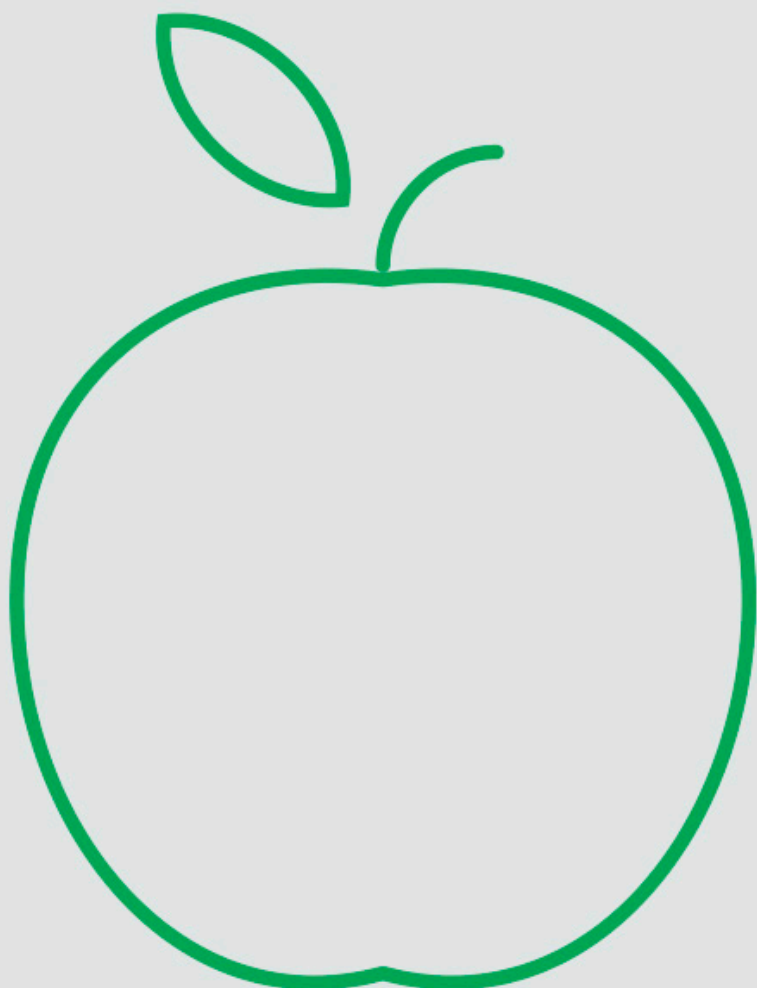


EUFRUIT

STONEFRUIT AND BERRYFRUIT NEW CULTIVAR
DEVELOPMENT AND EVALUATION



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In 2017, the focus was on sour **cherries, sweet cherries, apricots, peaches and plum new cultivar development and evaluation**, an International Expert Group (IEG) including 19 organizations contributed to scanning and discussing their national best practice and exchanging knowledge on new cultivar development and evaluation.

This IEG brought together experts from three EUFRIN Working Groups called: ‘Apricot & Peach’, ‘Plum & Prune’, and ‘Sweet & Sour Cherry’. These EUFRIN Working Groups allow the exchange of information between variety testers, which is very useful to enlarge the knowledge around stonefruit varieties. These Working Groups have not (yet) developed a common EUFRIN testing agreement or EUFRIN Descriptor lists. Most of the IEG members focus on only 1 or 2 stonefruit species with only a small interest in other stonefruit species. The most tested stonefruit species are sweet cherries and peaches. Several participants have or had a breeding program for stonefruit species.

When evaluating new stonefruit varieties common key attributes they are very similar to the criteria for new apple and pear varieties: productivity, fruit size, appearance, fruit quality, storability and or shelf life. New stonefruit varieties should also be less susceptible to pest and diseases. However there is a key focus on selecting new stone fruit varieties that can extend the fruit season.

Main challenges and gaps for variety testing of stonefruit species in Europe are:

1. Some new cherry varieties are no longer available for all cherry growers, because they are launched as a club variety.
2. Novelty are planted without proper testing. Variety pre-evaluation through independent and expert testing is highly valuable for this crop to prevent growers from economic losses.
3. Increasing demands for fruit quality of sweet cherries: firmness, size, freshness.
4. Increasing demands for residue-free fruits.
5. Despite the high number of new peach varieties available for growers, most of them are similar in terms of appearance (but not always in taste), quality and agronomical performance.
6. The main challenge and progress for the future is to develop new varieties of peaches similar in appearance and quality to those currently available, but including traits of tolerance/resistance to the main pest and diseases.
7. Many new stonefruit varieties are imported, but foreign breeding goals do not always meet the requirements needed for success in other countries/regions.
8. To bring the interests of different stakeholders along the value chain together.
9. Traits such as fruit disorders pre- and post-harvest are becoming more and more important in the assessment of the commercial value of a novel variety.

