

Scanning report (EIP format for practice abstracts)

- *Project title (native language): EUFRUIT: European Fruit Network, WP2 Potential neuer Beerensorten
*Project title (English): EUFRUIT: European Fruit Network, WP2 Potential of new berry varieties
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Section A. Summary for EIP dissemination

- *Keywords: [Variety testing, breeding, strawberries, raspberries]
*Main geographical location: [CH0 SCHWEIZ/SUISSE/SVIZZERA]
Other geographical locations: [CH0 SCHWEIZ/SUISSE/SVIZZERA]

Summary (native language):

Die Beerensortenprüfung bei Agroscope konzentriert sich auf die folgenden Forschungsschwerpunkte:

- Bewertung der Fruchtqualität neuer Sorten (Zuckergehalt, Festigkeit, Farbe)
- Bewertung des agronomischen Potenzials neuer Sorten (Ertrag, Durchmesser, Reifezeit, Resistenz oder Anfälligkeit für Schädlinge und Krankheiten)
- Bewertung der Marktfähigkeit neuer Sorten.

Ziel eines guten Sortenspektrums ist es, die Erwartungen und Anforderungen der Produzenten, des Marktes und der Konsumenten zu erfüllen. Die Sortenprüfung zielt auf eine neutrale Bewertung neuer Sorten zugunsten von Produktion und Beratung ab. Die Bewertung neuer Sorten erfolgt in zwei Phasen mit verschiedenen Regionen innerhalb der Schweiz sowie unterschiedlichen Anbaumethoden.

Das Ergebnis wird in verschiedenen Fachzeitschriften veröffentlicht und den Schweizer Stakeholdern der Beerenproduktion sowie bei verschiedenen Tagungen und Konferenzen vorgestellt.

Summary (english):

The variety testing for berries at Agroscope focuses on the following research topics:

- evaluation of fruit quality of new varieties (sugar content, firmness, color)
- evaluation of agronomic potential of new varieties (yield, diameter, maturing period, resistance or susceptibility to pests and diseases)
- evaluation of marketability of new varieties.

The goal of a good variety range is to fulfill the expectations and demands of the producers, the market and the consumers. Variety testing aims at providing neutral evaluations of new varieties in favor of production and consulting. The evaluation of new varieties takes place in two phases involving different regions within Switzerland as well as different cultivation methods.

The outcome of the research is published in different journals and is presented to the Swiss stakeholders of berry-production and at different meetings and conferences.

Section B. Project information

- *Project coordinator: Michelle H. Williams; Aarhus University, Department of Food, Kirstinebjergvej 10, 5792 Aarslev, Denmark; mw@food.au.dk; +45 25170049
*Project period: 2016 - 2019
*Project status: Ongoing

