

**2nd MEETING OF THE
OECD/FAO
ZONING STEERING GROUP
(ZSG2)**

MEETING REPORT

**Paris, France
29 - 30 March 2001**

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SUMMARY

The OECD Pesticides Forum, at a recent meeting, set up a small expert Steering Group to develop a global zoning scheme to define areas in the world where pesticide residue behaviour could be considered comparable, and therefore where residue trials data could be used within each zone for MRL-setting purposes, irrespective of national boundaries.

The initial proposal for this zoning scheme arose out of an earlier EU/OECD workshop (York, 1999), where it was realised that the national practices in accepting data from other areas or countries differed significantly between Europe and North America, and that there was room for some harmonisation in this area.

The Author, having been involved in the initial workshop in York, was invited to join this Steering Group, and attendance at the first meeting of the group was supported by MAF Food's ACVM Group, together with the NZ Vegetable & Produce Growers and the NZ FruitGrowers Federations.

At the first meeting, the Steering Group confirmed that it should be possible to define geographic zones for the purposes of extrapolating residue behaviour but that further work would be needed to validate this concept and to define the appropriate zones.

The second meeting of the Steering Group, held in Paris, (29-30 March 2001):

- Reviewed the 'out-of-session' work in classifying the agricultural production areas of the world into 3-4 residue zones.
- Refined the selection of JMPR residue data sets intended for use in validating the proposed zones.
- Agreed on procedures for collecting additional information to add to the above residue data sets and to eliminate any questionable trial results from the data sets.
- Allocated to key members of the Steering Group the task of peer reviewing the residue data sets and confirming the zone classification for each residue trial.
- Supported the OECD Secretariat offer to provide a Statistician to evaluate the available residue data sets (after the above peer review) for zone validation purposes.
- Proposed a further meeting of the Steering Group in May 2002 to (hopefully) finalise the proposed Zoning Scheme and to prepare a technical paper to support this concept, for consideration by OECD.

ACTIONS

1 De-briefing

National Manager (Plants Residues) to arrange a debriefing for members of the MAF Food Residues Co-ordination Committee and for interested officials from the NZ Vegetable and Fruit Growers Federations, to advise them of progress and future activities of the Group.

2 Review of Existing Residue Data

National Manager (Plant Residues) to obtain approval from The Director (ACVMG) for continued participation in the work of refining and reviewing the residue data sets to be used in validating the Residue Zones, to contribute to the out-of-session discussions during the next 12 months and to participate at the next meeting of the Steering Group.

3 Briefing for the Next OECD Pesticides Forum

National Manager (Plant Residues) to ensure the NZ representative at the next OECD Working Group on pesticides is adequately briefed on the proposed ZSG WorkPlan.

REPORT ON THE 2nd ZONING WORKING GROUP MEETING

1 INTRODUCTION

In September 1999, a group of residue experts from EU and OECD countries met in York to consider ways of harmonising the various residue data components needed by national governments and international/regional organisations to establish pesticide MRLs.

One of the recommendations from that York Workshop was the establishment of a joint OECD/FAO residue 'zoning' project to promote the sharing of residue data between countries within regions or areas where pesticide residue behaviour could be expected to be the same. This recommendation was endorsed by the OECD Working Group on Pesticides (WGP)

At the first meeting of this Zoning Working Group (March 2000) a WorkPlan was established to define geographic zones for pesticide residue field trials, where within each zone, pesticide residue behaviour would be expected to be comparable and therefore where residue trial data could be considered equivalent (for MRL-setting purposes).

During the last 12 months, out-of-session work by members of the Steering Group included:

- the construction of a global map of zones, based initially on climate, where similar residue behaviour could be expected (D Griffin – UK PSD), and
- the collection of residue trials data that could be used to test the validity of these zones (D Lunn – NZ MAF and D MacLachlan – Australian NRA).

The second meeting of the Zoning Steering Group (ZSG), held in Paris on 29-30 March 2001, considered the results of the above work in defining the tentative residue zones and the residue data summary tables intended for use in validating the zones. Experts from 7 OECD countries, Chile, the Global Crop Protection Federation (GCPF), OECD and FAO Secretariats attended the meeting (See [Annex I](#)).

