CHEMICAL RESIDUES/MRL'S

IMPACT, UNDERSTANDING AND POTENTIAL TRADE ISSUES

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

MARKET ACCESS –
NOT JUST ABOUT CHEMICAL MRL'S

Chemical use also impacts on:

- Weed seeds
- Foreign material / contaminants
- Pests
- Diseases
- Ergot

WHAT DOES THIS MEAN FOR A GROWER

Different **MRL's** apply in each market, thus

Even though you may apply a chemical correctly and in accordance with **Label Directions….**

The resulting grain residues may not meet market requirements

BUT

Do you know the market requirement before you use a chemical?

robably not!

So, you need to understand the market access risks of using chemicals

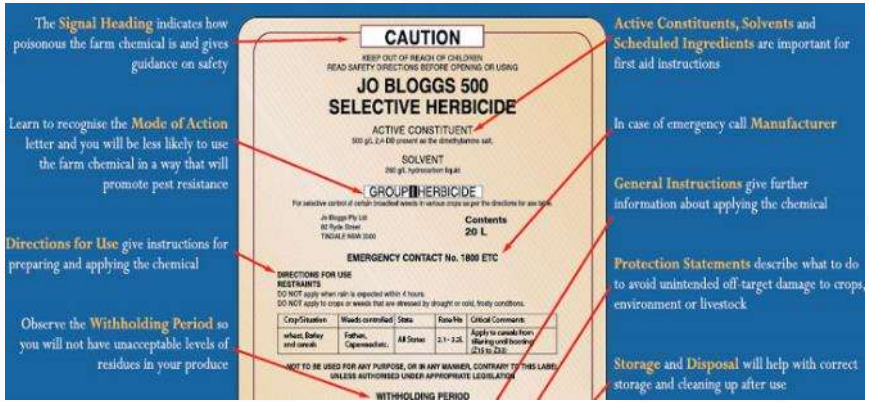
LEGAL OBLIGATIONS OF GROWERS

1. Use only chemicals registered for that crop

2. Comply with all Label Directions, including

- Rates of application
- Withholding period
- Timing for application
  - crop development stage
- A range of other statements such as

  “DO NOT ……”



RESIDUES LEAD TO AN MRL

An MRL is established when a chemical is registered on a crop

An MRL is the maximum concentration of a residue resulting from the registered use of an agricultural chemical which is legally permitted or recognised as acceptable to be present in or on a food, agricultural commodity or animal feed.

REGULATORY & MARKET REQUIREMENTS

All stakeholders along the supply chain have obligations

- Chemicals arguably No.1 non-tariff measure issue at the moment
- Food Safety always a given whether stated or not in contracts
- Increase in MRL regulation nationally and internationally
- Chemical availability / use under threat

CAN WE TRADE GRAIN

Increases in trade flows cause market access issues where

- Market has no MRL (missing MRL)
- **Market doesn't apply Codex (divergent MRL)**
- There is no Codex MRL
- Market does not have a default policy (zero)
- Market applies a low Level Of Detection (LOD)

SOME MARKET REGULATIONS AS AT 6 JAN 2020

Market	Codex	Australia	China	EU	Saudi Arabia	Indonesia	Japan	South Korea	Taiwan	Thailand	Vietnam
Regulation	Not adopted by all markets	Own MRL Standard	Own MRL Standard	Own MRL Standard	GCC Standard	Own MRL Standard	Own MRL Standard	Own MRL Standard	Own MRL Standard	Own MRL Standard	Own MRL Standard
Default	No default	No default	No default	Default system	Default – GCC, Codex, EU/USA	No default	Default system	Default system	No default	Default system is complex	No default
If no MRL	Zero	Zero	Zero	0.01	0.01	CRA / Zero	0.01	0.01	Zero	0.01	Zero
Updates	Yearly	Monthly – 6 weeks	Bi-annually	Often	Rarely	Rarely	Often	Often	Approx. twice/year	Rarely	Rarely

CRA refers to a Country Recognition Agreement where Indonesia may accept Australian MRLs for some commodities

SPECIFIC BARLEY MRL'S AS AT 6 JAN 2020

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Chemical	Codex	EU	Australia	China	Japan	Saudi Arabia	Vietnam	Thailand	United Arab Emirates	South Korea	Kuwait
Imazapyr	0.7 (EU Reservation at CCPR50)	0.01 Default	0.7	0	0.01 Default	0.7 (Codex)	0	0.7 (Codex)	0.7 (Codex)	0.7	0.7 (Codex)
Diquat	5	0.02*	5	0	5	5 (GCC)	5	5 (Codex)	5 (EU)	0.02 (expires 31Dec21)	5 (GCC)
Glyphosate	30	20	10	0	30	30 (Codex)	30	30 (Codex)	30 (Codex)	20 (IT)	30 (Codex)
Chlorpyrifos - methyl	3	6	10	5	6	3 (Codex)	0	3 (Codex)	3 (Codex)	4 (IT)	3 (Codex)
Piperonyl butoxide	30	0.01 Default	20	0 (30#)	24	30 (Codex)	30	30 (Codex)	30 (Codex)	15 (IT)	30 (Codex)
Fenitrothion	6	0.05*	10	5	6	6 (Codex)	6	6 (Codex)	6 (Codex)	0.01 Default	6 (Codex)

