The Sweet Lowbush Blueberry, *Vaccinium angustifolium* in International Trade: Technical Standards as Agricultural Trade Barriers in the Canada-United States Context

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Non-tariff technical barriers to trade in agriculture are one of the numerous issues addressed by the *Canada-United States Free Trade Agreement*. A non-tariff barrier to trade may be “any law, regulation, policy, or practice of a government, other than an import duty, that has a restrictive effect on trade,” and may include health standards if they inhibit the importation of foods that do not meet designated standards. Article 708 of the FTA addresses itself to reducing barriers resulting from technical regulations, by committing both nations to work toward harmonizing – a term which is defined in the Agreement as “making identical” – their technical regulations, taking into account appropriate international standards or, where harmonization is not feasible, to make equivalent their respective technical regulatory requirements. The parties additionally agree to work toward the elimination of technical regulations and product standards that are arbitrary, unjustifiable, or disguised barriers to bilateral trade.

A most significant aspect of article 708, however, provides that the nations’


3 FTA, supra note 1 at article 711.

4 *Ibid.* article 708:1(a); Equivalent is defined in article 7:11 as “having the same effect.”

commitment to work toward harmonization will be consistent with the legitimate need for standards that protect human, animal, and plant life, thus creating an exception for technical standards that are based on legitimate national health and sanitary concerns. As a result, a Canadian or United States requirement that prohibits the use of a given pesticide for health reasons, to use the example that will be taken up in this paper, may be exempted from the objective of harmonizing under the FTA. Article 708:2(a), however, which speaks to arbitrary or disguised standards, would oppose a nation's reliance on the human health exception if the standard is unjustifiable. In such a case it would be inconsistent with the objectives of the FTA. How these provisions apply to the Canadian export of lowbush blueberries to the United States, which has been impeded by a United States pesticide regulation, is the focus of the Note and Comment. The state of Canadian-U.S. harmonization of technical regulations, of which the Nova Scotian blueberry issue is just one reflection, is considered throughout.

THE LOWBUSH BLUEBERRY

From their humble beginnings in the 1940s and 50s, lowbush blueberries, commonly called wild blueberries, have developed into one of Nova Scotia's most important crops. As their name would imply, wild blueberries are not a
cultivated crop. The plants grow wild and are merely managed. The usual marketing procedure for lowbush blueberries involves growers who sell to buyers, who in turn either sell to processing plants or are themselves processors.\(^8\) Two companies, Cobi Foods, Inc., and Oxford Frozen Foods Limited, have facilities to freeze blueberries for resale,\(^9\) and together export approximately twenty percent of Nova Scotia's blueberry crop to the U.S.\(^10\) Only a small portion of Nova Scotia's blueberries – about five percent – are sold locally.\(^11\) In addition to their consumption as a fresh fruit, blueberries are used in making jams, yogurt, ice cream, sweet wine,\(^12\) muffin mixes, fruit juice, and, most recently, breakfast cereal.\(^13\)

**The Dimethoate Connection**

Blueberries are plagued by a number of insect and disease pests, including the blueberry fruit fly, which descends on Nova Scotian blueberries in the first week of July. The damage caused by the fruit fly is inflicted by the eggs that are laid under the surface of the blueberry fruit skin, which then develop into maggots that eat the meat of the berry. The crop is thus spoilt.

Dimethoate is registered for use on a number of crops in both Canada and the United States; in Canada it is used to control the blueberry fruit fly.\(^14\) It is

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\(^8\) Nova Scotia Department of Agriculture and Marketing.


\(^11\) Telephone conversation with B. Murray, Nova Scotia Department of Agriculture and Marketing, Truro (18 December 1992) (The largest market for Nova Scotia’s blueberries is Europe, which accounts for approximately 75% of Nova Scotia’s blueberry exports; some of Nova Scotia’s blueberries are also marketed in Japan).