2 OBJECTIVES

The objectives of this second meeting of the Steering Group were:

- To review the 'out-of-session' work in zoning the agricultural/horticultural production areas of the world for residue assessment purposes.
- To refine the residue data sets to be used in validating the proposed zones and identify what additional data could be obtained to improve the data.

3 PROVISIONAL RESIDUE ZONES

The meeting reviewed the draft residue zoning maps prepared by Don Griffin (UK PSD), recalling that the initial zones should be based on existing climatic maps, since temperature, rainfall and sunshine hours were likely to be the main factors influencing residue behaviour for foliar/spray treatments.

During the discussions, the following key points were identified:

- The initial draft residue zones, based on the Köppen climate classification, but marginally adjusted to reflect political boundaries, provided a good basis for dividing the world into 3-4 major residue zones. For discussion purposes, these zones were identified as:
 - Tropical
 - Temperate(wet)
 - Temperate (dry)
 - Cold
- There was some discussion on the need to separate out the two Temperate zones, and it was agreed that any final decision on splitting or merging these zones would depend on whether there were any significant differences identified as a result of the proposed statistical analysis of the residue data sets (see below).
- It was also agreed that ‘climate-related’ names should not be used when describing the final residue zones, as this could cause confusion and focus attention on climatic differences rather than residue behaviour similarities.
- While the initial suggestion to ‘marginally adjust’ the zone boundaries to reflect political borders could be done without significantly affecting the integrity of the ‘climate-based’ zoning, there were some instances where this could not be done (USA, Argentina). It was agreed that in these cases, the regional representatives of the Steering Group would look more closely at the practicality of splitting one country into 2 or more zones.

After taking the above points into account, it was agreed that Don Griffin (UK PSD) would refine the initial zone maps, using WINDISP 4 software (ex FAO) to generate a new ‘boundary-adjusted’ map based on 4 residue zones.

It was agreed that this new map would be used to group the refined residue data sets (see below) for statistical analysis.

4 RESIDUE DATA FOR ZONE VALIDATION

The meeting reviewed the residue data selected (Lunn/MacLachlan) from the 1990-2000 JMPR Monographs, intended for use in validating the proposed residue zones.

The meeting recalled that the criteria used in the selection of these data were that there should be a minimum of 4 residue results from any one zone, that trials could be considered equivalent if the Pre-Harvest Intervals or area/dilution rates were within 25%, that trials would only be selected if finite residues were reported and that formulation differences could generally be ignored.

The meeting considered both the data summary (of 2200 trial results, covering 46 pesticides, 67 commodities and 30 countries) and the conclusions of an initial analysis of the variability of the results, (commissioned by NZ MAF ACVM Group) suggesting that although there was a high degree of variability within and between zones, there was a good indication that the zoning concept could be validated using the available data.

After some discussion over the difficulty in assessing how much of this variability could be attributed to differences in application techniques/national growing practices and how much could be due to climatic differences, it was agreed that the data sets used for validation should be reduced to a lesser number of results where there was a greater degree of confidence that the application techniques/growing practices were equivalent.

The meeting therefore agreed that the residue data sets to be used in validating the proposed zones should be refined to include the pesticides and commodities listed in Annex 2.

In addition, it was agreed that selected members of the Steering Group would review the refined residue data sets to

- ensure their suitability, particularly with respect to the grouping according to application methods and treatment rates,
- confirm their acceptance by JMPR as being 'valid' results,
- verify the zone allocation for each trial (using the revised Zone map to be circulated by Don Griffin (see above).

It was also agreed that during this review process, any additional data available from the manufacturers for the selected pesticides would also be included, in order to obtain the best possible data set.

