KATHOLIEKE UNIVERSITEIT
LEUVEN

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Innovation in agriculture and food security

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Outline

1. Native plant traits (focus)
2. Food security (problem)
3. Legal tools (solution)
4. A conceptual interpretation (conclusion)

1. (GM versus) native plant traits

- GM trait (Exogene trait, man-made trait)
  - a trait in *other organisms* (bacterium, fungi, animal, human) or in other *non-related plant species*
  - introduced in the genome of a plant via *GM/molecular techniques*

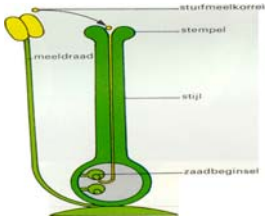
Bollgard^{R} cotton

- a trait (insect resistance) from *Bacillus thuringiensies (Bt)*
- introduced via genetic modification technique

- Native trait (Endogene trait)
  - a trait based on naturally occurring genetics in *plants*
  - inserted into the target plant by *sexual crossing*

Kanzi apple

- a trait (increased vitamine A level) from other apple variety
- introduced via sexual crossing

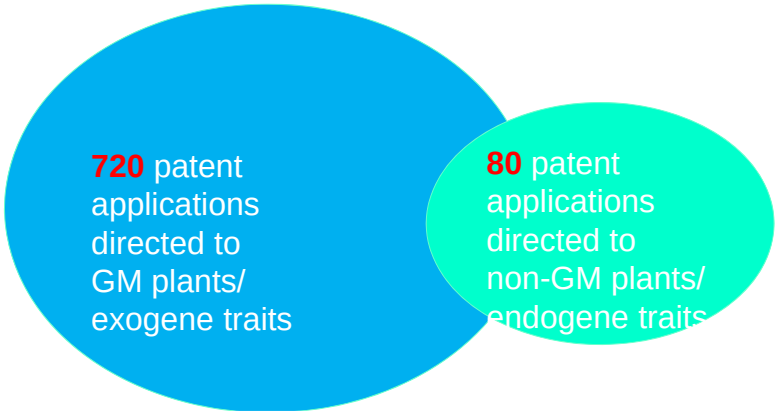


2. Food security

Plant traits
= basis genetic variation
= most important source of innovation
= condition to safeguard **food security**/deal with consequences climate change

Supported by *Position Papers*
ESA & ISF

Current IP regime, allowing patents on native plant traits, leads to **restricted access** to genetic variation



800 patent applications concerning plant innovations/year

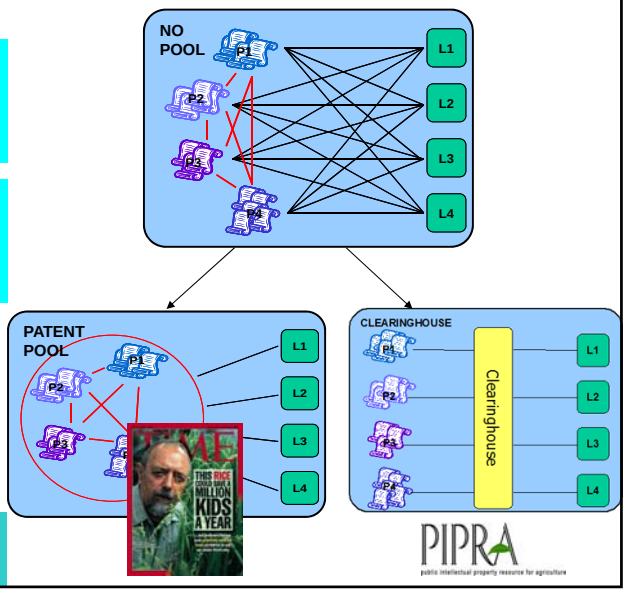
Espacenet – IPC classification search

3. Legal solutions

Ban patents
Formal *legal* rules

More adequate licensing models
Formal rules of *contract*

Gobal breeder's exemption patent law



Best solution?

legislator

Normative criteria

Internal criteria [embedded in the law]
e.g. fairness, equality, prevention distortion competition