***Funded by:** Horizon 2020

***Total budget:** €1.8m

***Geographical regions:** DK011 Copenhagen, DK012 Copenhagen and its environs, DK013 North Zealand, DK014 Bornholm, DK021 East Zealand, DK022 West- and South Zealand, DK031 Funen, DK032 South Jutland, DK041 West Jutland, DK042 East Jutland, DK050 North Jutland, BE211 (Arrondissement. Antwerpen), BE212 (Mechelen), BE213 (Turnhout), BE221 (Hasselt), BE222 (Arr. Maaseik), BE223 (Tongeren), BE231 (Aalst), BE232 (Dendermonde), BE233 (Eeklo), BE234 (Gent), BE235 (Oudenaarde), BE236 (Sint-Niklaas), BE241 (Halle-Vilvoorde), BE242 (Leuven), BE251 (Brugge), BE253 (Ieper), BE254 (Kortrijk), BE255 (Arr. Oostende), BE256 (Arr. Roeselare), BE257 (Tielt), BE258 (Veurne), BE310 (Nivelles-Nijvel), BE331 (Huy-Hoei), BE332 (Liège- Luik), BE334 (Wareme-Borgworm), BE335 (Verviers), FR8 Méditerranée; FR81 Languedoc-Roussillon, FR6 SUD-OUEST, FR512 Maine et Loire, FR611 Dordogne, FR812 Gard, DE6 (Hamburg), DE8 (Mecklenburg-Vorpommern), DE9 (Niedersachsen), DEF0 (Schleswig-Holstein), DEE0 (Sachsen-Anhalt), DEA (Nordrhein-Westfalen), DE111, DE112, DE113, DE114, DE115, DE116, DE117, DE118, DE119, E11A, DE11B, DE11C, DE11D, DE121, DE122, DE123, DE124, DE125, DE126, DE127, DE 128, DE129, DE12A, DE12B, DE12C, DE131, DE132, DE133, DE134, DE135, DE136, DE137, DE138, DE139, DE13A, DE141, DE142, DE143, DE144, DE145, DE146, DE147, DE148, DE149, DE600 Hamburg, DE932 Cuxhaven, DE933 Harburg, DE939 Stade, DEF09 Pinneberg, NL1-NL4 + NLZ Holland; NL 224 zuidwest Gelderland, NL 226 Arnhem/Nijmegen, NL230 Flevoland, NL310 Utrecht, NL321 Kop van Noord-Holland, NI322 Alkmaar en omgeving, NL338 oost Zuid-Holland, NL33A zuidoost Zuid-Holland, NL341 Zeeuws-Vlaanderen, NL342 overig Zeeland, NI411 west Noord-Brabant, NL413 noordoost Noord-Brabant, NL414 zuidoost Noord-Brabant, NL421 noord Limburg, NL422 Midden-Limburg, NL423 zuid Limburg, ES620 Murcia, UKG11 Herefordshire, UKG12, Worcestershire, UKH12 Cambridgeshire, UKH16 North and West Norfolk, UKH17 Breckland and South Norfolk, UKJ22 East Sussex, UKJ35 South Hampshire, UKJ36 Central Hampshire, UKJ37 North Hampshire, UKJ41 Medway, UKJ42 Kent, UKJ43 Kent Thames Gateway, UKJ44 East Kent, UKJ45 Mid Kent, UKJ46 West Kent, ES618 Sevilla, ES511 Barcelona, ES512 Gerona, ES513 Lérida, ES514 Tarragona, CH0 Schweiz/Suisse/Svizzera, ITH51-59 Emilia Romagna region, ITH10 Bolzano-Bozen, HU101 Budapest, HU102 Pest, RO111, RO112, RO113, RO114, RO115, RO121, RO122, RO123, RO124, RO125, RO126, RO211, RO212, RO213, RO214, RO215, RO216, RO221, RO222, RO223, RO224, RO225, RO226, RO311, RO312, RO313, RO314, RO315, RO316, RO317, RO321, RO322 RO411, RO412, RO413, RO414, RO415, RO421, RO422, RO423, RO424. HU101, HU102, LT001 Alytaus apskritis, LT002 Kauno apskritis, LT003 Klaipėdos apskritis, LT004 Marijampolės apskritis, LT005 Panevėžio apskritis, LT006 Šiaulių apskritis, LT007 Tauragės apskritis, LT008 Telšių apskritis, LT009 Utenos apskritis, LT00A Vilniaus apskritis.

Project web page: <http://www.eufrin.org/index.php?id=55>

***Project Objectives (native language):**

1. Gründung eines europäischen Netzwerks im Bereich des Fruchtsektors.
2. Entwicklung und Implementierung eines systematischen Ansatzes um bestehendes wissenschaftliches und praktisches Wissen abzufragen und zusammenzufassen.
3. Aufbau eines fortlaufenden Dialogs mit relevanten EU, nationalen und regionalen Interessensvertretern.
4. Identifizierung und Unterstützung neuer Prioritätsbereiche durch kontinuierliches Monitoring und Analysieren bestehender und künftiger Forschungs- und Innovationsaktivitäten.

Project Objectives (English):

1. Establish a European network focused on the fruit sector.
2. Develop and implement a systematic approach for scanning and synthesizing existing scientific and practical knowledge.
3. Establish an ongoing dialogue with relevant EU, national and regional policy bodies.
4. Identify and support new priority areas of research by continually monitoring and analysing existing and upcoming research and innovation activities.

***Project partners:**

1. Aarhus University, Department of Food Science (Denmark) • AU
2. Research Station for Fruit npo (Belgium) • Pcfuit
3. Centre Technique Interprofessionnel des Fruits et Légumes (France) • CTIFL
4. Obstbauversuchsanstalt Jork (Germany) • OVA

