

Scanning report Martin Kockerols, OVA

*Project title (native language): EUFRUIT: European Fruit Network

*Project title (English): EUFRUIT: European Fruit Network

*Author/native language editor: Martin Kockerols, OVA, Moorende 53, 21635 Jork (Deutschland), martin.kockerols@lwk-niedersachsen.de, 04162-6016106,

Section A. Summary for EIP dissemination

*Keywords: Variety testing, stone fruits, sweet cherries, plums and prunes, planting and training systems

*Main geographical location: DE939 Stade

Other geographical locations:

*Summary (native language):

Die Schwerpunkte im Versuchswesen **Steinobst** an der Obstbauversuchsanstalt Jork (OVA) sind die **Süßkirschen-Sortenprüfung**, Süßkirschen-Unterlagenprüfung, Testung von Pflanzabständen und Pflanzsysteme bei Süßkirschen sowie Sortenprüfung bei Pflaumen und Zwetschen und eine Prüfung von Scharkahypersensiblen Unterlagen.

Die ideale Kirschen Sorte für den Norddeutschen Raum sollte groß, fest, dunkel, produktiv und robust. gegenüber *Pseudomonas* sein. Die Platzfestigkeit ist von geringerer Bedeutung, da die Überdachung von Süßkirschen mittlerweile zum Standard geworden ist. Gesucht werden Sorten von früh bis spät. Bei den Pflaumen und Zwetschen werden geschmackvolle Sorten von früh bis spät für die Direktvermarktung gesucht.

In 2017 stehen auf dem Versuchsbetrieb 60 neue bzw. neuere Sorten in der ersten Prüfstufe (Level 1) in der 2. Prüfstufe (Level 2) mit 8 bis maximal 20 Bäumen befinden sich aktuell 6 vielversprechende Neuheiten (Adelise, Aida, Areko, Henriette, Mika und Penny). Ergänzt werden die Neuheiten mit 15 Standardsorten die in der Praxis verbreitet sind und in der Sortenprüfung dem Vergleich dienen. Die Sorten des Level 2 werden in ihrer Fruchtqualität und Baumgesundheit insbesondere mit der zu diesem Reifezeitpunkt aktuell empfohlenen Sorte verglichen.

Bei den **Pflaumen und Zwetschen** sind für die Direktvermarktung besonders geschmackvolle Sorten gefragt. Aktuell gibt es nur wenige interessante blaue Neuheiten. Für die Zukunft soll daher das Prüfsortiment eher mit farbigen Pflaumen, Mirabellen, Renekloden und wenigen kritisch ausgewählten Neuzüchtungen aufgepflanzt werden

Summary (english):

The main research topics for stone fruits at the OVA are variety testing of sweet cherries, rootstocks, planting and training systems and variety and rootstock testing of plums and prunes.

The ideal cherry variety for Northern Germany should be early large, firm, dark, productive and less susceptible for *Pseudomonas*. Less susceptible for cracking is not very important, in the meantime is the covering of sweet cherries standard in Northern Germany. Wanted are varieties for the whole cherry season.

In 2017 we have 60 new varieties in the first screening (Level 1). In the second screening (Level 2) we actually testing 6 promising new varieties (Adelise, Aida, Areko, Henriette, Mika, and Penny). In level 2 we are testing 8 to maximum 20 trees per variety. The new varieties are supplemented with 15 standard varieties. The new varieties have to compete especially with the standard of the same ripening time.

Tasteful plums and prunes are very interesting and important for the local market. Now less promising new varieties are available. In future, we will plant plums that are more colored, mirabelles, reneklodes and just a few very promising new crossings

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 (Waremmе-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. Entwicklung eines Europäischen Netzwerkes für den Obstsektor.
2. Entwicklung und Umsetzung eines einheitlichen Systems für die Sortenprüfung und für die Umsetzung von wissenschaftlichen Kenntnissen in die Praxis.
3. Ein beständiger Dialog mit den einschlägigen EU-, nationalen und regionalen politischen Gremien soll etabliert werden.
4. Ermittlung und Unterstützung neuer Schwerpunktbereiche durch kontinuierliche Überwachung und Analyse bestehender und anstehender 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) • Pcfruit
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 Martin Kockerols, OVA

