



BACKGROUND ON MAXIMUM RESIDUE LIMITS (MRLS)

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Introduction: What is an MRL and an Import MRL?

- Health Canada is head of the Pest Management Regulatory Agency (**PMRA**), who regulates pest control products, commonly known as pesticides, under the Pest Control Products Act (the **PCPA** or the **Act**).
- Sections 9, 10 and 11 of the Act deal with Maximum Residue Limits (**MRLs**). No definition of an MRL is provided in the Act, but PMRA defines it with reference to the levels of residue of pesticides that result from following label directions:

"the highest amount of pesticide residue that may [is allowed to] remain on or in food when a pesticide is used according to label directions".

Label directions concern spraying - the rate and quantities of pesticides that are sprayed on crops.

An "**Import MRL**" is understood as the highest amount of pesticide residue that is legally permitted to remain on a food in a jurisdiction other than Canada where that food is imported into Canada.

No Jurisdiction to Approve or Import MRLs

- Section 6 of the Act indicates that a pest control product cannot be imported or used unless it has been registered or authorized under the Act.

- With respect to MRLs for pest control products, the Act contemplates two scenarios: specifying an MRL when the Minister is "making a decision regarding the registration of a pest control product" (Section 9), and specifying an MRL with respect to uses that have not been registered (Section 10). It follows that, with respect to a Section 10 MRL and because of section 6, a Section 10 MRL use has to be authorized under the Act.

- PMRA takes the view it has the authority under Section 10 to approve uses and use patterns approved in other countries (a "**Foreign Use**"):

"Authority exists to specify MRLs for unregistered products and uses - that is, uses including different use patterns, in other countries that are not registered in Canada - in accordance with sections 10 and 11 of the Pest Control Products Act (PCPA). PMRA receives these applications under s.10 of the PCPA. As such, PMRA may specify MRLs for imported foods that are treated with pesticides approved in other countries, or for pesticides with a Canadian registration, but for a different use/use pattern that is not approved in Canada." (Email exchange with PMRA representative July 7, 2023).

- The Act allows authorizations under sections 41(1), 21(5), 48, 51 and 53-59 and the Regulations. **None of these provisions contemplate authorizing a Foreign Use.** This means that PMRA's approval of the use of Import MRLs in Canada on the basis that is use permitted outside of Canada/ a Foreign Use, is **ultra vires and without jurisdiction**. In other words, it is illegal.

Context: Government Paused and is Now Increasing MRLs

2021 Proposal to Increase Glyphosate Levels in lentils, beans/peas

- In Summer 2021, PMRA issued proposal PMRL 2021-10 to increase the MRLs for glyphosate allowed on lentils and beans/peas by 3 and 4 fold (**Glyphosate Proposal**). It purportedly requested the increase pursuant to subsection 10(2) of the Act, which allows "any person" to "make an application to the Minister to specify maximum residue limits" pursuant to subsection 10(1), for either of the two scenarios contemplated above. The proposal was to establish MRLs for glyphosate and its metabolite AMPA on imported dry peas and dry beans from the United States (Evaluation Report, PMRA #3161627). (As stated, it is our view there is no authority to apply for an Import MRL under the Act.)



- There was huge public outcry to the Proposal, and it was just before the 2021 federal election, which occurred in September, 2021.

Pause

- On August 4, 2021, the government announced it was "putting a pause on proposed increases to Maximum Residue Limits (MRLs), including for glyphosate". It announced a \$42 million investment in the PMRA to: "further strengthen its human and environmental health and safety oversight and protection", improve the availability of independent data and improve transparency of decision-making. Monies were allocated to Environment and Climate Change Canada (ECCC) and Agriculture and Agri-Food Canada (Ag Canada) for alternative pest management solutions".

- PMRA also created a new expert panels "to provide advice, as appropriate, prior to evidence-based decisions of the PMRA on pesticides, including MRLs". This was the Science Advisory Committee.

- On June 20, 2023, a co-chair of the Science Advisory Committee resigned, citing an "obsolete regulatory system that protects the pest industry more than it protects Canadians", among other factors.

Lifting Pause and NOI 2023-01

- On June 20, 2023, PMRA announced it was lifting the "pause" and issued **Notice of Intent (NOI) NOI2023-01** for new regulations. The new regulation for MRLs says that Canadians will get a notice when there is a proposed increase to MRLs.

- **Canadians want a reduction in pesticide use, not a notice of increases.** More than 18,000 Canadians signed Petition e-4127 to ban glyphosate, which was presented to Parliament in the Spring and supported by MPs of all parties.

