

Commitment of organic value chain for marketing phytophthora resistant potato varieties by 2020

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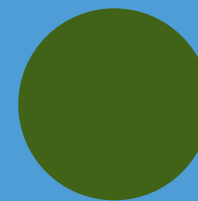
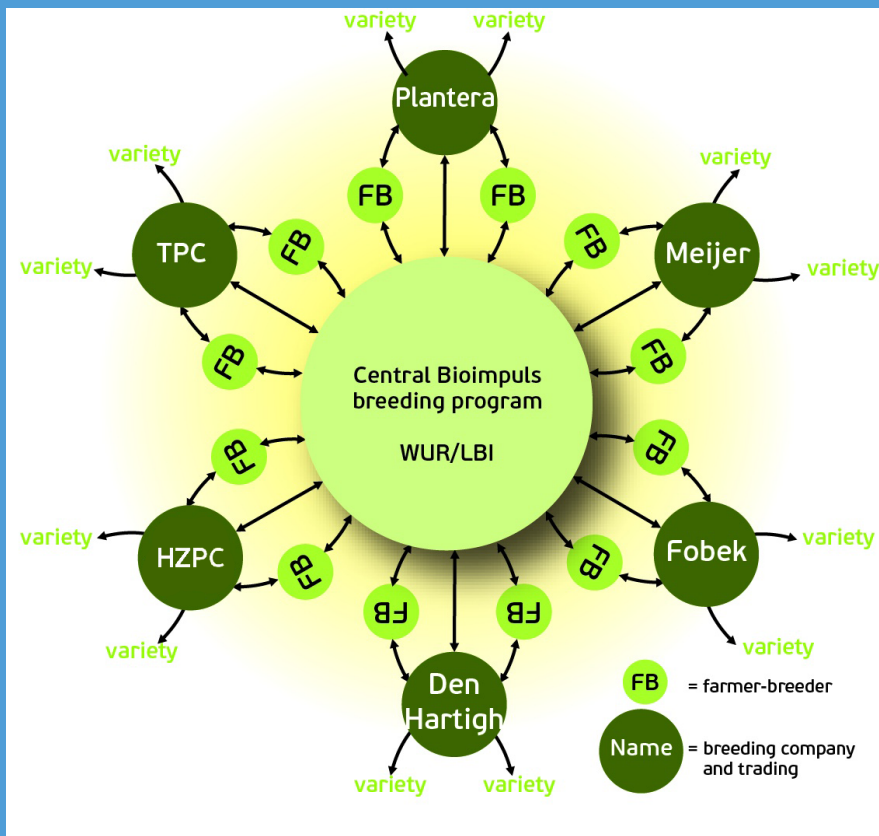
The problems in NL

1. In NL late blight occurs yearly (maritime climate)
2. In NL no copper based fungicides allowed
 - Yet, copper leaf fertilizer is permitted.....
3. National rule to burn crop when 5% foliage is infested
4. Since 2000, 20% of organic farmers stopped growing potato
5. In 2006, a cisgenesis (GMO) project started in NL.
6. In 2007, first traditionally bred, resistant varieties were not easily accepted in the market

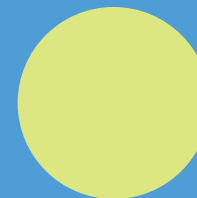


Solution (1)

