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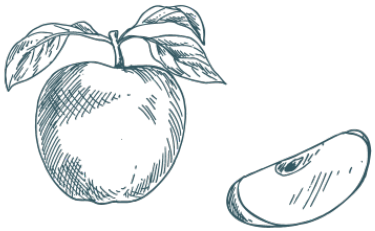
LIVESEED Apple task Workshop- BIOFACH 2019

Organic apple breeding in Europe

Common strategy and networking to face organic sector challenges and market opportunities



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Working together

Aim: 100% organic seed of adapted cultivars

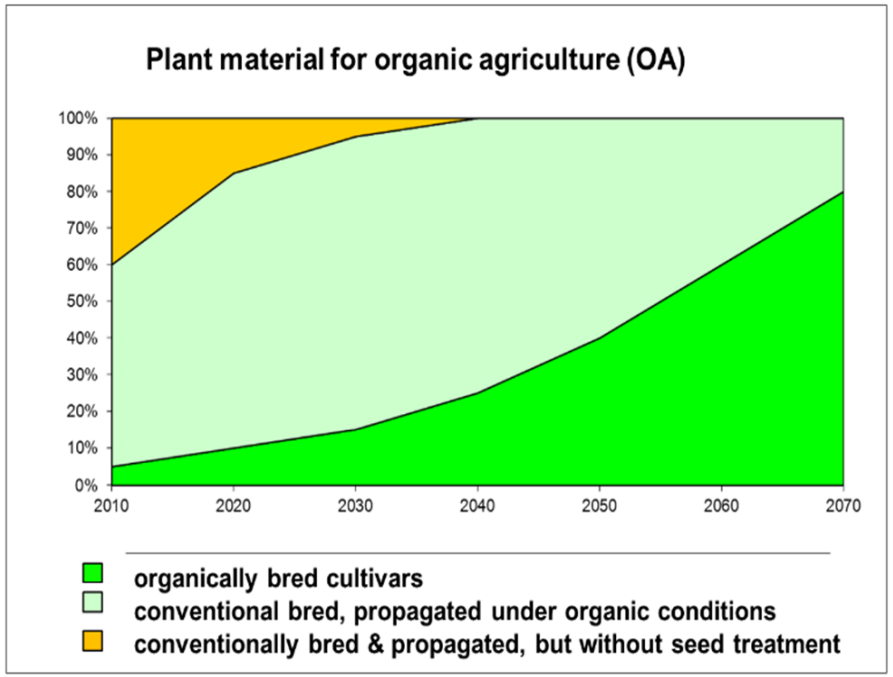

Figure 1 : Schematic time line to reach the goal of 100% organically propagated seed of suitable cultivars (light green) in short term and to foster cultivars specifically bred for organic farming systems (bright green) in the long term

49 partners
18 countries

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23 breeding & research institutes
7 breeding companies
8 seed companies
11 organic associations

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LIVESEED apple task

- The objective of LIVESEED apple task is to improve breeding for organic apple production through a network that will join forces, share knowledge and genetic resources.
- LIVESEED apple task strives to:

- Coordinate European organic apple breeding network with shared methodologies, description of accessions and cultivar testing protocols and facilities across Europe
- Suggest candidate apple cultivars for pilot cultivation under copper free organic orchards
- Report on breeding activities, breeding gaps and key factors for strengthening small breeding initiatives.
- Report on novel breeding concepts and strategies for organic and low input farming systems.

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Organic apple breeding in Europe

- France : evaluation of old and new apple cultivars grown under very low input level (Parveaud *et al*., 2011 ; Warlop, 2016).
- Switzerland :EU project 'Fruitbreedomics.' marker assisted breeding, for disease resistances (Kellerhals *et a*l., 2012; Gassmann *et a*l., 2014).
- Switzerland : Poma Culta (Niklaus Bolliger), Project TEMA
- Germany : Apfel:gut project developed organic fruit varieties with a participative approach (Ristel & Sattler, 2014)
- Germany, KOB : resistance to apple scab (Neuwald *et al.*, 2016).
- Germany : comparison of rootstocks, which should be less susceptible to fire blight (Ruess, 2006; Pfeiffer, 2014)
- Lithuania : apple cultivar selections (Lanauskas *et al.,* 2009)
- Belgium : organic breeding project Novafruits, led by Marc Lateur (CRA Gembloux
- Greece, participatory apple genetic resources evaluation (Koutis *et al.,* 2016)
- Spain : cider-apple cultivars selected by SERIDA (Dapena *et al.,* 2004)

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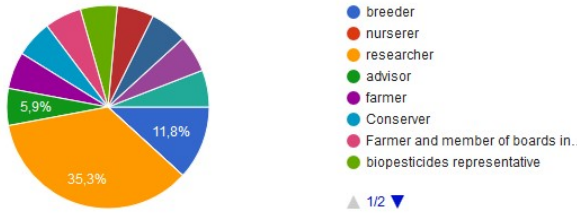
Apple task online survey

https://www.liveseed.eu/2018/organic-apple-breeding-network/
https://www.ifoam-eu.org/en/news/2018/09/11/data-collection-organic-seed-and-breeding-europe



Which are the main apple breeding targets in your country?

16 απαντήσεις

- insect and disease tolerance
- fruit quality, productivity, disease and pest resistance
- Fistly, to safeguard the local apple breeds and secondly to find out if and how these breeds would be useful for organic farmers and consumers
- No official government or private breeding that I know of; Perhaps resistance to scab & canker; ripening in cool damp summers; niche markets/products...
- Creating new cultivars with resistance to diseases, High productivity and good quality
- Dessert apple with good resistances against diseases as scap, mildew, fireblight
- scab resistant varieties, outstandig fruit quality
- resitance against
- Finding robust varieties for organic fruit growing
- Fruit quality improvement, fruit thinnig, pests and disesases control
- Step 1 gattering all information about excisting collections in dutch appeldatabase
- not involved and no insight in this activities
- MARKETING
- Robustness and taste
- scab resistance
- robust varieties

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BIOFACH 2019 – LIVESEED Apple task workshop

Objectives :

- Identifying common paths of collaboration on breeding and cultivar testing methodologies including material exchange
- Investigating common strategy on organic breeding innovation promotion to the market and end users
- Meeting organic apple farmers needs around Europe for cultivars and rootstocks
- Exploring new challenging impact of organic legislation on apple breeding and reproductive material marketing

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workshop program

9h	Welcoming	Kostas Koutis, Liveseed task leader, Aegilops (GR)
9h15	Organic apple Breeding in Europe - State of Art –EGON project	François Warlop, GRAB (F)
9h30	Apple cultivar testing under organic and market introducion in Switzerland	Dr. Monika Messmer, FiBL (CH)
9h45	“NOVAFRUITS : an apple & pear trans-border organic participative breeding program based on robust and disease tolerant old local cultivars”	Dr Marc Lateur, Univ. Bembloux (BE)
10h	« Crowd-breeding » of Danish apple cultivars	Maren Korsgaard, Univ. Copenhagen (DK)
10h15	Breeding apples with broad genetic basis	Dr Markus Kellerhals, Agroscope (CH)
10h30	Discussion & coffee break	
11h30	Breeding for cider-apple cultivars in Spain	Dr Enrique Dapena, Serida (S)
11h45	Launching new apple varieties under the label « Bioverita »	Niklaus Bolliger, Breeder- farmer. Poma Culta (CH)
12h	Organic apple in Greece	Sevi Liouza, Organic apple farmer, AEGILOPS heritage variety nursery – BioFru (GR)
12h15	Discussion & perspectives	

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