- The comment period for NOI 2023-01 was delayed from August 19 until September 8, 2023, perhaps due to more public outcry.

Import MRLs, Inflation of Domestic MRLs

- Other countries have label directions that differ from Canada, so the foods imported from other countries often have levels of pesticides that differ from the levels on foods grown in Canada. The PMRA's job under the Act is to protect Canadians from unacceptable risks of pesticides, so PMRA needs a way to look at the fact that Canadians eat food from other countries with different pesticide levels.

- PMRA does this by conducting a dietary exposure assessment (**DEA**), which in theory assesses the pesticide residue levels in foods eaten by Canadians (residue levels) and the quantities of such foods eaten by Canadian (consumption). If the DEA shows that levels of pesticide exposure to Canadians from eating both the imported and the domestically grown food is within safe limits, then the Import MRL is accepted. This makes sense (except that the consumption data used by PMRA for Canadians, taken from DEEM-FCID software, actually is data on what Americans eat, not Canadians).

- What doesn't make sense is that PMRA, in its dietary exposure assessment, uses the residue level for an imported food as the MRL for the same food that is grown in Canada as well. It inflates the Canadian MRL to align with the higher Import MRL - then uses this higher level as the MRL for food grown in Canada. **The result is that the MRLs used in the DEA for Canadian grown foods are higher than the levels that occur in the field – in other words, the MRLs for Canadian food are no longer tied to the Canadian label directions.**

PMRA then sets the higher MRL as the Canadian legal limit for that food, whether grown domestically or imported.



Problems with Using Higher Import MRL as Canadian MRL

There are three main problems with setting the MRL for foods grown in Canada with the Import MRL.

- **Removes Canadian standard.** First, it removes the Canadian standard for pesticide residues – it leaves no measure for pesticide residue that may remain on or in food **grown in Canada** when a pesticide is used according to **Canadian** label directions. As such, **it removes a measure and check for the exposure of Canadians to pesticides**, a key measure of risk.
- **Free Pass for High Levels.** Second, this opens the door for allowing higher pesticide levels to occur on Canadian foods without adequate checks. These higher levels could occur for various reasons, as explained below. The point is that unless there is limit set based upon application according to Canadian label directions, there is no standard that allows for further inquiry into exceedances.
- Higher levels than the MRLs can occur for various reasons, as explained below.
 - **From Wrong Labels.** The labels may be wrong. A recent [Agriculture Canada](#) study showed there were exceedances of the MRL for glyphosate in barley **even when glyphosate was applied according to label directions**. Many of the directions were set decades ago based on field trials conducted by pesticide companies on conventional crops like wheat and canola, and have not been verified. Here are some explanations for why the labels may be wrong:
 - By way of example, the initial MRLs for glyphosate sprayed on white beans before harvest was based on a study taken from 1989 that was flawed. The labels required that spraying occur when there is 30% or less seed moisture content, on the theory that higher moisture content means the crop is still growing and filling the seed, and during such time the pesticide is moving along with the nutrients and getting right into the seed. The problem with the initial field study on white beans is the researchers **did not measure seed/bean moisture content at the time of spraying**, and actually **discarded 3 samples** that were found to have high moisture after the fact! This white bean study set the MRLs for spraying glyphosate pre-harvest on other pulses, based on the principle of "crop grouping", where one crop serves as the representative for other, similar crops. Thus this flawed white bean study for MRL for spraying glyphosate pre-harvest was extended to chickpeas, and the field trials for chickpeas also did not measure the moisture content in the seed/grain/pulse in some instances.
 - The grouping of the crops may be wrong. PMRA indicates that "[crop grouping](#)" is supposed to be based upon botanical and taxonomic cultivation practices. Botanical criteria include similarities in the way the crops grow. Some crops have indeterminate growth habits (always producing seeds) whereas others have determinate growth habits (the time for setting seeds is set and terminates at a point). Indeterminate crops have in some instances been grouped with determinate crops, which is a mistake when it comes to pesticide residue levels. Systemic pesticides like glyphosate move with nutrients to seeds (translocate) during the time the crop is producing seeds, meaning the pesticide is continually moving to the seed with indeterminate crops. Thus the growth habits of indeterminate crops cause them to generally yield higher seed systemic pesticide levels than determinate crops.