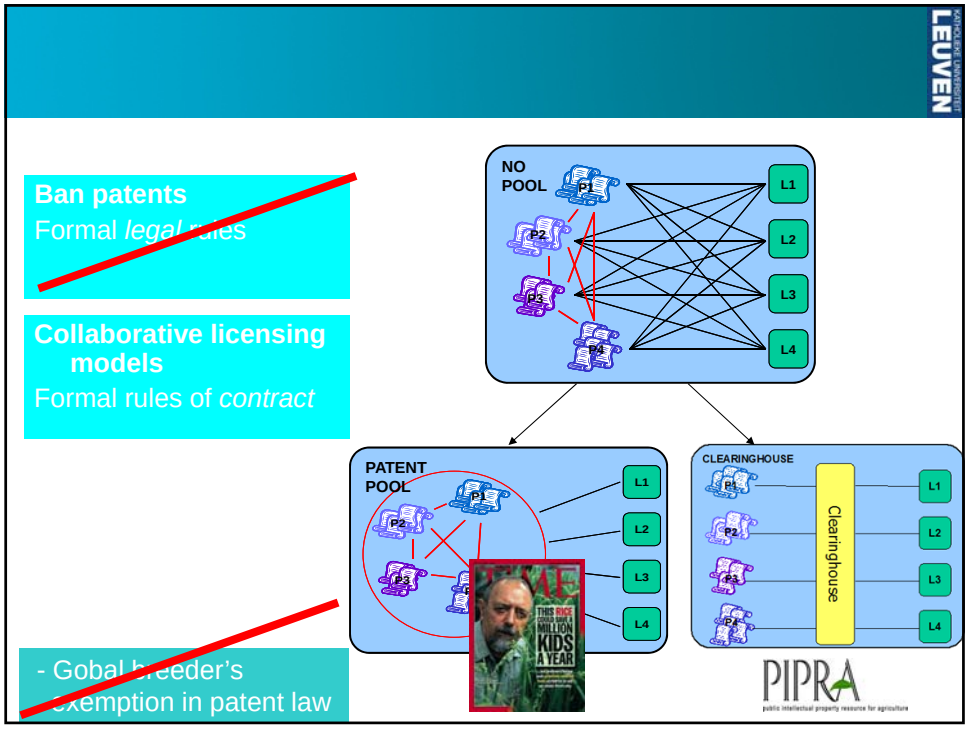
External criteria [not directly embedded in law]
e.g. efficiency, cost reduction

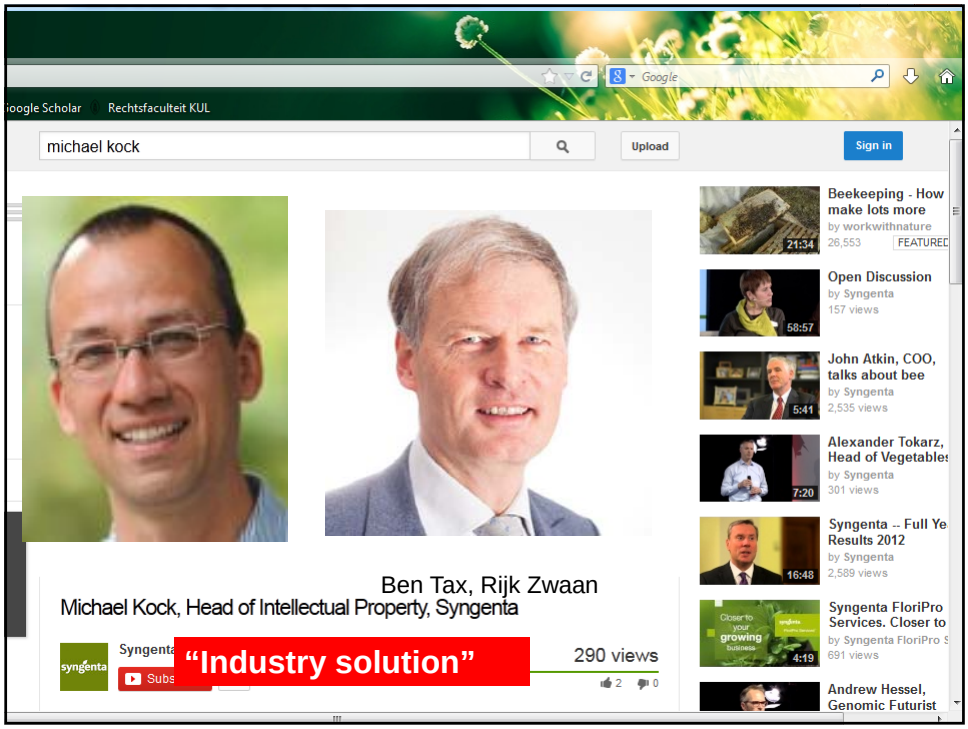
Here

Internal *:*
- maintain current rationale of *patent* system to serve as a (positive) incentive for the production of plants
- *competition* law requirements