5 AGREED WORKPLAN FOR 2001

After further discussion on the work needed during the coming year, it was agreed that once the revised residue data sets have been updated with any new information available from the manufacturers, reviewed and the provisional zone allocation for each trial verified, the OECD Secretariat would arrange for this information to be analysed to assess:

- The inherent variability of total data set across all zones
- The variability between zones
- The variability within each zone
- The effect of combining the two Temperate zones ('wet' and 'dry') into a single zone

In addition, the meeting agreed to look more closely at the effect of rain on pesticide deposits, as this may be of relevance when considering the possible merging of the two 'Temperate' zones.

ACTIONS AGREED AT SECOND ZONING STEERING GROUP MEETING			
	Activity	Who	Timing
1.	Refine Data for Further Analysis		
1.2	Revise EXEL spreadsheet of JMPR data for further statistical analysis. Send to Gabriele Timme (copy OECD Secretariat).	Dave Lunn	April 18
1.3	More detailed information is needed on cyfluthrin apples. Industry to provide data to D. Lunn (copy OECD Secretariat).	Gabriele Timme	May 28
1.4	GCPF to ask members for additional residue data for chemicals in new spreadsheet. This to be sent to D. Lunn to include in new spreadsheet (copy OECD Secretariat).	Gabriele Timme on behalf of GCPF	May 28
1.5	Send New spreadsheet to S. Funk and U. Banasiak (copy OECD secretariat)	Dave Lunn	June 5
1.6	Check data: <ul style="list-style-type: none"> • Verify trial location and zone allocation. • Verify Good Agricultural Practices 	Dave Lunn, Ursula Banasiak and Steve Funk	June 29
1.7	Experts from regions to confirm zone	USA – S Funk	July 30

ACTIONS AGREED AT SECOND ZONING STEERING GROUP MEETING			
	Activity	Who	Timing
	allocation. Do they pass the “nonsense” test? e.g Florida/California in the same zone?	Japan – K Ogura Europe – D Griffin S. Am – R Gonzalez	
2.	Other residue data		
2.1	<i>Chlorpyrifos data for citrus, strawberries and tomatoes, in US, California and Florida.</i> Data on Chlorpyrifos in the US will be sought to test the hypothesis that Florida and California fall into different zones, temperate wet and temperate dry – respectively. [Is there any data to test whether Japan should be classified as cold or temperate? e.g. Captan pears; grapes, tomato Fenpyroximate apples, Acephate tomatoes This data could be reanalysed to test whether Japan should be classified as cold or temperate.]	Jean-Mari Peltier and Steve Funk ZSG to consider if we want to analyse this data as well as the chlorpyrifos data.	June 28 June 28
2.2	IUPAC data referred to by Denis Hamilton Is this data of any use to the ZSG	Ian Richstein to investigate	May 30
3.	Other data to support climate zones		
3.1	<i>Refined Map of climate zones.</i> A new website and electronic map was referred to by D. Griffin during the meeting. Website and bitmap to be sent to OECD secretariat for circulation to ZSG	Don Griffin	April 28
3.2	<i>Does the effect of rainfall influence crop residues?</i> It was agreed that the group would investigate sources of information on rainfastness and crop residues – what data exists? Who is doing research in this area? Could the data be used to support our zoning concept? Information and Data may be available from the agrochemical industry or via the minor crops programme in the USA.	Gabriele Timme to ask GCPF to provide general or specific data on rainfastness Jean Mari Peltier and Steve Funk to approach IR4 for information and data and possible links to University research groups.	September 30 – for use in electronic discussion with ZSG