- The labels set out "pre-harvest" intervals. This is the time frame between the time of spraying a pesticide on the crop and the time of harvesting the crop. The residues levels for the labels are generally set based upon the pesticide levels in the seeds found at harvest after the shortest field trial interval – generally 7 days. The reasons is the regulators consider this to be protective, because they assume that pesticide residue levels dissipate over time. However, confidential test data for the Glyphosate Proposal showed that **the levels of glyphosate, a systemic pesticide, actually increased** over time, as we pointed out in our comments to the proposal: [Comments to PMRA on GLY increases in PMRL 2021-10](#). The reason may be that the longer the time period during which glyphosate was on the crop provided a longer time frame for glyphosate to translocate to the seed, resulting in higher levels. After spraying, the crop does not die immediately, but continues its growth which diminishes over time.
- **Because of Field Conditions.** Field conditions might cause higher levels in some portions of a field over others, particularly with indeterminate crops. Growing conditions affect growth habits of plant, as does localized field moisture.
- **From Overapplication.** Overapplication of pesticides may be occurring.
 - The labels for spraying are complicated and hard to follow. They can be extremely long (the glyphosate RoundUp Weathermax label is more than 100 pages long).
 - Judgements need to be made on various factors, such as the physiological characteristics of crops as an indicator of seed moisture content, whether it will be windy on a certain day, etc.
 - Health Canada reports in its [Health Canada Pesticides Compliance Program: Activity Report 2020-2021](#) that "The most common contraventions included the use of pest control products contrary to the approved labels (PCPA 6(5)(b))..." (p. 10)

- The government of Canada recognized the problem that the labels are problematic when it created the [Pesticide Residue Compensation Act](#), which compensates farmers when they follow the labels and harm nevertheless results.

- [PMRA Public Opinion Research 2023](#) shows that Canadians recognize the problems with labels: The research found that "many Canadians believe pesticides cannot be used safely even when instructions are followed (62%)".

- PMRA assures we are safe and we shouldn't worry that Import MRLs might result in high levels of pesticide in Canadian grown foods, because they say when the labels for spraying in Canada are followed, there won't be high levels on Canadian grown foods. The above examples show this not the case.

- A further problem is no one checks on how pesticides are sprayed on the field in Canada, which means PMRA's assurance is an **empty assurance without any possibility of verification**.

The field studies for labels need verification to ensure that the directions for use correspond to the expected pesticide levels in each crop covered by that label. Checks are required in the field to ensure that application occurs as required by the labels.

- **Harms Organic Industry.** Third, setting higher MRLs establishes standards for the Canadian organic industry that likely cause harm to that industry. The Canadian organic standard for residues is 5% of the MRL for its conventional counterpart, so raising the MRLs results in a higher allowed residue level for Canadian organic exports and also presents the risk that applications in Canada will increase. This will likely cause trade problems for Canadian organic exporters



because buyers of organic seek and test for low levels of pesticides on food, and also because it will likely cause higher levels of residues in organic products because of drift from neighbouring non-organic farms. Exports to sensitive markets such as Korea (zero tolerance) and Japan would be especially impacted. Such problems arising from contamination are documented in this [Report](#). Although the report is focused on glyphosate, the issues would be similar for other pesticides. Furthermore, it should be noted that issues with trade do not impact only one production system. Any unacceptable level of contamination in either organic or conventional risks the reputation for Canadian exports and may impact more products than just the original ones with the contamination.

There is no Need for Imposing the Higher MRL

There is no need for Health Canada to require that the level of the higher Import MRL be the legal Canadian MRL on a specific food type. As explained, having a Canadian only MRL for food grown in Canada according to Canadian labels makes sense, meets PMRA's definition of an MRL, and provides a standard for safety needed in order to protect Canadians.

Also, PMRA can get information on the quantities of a food type that is imported into and also grown in Canada, and such ratio information could be used by PMRA in its dietary exposure assessment. There is no need to assume the higher level for all quantities of the food type in the DEA. (PMRA calls this "protective", when it is actually just inaccurate). In fact, PMRA has resorted to using such import/export information before, as in its proposed re-valuation decision for glyphosate, PRVD 2015-01.

Having distinct MRLs for imported and Canadian grown food makes sense.

PMRA Insists on Just One MRL

PMRA has provided two reasons for not having two MRLs. First, a regime that allows for two MRLs doesn't line up with our "international trading partners", and second, the Canada Food Inspection Agency (CFIA) would find it hard to enforce. We don't think these are good reasons:

- Not in line. In an email exchange, PMRA indicated that "Canada is aligned with the internationally accepted best practice of **specifying only one MRL**" and that
- having a separate MRL for Canada would "have [an] unnecessary impact on food trade as it would be out of line with our international trading partners".
 - Response 1: It just so happens many or all of these trading partners have adopted the Global Biodiversity Framework, which calls for a reduction in the risk of pesticide, not the increased risk posed by adopting Import MRLs as domestic MRLs.
 - Response 2: The PMRA is not supposed to be concerned with "impacts on food trade". Health Canada is supposed to worry about the health of Canadians. In fact, the primary job of the Minister of Health on pesticides is to protect Canadians and the environment from unacceptable risks to pesticides, and when it comes to setting MRLs, **the Minister of Health is supposed to evaluate only the health risks of the pesticide** (s. 10(3)).