\(^13\) Telephone conversation with G. Brown, Manager of Bragg Lumber Comp., Ltd., a Farm Division of Oxford Frozen Foods, Ltd., and vice president of the Nova Scotia Blueberry Producers Association, Collingwood, Nova Scotia (16 December 1992); (Nova Scotian lowbush blueberries are now used in Post Fruit and Fibre breakfast cereal.); See also Nightingale, *supra* note 9 (Nova Scotia’s wild blueberries are used by Japanese processors for such items as bubble gum, blue chocolate, candy kisses and syrups).

\(^14\) United Nations Environment Programme, International Labour Organization, World Health Organization, Dimethoate Health and Safety Guide (Geneva: World Health Organization, 1988) at 8 (Dimethoate is an organophosphorus insecticide that was introduced in 1956 and is produced in many countries); Telephone conversation with D. Petrie, Nova Scotia Sales Manager, Greenway, Inc., Canning, Nova Scotia (18 December 1992). (The pesticide kills on contact and when applied is absorbed by and flows through
registered for use on blueberries in Canada under the *Pest Control Products Act* and Regulations. Dimethoate is not, however, registered for use on blueberries in the United States, and, under United States law, if a pesticide is not registered for use on a specific crop, no residue of that pesticide on that crop is tolerated. This background set the stage for the recall of Canadian blueberries from Oregon in October-November of 1991.

In a routine border inspection, a shipment of frozen Nova Scotian blueberries destined for use in the United States was found to have a residue of dimethoate that exceeded the United States zero tolerance for this compound on blueberries. The level of residue was determined at 0.006 ppm by the United States Food and Drug Administration, well below the Canadian dimethoate residue tolerance for blueberries of 0.1 ppm. It was, of course, in excess of the U.S. standard simply in its detectability, because tolerated standard for dimethoate residues on blueberries in the United States is zero. It should be noted that the use of current methods permit the detection of residues as slight as one part per billion, thereby creating a stringent standard for compliance with U.S. law.

Following this first occurrence, in accordance with U.S. law that provides for the detention of a product if it is adulterated, the shipment of berries was recalled from their Oregon destination. The resulting freight costs for the Canadian processor to transport the recalled blueberries back to Nova Scotia were in the range of Cdn $12,000-15,000. Additionally, subsequent to the initial recall of the product, the Department of Health and Human Services imposed automatic detentions on the next five shipments of blueberries, requiring that samples of these shipments be analyzed to determine the presence of any dimethoate residue. The laboratory expenses in such instances are borne by the shipper. The subsequent five shipments of Nova Scotian berries

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16 "Zero tolerance", as this standard is referred to, is implicit in the *Federal Food, Drug and Cosmetic Act*, 21 U.S.C. §§ 331(a) and 342(a) (1988), [hereinafter the FFDCA].
17 Telephone conversation with L. Valenti, Assistant to the Director, Division of Enforcement, Imports Branch, United States Food and Drug Administration, Washington, D.C. (17 December 1992).
19 FFDCA, supra note 16 at §381(a).
20 Telephone conversation with L. Wilmont, supra note 10 (The additional costs of replacing the recalled goods are not taken into account here).
21 FFDCA, supra note 16 at § 381(c); Telephone conversation with G. Brown, supra note
intended for import into the U.S. were accordingly stored at the Maine factory of Oxford Frozen Foods, Ltd., while analyses were conducted of samples of the product. All were found free of dimethoate residues and were allowed entry, but not without significant additional costs to Nova Scotian growers, who had changed their practices to avoid future seizures. The use of an alternative pesticide, imidan, which is registered in both Canada and the United States for use on blueberries, enabled Oxford Frozen Foods, Ltd. to avoid any subsequent border problems. Whereas the application of dimethoate on blueberries costs approximately Cdn $2.00 an acre, however, imidan costs approximately Cdn $10.00 an acre. The additional costs of using imidan, if a given season necessitates applying the pesticide to all 12,500 acres of blueberry crops that are harvested in a year, would amount to Cdn $100,000.22

