Analysis of coexistence - Juridical costs and benefits - an uneasy task, indeed !

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Forward

It is uneasy to …

1. *… carry out a global analysis of* organised coexistence *as opposed to unregulated coexistence between GM and non GM supply chains*
   - From viewpoint of the society as a whole wich is different from the various viewpoints of farmers, operators, consumers, public authorities, international trade…
2. … carry out a qualitative, societal analysis (total economic value, including use value, option value, existence value, bequest value …)
3. … carry out a costs/benefits analysis of coexistence and not of GMO vs. non GMO

I. Seeds

1. Availability *vs*. unavailability of traditional seeds :
   - Costs <u>of availability</u> of non transgenic seeds → costs maintenance of traditional breeding
   - Costs <u>of unavailability</u> of non transgenic seeds
     - → Prices of GM seeds increase in USA (soya 2007-2009: seeds + 45%, herbicide + 133% →concentration on one technological route
2. Genetic resources
   - Costs of maintenance of genetic resources → genes flow
     - No cost for collections in seeds bank
     - Moderate cost for *in situ* collections (protection distances…)
     - High cost for preserving centres of origin of cultivated plants sometimes larger than a country (Mexican case + decree March 09)

Seeds

3. Genes inventors

- Coexistence : felt in a first approach as loss of market shares and thus no benefits.
- Public authorities have to oversee patents regarding genes of general agronomic interest (adaptation to climate change, drought …) → It must be specified that these genes existing in varieties obtained through traditional breeding cannot be considered as infringement of their patented equivalents.

4. Plant breeders

- Loss of market shares on both traditional and transgenic varieties
  - Costs and benefits balance themselves
- Research on non transgenic varieties is valorised **directly** (e.g. salt-tolerant wheat China – CIMMYT cooperation or recent Monsanto press release on its work on conventional breeding) or **indirectly** (integration of patented genes into performing traditional varieties.

Seeds

5. Public *vs*. Private research

- Private research strongly invest
  - On transgenic varieties.
  - On dual strategies rather uneasy to understand (GM/non GM): what is the difference in performances between GM and non GM varieties (which terms of comparison to be used)? Which non GM varieties are non released on the market (e.g. cultivar material in which genes have been integrated)?
- Are they innovative companies investing in purely non GM Research (e.g. *eMerge Genetics Iowa*, with non GM soya seeds)?
- For coexistence →Absolute need for public research on traditional breeding for genetic improvement.
  - But recent reorganisation of public research turns around: understanding biodiversity, genetic resources, deciphering genomes… All items not concerned by new varieties release… They are very few new varieties placed on the market → lack of research, particularly on some taxa.

Seeds

6. Industrial seeds' producers

- EU Members States → obligation to use certified seeds, → increase of seeds producers' market shares.
- Difficulties to produce non contaminated seeds (very low threshold as also using a margin of safety versus the farmers requested threshold, in a similar behaviour to operators vs. farmers)
- Juridical risk in case of not detected fortuitous contamination.

7. Farms saved seeds.

- With legal obligation to use certified seeds = farmers loose their right to save seeds (right recognized by regulation 2100 of 1994 in EU)
  - Solution: use the same distance protection for auto-production as for industrial seeds growers?

II. Operators

1. Costs
   - Juridical organisation
     - Mutual protection measures and obligation to coordinate themselves:
       - Protection distance, GMO-free areas, transport, storage, segregation of production flows…
       - Obligation to conclude complex contracts regarding
         - supply chains organisation (in Europe and with third countries operators)
         - traceability (tests, preserving proof…)
       - Obligation to act with due diligence (e.g. bees).
   - legal risks
     - Liability
     - Lack of labelling.
     - Repression of frauds if false labelling, misleading advertising.
     - Risks of boycotts (consumers).
     - Risk of shipment refusals (failure of products to comply with importer countries domestic regulations).
     - Need to negotiate international common standards.

Operators (benefits)

2. Benefits in general
   - Processes under control (quality and safety)
   - Better information's circulation within the supply chains.
   - Opportunities for farmers from States with very large farms.
3. Juridical benefits
   - Freedom of choice (differentiated marketing, market niches).
   - Juridical learning on traceability as a general obligation under Food law: legal coherence with EU regulation 178/2002.
   - Traceability and labelling as juridical tools for market segregation.
     - Juridical learning of the segregation of diverse productions (GM/non GM, GM/GM).
   - Availability of reliable information in case of civil or criminal suits.
   - Consumers' confidence.

III. Consumers

1. Freedom and multiplicity of choices in the range of fortuitous presence thresholds.
2. Right to information
   - But, lack of GM-free label in some Member States (European Parliament, … CNC – FR…). Lack of production's valorisation for operators.
   - GM-free label rather difficult to obtain in some Member States (Germany, Portugal 0,1%…) but id. to private norms.
3. Paradox of information
   - Strong demand for labelling (even polls in USA and Canada).
   - But consumers read labels rarely .
   - No demand for GM-food … offering choice should be a minimum satisfaction!

IV. International trade

1. Costs
   - Risk of embargos? No, as resulting of authorization mechanisms.
   - Risk of shipment refusals.
   - Difficulties to negotiate common standards between opposite systems.
   - Complexity of managements where compared to other purposes managements?
     - For operators and for public authorities.
2. Benefits
   - Normalisation of processes and products (Guidelines …)
   - Links with competent and concerned partners (e.g. ABRANGE, Brazil).
   - Added value (differentiated markets).

V. Society

1. Costs

- Costs and global complexity for all supply chains.
  - In the field of economy, law, management.
- Lawsuits risks in the field of international relations.

2. Benefits

- Freedom of individual choices within the limits of the tolerance threshold (autonomy's value).
- Reversibility of collective choices.
- Reduce present concentration in the field of seeds:
  - Concentration on a sole technological route.
  - Mono/Oligopoly.

Society

- Pacification in social conflicts and controversies around the biotech:
  - Technological pluralism as a mode of government of techniques.
    - Individual and collective autonomies.
  - Pluralism of research avenues (knowledge society: an open society with options' values).
  - Juridical organisation of a confidence economy (choice, differentiated markets, labelling, traceability)
  - Juridical organisation of safety (tracing, tracking, withdrawal).
  - Model of governance of other controversial techniques / issues.