

## Scanning report (EIP format for practice abstracts)

- \*Project title (native language):** EUFRUIT: Europäisches Obst-Netzwerk
- \*Project title (English):** EUFRUIT: European Fruit Network
- \*Author/native language editor:** p.a., Massimo Zago, MSc, Julia Strobl, Laimburg Research Centre, Laimburg 6, 39040 Post Auer, BZ-Italia, Massimo.Zago@laimburg.it, +390471969671

### Section A. Summary for EIP dissemination

- \*Keywords:** Thematic Network, Fruit Sector, EUFRUIT, Stone fruits, best practices, variety testing, rootstock testing, plant protection
- \*Main geographical location:** ITH10 Bolzano-Bozen
- Other geographical locations:** ITH10 Bolzano-Bozen
- \*Summary (native language):**

Das Versuchszentrum Laimburg führt im Bereich des Steinobstes vor allem Versuche zu Sorten und Unterlagen durch. Das Ziel der Sortenprüfung ist die Beurteilung der Phänologie, der Produktion und der Qualität der Früchte, sowie ihrer eventuellen Resistenz gegenüber Krankheiten. Anhand der Ergebnisse der Sortenprüfung werden Empfehlungen für die Landwirte erstellt. In Südtirol werden an Steinobst vor allem Kirschen und Aprikosen angebaut.

Die vorwiegenden Kirschensorten stellen dabei Kordia und Regina dar. Da es sich bei diesen Sorten um mittel- bzw. spät reifende Sorten handelt, arbeitet die Arbeitsgruppe für Beeren- und Steinobst am Versuchszentrum Laimburg derzeit an frühen Sorten als Alternative zu diesen beiden Hauptsorten. Bei der Sorte Kordia sind Probleme im Nachbau keine Seltenheit. Daher führt die Arbeitsgruppe Versuche zu verschiedenen Unterlagen für Kordia durch. Schließlich wurden noch Bestäubungsversuche mit den Sorten Kordia und Regina durchgeführt. Diese haben ergeben, dass Kordia-Blüten, welche händisch mit Pollen von Regina bestäubt wurden, mehr Früchte trugen, als die Kontrollblüten, die auf natürliche Weise bestäubt wurden.

Wie bei den Kirschen bilden auch bei den Aprikosen Sorten sowie Unterlagen das zentrale Forschungsthema.

Die Sorte Vinschger Marille ist die Hauptsorte, die in Südtirol angebaut wird. Daher wurden von der Arbeitsgruppe pomologische Erhebungen durchgeführt, um die beste Selektion der Vinschger Marille zu finden.

Eine Herausforderung für die beiden Steinobstsorten Kirsche und Aprikose stellt der Frühlingfrost dar. Daher sind eine intensivere Forschung in Richtung spätblühender Sorten, sowie der Wissensaustausch mit anderen Experten dieses Gebiets dabei unabdinglich, um schwere Verluste für die Produzenten zu vermeiden.

Eine große Herausforderung ist weiters der Pflanzenschutz. So stellt für Kirschen vor allem *Drosophila Suzukii* ein großes Problem dar. Frühe Sorten könnten in diesem Kontext interessant sein, wenn sie vor dem massiven Auftreten von *Drosophila Suzukii* reifen und somit Verluste aufgrund des Insekts verringert werden können.

Bei Aprikosen stellt die Europäische Steinobstvergilbung die größte Herausforderung dar. Derzeit werden dazu Versuche in Zusammenarbeit mit der Stiftung Edmund Mach durchgeführt. Weitere Versuche in Zusammenarbeit mit anderen Instituten sind in dieser Hinsicht essentiell. Resistente Sorten und Unterlagen wären interessant um schwerwiegende Herausforderungen durch Krankheiten zu managen. Bisher sind keine resistenten Sorten bekannt, aber Forschung sollte sich zunehmend in diese Richtung bewegen.

### Summary (english):

At the Research Centre Laimburg, research on Stone fruit currently focuses on variety and rootstock testing. The aim of Variety testing is the identification of the phenology, the production and quality of the fruits, and the resistance against diseases. Variety

testing is conducted in order to come up with recommendations for the growers. The predominant Stone fruits cultivated in South Tyrol are cherries and apricots.