U.S. Regulation of Dimethoate and U.S. Health Standards

The U.S. supports its prohibition of dimethoate residues by maintaining that the residue of a chemical on a good imported into the United States for which a U.S. tolerance has not been established violates U.S. health standards embodied in the law and regulations regarding tolerance levels. Although dimethoate is not registered for use on blueberries in the United States, it is however, registered for use on grapes, citrus, nut crops, pulp fruits (e.g. apples), melons and some vegetables.23 In the case of grapes, for instance, the tolerated level of residue of dimethoate is 1.0 ppm, which is higher than the Canadian tolerance of 0.1 ppm for blueberries. This is only one of the raw agricultural commodities in the U.S. for which a higher than 0.1 ppm residue of dimethoate is tolerated.24 The acceptance of dimethoate residues on other food crops, but not blueberries, leads to a central question: is the zero tolerance for dimethoate on blueberries justified as a legitimate health standard, and thereby an excuse for the United States to derogate from its responsibility to seek an open border policy with Canada by harmonizing technical regulatory requirements,25 or is the intolerance of the Canadian application of the compound on blueberries an unjustifiable,
disguised barrier to trade?

A lot depends on perspective. The United States Department of Health and Human Services seems to contend that dimethoate residues are refused at the border because dimethoate is not the subject of an accepted residue tolerance in the U.S. for blueberries, and therefore it has not met U.S. health regulations. Canadian growers, on the other hand, who maintain that there is no valid health concern whatsoever with a dimethoate residue of up to 0.1 ppm, and tend to perceive the import restriction on their blueberries as unjustifiable and inconsistent with the FTA.

A Rationale for the U.S. Position on Dimethoate Residues

In each country, pesticide registration occurs following an extensive assessment of a chemical's use on a particular crop, taking into account the potential impact on human and environmental health. In Canada, federal law dictates that the Minister of Agriculture cannot register a pesticide unless it is proven safe based on an evaluation of, inter alia, its persistence, the retention of its residue, and its impact on test animals for the purposes of assessing risk to humans and non-target organisms. In the U.S., the Environmental Protection Agency ("EPA") has the authority to regulate pesticide registration and establish tolerances for pesticide residues and in comparison to the Canadian evaluation of safety of a pesticide, the EPA balances the risks of pesticide exposure to human health and the environment, and the benefits of pesticide use to society and the economy in assessing a pesticide for registration.

In establishing residue tolerances, both countries consider the physical and chemical properties of the pesticide by means of metabolic and toxicological studies. Health and Welfare Canada, the responsible Canadian authority with respect to residue tolerances, uses such studies to evaluate the benefits of the pesticide. The factors considered include crop production, the adverse effects on the environment and human health, and how great a residue may remain on the product when it reaches the point of consumption. The U.S. Environmental Protection Agency determines the level of residue of a pesticide that will be tolerated, by considering, inter alia, the necessity for the production of an

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26 Nova Scotia Department of Agriculture, supra note 18 at 1.
28 FFDCA, supra note 16 at § 346a.
29 See Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. (1988) §§ 136a(c)(5)(A),(C),and (D), and 136(bb) [hereinafter FIFRA].
30 Health and Welfare Canada, Control of Pesticide Residues in Food (Dispatch 51) (Ottawa: Minister of National Health, 1989).
adequate, wholesome, economic food supply, and the other ways in which the consumer may be affected by the same pesticide chemical, or by other related substances that are poisonous or deleterious.  

The complexities of pesticide regulation and, specifically, the procedure of establishing tolerance levels, may provide support for the U.S. position that the restriction respecting dimethoate residues on blueberries is legitimate based on health considerations—despite dimethoate’s registration on a variety of other crops, and its established tolerated residue on some crops, such as grapes, that is greater than the Canadian established tolerated residue for dimethoate on blueberries. This is explained by understanding the concept of acceptable daily intake: the daily intake which, during an entire lifetime, appears to be without appreciable risk on the basis of all the known facts at the time. The acceptable daily intake of pesticides is taken into account in both Canadian and U.S. law in establishing residue tolerances, and reflects the best estimate of Health and Welfare Canada or the U.S. Environmental Protection Agency, respectively, of the maximum level of residue that should be permitted, based on current understanding derived from the analysis of use patterns and feeding studies in animals or humans. It is possible that the U.S. could contend that the maximum acceptable daily intake of dimethoate may be reached by exposure to dimethoate via residues on the variety of other produce consumed by humans for which a residue of the chemical is tolerated. This would leave no margin for further exposure to the chemical from blueberry consumption, even though a 0.1 ppm residue all by itself may pose no health concern whatsoever.

