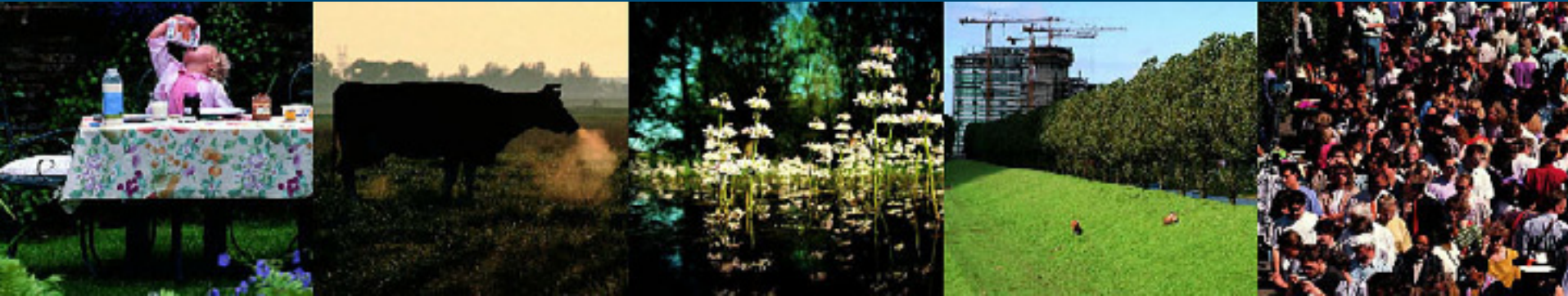


Supply of non-GM feed in consumer driven animal production chains

Gerwin Meijer, Leontine Colon, Oene Dolstra, Bert Ipema, Anita Smelt, Koos de Vlieger, and Esther Kok



Feed containing GMOs

Samenstelling:

Bietenpulp, Maïsglutenvoer 1), Sojahuilen 2), Sojaschroot 2), Tarwegries
Bietmelasse, Palmpitschilfers, Luzernemeel, Tarwe, Raapzaadschroot, Kool
voederkalk, Lijnzaad, Natriumchloride, Premix

- 1) Dit product is geproduceerd met genetisch gemodificeerde mais.
- 2) Dit product is geproduceerd met genetisch gemodificeerde soja.

