

Labserve does apple peel analysis

Research from both Cornell University and the University of Wisconsin that explored bitter pit prediction shows that nutrient content in peel sap of developing fruitlets is a very good indicator of bitter pit susceptibility, even on healthy-looking fruit. They found the nutrient content in peel sap to be the best indicator of bitter pit incidence, as well as the easiest method. Sap analysis measures the water-soluble portion of the nutrients, which makes it more sensitive than measuring the dried tissue that includes the structural nutrient portion. From their study, modern prediction models that evaluate K/Ca ratios in the peel sap of developing fruitlets roughly two months post-bloom were developed. This provides an early warning system to adjust foliar spray programs before harvest. The K/Ca ratio in apple peels is now a primary indicator used by leading producers and exporters to predict and manage the risk of bitter pit and to rank orchards according to storage potential.



In collaboration with some of our progressive clients, Labserve developed an analysis protocol to analyse the peels of fruitlets, and those closer to harvest. These analyses are then used by producers and exporters to plan – being able to distinguish between fruit that can be considered for long-term storage, medium-term storage, and fruit that needs to reach the market within one month.

Please feel free to contact Labserve for more information regarding this analysis and its interpretation.

Al Shoffe, Y., Robinson, T., Fazio, G., Follett, E., Clark, M., Luby, J., Bedford, D., Kalcsits, L. and Peck, G., 2025. 'Honeycrisp': the challenge of the apple crisp revolution. *Fruit Research* 5: e039.
<https://www.maxapress.com/data/article/frures/preview/pdf/frures-0025-0030.pdf>

Atucha, A., 2022. Apple tree nutrition: Bitter pit control. University of Wisconsin Fruit Program.
<https://fruit.wisc.edu/2022/06/30/apple-tree-nutrition-bitter-pit-control/>

Sazo, M.M. & Henning, S., 2022. Introducing the plant tissue sap analysis and practical implications for quality evaluation of Honeycrisp. https://rvpadmin.cce.cornell.edu/uploads/doc_848.pdf

Tracton, T., & Farquh, M. (2024). Controlling Bitter Pit in Apples: Best Practices for Growers (FS-2023-0701). University of Maryland Extension. go.umd.edu/FS-2023-0701.