Other Differences in Canadian and U.S. Treatment of Agricultural Imports

Further differences in the approaches of Canada and the United States to regulating pesticide residues reveal related factors that add to the Canadian perception that discriminatory treatment is accorded Canadian goods. First, in contrast to the zero tolerance of the U.S. where no residue tolerance has been established, Canadian law provides that where a pesticide is not registered for use on a given crop, a 0.1 ppm residue level will be permitted. It has also been noted that in practice the tolerated level of unregistered pesticides by Canada is

31 FFDCA, supra note 16 at § 346a(b).
34 Food and Drugs Regulations, SOR/81-83, s B15.002.
actually slightly higher, 0.13 ppm. This facilitates the entry into Canada of U.S. goods that are farmed with practices and products that are unavailable to Canadian growers. It presents the surprising possibility that, where a pesticide is registered in the U.S., but not in Canada, U.S. growers could import into Canada goods treated with the chemical, relying on the Canadian tolerance of unregistered residues up to 0.1 ppm. It would not, of course, be possible for Canadian growers to farm with or export the same to the U.S. The case of U.S. import of pears into Canada, which are treated with the pesticide amitraz, serves as one example of how this difference operates.

Amitraz is registered for use on pears in the U.S., but is not registered for use in Canada. Canadian practice does not prevent the importation of American pears into Canada, however, so long as the residue level of amitraz on U.S. pears does not exceed 0.1 ppm, or perhaps 0.13 ppm. This example is particularly interesting in that amitraz is not registered for use in Canada because of health concerns that the pesticide may cause blood disease in humans. The import of U.S. pears into Canada, and the export of Canadian lowbush blueberries into the U.S. reveal that when a pesticide is registered for use on a crop in one country but not the other— which is not unusual— the U.S. grower has the advantage.

Another significant difference in Canadian and U.S. regulations concerning tolerance levels is in the Canadian response to U.S. produce that violates Canadian tolerance standards. Such would be the case if a U.S. good entering Canada featured a residue higher than an established Canadian limit, or a residue of greater than 0.1 ppm for a pesticide for which a tolerance is not established, and for which the standard is therefore 0.1 ppm. When a U.S. shipment intended for import is found to exceed a Canadian residue tolerance, Canada will tolerate at least one violation before detaining goods. This practice facilitates U.S. commercial relationships with Canadian importers, in contrast to the costly and time consuming procedure that Canadian exporters may be subjected to following a single violation, as experienced by Canadian wild blueberry industry.

REMEDIES: SOLVING THE PROBLEM

At least three avenues exist under U.S. law for modifying current circumstances

36 Ibid. at 7-8 (Notes that in this case, the American grower has both the pesticide and the Canadian market, while the Canadian grower does not have the pesticide, which would encourage crop production, but does have the American competition).
37 See Ibid. at 6.
and opening the U.S. market to Canadian wild blueberries that retain residues of dimethoate. Canadian growers or industry could encourage the registration of dimethoate in the U.S. for use on blueberries, or could pursue having an import tolerance established, or seek the establishment of “minor use” registration. The most attractive of these options is the last.

Having a pesticide registered for use on a crop, which is generally initiated by the producer of a pesticide, is a notoriously costly and time consuming procedure. In this instance, however, since dimethoate is already registered for use on other crops in the U.S., and a great deal of toxicological and other data is available and has been reviewed in other instances as a result, some of the burden in seeking dimethoate’s registration for use on blueberries would be lifted. The manufacturer or registrant, pursuing this option, would apply to the EPA for an amendment to dimethoate’s registration, requesting the addition of a new use to the product’s registration. The cost involved in this option would include the fee of approximately U.S. $13,000 payable to the EPA for reviewing the tolerance application, and the cost of compiling the data required by the EPA in its assessment of the petition. The data costs would likely bring the total expense to between U.S. $55,000 - 115,000, and the registration would take at least two years to arrange. The blueberry crop, however, is not a large crop relative to others in the U.S., and it is questionable whether the economic return of registering dimethoate for use on blueberries would warrant the applicant’s time and money, particularly since other pesticides are currently available to U.S. blueberry producers to control blueberry fruit flies. Furthermore, if the registration of dimethoate for use on blueberries were to threaten the availability of dimethoate for use on other crops such as grapes, stemming from concern over the potential increased daily intake of the pesticide through residues on blueberries, the registrant for this reason might not be interested in adding blueberries to its registration.