Author: Martin Kockerols, OVA, Moorende 53, 21635 Jork, martin.kockerols@lwk-niedersachsen.de, 04162-6016106,
Country: Germany
NUTS 3 region(s)²: DE6 (Hamburg), DE8 (Mecklenburg-Vorpommern), DE9 (Niedersachsen), DEF0 (Schleswig-Holstein)
WP no. and title: WP2 – Performance of new fruit varieties
Date: 28.04.2017

Source materials and methodology

Applied research of direct and immediate relevance to fruit production problems is one of the three central tasks at the OVA. At our experimental farm in Jork (pip and stone fruits) we carry out hundreds of experiments each year on apples and pears (pip fruit), sweet cherries, sour cherries, plums and prunes (stone fruit).

In extensive trials we examine the performance of different fruit varieties under Northern German conditions of climate and soil, making management recommendations to the grower. The program also includes trials of new cultivation techniques, planting systems, pest and disease control strategies, harvest systems and fruit storage. We address problems of integrated as well as organic fruit production. The overall goal of our extensive experimental work is the generation of well-founded scientific results and conclusions leading to improvements for the regional fruit production.

OVA is member of the EUFRIN network. OVA participated in the German Arbeitskreis (AK) obstbauliche Leistungsprüfung. Actually the OVA is running two stone fruit scannings of the AK: sweet cherry variety testing and the test of sharka-hypersensitive rootstocks.

Best practice findings

Variety testing of sweet cherries

The ideal cherry variety for Northern Germany should be early large, firm, dark, productive and less susceptible for *Pseudomonas*. Less susceptible for cracking is not very important, in the meantime is the covering of sweet cherries standard in Northern Germany. Wanted are varieties for the whole cherry season.

In the first screening every 3 to 4 years we are planting several new sweet cherry varieties from all over the world. All plantings we are covering with rain shelters. We plant 4 trees on Gisela 5. Gisela 5 is the standard rootstock in our region for more than 15 years. As reference we plant always Burlat, Kordia and Regina. Our spacing is 4,5m x 2,25m.

The evaluation of the new cherry varieties is conducted according to the Cherry Descriptor List, as compiled by the "International Board for Plant Genetic Resources" (IBPGR). We look at the production (kg/tree), fruit size (mm), fruit weight (g), fruit quality (firmness (g/mm), colour (Ctiff colour-code 1-7), sugar content (°brix) and acidity (g/l), taste (1-9), % cracking on the tree (%), cracking index (1-100) and storability and shelf life.

In 2017 we have 60 new varieties in the first screening (Level 1). In the second screening (Level 2) we actually testing 6 promising new varieties (Adelise, Aida, Areko, Henriette, Mika, and Penny). In level 2 we are testing 8 to maximum 20 trees per variety. The

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

new varieties are supplemented with 15 standard varieties. The new varieties have to compete especially with the standard of the same ripening time.

Variety testing of plums and prunes

Tasteful plums and prunes are very interesting and important for the local market. Now less promising new varieties are available. In future, we will plant plums that are more coloured, mirabelles, reneklodes and just a few very promising new crossings. For the local markets the fruit quality (taste, ripeness, colour) is very important. In the variety testing we are looking for varieties with a natural good taste, with a less productivity, with a good firmness (because the fruits have to pick ripe to have the optimum in taste). The main varieties are Tegera, Hanita, Fellenberg and Hauszwetsche. At the moment we are looking for a replacement for Hanita.

Challenges and gaps

There are some important challenges and gaps for stone fruit growing, especially for stone fruit growers:

- Infestation of all stone fruit species by *Drosophila suzukii*
- Infestation of sweet cherries by *Pseudomonas*
- New varieties get pushed and are planted without proper testing
- Increasing demands in fruit quality at sweet cherries: firmness, size, freshness
- Increasing demands for residue-free fruits