Bioimpuls, organic potato breeding program 2009-2019



6 breeding companies



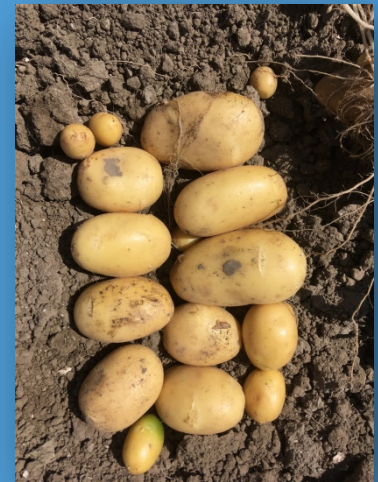
LBI and WUR



12 farmer-breeder

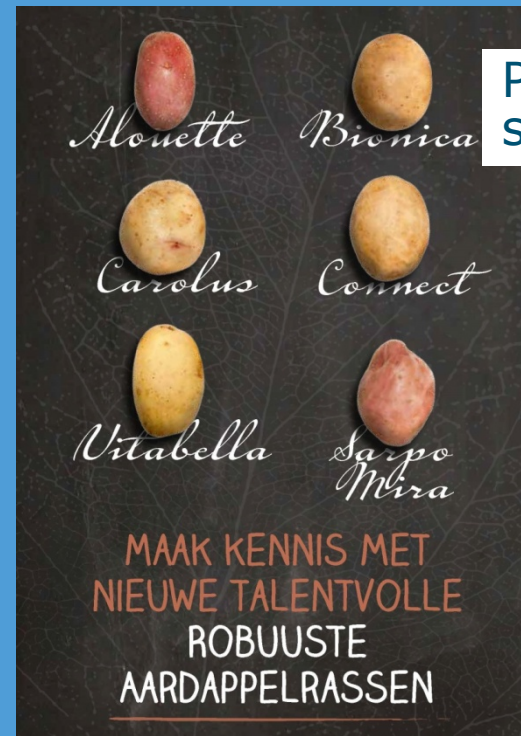
Many traits required for organic farmers

- Key:
 - Resistance against foliage and tuber late blight
- For durability of resistance genes:
 - early tuber setting and tuber filling
 - 30-40 tonnes/ha in 90-100 days
 - stacking a diversity of resistance genes
- For resource use efficiency, no herbicides
 - early closing canopy with less N-input
 - N-efficiency and ability to recover after stress
- For other diseases:
 - less susceptible for virus, rhizoctonia and (silver)scab, alternaria



Requirements for the market

- Not only for organic market
but additional conventional market
- good quality, smooth skin, shape, flat eyes, flesh and skin colour, and taste



Pilot studies in supermarkets



2016: Heavy and early late blight in NL for conventional and organic growers

- Supermarkets put pressure on conventional farmers to reduce/avoid use of chemicals
- Yet, organic potato growers used copper leaf fertilizer.....
- August 2016, press alerted, questions to the Parliament.....

Finally:

- Decision by the organic farmers association and Bionext:
 - Transition towards 100% robust varieties, in 2020
 - But then commitment needed of supermarkets!

Transition towards copper free, late blight resistant cultivars - a chain wide approach, 2017-2019 -

Goal 2020: NL 100% copper free, full assortment late blight resistant cultivars

Key actions:

- Regional variety trials
- Full commitment chain actors: Breeders, Farmers, Traders/Packers/Retail
- Training in resistance management to prevent establishment of new fysio's!

Solution (2)

In 2007, Covenant with ALL supermarkets in NL!



Available late blight 17 resistant varieties (2019)

- Sarpo Mira (Danespo-McCain)
- Bionica/Niek's Witte, Sevilla (Niek Vos)
- Vitabella, Cephora (Plantera)
- Carolus, Alouette, Twinner, Twister, Levante (Agrico)
- Connect (Den Hartigh)
- Cameo, Passion, Tentation (Caithness)
- Acoustic (Meijer)
- Otolia (Europlant)
- Alanis (Interseed)

Available early varieties:3 (2019)

- Marabel
- Allians
- Triplo



Lessons learned

Key elements for successful models

We know that:

- The value chain consists of different, specialised actors with each their own goals/policies;
- The more different players, the more difficult to get all actors committed to a common goal; win-win?

How to overcome:

- Ownership of the problem: with ALL food chain partners
- Collaboration has to be initiated within the food chain
- A (neutral and skillful) facilitator is needed who recognises and balances different interests of all parties involved; someone to push-pull!

Thank you!



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