Canadian growers or marketers, or a U.S. broker could alternatively apply to the EPA for the establishment of an import tolerance in the U.S. for dimethoate residues on Canadian blueberries. This measure is referred to in Canada as establishing an import maximum residue limit, that would specify the maximum level of dimethoate permitted on blueberries entering the U.S. The

38 See FIFRA, supra note 29 at § 136a and 40 C.F.R. 152.44(a).
40 Telephone conversation with J. Jones, Pesticides Program Administrator for the Assistant Administrator for Prevention, Pesticides and Toxic Substances, United States Environmental Protection Agency, Washington, D.C. (18 December 1992). These rough estimates may be influenced by the uncertain variables of time and expense involved in collecting the data that will be required by the application.
process of pursuing this measure involves applying to the EPA, but is less complicated because there is no need to amend the registration for dimethoate, only to establish a tolerance. The costs of this procedure, however, which would again include the EPA tolerance petition fee of approximately U.S. $13,000, and the expense of compiling the data required by the EPA in its assessment of the application for the establishment of a tolerance would, as in amending the registration, total approximately U.S. $55,000 - $115,000 and take approximately two years to complete. Notably, the EPA fee for this procedure marks another point of contrast between Canadian and U.S. practice. Health and Welfare Canada does not charge for the establishment of a tolerance of this kind.

The most attractive option for Canadian growers is likely for U.S. growers to petition the U.S. Environmental Protection Agency for the “minor use” registration of dimethoate for use on blueberries. Minor use registration is not distinct from the general registration amendment procedure, but is the designation given by the EPA when the proposed new use involves a minor agricultural crop, as would be the case for dimethoate use on lowbush blueberries. The advantage to this option is that in the case of a minor use application, the EPA has the authority to waive registration and tolerance fees.

Current Efforts of Working Toward Harmonization

The problem of the dimethoate restriction and Canadian blueberry exports to the United States has not gone unnoticed, and non-tariff barriers including this one are the subject of Canadian attention at several levels. The Pesticide Working Group, formed pursuant to article 708:4(a)(vii) of the FrA, features as its objective joint Canadian-U.S. cooperation with respect to harmonizing technical regulatory requirements and eliminating unjustifiable or arbitrary trade restrictions. The Group was initially set up by the parties in 1989, but its

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41 See FFDCA, supra note 16, § 346a(e).
42 Telephone conversation with J. Jones, supra note 40 (17 December 1992); The time involved in this procedure may be shorter than the above “new use” option as an amendment to the U.S. registration of dimethoate is not required. As in note 40, these rough estimates may be influenced by the uncertain variables of time and expense involved in collecting the data that will be required by the application.
43 Brown, supra note 35 at 8.
44 See FIFRA, supra note 29 at § 136a.
45 Ibid. § 136b(i)(4)(A), and 40 C.F.R. §§ 152.412(c) and 180.33(m) (1992). Furthermore, if the Inter-Regional Research Project Number 4, (IR-4 program), a federal program established to assist minor crop growers, undertakes to petition the EPA for a tolerance on behalf of growers, the costs of testing and data compilation will be paid for by IR-4 and not growers. The key factor to the desirability of this option will be how long the procedure takes. The possibility of minor use registration for dimethoate on blueberries is in fact currently being considered by the IR-4 program.
development was almost immediately interrupted by Canada's review of its own pesticide registration process. It has since been re-established, but only as recently as the spring of 1992 and, although the Group's members have met once, the reconstituted working group is merely in its early stages of development. In practice, it is intended that the Pesticides Working Group will be required to report to a Joint Monitoring Committee, a body with equal Canadian and U.S. representation, that meets at least annually, and which in turn reports to the Canadian Minister of Agriculture, the U.S. Secretary of Agriculture, and the Canada-U.S. Trade Commission. Yet, based on an apparent inclination on Canada's part to retain national control over pesticide regulation, and current reflection in the U.S. as to how the NAFTA may impact on the question of harmonization of pesticide regulations, it does not appear that any significant measures will be achieved by the Group in the immediate future.