ACTIONS AGREED AT SECOND ZONING STEERING GROUP MEETING			
	Activity	Who	Timing
4.	Carry out further statistical analysis		
4.1	Find a suitable consultant statistician. There are 2 possibilities; Netherlands - contact is E. Muller UK - contact is L. Harrison. Names should be sent to OECD Secretariat	Erica Muller and Libby Harrison	April 30
4.2	Meet with Statistician to explain our needs and agree further analysis	OECD secretariat to co-ordinate	July 30
4.3	Statistician to conduct analysis and report back to ZSG with results and ideas for further analysis or further data needs	OECD secretariat to manage and co- ordinate	Septem ber 30
4.4	ZSG to decide how to proceed by e-mail discussion or if necessary a conference call.	OECD secretariat to coordinate	October 30
4.5	Further data collection (?) and statistician to carry out further analysis (if necessary)	OECD secretariat to manage contract	January 30
5.	Soil applied Pesticides		
5.1	The paper (K. Hohgardt) was discussed. The ZSG need a brief summary of the discussion for the record of the 2nd meeting	Don Griffin to write summary of discussion	May 15
6.	3rd Meeting on Zoning Steering Group		
6.1	The group will exchange information on progress electronically, co-ordinated by OECD secretariat.	OECD secretariat	On- going
6.2	The group will meet for a 3 rd time in March 2002 in The Hague (after 2002 CCPR	OECD secretariat to confirm	As appropri ate

6 NEXT MEETING

The next meeting has been scheduled for 21-22 May 2002 in The Haag (Netherlands), to coincide with the next meeting of the Codex Committee on Pesticide Residues, thus minimising the cost to those members of the Group that also plan to attend the 2002 CCPR.

ANNEX 1

2nd OECD/FAO Zoning Steering Group Meeting (29-30 March 2001)

Participant List

Mr. Ian REICHSTEIN	Agriculture Fisheries and Forestry Australia
Dr. Roberto GONZALEZ	University of Chile
Mr. Stephen FUNK	Environmental Protection Agency/OPP, USA
Mr David LUNN	Ministry of Agriculture and Forestry, NZ
Mr. Don GRIFFIN	Pesticides Safety Directorate, MAFF, UK
Ms Amelia TEJADA	Plant Production and Protection Division, FAO. Italy
Ms Gabriele TIMME	GCPF (c/o Leverkusen Bayerwerk), Germany
Ms. Libby HARRISON	OECD Pesticide Programme, France
Ms. Jeanne RICHARDS	OECD Pesticide Programme, France
Ms. Erika MULLER	Ministry of Ag, Nature Management & Fisheries, Netherlands
Dr. Ursula BANASIAK	Biologische Bundesanstalt fur Land- und Forstwirtschaft, Germany
Mr. Kazuo OGURA	Agricultural Chemicals Inspection Station, Japan
Ms. Jean-Mari PELTIER	California Citrus Quality Council, California

ANNEX 2

2nd OECD/FAO Zoning Steering Group Meeting (29-30 March 2001)

Residue Data Selected For More Detailed Review and Analysis

Pesticide	Commodity	No of Data Points per Zone			
		Cold	Temp (wet)	Temp (dry)	Tropical
Bitertanol	apples pears [pome fruit]		21 12 [33]		
Captan	apples pears [pome fruit] grapes tomatoes	9 6 [15] 18 12	19 13 [32] 8 3		
Chlorpyrifos	apples pears [pome fruit] peaches strawberries grapes tomatoes lettuce (head) lettuce (leaf) sweetcorn forage	5 5 [10] 2 5 4 2 1	12 4 [16] 11 12 10 23 12 9 8		
Cyfluthrin	apples		21		
2,4-D	wheat forage	12	20	12	
Dinocap	grapes		33		
Febuconazole	apples peaches sugarbeet tops strawberries wheat straw	6 10 1	25 10 2 9 27	2 4 10	
Fenpropimorph	bananas		1		12
Fenpyroximate	apples	2	10		
Kresoxim methyl	apples grapes peppers (sweet)		10 46 8		
Methamidophos	apples		21		
Myclobutanil	currant (black) strawberries		17 31		
Parathion	apples clover forage	4	24 7		

Pesticide	Commodity	No of Data Points per Zone			
		Cold	Temp (wet)	Temp (dry)	Tropical
	maize forage	10	13	2	
	turnip greens		11	2	
Parathion methyl	clover forage	10	4		
Phosmet	alfalfa (fresh)		12	3/2	
Tebufenozide	apples	12	79		
	pears		26		
	[pome fruit]				
	broccoli		8	2	
	cabbage	1	7	4	
	grapes		15		4
	kiwifruit		12		
	mustard greens		7	2	