Appendix A—Summary of WTO general safeguard investigations on agricultural imports, January 1, 1995 - October 20, 2003

Country	Product	Initiation date	Outcome of injury investigation	Decision on applying definitive measure
Argentina	Peaches	12.01.01	Affirmative	Affirmative
Australia	Swine meat	26.06.98	Affirmative	Negative
Brazil	Coconuts	10.08.01	Affirmative	Affirmative
Chile	Fructose	08.06.02	Affirmative	Affirmative
	Glucose	08.06.02	Investigation terminated	NA
	Mixed oils	19.12.00	Negative	Negative
	Liquid & powdered milk	21.06.00	Affirmative	Affirmative
	Wheat, wheat flour, cane & beet sugar, edible vegetable oils	30.09.99	Affirmative	Affirmative
Costa Rica	Rice	11.03.02	Ongoing	NA
Czech Republic	Cane and beet sugar	03.03.99	Affirmative	Affirmative
	Cocoa powder	15.11.01	Affirmative	Affirmative
	Isoglucose	20.12.00	Affirmative	Affirmative
	Citric acid	30.01.02	NA	Negative
Egypt	Powdered milk	25.09.00	Affirmative	Affirmative
El Salvador	Pork	19.01.00	Affirmative	Affirmative
	Rice	26.06.00	Affirmative	Affirmative
Estonia	Swine meat	15.04.03	Ongoing	NA
European Communities	Mandarins	28.07.03	Ongoing	NA
Hungary	Sugar	28.07.03	Ongoing	NA
India	Vegetable oil	27.05.02	Ongoing	NA
Japan	Shiitake mushrooms	22.12.00	Investigation terminated	NA
	Tatami-Omote	22.12.00	Investigation terminated	NA
	Welsh onions	22.12.00	Investigation terminated	NA
Jordan	Biscuits	10.12.00	Affirmative	Affirmative
	Chocolate	10.12.00	Investigation terminated	NA
	Pasta	18.05.02	Affirmative	Affirmative
	Aerated water	20.09.02	Investigation terminated	NA
Korea	Garlic	16.10.99	Affirmative	Affirmative
	Dairy products	28.05.96	Affirmative	Affirmative
	Soybean oil	30.08.95	Affirmative	Negative
Latvia	Live pig and pork	01.07.02	Affirmative	Affirmative
	Pork	20.05.99	Affirmative	Affirmative
Lithuania	Pastry yeast	N.A	Affirmative	Affirmative
Moldova	Sugar	30.09.03	Affirmative	Affirmative
Morocco	Bananas	26.06.00	Affirmative	Affirmative
Philippines	Tomato paste	N.A	Investigation terminated	NA
Slovak Republic	Pork	05.05.99	NA	Negative
	Sugar	20.10.00	Affirmative	Affirmative
Slovenia	Swine meat	15.10.98	Negative	Negative
United States	Wheat gluten	01.10.97	Affirmative	Affirmative
	Lamb meat	07.10.98	Affirmative	Affirmative
	Tomatoes & peppers	11.03.96	Negative	Negative
	Tomatoes	29.03.95	Negative	Negative

Notes: NA = information is unavailable or not applicable.
Total investigations on agricultural products = 43; 66 percent of concluded cases resulting in safeguards.
Total investigations on nonagricultural products = 81; 62 percent of concluded cases resulting in safeguards.

Sources: WTO, 2000b; WTO, 2001; WTO, 2002b; WTO, 2003b.