Health Canada has abdicated its responsibility to Canadians and our health by legislating import MRLs onto Canadian food.

- The PMRA points to the [Agreement on Sanitary and Phytosanitary Measures](#) (SPS Agreement) as setting out an "international trade obligation" for Canada to align to the extent possible with the



international Codex MRLs. The focus of the SPS Agreement is on preventing protectionist barriers to trade. It explicitly allows countries to set their own standards, and if such standards result in a greater restriction of trade, a country may be asked to provide scientific justification. (A recent somewhat related example is the [rejection](#) of Canadian hormone-treated beef by the United Kingdom under the SPS Agreement). In the case of setting both an Import and a domestic MRL, there is scientific justification, as we have shown. There is also no protectionist restriction on trade.

- PMRA is acting contrary to Canada's commitment to [Target 7](#) under the Global Biodiversity Framework.
- Too Difficult. PMRA has said it would be "operationally difficult" for inspection agencies to have to check for compliance with two levels. In the same email exchange, PMRA indicated it would be difficult to enforce two MRLs, for reasons that (a) "in many cases, the CFIA is unable to differentiate what food commodities were produced domestically from those that were imported"; (b) "many products are made in Canada with a mix of imported and domestic ingredients"; and (c) "raw agricultural commodities are exported from Canada and returned as finished products".
 - Response: Just because the CFIA finds a law hard to enforce is not a good excuse for not having a law that is protective of Canadians' health. This is the tail wagging the dog.
 - Also, it appears CFIA finds it hard because it can't figure out where an ingredient in a food item comes from. A simple way to solve this would be to ask the manufacturer/ importer/exporter.

Higher Import MRLs Come From Industry and Bad Science

Requests from Pesticide Industry.

The request for higher MRLs generally comes from the pesticide industry.

- Bayer/ Monsanto requested the higher MRLs for glyphosate on lentils, beans and peas in the 2021 Glyphosate Proposal.
- Now that the "pause" has been lifted, Syngenta has asked for the newest proposed increases for sugar beets, [PMRL 2023-34](#) and [PMRL 2023-38](#).

Different Label Instructions Not Identified.

Recall that MRLs are a measure of the "amount of pesticide residue that may remain on or in food when a pesticide is used according to label directions". The measures of pesticide residue used in setting the Import MRLs are based on field trials in different countries that have different label directions than those in Canada.

PMRA in its evaluations and consultation documents does not disclose what the different label directions are for the Import MRLs and how they are different from the Canadian directions for use. Moreover, PMRA does not identify in its database which pesticide labels amendments are the result of proposal to increase MRLs based on an Import MRL. This lack of transparency and clarity makes it very difficult to understand the differences between the Canadian use directions and the use directions that are being imported into Canada.

Industry and PMRA Only Look at the Active Ingredient.

The Act defines "pesticide control product" as either (a) the entire product or (b) just the "active ingredient":



pest control product means

*(a) a product, an organism or a substance, including a product, an organism or a substance derived through biotechnology, that **consists of its active ingredient, formulants and contaminants**, and that is manufactured, represented, distributed or used as a means for directly or indirectly controlling, destroying, attracting or repelling a pest or for mitigating or preventing its injurious, noxious or troublesome effects;*

*(b) an **active ingredient** that is used to manufacture anything described in paragraph (a); or*

(c) any other thing that is prescribed to be a pest control product. (produit antiparasitaire)

This definition allows PMRA to assess, and the applicant to provide information concerning, only the active ingredient, not the complete manufactured product. Research is clear that the entire formulated product contains many other ingredients including additives, co-formulants and surfactants and that these additional ingredients can make the active ingredient more toxic, and also cause the real-world product to be more harmful, than just the active ingredient itself.

PMRA doesn't even assess the full product when it contains more than one active ingredient! For example, the Syngenta proposed increases for the active ingredients azoxystrobin and fludioxonil set out in [PMRL 2023-34](#) and [PMRL 2023-38](#) are to be ingredients in the same pesticide product, but they are being **assessed separately**. Syngenta requested the azoxystrobin increase to "align Canada's current MRL for azoxystrobin on sugar beet roots with the US azoxystrobin tolerance. The pesticide product used in the US is a co-formulation, containing the pesticides fludioxonil and azoxystrobin. As such, the application for a proposed MRL for fludioxonil on sugar beet roots is being consulted on under a separate document."

