sample decreases as the harvest advances. This research is conducted by the observation of the number of fruits in 11 trees of each of these blocks. A pre-determined procedure of location of trees (Figure 1) ensures the neutrality of the forecast update, as intended by the objective method of the research.

Among the 11 trees selected, three are submitted to the observation of the "rate of fruit loss from droppage" and eight to the observation of the number of oranges to reach the weight of 40.8 kg (box). During stripping (conducted from April 14 to May 11, 2015), the following three trees after the stripped tree were crowned, forming a basin that retains the oranges that fall as a result of natural droppage and traffic of machinery and equipment. Every period of thirty days, Fundecitrus technicians visit the blocks to count the oranges retained within the crown. Such counting is the basis for updating the droppage rate. During this visit, the technicians weight five fruits per bloom of each of the eight pre-determined trees, and may reach a total of 160 fruits per block, in case there are four blooms in the same block. These data provide subsidies for updating the number of fruits required for composing a 40.8 kg box. Figure 1 exhibits the location of trees in the block and the procedures conducted in the research.

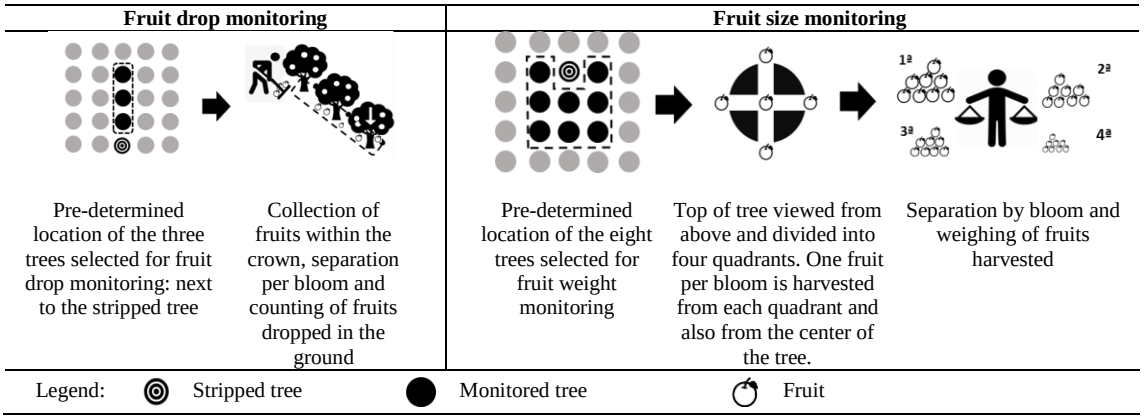

Figure 1 – Location of the monitored trees within the block and research procedures

In order to complete the method, 20% of the blocks are audited by supervisors throughout the season, systematically observing the performance of field works. Finally, for the purpose of suggesting improvements to the research process, a Technical Committee composed of citrus growers, representatives

of the orange juice companies and scholars, participates in the research evaluation on a regular basis. The members of this committee are introduced in the report published on May 19, 2015 – "Citrus Tree Inventory and Orange Production Forecast for the 2015-2016 Season of the São Paulo and West-Southwest of Minas Gerais Citrus Belt" – available at Fundecitrus website.

The following images (Figure 2 to 5) illustrate the activities carried out during the orange production forecast update process.

Figure 2 – Collection of fruits fallen within the crown. After collection, the crown is cleaned. This work is conducted once a month until the block is fully harvested.

Figure 3 – Fallen fruits are separated by bloom and counted.

Figure 4 – Collection of the 40 fruits of different blooms for weighing.

Figure 5 – After collection by bloom, fruits are weighed.