Appendix B—Use of special agricultural safeguards by country and product (number of tariff lines),1995-2003

Agricultural product	United States	EC-15	Poland	Japan	Korea	Hungary
Animals and products	12	28	197	41		
Fruits and vegetables	16	201	31	8	10	
Dairy products	218		1	52		
Sugar and confectionery	40	66	3			35
Cereals	25		12	32	22	
Coffee, tea, mate, cocoa, spices, andpreparations	74		2	4	2	
Other agricultural products			27	1	3	
Oilseeds and products	5				12	
Agricultural fibers	1			10		
Beverage and spirits	6					
Eggs			1	3		
Total	397	296	276	148	49	35

Agricultural product	Taiwan	Czech Rep.	Costa Rica	Philippines	Switzerland	Slovak Rep	Total
Animals and products	8	14		6	7	4	317
Fruit and vegetables	17	1	1	1			286
Dairy products	2	6					279
Sugar and confectionery	1						145
Cereals	1	1	6				99
Coffee, tea, mate, cocoa, spices and preparations	2					1	85
Other agricultural products		1					32
Oilseeds and products	2	2					21
Agricultural fibers							11
Beverage and spirits							6
Eggs							4
Total	33	25	7	7	7	5	1,285

Source: WTO, 1998; WTO, 2000a; WTO, 2002a; member notifications to the WTO Committee on Agriculture as of October 31, 2004.

Appendix C—Algebraic formulations of trade-based indicators

Revealed comparative advantage (RCA)[1]:

$$RCA_i^k = \frac{X_{iw}^k}{X_{ww}^k} \Bigg/ \frac{\sum\limits_{k=1}^{K_M} X_{iw}^k}{\sum\limits_{k=1}^{K_M} X_{ww}^k}$$

$$= \frac{\text{country i's export share of world trade in sector k}}{\text{country i's export share of world merchandise trade}}$$

(1)

Export specialization (XSP)[2]:

$$XSP_i^k = \frac{X_{iw}^k}{X_{ww}^k - X_{wi}^k} \Bigg/ \frac{\sum\limits_{k=1}^{K_N} X_{iw}^k}{\sum\limits_{k=1}^{K_N} \left(X_{ww}^k - X_{wi}^k\right)}$$

$$= \frac{\text{country i's export share of rest-of-world trade in product k}}{\text{country i's export share of rest-of-world agriculturtal trade}}$$

(2)

Import compositional share (MS):

$$MS_j^k = \left(\frac{M_{jw}^k}{\sum\limits_{k=1}^{K_N} M_{jw}^k}\right)$$

$$= \text{product k's share in country j's imports in sector N}$$

(3)

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[1] Balassa's index, (Balassa, 1965).

[2] XSP is structured similarly to the RCA index. Notice, however, that XSP focuses on a *supplier's foreign market* rather than the world market by netting out own-country exports from global totals. Moreover, XSP compares the supplier's exports of a specific commodity with its exports of all goods within a particular sector rather than for all merchandise.

Correlation of commodity complementarity (CCD[3]) components, XSP and MS:

$$\rho_{ij}^s = \frac{\text{cov}(XSP_i^k, MS_j^k)}{\sigma_{XSP_i} \sigma_{MS_j}} = \frac{(CCD_{ij}^S - N_S \overline{XSP} * \overline{MS})}{\sigma_{XSP_i} \sigma_{MS_j}}$$

where　　　　　　　　　　　　　　　　　　　　　　　　　　(4)

$$CCD_{ij}^S = \sum_{k}^{K_S} \left[XSP_i^k * MS_j^k \right]$$

and where

ρ_{ij}^S = correlation of country i's exports specialization for product k with country j's import share for product k, summed over all trade products in subsector S.

Key to notation:

- i = exporter
- j = importer
- w = world, where world excludes intra-EU trade
- M = total merchandise
- N = sector
- S = subsector
- k = individual item with k = 1,.....K_S,.......K_N,.......K_M　where
    - K_S = elements in subsector S
    - K_N = elements in sector N
    - K_M = elements in total merchandise M
- X_{iw} = exports from *i* to *w*
- X_{wi} = exports from *w* to *i*
- M_{jw} = imports by *j* from *w*

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[3] CCD is Drysdale's index, (Drysdale, 1967). A "competitive index," similar in structure to Drysdale's measure of complementarity, was used in an OECD study examining the impact of economywide trade liberalization on global food security (OECD, 2002). This competitive index is the product of a non-OECD member's export share and the developed country share of world production summed over all commodities. It was used to classify developing countries according to the degree to which an OECD policy change in commodity markets is likely to affect non-OECD-member economies.