Main challenges and gaps for growing stonefruit species:

1. *Drosophila suzukii* has become a major pest in stonefruits. Adequate management of this pest is a big challenge and can cause high costs (e.g. nets).
2. Other pests and diseases that can be a threat for cherry growing are fruit fly (*Ragoletis* sp.), cherry leaf spot, *Monilia laxa* and *Pseudomonas*.
3. Infestation of plum trees and fruits by Plum poxvirus and of sour cherries by *Monilinia laxa*.
4. In the context of apricots, the European Stone Fruit Yellow (ESFY) poses the major challenge.
5. Climate aspects, especially spring frost that reduce crop loads.
6. Increasing winter temperatures jeopardize the dormancy completion of varieties with high chilling requirement.
7. Many cherry orchards are planted without plastic covering.

In 2018, the focus was on **berryfruit (softfruit) new cultivar development and evaluation**, an International Expert Group (IEG) including 16 organizations contributed to scanning and discussing their national best practice and exchanging knowledge on new cultivar development and evaluation. This IEG brought together experts from the EUFRIN Working Groups called: 'Berryfruit (softfruit)'. This EUFRIN Working Groups allow the exchange of information between variety testers, which is very useful to enlarge the knowledge around berryfruit varieties. This Working Groups has not (yet) developed a common EUFRIN testing agreement or EUFRIN Descriptor lists. Most of the IEG members focus on variety testing of strawberries and small fruits (raspberries, red currants, black currants, blackberries and blueberries). Strawberries are the most important and most tested soft fruit species across the EU. Four participants either had a breeding program or worked in partnership in breeding for softfruit.

When evaluating new berryfruit varieties common key attributes they are very similar to the criteria for new apple and pear varieties: productivity, fruit size, appearance, fruit quality, storability and or shelf life. New berryfruit varieties should also be less susceptible to pest and diseases.

Main challenges and gaps for variety testing of soft fruit species:

1. Some soft fruit varieties are not available for all growers, because they are launched as a club variety.
2. Novelties are planted without proper testing. Variety pre-evaluation through independent and expert testing is highly valuable for this crop to prevent growers from economic losses.
3. Development of private evaluation by producer organizations concomitant with the development of club varieties; compromises the role of public and collective evaluation.
4. The breeding goals of foreign breeders do not always meet the requirements in other countries/regions.
5. Resilience to climate changes (dried summer long periods, high temperature amplitudes, inconsistent winters, spring frost).
6. Taste is underestimated, shelf life is more important.
7. A standard method with a description list for testing strawberry cultivars is missing.
8. Even if results on the variety testing and breeding are presented to local farmers every year, an easily and free accessible database is missing.
9. Selection of berry varieties suitable for organic production.
10. Fruit appearance and taste together with firmness and better shelf life.

Main challenges and gaps for growing soft fruit species:

1. *Drosophila suzukii* has become a major pest in soft fruits. Adequate management of this pest is a big challenge and can cause high costs (e.g. nets).
2. Most soft fruits are limited in production area, which means that generally there are little products available to control pests and diseases. Particularly for covered crops.
3. The "zero residue" demand emphasize the disease and pest resistance levels.
4. Severe late spring frost events and lower precipitations in winter are big challenges.
5. Soil-disease resetting: Most of the farmers cultivate strawberry in open fields, under tunnels. Farmers are obliged continuously to cultivate for several years the same berry cultivation on the same field, due to the small size of the berry fields. Only big and well-organized farms can adopt the rotation technique, which seems to be not profitable for smaller realities.
6. Cost and lack of workforce to operate in the crop: a high productivity while maintaining a good quality of product (is one of the challenge facing strawberry production).
7. Realization of fresh fruits to the market is still insufficient.
8. Agricultural technics and storage facilities playing important role at this sector.
9. Pruning.

The IEG on new stonefruit and berryfruit cultivar development and evaluation has delivered 2 synthesis reports (at EU level) based on 28 scanning reports (at Regional/National level), 29 seminars and workshops, 145 field-based meetings, open days, field visits, grower meetings, 60 participation in industry events, exhibitions, conferences with industry stakeholders and 13 events aimed at the general public.

Outputs, reports & communications see:

<http://kp.eufrin.eu/>

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