**Project Title:**
To assess internal browning development potential from high watercore incidence FEMA Forelle.

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**Objectives & Rationale**

The 2016 season exhibited high incidence of watercore in Forelle fruit destined for the FEMA program. Watercore is exacerbated by delayed harvest especially in seasons where sugar levels in the fruit are high. PPECB inspectors are rating this disorder as internal breakdown which has a 2% tolerance compared to 10% for watercore. This trial needs to determine the risks of watercore incidence on fruit quality and will assess whether the disorder diminishes over time, or develops into internal browning.

**Methods**

Five orchards in the Ceres and EGVV environs were harvested and assessed for watercore incidence. In the 2018 season, trees were flooded three days before harvest. All fruit were subjected to a SmartFresh℠ application after harvest and stored for 5, 8 and 12 weeks at -0.5 °C under regular atmosphere (RA). Fruit were evaluated after cold storage and after a simulated shelf life of 7 days at 20 °C. Some fruit were subjected to 50% CO₂ after harvest for three days and assessed for internal browning (IB) to determine if this will correlate with internal browning after storage.

**Key Results**

In the 2017, 2018 and 2019 seasons, out of the 15 orchards that were monitored for this trial, eight exhibited watercore at harvest ranging from 1.7% incidence to 6.7% incidence (Table 27). Fruit from only one orchard exhibited watercore after 5 weeks cold storage. Two orchards exhibited internal browning (0.5 – 5.3 %), and two orchards other internal disorder (0.9 – 1.3%) after cold storage or after shelf life. No internal disorders (as presented in Table 27) were detected after 12 weeks cold storage.

**Conclusion and Discussion / Recommendation**

According to this data watercore disappears during storage. Orchards with watercore at time of harvest may develop internal browning or senescent or internal breakdown during storage. It is a concern that some orchards had low levels of these disorders after storage.

No internal browning developed during the CO₂ test in any season rendering this method not suitable as a predictive measure for internal browning risk in fruit with watercore.