Appendix D—Grubel-Lloyd index for U.S. trade with Canada and other U.S. partners

The Grubel-Lloyd index is the most frequently used measure of intra-industry trade. The index ranges from 0 to 1 where a higher value means there is a greater overlap between exports and imports within each 4-digit industry code. The indices presented in the table provide evidence that there is greater intra-industry trade among products with higher degree of processing or differentiation. However, seasonal trade, where there is exporting during one season and importing during another, can overstate intra-industry trade. The Grubel-Lloyd index can be used to measure intra-industry trade between a country and individual partners, a region, or the world.

		Grubel-Lloyd index for U.S. trade with:	
SIC code	Products	Canada	All other partners
2051	Bread and other bakery products	0.978	0.321
2099	Food preparations	0.973	0.946
2096	Potato chips, corn chips, and similar snacks	0.963	0.695
2022	Natural, processed, and imitation cheese	0.958	0.261
2048	Prepared feeds	0.947	0.378
2079	Shortening, table oils, margarine	0.946	0.315
2062	Cane sugar refining	0.925	0.187
2098	Macaroni, spaghetti, vermicelli, and noodles	0.914	0.211
2045	Prepared flour mixes and doughs	0.914	0.104
2052	Cookies and crackers	0.864	0.459
2043	Cereal breakfast foods	0.855	0.217
2032	Canned specialities	0.847	0.692
2035	Salad dressings	0.831	0.974
2077	Animal and marine fats and oils	0.789	0.220
2086	Bottled and canned soft drinks and carbonated waters	0.736	0.381
2041	Flour and other grain mill products	0.728	0.289
2046	Wet corn milling	0.695	0.336
2095	Roasted coffee	0.668	0.465
2033	Canned fruits, vegetables, preserves	0.657	0.607
2023	Dry, condensed, and evaporated dairy products	0.655	0.989
2064	Candy and other confectionery products	0.627	0.260
2066	Chocolate and cocoa products	0.623	0.300
2097	Manufactured ice	0.615	0.396
2085	Distilled and blended liquors	0.569	0.341
2091	Canned and cured fish and seafoods	0.562	0.352
2047	Dog and cat food	0.522	0.199
2084	Wines, brandy and brandy spirits	0.521	0.272
2015	Poultry slaughtering and processing	0.518	0.033
2024	Ice cream and frozen desserts	0.498	0.276
2011	Meat packing	0.462	0.728
2076	Vegetable oil, except corn, cottonseed and soybean	0.422	0.307
2092	Prepared fresh or frozen fish and seafoods	0.401	0.430
2038	Frozen specialties	0.368	0.215
2082	Malt beverages	0.347	0.162
2067	Chewing gum	0.346	0.998
2037	Frozen fruits, fruit juices, and vegetables	0.334	0.939
2074	Cottonseed oil	0.327	0.417
2034	Dried and dehydrated fruits, vegetables and soup mixes	0.307	0.861
2053	Frozen bakery products, except bread	0.306	0.763
2026	Fluid milk	0.266	0.612
2021	Creamery butter	0.255	0.761
2087	Flavoring extracts and flavoring syrups	0.250	0.945
2013	Sausage and other prepared meats	0.200	0.441
2075	Soybean oil	0.177	0.057
2044	Rice milling	0.121	0.489
2083	Malt	0.101	0.754
2068	Salted and roasted nuts and seeds	0.070	0.746
2063	Beet sugar	0.045	0.020
	Trade-weighted average	0.566	0.482

Source: U.S. Census Bureau, Foreign Trade Statistics, based on U.S Standard Industry Classification (SIC).