Kordia and Regina are the two main cherry varieties grown in South Tyrol. As these are medium and late-maturing varieties respectively, the working group for Berries and Stone fruit at the Research Centre Laimburg is looking for early varieties as alternatives to these predominant varieties. The mid season variety Kordia faces some problems related to replant disease. Therefore, the working group is executing tests with different rootstocks for Kordia. Finally, pollination-trials were conducted with the varieties Regina and Kordia. Kordia flowers pollinized with Regina pollen resulted in higher fruit set than the control which was pollinated naturally.

As with cherries, the central research subjects in the context of apricots are also varieties and rootstocks.

The variety Vinschger is the predominantly cultivated apricot variety in South Tyrol. Therefore, the working group conducted pomological tests with this variety in order to find the best selection.

A challenge for the both predominantly cultivated stone fruits is represented by spring frost. Increased research towards late flowering varieties together with knowledge-exchange with other experts of the field are crucial, in order to prevent severe losses to the growers due to frosts.

The major challenges the working group is facing in its research are related to plant protection. Regarding cherries, the central problem represents *Drosophila Suzukii*. Early varieties might be interesting if they mature before the presence of *Drosophila Suzukii* in order to reduce losses due to the insect.

In the context of apricots, the European Stone Fruit Yellow (ESFY) poses the major challenge. Currently, research on ESFY is conducted in collaboration with the Edmund Mach Foundation. More research in this regard in collaboration with other institutes is essential.

Resistant varieties and rootstocks would be interesting in order to manage the severe challenges represented by diseases. Up to now, no resistant varieties are known, but research should go increasingly in this direction.

## 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 (Waremme-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. Errichtung eines europäischen Netzwerkes, welches sich auf den Obstsektor konzentriert
2. Entwicklung und Umsetzung einer systematischen Vorgehensweise zum Festhalten und Synthetisieren des bestehenden wissenschaftlichen und praktischen Wissens
3. Schaffen eines kontinuierlichen/anhaltenden Dialogs mit relevanten EU, nationalen, sowie regionalen politischen Körperschaften
4. Identifikation und Unterstützung von neuen prioritären Forschungsgebieten durch das kontinuierliche Monitoring und Analysieren von bestehender und aufkommender Forschung 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 report<sup>1</sup>

## Scanning report

### Massimo Zago, Walter Guerra, Julia Strobl, Laimburg

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**Country:** Italy

**NUTS 3 region(s)<sup>2</sup>:** ITH10 Bolzano-Bozen

**WP no. and title:** WP2, Performance of new fruit varieties

**Date:** 24/02/2017

#### Source materials and methodology

**Zago M., Bauer O.** (2013). Passender Pollenspender gesucht. Südtiroler Landwirt 67 (7), 49-50.  
Quelle: [www.sbb.it/Landwirt](http://www.sbb.it/Landwirt)

**Zago M.**, (2012). Schutz gegen Wetterkapriolen. Südtiroler Landwirt 66 (17), 45-47.  
Quelle: [www.sbb.it/Landwirt](http://www.sbb.it/Landwirt)

**Zago M., Ropelato E., Gobber M., Franchini S.** (2005). Abwehr von Spätfrost bei Süßkirschen durch Frostschutzkerzen. Laimburg Journal 2(1/2), 58-61

#### Best practice findings

The Laimburg Research Centre (LRC) is a public research centre funded mostly by the local government. The research activities at LRC are distributed among four Institutes: Institute for Fruit Growing and Viticulture, Institute for Plant Health, Institute for Mountain Agriculture and Food Technology, and Institute for Agricultural Chemistry and Food Quality. The Group working on Berries and Stone fruit is incorporated within the Institute for Fruit Growing and Viticulture, and is collaborating with the other Institutes, primarily with the Institute for Plant Health. Regarding Stone fruit, the main focus lies on Apricots and Cherries, which represent the major drupes cultivated in South Tyrol. The research on Stone fruit currently focuses on variety and rootstock testing. Variety testing occurs in order to identify the phenology, the production and quality of the fruits, and the resistance against epidemics. Based on the results, recommendations of varieties for the growers are made.

The variety and rootstock testing for cherries is carried out on a representative site on 700m asl, the elevation on which most of the cultivation of cherries occurs. In the mountainous region of South Tyrol, cherries are cultivated in elevations up to 1.400m asl. Therefore, another representative testing-site is at 1.100m is situated in a more extreme altitude. In addition, the group working on stone fruits is conducting tests of 14 different rootstocks in collaboration with four other Italian research institutes, in order to collect comparative examples on four different testing sites.