Bij voorkeur gebruiken voor: 13-04-2006

Samenstellingscode: 301/60/221

Registratienummer: α NL 10898

130

Animal products not labelled



- <10 GMO labelled items in supermarket



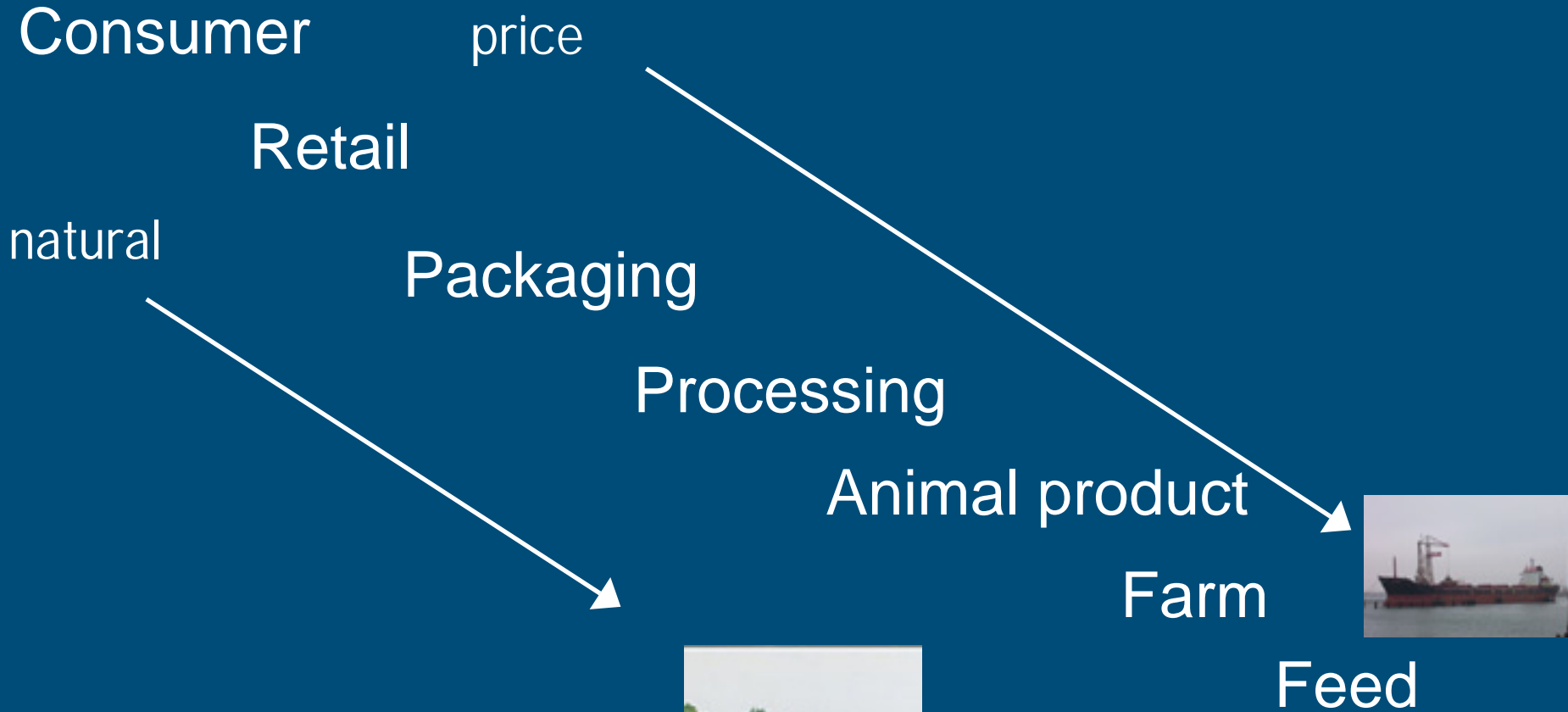
Consumer incentives

Quality	8.2
Shop atmosphere	7.0
Discounts	6.9
Choice	6.8
Hygiene	6.8
Low prices	6.8
Distance to shop	6.5
Speed at cash-desk	5.5
Friendly staff	5.3



(Dutch retailers, 2005)