An industry-funded non-profit group comprised of members across Canada who deal in fruits and vegetables, the National Horticultural Committee, has been active in addressing non-tariff barriers to agricultural trade. The group lobbies government to modify technical discrepancies, such as the dimethoate issue. At least conceptually, the group supports the harmonization of technical regulations as provided for in the FTA. Any apprehension there may be in the group's endorsement of harmonization reflects the concern that the realities of harmonization, while potentially opening borders to trade, could mean passing the decision-making involved in setting health standards to a foreign government – the U.S. – and essentially adopting U.S. standards. Despite arguments that aim to combat this concern, issues of agricultural products and health standards continue to be tied closely to national sovereignty. They remain issues with
In any event, efforts to pursue this issue will continue at the technical level, as provided for by the FTA, which accords with the technical, scientific nature of the questions involved in pesticide residue standards. Only if these efforts do not proceed would the matter be elevated to the level of trade officials. Further, only failing the success of efforts by trade officials would formal discussion be considered, pursuant to article 18.04 of the FTA, which is generally considered the first step toward dispute resolution procedures under the Agreement.53

In accordance with article 708:1(a) of the FTA, if the U.S. prohibition of dimethoate residues on blueberries is not a supportable technical regulation based on legitimate health concerns, it would conflict directly with the objectives of FTA article 708:2(a). Unless it is possible to prove, however, that dimethoate residues of up to 0.1 ppm – the Canadian tolerance for dimethoate residue on blueberries – pose no danger, Canada would not likely pursue the argument that the U.S. standard is an illegitimate restriction disguised as a health standard, even if dimethoate is registered for use in the U.S. on other food crops.54 This has a lot to do with the complexity of variables considered in the assessment of pesticide use, and refers again to the issue of acceptable daily intake. Therefore, if Canada were to pursue the argument that the U.S. dimethoate standard is an illegitimate barrier to Canadian blueberry exports, sound scientific evidence would be vitally important. To be sufficient, the data would need to address the potentially tough question of whether the added exposure to dimethoate from blueberries would exceed acceptable daily intake standards, or whether, in fact, the U.S. restriction could not be justified.55

Agricultural policy impacts on the lives of all citizens, affecting the nutrition and health of the public, as well as the price that they pay for food.53 Outside the scope of this paper, and providing ample material for consideration, is what impact the NAFTA, supra note 1, may have on the harmonization of non-tariff barriers to trade in agriculture. The language of the NAFTA can be distinguished from the FTA, in many instances providing for more binding obligations on the part of the parties. E.g., rather than the commitment of the parties to work toward harmonization, and work toward the elimination of unjustifiable trade barriers, as in FTA articles 708:1(a) and 708:2(a), respectively, the NAFTA provides that while domestic measures are still permitted in keeping with, inter alia, the protection of human health pursuant to article 754:1, article 754:6 provides that no party may adopt or apply sanitary or phytosanitary measures with the view to, or with the effect of, creating a disguised restriction to trade between the Parties (emphasis my own).54 Telephone conversation with M. Friesen, supra note 6 (11 December 1992).

