

Scanning report (EIP format for practice abstracts)

*Project title (native language): [EUFRI: Európai Gyümölcs Hálózat]

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

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Section A. Summary for EIP dissemination

*Keywords: [pome fruit species, fruit thinning, Hungary, hand thinning, chemical thinning]

*Main geographical location: [HU101, HU102, HU211, HU212, HU213, HU231, HU232, HU233, HU311, HU312, HU313, HU321, HU322, HU323, HU331, HU332, HU333]

Other geographical locations: [HU221, HU222, HU223]

*Summary (native language) Hungarian / magyar :

Tíz cseresznye és meggy alany ('Bogdány', *Cerasus mahaleb* 'Cemany', 'Egervár', 'Érdi V', 'Korponay', 'Magyar', 'SM 11/4', *P. avium* 'C. 2493', 'GiSelA 6', kontroll: 'INRA SL 64' rootstock) korai érési idejű cseresznyefajtákkal ('Petrus', 'Vera', 'Carmen') alkotott kombinációt tanulmányoztuk öntözetlen körülmények között a NAIK Gyümölcstermesztési Kutató Intézet Kísérleti Üzemében Érd-Elvira majorban. A kísérlet célja az újonnan nemesített magyar cseresznyefajták számára a legmegfelelőbb alany illetve alanyok megkeresése volt.

Nyolc éves megfigyelések alapján ki lehet jelenteni, hogy a 'Petrus' volt a legerősebb növekedési erélyű fajta, melyet a 'Vera' és a 'Carmen' követett. A 'GiSelA 6' alany produkálta a leggyengébb, míg a kontrollként használt 'INRA-SL 64' a legerősebb növekedési erélyt a vizsgált alanyok közül a kísérletben.

Az 'SM11/4' és a 'Bogdány' alanyokra szemzett 'Petrus' kombinációk törzskeresztmetszete szignifikánsan nagyobb volt, mint a 'C. 2493' és az 'Egervár' alanyoké. Az 'Érdi V', 'Korponay', 'Magyar' és a 'Cemany' erős-középerős növekedési erélyt indukált a 'Petrus' fajtának.

A 'GiSelA 6'/'Vera' kombináció szignifikánsan kisebb törzskeresztmetszeti értéket ért el, mint a többi 'Vera' kombinációk. A 'Carmen' fajta esetében a 'Cemany' nagyobb, az 'Érdi V', 'C. 2493', 'Egervár', 'Korponay' középerős, a 'GiSelA 6' gyenge növekedési erélyt indukált.

A 'Petrus' fajta adta a legnagyobb termésmennyiséget s a legkisebb gyümölcsméretet a megfigyelt cseresznye fajták közül. Az 'Érdi V', 'Egervár' és a 'GiSelA 6' alanyra szemzett 'Carmen' fajtáról szüreteltük le a nagyobb termésmennyiséget, de egyedül az 'Érdi V' rendelkezett pozitív hatással a gyümölcsméretre, mivel a megfigyelt termések több, mint 40%-a volt nagyobb, mint 28,1 mm gyümölcstátmérő. A 'Vera' fajta az 'Érdi V' és az 'Egervár' alanyokon termelt a legjobban, a legjobb gyümölcsméretet az 'Érdi V' érte el.

Az aktuális piaci érték és az gyümölcsméret kategóriák alapján számított termésérték index az 'Egervár' és a 'GiSelA 6' alanyokra szemzett 'Carmen' esetében érte el a legnagyobb fánkénti bevételt, a 'Vera' pedig 'Egervár', 'INRA SL64' és az 'Érdi V' alanyokon volt a legértékesebb.

Summary (english):

Evaluation of ten cherry rootstocks ('Bogdány', *Cerasus mahaleb* 'Cemany', 'Egervár', 'Érdi V', 'Korponay', 'Magyar', 'SM 11/4', *P. avium* 'C. 2493', 'GiSelA 6', control: 'INRA SL 64' rootstock) combined with early ripening sweet cherry cultivars ('Petrus', 'Vera', 'Carmen') has been studied among non-irrigated conditions in Central Hungary. The trial was set up at Experimental Fields of NARIC Fruitculture Research Institute at Research Station of Érd. Aim of our study was to find suitable rootstock(s) for novel bred Hungarian sweet cherry varieties.