SPECIFIC CANOLA MRL'S AS AT 6 JAN 2020

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Chemical	Codex	Australia	EU	Japan	China	United Arab Emirates	Pakistan	Malaysia	Vietnam	Bangladesh
Clethodim	0.5	0.5 as Sethoxydim	1	0.5	0.5 (0.5T)	0.5 (Codex)	0.5 (Codex)	0.5 (Codex)	0.5	0.5 (Codex)
Diquat	1.5	5	1.5	2	2	1.5 (EU)	1.5 (Codex)	1.5 (Codex)	1.5	1.5 (Codex)
Glyphosate	30	20	10	30	2	30 (Codex)	30 (Codex)	30 (Codex)	30	30 (Codex)
Haloxyfop	3	0.1	0.2	0.1	0 (3T)	3 (Codex)	3 (Codex)	3 (Codex)	3	3 (Codex)
Piperonyl butoxide	0	8	0.01 Default	8	0	0.01 Default	0	0.01 Default	0	0
Fenitrothion	0	0.1	0.02*	0.01 Default	0	0.02 (EU)	0	0.01 Default	0	0

SPECIFIC WHEAT MRL'S AS AT 6 JAN 2020

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Chemical	Codex	Australia	Indonesia	Vietnam	Philippines	South Korea	China	Japan	Malaysia	Yemen
Deltamethrin	2	2	"AUS"	2	2 (Codex)	2 (IT)	0.5	2	2 (Codex)	2 (Codex)
Diquat	0	2	2	2	0	2 (expires 31Dec21)	2	2	0.01 Default	2 (GCC)
Glyphosate	30	5	"AUS"	30	30 (Codex)	5 (IT)	5	30	30 (Codex)	30 (Codex)
Chlorpyrifos - methyl	3	10	10	10	3 (Codex)	3 (IT)	5 (5T#)	10	3 (Codex)	3 (Codex)
Piperonyl butoxide	30	20	"AUS"	30	30 (Codex)	0.2 (expires 31Dec21)	0 (30#)	24	30 (Codex)	30 (Codex)
Fenitrothion	6	10	"AUS"	6	6 (Codex)	0.2 (expires 31Dec21)	5T	1	10	6 (Codex)

NATIONAL RESIDUE SURVEY

Grains Program

The following MRL residue information is kindly provided by the National Residue Survey (NRS).

For wider circulation and use of this information, you should contact the National Residue Survey;

http://www.agriculture.gov.au/ag-farm-food/food/nrs/contact

RESIDUE DETECTIONS IN BARLEY

2012 - 2013					2018 - 2019				
Chemical	No. tested	No. of detections	> ½ MRL ≤ MRL	> MRL	Chemical	No. tested	No. of detections	> ½ MRL ≤ MRL	> MRL
glyphosate	136	41	0	0	glyphosate	232	90	0	0
fenitrothion	891	183	0	0	fenitrothion	844	22	0	0
piperonyl butoxide	891	173	0	0	piperonyl butoxide	844	37	0	0
deltamethrin	891	103	0	0	deltamethrin	844	9	0	0
chlorpyrifos-methyl	891	25	0	0	chlorpyrifos-methyl	844	15	1	0
imidacloprid	891	0	0	0	imidacloprid	844	3	1	0

RESIDUE DETECTIONS IN CANOLA

2012 - 2013					2018 - 2019				
Chemical	No. tested	No. of detections	> ½ MRL ≤ MRL	> MRL	Chemical	No. tested	No. of detections	> ½ MRL ≤ MRL	> MRL
glyphosate	83	48	0	0	glyphosate	150	126	0	0
haloxyfop	83	51	10	8	haloxyfop	150	48	14	10
fluazifop-p-butyl	83	2	0	0	fluazifop-p-butyl	150	1	0	0
flutriafol	553	4	0	3	flutriafol	373	7	2	0
imidacloprid	553	1	0	0	imidacloprid	373	6	0	2
fenitrothion	553	10	0	1	fenitrothion	373	4	1	0

RESIDUE DETECTIONS IN WHEAT

2012 - 2013					2018 - 2019				
Chemical	No. tested	No. of detections	> ½ MRL ≤ MRL	> MRL	Chemical	No. tested	No. of detections	> ½ MRL ≤ MRL	> MRL
glyphosate	619	93	0	0	glyphosate	269	36	0	0
piperonyl butoxide	3396	1117	0	0	piperonyl butoxide	2044	193	0	0
chlorpyrifos-methyl	3396	920	0	0	chlorpyrifos-methyl	2044	157	2	0
fenitrothion	3398	467	0	0	fenitrothion	2044	88	0	0
deltamethrin	3396	825	0	0	deltamethrin	2044	94	0	0
methoprene	3396	305	0	0	methoprene	2044	97	2	0