55 This question serves as an example of one where, beyond scientific considerations, issues of ethics may be involved. Given the uncertainty surrounding daily intake calculations and what in fact is acceptable, a determination of this kind may be essentially subjective.
The Role of Wild Blueberry Growers

In a very practical way, Nova Scotia's blueberry growers, those faced with the immediate need for a solution to the problem, have found their own answer to the non-tariff barrier. Given the precision of current practices in detecting dimethoate residues and the consequent difficulty in complying with the U.S. zero tolerance standard, lowbush blueberry growers have adopted the use of alternative control chemicals rather than forgo the U.S. market, as discussed above. Imidan, which is registered for use in the U.S. on blueberries and controls the blueberry fruit fly, is now the pesticide of choice of Nova Scotian growers under the circumstances of the dimethoate prohibition, despite the significantly higher costs involved with its use and the more complicated application procedure that it involves. 56

The Outlook for Harmonization

The above discussion reflects that, even as tariffs are eliminated between Canada and the U.S., non-tariff barriers continue to inhibit the development of freer trade. In some sense, in the case of Nova Scotia's wild blueberries, the restriction may as well be a tariff. In the initial recall and subsequent detentions of blueberries, Nova Scotia growers have had to absorb the freight costs involved in transporting the recalled berries back to Canada, the replacement costs of sending another shipment to the purchaser, and the laboratory fees of the residue analyses required on the subsequent blueberry shipments. Further, to preserve access to the U.S. market, Nova Scotian growers have assumed the ongoing increased expense of adopting U.S. practice and using imidan.

In addition, in the midst of the dimethoate controversy, public perception arose reflecting the weight a U.S. finding carries. European importers were unsettled on learning about the U.S. refusal of Canadian wild blueberries, and took the U.S. rejection of the produce as indicative of poor quality. 57 European

56 See supra note 22 and accompanying text; Interview with D. Doohan, Weed Science Extension Specialist, Nova Scotia Department of Agriculture, Truro (14 December 1992). Another alternative to dimethoate, which is registered for use on blueberries in both Canada and the United States and addresses the blueberry fruit fly problem, is azinphos-methyl, more commonly known by its trade name of Guthion. However, its use in Canada on blueberries has largely been abandoned due to its higher toxicity to mammals—a threat directed more at the applicator than the consumer; Telephone conversation with G. Brown, supra note 13 (16 December 1992). None of Oxford Frozen Foods, Ltd.'s blueberries are treated with Guthion for this reason, accounting for at least 52% of all blueberries in Nova Scotia. Brown speculates that probably 90% of the province's crop is no longer treated with Guthion.

57 Telephone conversation with L. Wilmont, supra note 10.
concern did not materialize into a significant issue, but given that the market accounts for 75 percent of Nova Scotian exports, lack of confidence in Canadian products on the part of European markets could have severe financial consequences. Indeed, it is an issue of which Nova Scotian growers can be wary.

Differing regulatory practices such as those cited in this comment do not assist in the pursuit of freer trade, and in fact are inclined to irritate relations. In the Canada-U.S. context, due to technical differences in Canadian and U.S. regulatory approaches that have been discussed, and the adverse treatment that Canadian growers perceive they are accorded as a result, the suggestion has been made that Canada consider implementing comparable measures in response.58

Harmonization remains a long-range goal. The dimethoate issue that arose to complicate Nova Scotia's blueberry export marketing, and the surrounding differences in Canadian and U.S. practice are representative of a multitude of pesticide issues that serve as non-tariff barriers to trade in agricultural goods between Canada and the U.S., where very little harmonization has occurred overall. Despite various calls for the support of harmonization from those who believe it is the key to freer trade,59 and, although Canada and the U.S. may not lack confidence in the scientific ability and practices of one another, there exists a deeply-rooted reluctance to accept a decision of the other on a food and public health issue. The fear of setting a precedent pervades any possibility of yielding to the standards of the other.60 The enduring perception that accepting a foreign determination equates to the political reality of ceding sovereignty; the suggestion of compromise in the area of pesticide tolerances is unpalatable. International standards, which are noted in FTA article 708:1(a) as factors to be considered in harmonization efforts, do not yet offer any considerable hope for change. Even when tolerance standards have been set,61 they are the subject of

