CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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Mitigation of trade impacts associated with the use of environmental inhibitors in agriculture

Background

The use of environmental inhibitors to mitigate the impact of agriculture on environmental parameters is becoming an important topic internationally. Typically environmental inhibitors are applied to the land, feed or directly to animals to reduce the production of greenhouse gases (such as methane) or to reduce the release of soluble nitrogen into waterways or aquifers.

If not appropriately assessed and controlled there is a potential for their use, and associated residues from them, to have adverse impacts on international trade, human health or animal welfare. Furthermore, efficacy assessments and use conditions will likely be required for those farms or countries using them to count their effects against local or national environmental commitments (e.g. the Paris Accord commitments).

While some of countries are starting to assess some of these environmental inhibitors under existing agrichemical registration standards (e.g. NZ is amending its laws), the proactive assessment and the promulgation of international standards (e.g. MRLs) has as yet not been prioritised by any of the international standard setting bodies.

This is a rapidly emerging issue with some of these products already on the market in multiple countries and many more in development. A clear prioritisation of this potential work programme by the Codex Alimentarius Commission, along with a decision on which committees may be best suited to look at the different modes of application, could create greater commercial certainty for both the manufacturers and food processing industries.

Relevant Current Codex Standards

In 2019 Codex recognised part of the problem by promulgating the: Guidelines For Rapid Risk Analysis Following Instances Of Detection Of Contaminants In Food Where There Is No Regulatory Level (CXG 92-2019). While this is a great start, these guidelines primarily just cover those reactive situations where residues of agrichemical such as inhibitors may have retrospectively been found in food at very low levels.

They helpfully set a cut-off value (0.001 mg/kg) to indicate whether or not a specific risk management action might be taken on the basis of the concentration of the contaminant in the consignment tested. For values above the cut-off, application of these guidelines would result in the risk manager deciding to progress with a rapid risk analysis. For those compounds above the cut-off for which there are established health-based guidance values (HBGVs), toxicological points of departure (POD) or benchmark dose levels (BMDLs) it recommends a rapid exposure assessment process which provides for a level of reactive risk characterization.

They do not however provide a mechanism to proactively promulgate international assessments and MRL recommendations (where appropriate).

Which Codex Committees may be best suited to be involved

Various Codex Committees could potentially consider the control of environmental inhibitors (assessments and promulgation of MRLs as appropriate) broadly within their mandate, with or without minor modifications to their terms of reference or on a more specific request by the CAC. Key committees that currently promulgate such limits associated with differing mechanisms of administration include: (1) Codex Committee on Residues of Veterinary Drugs in Food (CRVDF), (2) Codex Committee on Pesticide Residues (CCPR) and (3) Codex Committee on Contaminants in Food (CCCF).

a. Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF)

CCRVDF would arguably be the most appropriate committee to evaluate those environmental inhibitors administered directly to animals or administered via their feed. Whereas CCPR or CCCF may be more appropriate to consider those compounds administered to the land, pasture or crops.

For CCRVDF to consider those environmental inhibitors administered directly to animals or their feed then ideally it would need a request directly from the CAC and or the agreement of a minor change to the definition of veterinary drug to add "environmental impacts" to the purpose statement in the definition (e.g. "*whether used for therapeutic, prophylactic, or diagnostic purposes, or for modification of environmental impacts, physiological functions or behaviour"*).

Theoretically JECFA could assess such compounds in the same way they do for other veterinary drugs.

b. Codex Committee on Contaminants in Food (CCCF)

CCCF arguably would not need any change in its terms of reference to consider the impact of residues of environmental inhibitors that may then inadvertently end up in food. However it would help if the CAC made a request for the Committee to directly consider these.

The JECFA that services this committee may need risk management policy input from the Committee to amend one of its procedures to more directly take into account the deliberate use of environmental inhibitors in agriculture (e.g. to consider national authority use instructions where these exist), but otherwise existing risk assessment methodologies would appear to be applicable.

c. Codex Committee on pesticide Residues (CCPR)

Based on current expertise and representation, CCPR may be the best Committee to assess those environmental inhibitors applied directly onto pasture or crops including the carryover of residues into animals which may be feed the whole or part the treated pasture or crop.

However CCPR is potentially constrained by a similar issue to that facing CCRVDF in that the definition of Pesticide does not currently explicitly include such chemicals used for the purpose of environmental effects. Again this could potentially be overcome by a request directly from the CAC and or the agreement of a minor change to the definition of Pesticide to add the highlighted words to part of the current definition: "The term includes substances intended for use as ***"environmental inhibitors"***, *a plant growth regulator, defoliant, desiccant, fruit thinning agent, or sprouting inhibitor and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport.*

As long as National Authorities were in a position to recommend and provide data associated with the *Good Agricultural practice* in the use of these environmental inhibitors then the JMPR that services this committee would theoretically not need to substantially modify its current procedures.

Conclusions

New Zealand welcomes the views of the committee on this matter and whether it would support a commitment to get the Codex Alimentarius Commission to prioritise the setting of further standards / guidance to mitigate trade risks associated with the residues of environmental inhibitors in food traded internationally.