GLYPHOSATE - BARLEY

NWPGP Working Group Formed

- Field studies commence to develop data to answer residue, quality and market concerns
- Permit extension to April 2020
- Nufarm withdrew from seeking registration
- Bayer stepped in and made a submission to the APVMA late 2019.
  - Utilising the data generated by GRDC

1Jul19 to 6Jan20

Crop	AUS MRL (mg/kg)	Detections	> AUS MRL (mg/kg)	Average detection (mg/kg)
Barley	10	57	Nil	0.20
Wheat	5	45	Nil	0.06
Canola	20	50	Nil	1.07

HALOXYFOP – CANOLA

NWPGP Working Group Formed

- EU MRL 0.2 mg/kg, announced reduction to 0.01 mg/kg
- AUS (0.1 mg/kg) submitted package and EU announced would alter to 0.05 mg/kg, expected in 2019
- Concern with number of shipments that will still exceed EU MRL

1Jul19 to 6Jan20

Crop	AUS MRL (mg/kg)	Detections	> AUS MRL (mg/kg)	Average detection (mg/kg)
Canola	0.1	42	7	0.08

- Unsure where residues arise given audits of growers
- Fact Sheets / Media done on several occasions – growers have listened

IMIDAZOLINONE – BARLEY

Not a NWPGP Working Group but Industry

- Developed key messages on market risks given uptake of Spartacus CL
- Difficult to manage stock selection / blending
- IT applications in some markets proceeding
- Various messages jointly developed
- BHCs implemented various segregation strategies 2019/20
- Agreement on notification on release of future herbicide tolerant varieties

FLUTRIAFOL – GROWERS LISTENING

NWPGP Working Group & Fertiliser Industry

- GTA sampling trial developed truck cleaning procedure
- NWPGP Working Group formed to assist extension to industry
- Fact Sheets / Media done in liaison with Fertiliser Australia
- Planning clean-out facility trial in Victoria via a smaller working group but hit a roadblock!

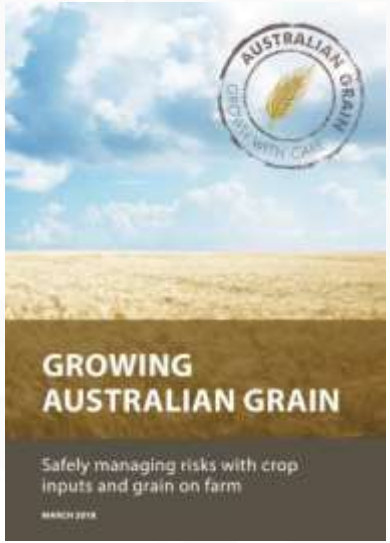
1Jul19 to 6Jan20 – actual detections

Crop	Amount (mg/kg)	MRL (mg/kg)	> MRL
Barley	0.027	0.2	
Barley	0.011	0.2	
Canola	0.027	0.07	
Canola	0.094	0.07	Y
Canola	0.014	0.07	
Canola	0.021	0.07	
Lentil	0.014	0.05	
Lentil	0.22	0.05	Y
Wheat	0.017	0.1	
Wheat	0.024	0.1	

WHAT'S A GROWER TO DO

On-farm stewardship guide

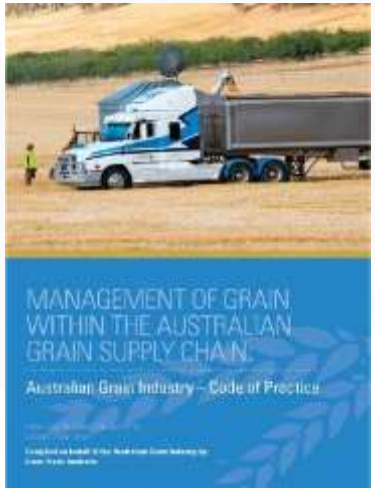
- Signed off by all major State & National grower groups
- Responsible chemical use
- Recognises importance of chemical use v trade
- Need better link with on-farm chemical use and **market "risk"**



WHAT'S A GROWER TO DO

Provide required information to post farmgate sector

- To enable compliance with GTA Code of Practice
- Comply with grain Trading Standards
- Correctly complete Commodity Vendor Declaration form
- Supply representative samples as needed
- Greater communication and interaction



OTHER GROWER SOLUTIONS

Talk to

- Advisor / agronomist
- Storage agent
- Marketer
- Other expert advice
  - Workshop NRS, APVMA, NWPGP
  - Contact Chair NWPGP
- Review industry notices

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WHAT DOES THE FUTURE HOLD

Under imminent threat (G. McMullen personal views)

- Old chemistry no longer supported
- Generic compounds when reviewed without support
- Desiccants/harvest aids
- Aerial application
- Diquat, glyphosate, haloxyfop, Imidazolinone chemistry, Endocrine disruptors
- Fungicides
- Anything with residue carry-over from crop to crop
- Off-label use