It can be stated after eight years investigation that 'Petrus' was the most vigorous variety, which is followed by 'Vera' and 'Carmen'. The 'GiSelA 6' rootstock showed low vigor among examined rootstocks and 'INRA SL 64' was the most vigorous one in our trial.

TCSA of 'Petrus' combinations grafted on 'SM11/4' and 'Bogdány' was significantly bigger than on 'C. 2493' and 'Egervár' rootstocks. Other rootstocks such as 'Érdi V', 'Korponay', 'Magyar' and 'Cemany' indicated high – moderate high vigor for 'Petrus'.

'GiSela 6'/'Vera' combination had significantly smaller TCSA compared to other 'Vera' combinations. In the case of 'Carmen' rootstock 'Cemany' showed high, 'Érdi V', 'C. 2493', 'Egervár', 'Korponay' indicated medium and 'GiSela 6' produced low vigor.

'Petrus' produced the biggest yield and the smallest fruit size among observed cherry varieties. Yield of 'Carmen' grafted on 'Érdi V', 'Egervár', and 'GiSela 6' was the highest but only 'Érdi V' had a positive effect on fruit size because more than 40% of examined fruits were larger than 28,1 mm in diameter. 'Vera' yielded well on 'Érdi V' and 'Egervár', the best fruit size was produced by 'Érdi V'.

On the basis of value –yield index, which was calculated by actual market price per fruit size category, 'Carmen' produced the highest income per tree on 'Egervár' and 'GiSela 6' and 'Vera' was the most valuable on 'Egervár', 'INRA SL 64', and 'Érdi V' rootstocks.

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. A gyümölcsszektorral fókuszáló európai hálózat alapítása
2. Szisztematikus megközelítés létrehozása és fejlesztése a létező tudományos és gyakorlati ismertanyag összefoglalása és szintetizálása érdekében
3. Dialógus kezdeményezése az EU, nemzeti és regionális szervekkel
4. Új kutatási területek meghatározása és támogatása folyamatos monitorozással és analízissel, létező és küszöbön álló kutatási és innovációs aktivitással

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 [Bujdosó, Géza, NARIC]

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Country: [Hungary]

NUTS 3 region(s)²: [HU101, HU102, HU211, HU212, HU213, HU231, HU232, HU233, HU311, HU312, HU313, HU321, HU322, HU323, HU331, HU332, HU333]

WP no. and title: [WP5 – Secure sustainable fruit production]

Date: [Y3 report due May 2018 for the period 06-17 to 05-18]

Source materials and methodology

field advisory activities made by NARIC Fruitculture Research Institute

Best practice findings

Actual situation

Winter of 2017/2018 was mild till late January, there were some days, where the daily minimum temperature reached the negative values. February was wet, there were three times snow and a lot of rain, but March was extreme cold, sometimes the daily minimum temperatures were 15 degrees below zero. During the final night of February (late night of 28th February, early morning of 1st March) the minimum temperature was 20 degrees below zero in the southern part of Hungary. This extreme cold caused a lot of troubles in especially in the apricot orchards, the apricot and almond production of 2018 will be very low in Hungary. The period started from Easter Monday (2nd April) till mid May was very hot and dry. The daily maximum temperatures reach 30 degrees, which are equal to real summer temperatures. Parallel with the hot summer weather there was no rain, so drought started in April. The blossom was very rash, in the case of some cultivars this phenological period took just couple of days due to the early or real summer temperatures. The fruit set looks quite good after the quick blooming period, but the fruit size will be smaller, than as typical for the cultivar in the non-irrigated orchards because of the early drought. There were a lots of showers end of May, which was a bit late for the early ripening fruit species, because those cultivars could not reach good fruit size among non-irrigated conditions.

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