58 See Brown, supra note 35 at 22 (Recommends, inter alia, charging a fee, as is customary in the U.S., for the establishment of tolerances, (MRLs), a re-evaluation of the Canadian 0.1 ppm tolerance of residues of unregistered pesticides on imported goods, and stricter enforcement in cases where U.S. goods exceed Canadian standards if the U.S. continues to apply such treatment to Canadian exports).
59 Ibid. at 9.
60 Telephone conversation with B. Huston, supra note 46. She comments that the technical working groups might as appropriately be referred to as political working groups; But see Brown, supra note 13 at 10. He notes that the type of harmonization or equivalence envisaged in FTA article 708 "does not support the contention of some bureaucrats that harmonization means loss of sovereignty ... or increased exposure to risk".
61 In the case of blueberries and dimethoate, no international residue tolerance has been established. Telephone conversation with B. Huston, supra note 46 (16 December 1992).
great debate.\textsuperscript{62}

If the highway to harmonization has not to date been embraced by officialdom, however, those in the field seem to have started travelling on secondary routes aimed at a similar destination. Harmonization, as illustrated by the Nova Scotian blueberry industry, is happening informally. Additionally, as harmonization is occurring now, it involves Canadian growers adopting U.S. practice. It might be noted that at least with blueberries, Nova Scotian growers had an alternative available that permitted continued marketing of blueberries in the U.S. One wonders how the issue might have developed had there been no alternative?\textsuperscript{63}

Perhaps Canada’s willingness to adapt to the U.S. use of imidan, and its acceptance of U.S. practice in other areas of the agricultural trade relationship, including Canada’s willingness to tolerate residues on imported U.S. products which it does not tolerate on Canadian grown products, is reflective of the underlying power imbalance in the Canada-U.S. relationship. Canada is overall more dependent on exports for capital than is the U.S.,\textsuperscript{64} and trade with the U.S. is key to the Canadian economy.\textsuperscript{65} It is possible that the case of Nova Scotia’s wild blueberries and dimethoate, at a microcosm level, indicates that the FTA has not altered fundamentally the power relations between the U.S. and Canada.\textsuperscript{66} It may accord with the notion that it is impossible to understand trade,

\textsuperscript{62} See e.g. M. Ritchie, “Trading Away Our Environment: GATT and Global Harmonization” (1990) 10:3 Journal of Pesticide Reform, at 21 (Notes that the standards developed by the Codex Alimentarius Commission, a joint United Nations Food and Agriculture Organization and World Health Organization commission, are in many cases significantly more lenient than North American standards). Furthermore, even where individual residue standards are accepted, the argument may still be available that the total exposure potentially resulting from the accumulation of individual exposures, owing to the variety of crops on which a country may permit the use of a given pesticide, may exceed the acceptable daily intake standards.

\textsuperscript{63} See supra note 56. Had imidan not been an option, perhaps growers would have considered returning to Guthion, which is currently avoided because of its highly toxic nature. Such an adaptation would involve more than the increased costs growers are currently absorbing in using imidan, but would present clear human health and environmental concerns stemming from a non-tariff barrier to trade.

\textsuperscript{64} R.K. Paterson, Canadian Regulation of International Trade and Investment (Agincourt, Ontario: Carswell, 1986), at 3 (Importance of trade to Canadian economy relatively high; Canada earns approximately 30% of its gross domestic product abroad, while the U.S. earns 10% of its GDP).

\textsuperscript{65} See, e.g., G.R. Winham, Canada-U.S. Sectoral Study: The Impact of Free Trade (Halifax: Centre for Foreign Policy Studies, Dalhousie University, 1986), at 8-9 (Inter alia, three-fourths of Canada’s trade is with the United States).

or even agricultural policy without understanding power.67 If not the actions of Canada, then the actions of other nations reveal that, on the international plane, U.S. determinations carry great weight. Europe’s response to the recall of Canadian blueberries illustrates this reality.68 Nonetheless, Canada should beware of allowing decisions to harmonize to be made by default. As helpful as removing non-tariff barriers and harmonizing technical standards may be to facilitating open borders and increasing trade, harmonization of pesticide standards should not occur except as a result of well-thought through policy that takes into account human health and the environment, as well as economic factors.

68 See supra note 57 and accompanying text.