Currently, the working group is looking for early varieties as alternatives to the predominantly cultivated medium and late-maturing varieties Kordia and Regina. The early varieties tested are Kasandra, Rocket, Earlise, Poisdal, Vera, Canada Giant, Sweet Early Panaro, Kossara and Sabrina. The medium ones are Satin, Frisko, Areko, Justina, Carmen, Christiana, Kordia, Sylvia, Lala Star, Durone, Tamara, Oktavia, Early Korvik, Techlovan, Penny, Ferrovia, Vanda, Samba and Folfer. Finally, the late ones are Sonata, Regina, Skeena, Lapins and Fertard. The mid season variety Kordia faces some problems related to replant disease. Therefore, the working group is executing tests with different rootstocks for Kordia: Gisela 5 (the standard rootstock), Gisela 6 and Piku 1 with a planting distance of 1,80m, and the rootstocks MaxMa 14 and Colt with a planting distance of 2,50m. This distance is larger due to the pronounced strength of these rootstocks compared to Gisela 5 and 6, and Piku1.

<sup>1</sup> Equivalent to 'final report' in EIP-AGRI format.

<sup>2</sup> Please see [ec.europa.eu/eurostat/ramon/nomenclatures/](http://ec.europa.eu/eurostat/ramon/nomenclatures/) for details on NUTS regions, level 3

Finally, pollination-trials were conducted with the varieties Regina and Kordia. The trials with Regina were conducted with the varieties Kordia and Durone3. These trials showed that Regina was not very responsive to the pollen of the other two varieties. The trials with Kordia, instead, showed that Kordia is very responsive to pollen of the variety Regina. Kordia flowers pollinized with Regina pollen resulted in more fruits than the control which was pollinated naturally.

As with cherries, the central research subjects in the context of apricots are also varieties and rootstocks. The main growing area for apricots is the Vinschgau Valley, which is characterized by very little rainfall. The testing-site is thus located in this valley, on a representative elevation of 800m. The variety testing is mainly conducted in order to provide a demonstration orchard for the farmers to examine the trees and take decisions on the basis of the experiments and of the evaluations they resulted in. Currently, the following varieties are tested at LRC: Vinschger, Hargrand, Goldrich, Flavorcot, Augusta 2, Augusta 3, Perlcot, Mino, Faralia, Ladycot, Emma, Springblush, Hilde, Orangerubis, Gemma, Kioto, Goldrich Pieve, Early Kioto, Clarina, BO 04639. In addition, tests with the following varieties are planned for the current year of 2017: Pricia, Tsunami, Rubistar, Samourai, Mediabel, Perlcot, Koolgat, Bergeval, Delice Cot, Dlgat, Ninja, Ladycot, Vertige, Anegat, Farely, Farbaly,

However, the local variety Vinschger is the predominantly cultivated variety in South Tyrol. Therefore, the working group conducted pomological evaluations with this variety in order to find the best selection.

A challenge for both predominantly cultivated stone fruits is represented by spring frost. 2016 is a prime example of the destructive impact of spring frosts, as it destroyed 95% of the total apricot harvest of that year. In order to mitigate the damage of fruits through spring frosts, experiments with frost protection (candles) are conducted. Increased research in the direction of late flowering varieties together with knowledge-exchange with other experts of the field are crucial, in order to prevent other such severe losses to the growers.

The major challenges the working group is facing in its research are related to plant protection. Regarding cherries, the central problem is represented by *Drosophila Suzukii*. In this context, the working group of Virology and Diagnostic under the Institute of Plant Health is working on the Dynamic of the Population, the Biology and the plant protection against the insect. The working group is also participating in the EFRE-project DROMYTAL, a project for the regulation of the *Drosophila Suzukii*. In this perspective, early varieties are interesting if they mature before the massive presence of *Drosophila Suzukii* in order to reduce losses due to the insect.

In the context of apricots, the European Stone Fruit Yellow (ESFY) poses the major challenge. Currently, research on ESFY is conducted in collaboration with the Edmund Mach Foundation. More research in this regard in collaboration with other institutes is essential. Resistant varieties and rootstocks would be interesting in order to manage the severe challenges that this disease presents. Up to now, no resistant varieties are known, but research should go increasingly in this direction.

Finally, a problem within the Laimburg Research Centre is the lack of human resources that the working group for stone fruits and berries is currently facing. The working group is currently a one-man operation and additional personnel are needed in order to stem the workload.

[Please summarise the finding of your scanning in terms of best practice for your particular regional and thematic context. Approx. 2000-5000 characters incl. spaces.]