External:
- Access to genetic variation is essential for breeding crops in the future, and food security
- Feasability

solution


Ban patents
Formal legal rules
Collaborative licensing models
Formal rules of contract
- Gobal breeder's exemption in patent law
NO POOL
P1
P2
P3
P4
L1
L2
L3
L4
PATENT POOL
CLEARINGHOUSE
Clearinghouse
PIPRA


michael kock
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Michael Kock, Head of Intellectual Property, Syngenta
"Industry solution"
290 views
Beekeeping - How make lots more
Open Discussion
John Atkin, COO, talks about bee
Alexander Tokarz, Head of Vegetables
Syngenta -- Full Ye Results 2012
Syngenta FloriPro Services. Closer to
Andrew Hessel, Genomic Futurist

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Adapting IP to an evolving agricultural innovation landscape

April 2013

By Dr. Michael A. Kock, Head of Intellectual Property, and Christine Gould, Global Public Policy Manager, Syngenta International AG

More than ever, innovation is needed to meet the challenges of a rapidly-growing world population which is poised to increase from 7 billion today to almost 9 billion by 2050. Higher calorie demand and an increased use of crops for biofuels will require agricultural production to increase by 70 percent by 2050 (OECD-FAO Agricultural Outlook 2010-2019). Climate change and decreasing availability of water and farmland will add further complexity to the situation. We need to meet this challenge by producing more with less - less land, and fewer inputs, including less fertilizer. This will only be possible if we maximize agricultural innovation in areas such as seeds, biotechnology, crop protection, resource-saving agricultural practices, storage and transportation. Similarly – and even more importantly given the complexity of this endeavor – we need to develop solutions that make it possible to integrate the variety of innovative elements

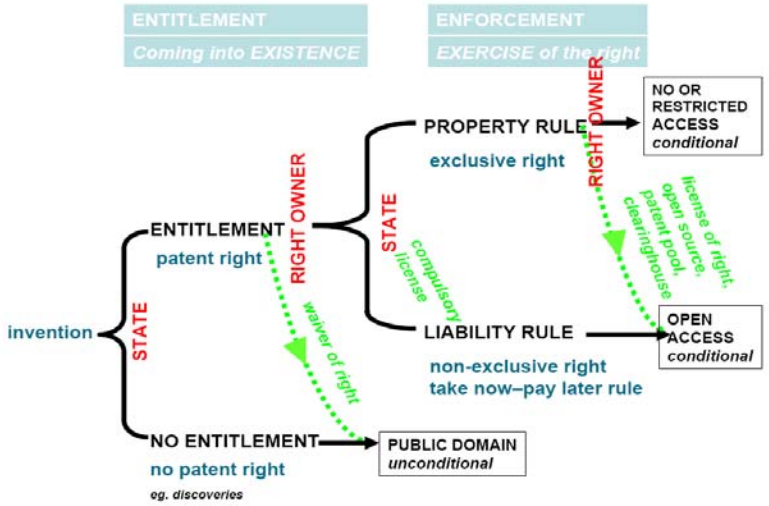
Developing an industry-wide licensing platform

Syngenta is also working with its partners, including small and medium-sized seed companies, to design an industry-wide licensing platform for vegetable traits. The aim again is to ensure easy access to these traits using transparent licensing conditions that carefully balance the interests of patent holders and licensees. This initiative enables the integration (stacking) of innovations from different parties and eliminates any risk that royalty payments may become a limitation to the development of an integrated solution.

"IP bashing" has become fashionable, but abandoning IP is a short-sighted and risky business."

To ensure it is widely adopted, the initiative includes a "pull-in" mechanism requiring licensees to make their own patents available to the platform. It operates on a "give-and-take" basis whereby each party that accesses a patented technology via the platform is required to provide access to their own patents under the terms of the platform. Everybody, irrespective of patent ownership, can participate in the platform. The initiative is not intended to replace bilateral licenses but rather to provide a safety net should bilateral negotiations fail. A concrete proposal detailing the industry licensing platform was submitted for review by the competent competition law authorities.

4. A conceptual interpretation



VAN OVERWALLE, G., 'Exclusive Property versus Open Commons. The Case of Gene Patents', *The WIPO Journal: Analysis and Debate of Intellectual Property Issues*, 4, 2013, 139-158

Our choice …

Guiseppe Arcimboldo

Guiseppe Arcimboldo

Balance IP protection/access to safeguard food security