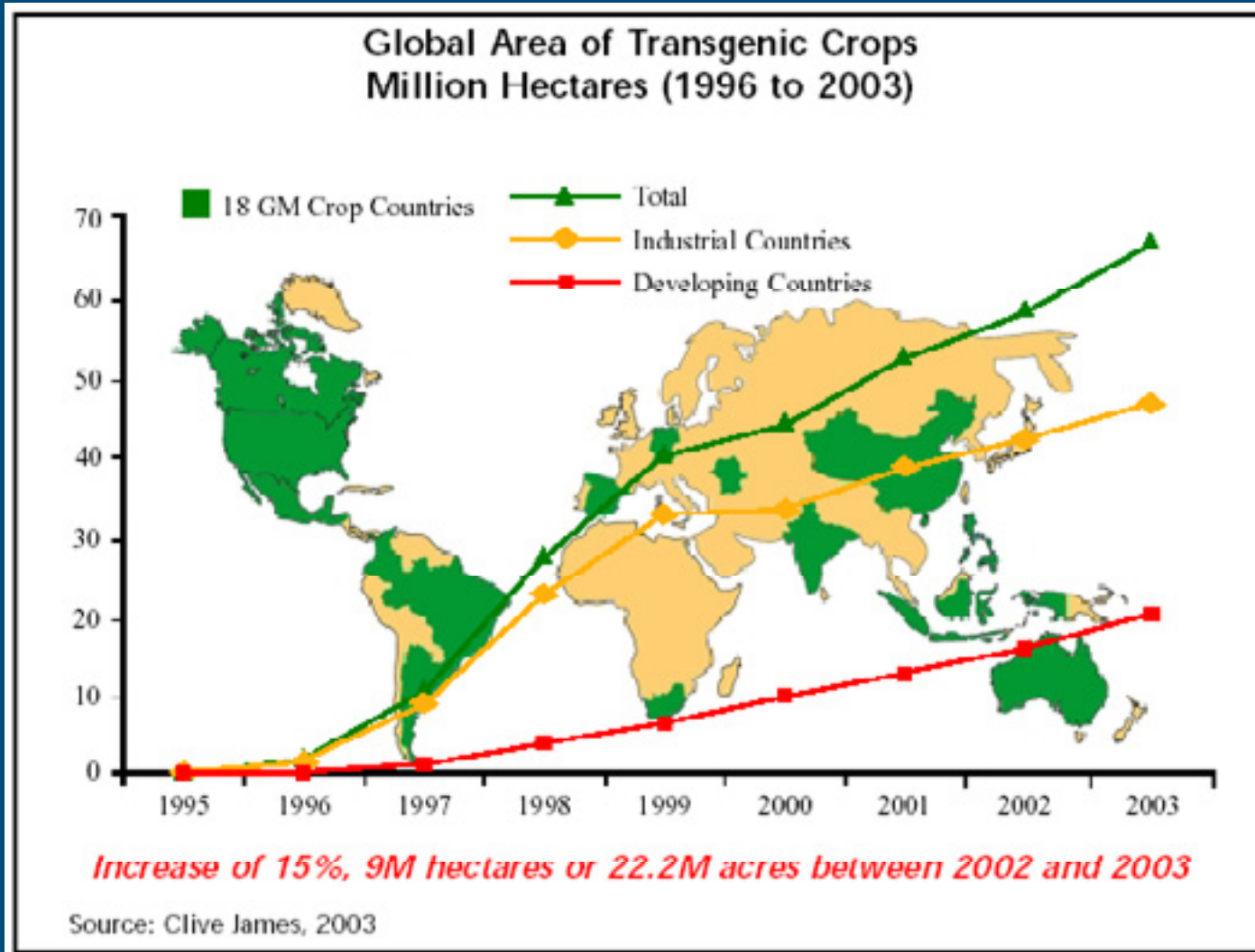
From fork to farm



Large import of feedstuffs



Increase of GM crops and varieties



Conditions for Co-existence in Animal Production



- Mutual acceptance despite opposing views
- No obstruction of testing GMOs
- Incentives for the realisation of non-GM feed supply system

Aim of the study

Contribute to sustainable coexistence of conventional and non-GM animal production chains

- Explore risks and bottlenecks for non-GM feed production
- Estimate the extra costs associated with it

Approach

- Multidisciplinary project team
(molecular biology, economics, animal production, feed manufacture, plants sciences, chain management, etc.)
- Involvement of stakeholders
(feed industry, government, organic farmers, retail, ngo's)
(workshops, interviews, consultation, data input)

Approach

■ Scenarios

- Conventional, controlled (labelled)
- Non-GM, controlled (< 0.9%)
- Non-GM, restricted (< 0.5%)
- Organic farming, (detection limit)
- Non-GM, zero tolerance

Results; risks

- New (unknown) varieties of GM crops
- Unintended mixing
- Dispersion of seeds and pollen

Main morning Wind



Main
afternoon
Wind



Transgenic field



Results; practical bottlenecks

- Sampling strategies
- Techniques for detection and analysis
- Liability
- Lack of international co-operation
- Low demand / interest from consumers
- GM-status of many feed additives unknown
- Lack of alternatives, constraining production, animal health, environment, etc.

Results; economic effects

Chain	Level of inclusion (%)	Extra costs (€ per tonne corn)		
		QA	Testing	Management
Seed	< 0.3	-	-	0 - 1,5
Farming	< 0.08	1.8 - 4.5	3	5 - 10
Trade	< 0.05	0.6 - 1.5	1	4 - 9
Processing	< 0.05	0.6 - 1.5	1	11 -13
Transport	< 0.05	0.6 - 1.5	1	10 - 40
Total chain	0.2 - 0.5	3.6 - 9.0	6	30 - 73

Results; economic effects

Scenario	Extra costs (per tonne of corn)	
	€	%
Conventional	> 0	> 0
Non-GM (< 0.9%)	36	41
Non-GM (< 0.5%)	↓	↓
Organic + zero tolerance	82	92

Perspectives

Price of non-GM feed production will increase; this might be balanced by:

- Growing consumer demand
- General food safety measures

Practical bottlenecks should be solved:

- In co-operation with stakeholders