By not evaluating the combined effect of these two ingredients in the one product, PMRA is not applying an evidence based or a scientifically based approach. It is also completely failing to assess the risks associated with the full product, and failing in its mandate to protect Canadians from the risks of pesticides. Without examination of the full product, **PMRA cannot even claim to know the risks** of the pest control product.

Industry Field Trials with Overreaching Confidentiality Claims.

The field trials used as the basis for the Import MRL come from industry. There are no safeguards in place to ensure that the trials are not cherry-picked. Moreover, the field trials selected by industry for calculating Import MRLs do not reflect Canadian use directions and so are not relevant to Canada.

These field trials are cloaked in claims of confidentiality. The Act indicates that "confidential test data" can be viewed through a reading room process, which means these **studies should be released with just the "confidential test data"blacked out/** redacted. The principle is that documents should be disclosed, that the exceptions to disclosure be narrowly construed and that the owner of the data has the onus to justify the claims of confidentiality.

Disclosure of the studies with redactions would allow for inquiry into whether the PMRA applied a scientifically based approach in its evaluation, as it is required to do under the Act, regardless of the content of the data. Such review is integral to accountability of the PMRA and forms part of the public participation process, one of the pillars of the Act.

However PMRA does not disclose the studies themselves except through the reading room process. The process takes time, and the studies cannot be realistically viewed for critical content in time to make meaningful comments on consultations. PMRA also does not provide any evidence that it understand the reasons for the confidentiality claim or that it has placed the onus on the owner of the data to legally justify the confidentiality claims.



OECD Calculator Overestimations.

- In setting the residue levels, PMRA takes the residue data from the irrelevant field trials selected and presented by industry, and puts it into the OECD Calculator. This tool uses a set of pesticide analyses in a crop, and estimates a value that would be exceeded less than 95% of the time. This statistical approach “overestimates” or inflates values in situations where the data sets are small, as explained in the OECD [White Paper](#) (p. 57/69).

- Overestimated values provide scientific justification for high, unrealistic proposed MRLs. Overestimated values were used to justify the Glyphosate Proposal. According to the relevant Evaluation Report (PMRA Doc. # 3161627):

- Peas: the highest average field trial values was 4.76, ppm, but the overestimated proposed MRL was 10 ppm;

- Lentils: the highest average field trial values was 6.34, ppm, but the overestimated proposed MRL was 10 ppm; and

- Beans: the highest average field trial values was 6.313 ppm, but the overestimated proposed MRL was 15 ppm.

Any analysis that does not accurately reflect the data in the real-world, the evidence, is not an evidence based approach and accordingly does not reflect a scientifically based approach.

OECD Process

- PMRA generally adopts the levels set by the OECD (the Organisation for Economic Cooperation and Development) through the [Codex Committee on Pesticide Residues](#) (CCPR). The CCPR takes recommendations from the [Joint WHO/FAO Meeting on Pesticide Residues](#) (JMPR), which is a collection of ad hoc, non-governmental “experts” whose purpose is to harmonize MRLs internationally for trade purposes. The JMPR decides on what data is put into the OECD Calculator.

- PMRA plays a key role in the international drive for higher MRLs. It chaired and funded an actual "extra" meeting in order to provide justification for higher glyphosate levels. The 2021 [Glyphosate Proposal](#), which caused the public outcry and “pause”, recommended MRLs which came from the Ottawa 2019 [Extra Meeting](#) of JMPR. At the 2021 Codex [CCPR meeting](#) that accepted the glyphosate MRLs, [CropLife International](#), an association of the world’s largest pesticide companies, **was represented by 68 people**. Canada had 9. Canada had **no objections** to the increases. (See [the Report and Appendix I](#)).

- The FAO of the United Nations (part of the JMPR) is openly working with and intends to increase collaboration with the private sector through its [Strategy for Private Sector Engagement](#). The FAO [International Code of Conduct on Pesticide Management](#) applies to governments and the pesticide industry, and its goal is to maximize the benefits of pesticides (with honourable mention of protecting human health and the environment). Governments are required to "regulate and monitor pesticide residues in food notably in accordance with the recommendations of the Codex Alimentarius" (including the CCPR).

PMRA "Protects the Pest Industry over Canadians"

- It is clear that the OECD Process and players are driven by the private sector and the pesticide industry, whose goal is to harmonize MRLs internationally at high levels. The position of PMRA on MRLs explained above, and PMRA's adoption and furtherance of this international process, reveals an approach that "protects the pest industry over Canadians".