

Pesticide Regulation Under NAFTA

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Introduction

- Harmonization of standards generally seen to be a good thing.
 1. Facilitate trade; Lower transaction costs and barriers to entry. **harmonizing field trials**
 2. May reduce potential for 'race to the bottom.' **methyl bromide**
 3. Limits rent-seeking by protectionist interests. **US CAFE standards; CA Avocado; PEI Seed Potato**

But...

- Some differences in standards may be welfare-maximising. (Bhagwati; Krugman; Vogel)
- Harmonization process may be subject to rent-seeking.
- Paper asks whether we can say anything about attempts at harmonization of pesticide regs.

Started as a small mystery...

- 10 years after NAFTA trade working group (TWG) on harmonization – still have a long way to go.
- See harmonization on some things
 - End-product regs; some registration process harmonization
- But not on others.
 - Still very separate markets. Price differences persist. Access differences persist. Trade irritants (e.g. Tomatoes).
- Was curious - what was going on?

Overview

- Quick background on pesticide industry
- Even quicker background on pesticide regulation
- Stylized model (in words)
- What do we actually see?
- A few quick examples
- Conclusions

Background on pesticide industry

- 2 groups of pesticide producers
 - Patent (international; big chem; big pharma; US, EU and Japan) produce AI. **Crop Life**
 - Generic and formulators (national)
- Not true open entry into generics
 - Registration barrier to entry.
 - Even after patent lapses, need test data to register product. Original data often purchased from patent producer.
 - Often source chem's owned by patent producers. **Monsanto and glyphosphate**

Consolidation in 1990s

New

- Bayer Crop Science
- Syngenta
- BASF
- Dow
- Monsanto
- Dupont Ag

Old

- Bayer, Aventis, Hoechst, Schering, Roussel, Rhone-Poulenc, Union Carbide
- Zeneca, ICI, Stauffer Ciba-Geigy, Sandoz
- BASF, American Cyanamid, Microflow
- Dow, Eli Lilly, Rohm and Haas
- Monsanto, Haartz Seed, Seminis, Agrow, DeKalb
- Dupont, Pioneer Hybrids, Griffin

Consolidation cont'd

- Top six companies had about 50% market share in 1995; now have 77% (2005).
- Hold vast majority of AI patents.
- But reducing breadth of AIs
 - BASF announced intention to go from 300 AIs in 2000 to 100 by 2006.
- Focus is on top 10 crops and pests
 - Focus on corn, soybeans, cotton.
 - Even in diverse ag states like California, 19 crops use 83% of pesticides; 4 pesticides make up 70% of volume used.

Pesticide regulation occurs on various levels

- Regulation on chemical itself
 - Efficacy, toxicity (human and environmental)
- Regulation on end product
 - MRLs (Max. Residue Limits)
- Regulation on use
 - Worker health and safety

Areas of influence

- Have to decide what regulations to harmonize?
- To what level? (high versus low; country)

Many changes since NAFTA

- 1996 FQPA (Food Quality Protection Act) in United States
 - Uses precautionary principle; lack of evidence of harm not sufficient.
 - Considers all sources of exposure.
 - Separate limits for infants and children.
 - EPA to reassess (re-register) all pesticides.
 - Fund for minor use crops.
 - Exempted some AIs (such as food products).
- 2000 Pest Control Product Act (PCPA) in Canada.
 - Also uses precautionary principle.
 - Considers multiple sources.
 - Re-registration.

Mexico

- NAFTA facilitated imports of Ag. Chem.
- 2005 new regulation adopted.
- Until MRLs established, use US EPA tolerances.

Persistent differences

- Different tolerances and registration regulation (e.g. efficacy, different testing locations needed).
- Different minor crop regs.
- No exemption for food products (although 'reduced risk' language exists, registration process yet to be changed).

What might we predict? (Components of a model)

- Raising rival's cost
 - Firms may have the incentive to raise standards to others if they have a comparative advantage in meeting those standards.
 - E.g. U.S. –based firms may want to raise costs to EU, Japanese competition and to generics.
 - Increase fixed costs to entry.
 - Can lead to higher than optimal standards (McAusland, Gulati and Roy)

Predictions cont'd

- Price discrimination
 - Firms may want to keep ability to segment markets (block arbitrage and entry)
- Given economies of scale, may want to increase specialization
 - Since each new crop and each new country involves a fixed cost, want to encourage specialization: i.e. trade in ag products.

Evidence of access from TWG minutes

- The Industry Working Group (represents pesticide industry) has made submissions at every stakeholder meeting since its creation in 1998.
- Grower presentations only in 3 years, and vastly outnumbered by industry reps.
- Only one submission by alternative agriculture (2001).
- WWF at several meetings, but complained in 2001 'milestone' report that TWG too directed at facilitating trade

What do we see from harmonization?

- Work done to harmonize MRLs on food.
- Setting NAFTA-specific (often EPA) registration standards (*not* using OECD).
- Some move to facilitate registration across countries on testing, but still sunk costs to entry.
- and continued high data requirements.

Result

- Persistent price differentials (Freshwater and Short).
- Very different access, particularly for small market crops and alternative pesticides.

A few e.g.s on different access

■ Potatoes

- U.S. and Mexican producers able to use Carbofuran, Aldicarb and Fensulphion against soil insect pests.
- Not allowed in Canada.

■ Methyl Bromide (MB)

- Montreal Protocol – developed countries to end by 2005.
- Since 1997, Canada introduced regs to phase out MB. 2005 all but banned.
- United States introduced 'critical use exemption' for almost 10,000 tonnes – more than all other countries combined.
- Mexico as a developing country can keep use until 2015.

■ Lindane

- 1998 U.S. EPA blocked Canadian canola seed exports treated with Lindane (canola not an allowed use although OK in US for other seeds).
- PMRA (Canada) tried to ban Lindane.
- Sued by Crompton Corp (mfr) under NAFTA Chapter 11.
- Crompton pushing simultaneously for re-registration of Lindane in US – saw Canadian move as a threat.
- Playing off one reg. agency against the other.

■ Botanical oils

- Do not need to be registered in U.S.
- Rule not adopted in Canada or Mexico.

Informal harmonization?

- USDA inspectors allowed on Mexican farms.
- As US owners move to Mexico, bringing production practices with them.
- E.g. Mars peanuts – field managers hand guidelines to Mexican growers that are exactly the same as the Georgia production practices.

Conclusions (such as they are)

- Some evidence that pesticide co's have large influence in harmonization process.
- Are concerns about setting regs that increase market power.
- Concern that small market producers left out.
- Ironically, much of the harmonization is occurring informally through common practices imposed by food industry.