5. Stichting Wageningen Research (Netherlands) • WR
6. ~~East Malling Research (United Kingdom) • EMR (terminated 08-02-2016)~~
7. Institut de Recerca i Tecnologia Agroalimentàries (Spain) • IRTA
8. Federal Department of Economic Affairs, Education and Research (EAER), acting through Agroscope Institute of Plant Sciences (Switzerland) • Agroscope
9. Laimburg Research Centre for Agriculture and Forestry (Italy) • Laimburg
10. University of Agronomic Sciences and Veterinary Medicine of Bucharest (Romania) • USAMV
11. National Agricultural Research and Innovation Centre Fruitculture Research Institute (Hungary) • NARIC
12. Lithuanian Research Centre for Agriculture and Forestry (Lithuania) • LRCAF
13. Assemblée des Régions Européennes Fruitières, Légumières et Horticoles (France) • AREFHL
14. Variety Innovation Consortium South Tyrol (Italy) • SKST
15. Freshfel Europe (Belgium) • FRESHFEL
16. Elbe-Obst Erzeugerorganisation r.V. (Germany) • EO
17. Fruitconsult BV (Netherlands) • FC
18. University of Greenwich (United Kingdom) • UoG
19. University of Hohenheim (Germany) • UHOH
20. Università di Bologna (Italy) • UNIBO
21. Institut National de la Recherche Agronomique (France) • INRA
22. NIAB EMR (new 09-02-2016)

Section C. Annex: Scanning report¹

Scanning report [Ançay André, Agroscope]

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Country: Switzerland
NUTS 3 region(s)²: CH0 SCHWEIZ/SUISSE/SVIZZERA
WP no. and title: WP2 – Variety testing
Date: [15-05-2018]

Source materials and methodology

Agroscope is the Swiss Confederation's centre of excellence for agricultural research, and is affiliated with the Federal Office for Agriculture. One of its many tasks is the testing of new strawberry and raspberry varieties. In collaboration with leading breeders, variety managers, and license holders new varieties from all over Europe are tested. Agroscope evaluates their suitability for the climatic conditions in Switzerland, as well as their agronomic potential and their marketability.

The COST descriptor list is used for the agronomic evaluations. Data are stored in an Agroscope database. Agroscope is doing in house evaluation of post-harvest conditions, diseases, physiology, plant pathology and sensorial evaluation.

Best practice findings

Variety testing of strawberries and raspberries

The evaluation of new strawberry and raspberry varieties at Agroscope takes place in two phases. Depending on the year, eight to ten new strawberry varieties and four to eight new raspberry varieties (primocane and floricanes) are tested.

The strawberry varieties are evaluated regarding their qualitative (sugar content, firmness, color) and agronomic potential (yield, diameter, maturing period, resistance or susceptibility to pests and diseases). Cléry serves as a reference variety. Tastings complete the evaluation of new varieties.

In the first year, the new varieties are grown hors sol in a 8 meter long plastic tunnel on the terrain of Agroscope in Conthey (Canton of Valais), as well as outdoors on a plot of the cantonal office for fruits and vegetables (OCAC) in Châteauneuf (Canton of Valais). Based on the results of this preliminary examination and the tastings the members of the forum for agricultural research on berries (Forum Agrarforschung Beeren) select the most promising varieties.

In the second year, these varieties are newly planted in Conthey (Agroscope) and Châteauneuf (OCAC), as well as on the fields of producers in different regions (introduction network). Further reference parcels are established at the Research Institute of Organic Agriculture (FiBL) and on the land of organic producers. This geographic distribution over important regions for strawberry production in Switzerland together with the different cultivation methods (Integrated Production (IP) and organic) allow for conclusions on the suitability of the varieties under different conditions. Furthermore, the suitability of the fruits for different sales channels (major distributor, self-marketing and 'pick your own' schemes) is tested. In this second observation year, new varieties are rated in comparison to a variety of reference (Cléry in the case of strawberries). For this purpose, different criteria (growth vigor of the plant, cost of harvest, ease of harvest, yield potential, appearance and quality of the fruits) are rated on a scale from 1 to 9 (1 = much worse, 3 = worse, 5 = comparable, 7 = better, 9 = much better than the variety of reference).

The variety testing of raspberries takes place uniquely on substrate. The plants grow in pots of 10 liter. Tulamen serves as a reference variety. For floricanes, Agroscope works with longCane in yearlong cultivation. For primocanes the plants are kept over three harvesting periods. The main criteria for evaluating the new varieties are the quality, the handling of the fruits as well as the size of the fruits. The main objective is to find varieties that allow for a faster harvest.

¹ Equivalent to 'final report' in EIP-AGRI format.

² Please see ec.europa.eu/eurostat/ramon/nomenclatures/ for details on NUTS regions, level 3