Pesticide MRLs -What They Mean to You

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Rice Quality Workshop 2024 Roberta Firoved Pesticide Regulatory Consultant



Presentation Outline

Background on MRLs Impact on California Rice Why stay engaged?

Background on MRLs

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What are MRLs?

Acronym for Maximum Residue Limits

Known as tolerances in the USA

U.S. EPA sets limits on amounts of pesticides that may remain in or on foods marketed in the USA

Results from data submittal and evaluation

Limits of pesticide left on foods are called tolerances

MRLs in other countries

How U.S. EPA establishes tolerances



After developing a risk assessment that considers (simplified list):

- Aggregate, non-occupational exposure (diet, drinking water, home use)
- Cumulative effects (mode of action from exposure to similar events)
- Whether there is an increase in susceptibility (infants and children)
- Whether pesticide produces an effect similar to naturally occurring estrogen



When did MRLs start?

2003 the USA Rice and CRC engaged with Japan

Law passed in 2003

Positive list in 2006

Initially MRLs from a decision tree

Now data submittal & evaluation

Similar to pesticide registration



Why not use Codex?

Codex Pesticide Residues in Food Online Database

China and Taiwan thought of this approach

Database does not include all rice pesticides

MRLs must be rice specific

Crop grouping cannot be used for rice

C O D E X A L I M E N T A R I U S - International Food Standards. Codex Maximum Residue Limits (MRLs) and Codex Extraneous Maximum Residue Limits (EMRLs) for pesticide / commodity combinations.

What is left for a commodity to do?





Proactively engage with country receiving commodity Comment on proposed changes Manage lists of pesticide MRLs Proactively engage with the pesticide registrants Encourage registrants to comment Commodities/registrants work on data development When/if necessary

Impact on California Rice

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Counties Farmed to Rice

99.9% of rice is farmed in:

- Butte
- Colusa
- Glenn
- Placer
- Sacramento
- Sutter
- Yolo
- Yuba

Remaining <1%

- Fresno
- Merced
- San Joaquin
- Stanislaus











CA Rice Industry Statistics (2019)

\$5 Billion Industry

Estimated 25,000 jobs

Top 20 of All Crops / Top 6 of Ag Export Value

2 Million Tons Annually

Approximately 45% Exported

Japan: 25%

S. Korea, Taiwan, Turkey: 15-20%

Average Cost of Production:

Over \$1837/Acre

Substantially higher than costs in southern rice states

Source: CDFA 2019

USA Rice Production



TOP 10 RICE PRODUCING COUNTRIES IN THE WORLD



World Rice Production

- Staple food for 3.5 billion people
- 20% of calories consumed worldwide
- Cultivated in 100+ countries

Source: LSU AgCenter

Why stay engaged in MRLs? <

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USA Pesticide Residue Inspection

U.S. Department of Agriculture's (USDA) Agricultural Marketing Service (AMS)

- AMS Monitoring Programs Division (MPD) directs and oversees the Pesticide Data Program (PDP)
 - Used by Federal agencies, academic institutions, food producers, food processors, chemical manufacturers, environmental interest groups, and food safety organizations
 - Residue issues for agriculture practices for domestic and international trade
 - Promoted export of U.S. commodities in global market
 - Works with EPA to monitor pesticide residue levels in food

U. S. Food and Drug Administration's (FDA) Pesticide Residue Monitoring Program

- Summarizes FDA program results of levels of pesticide residues in U.S. Food supply below established safety standards
 - Reports from Fiscal Years published in the Journal of the Association of Official Analytical Chemists/ Journal of AOAC International
 - Three statistical summary files
 - Product
 - Chemical
 - Country
 - Six other reference files

It is about rice on the ship leaving the California port





What is left for a commodity to do?



Proactively engage with country receiving commodity Pre-shipment inspection process is successful Proactively engage with the pesticide registrants Keeping registrants in the loop to understand Commodities/registrants work together on data development Not all pesticides have MRLs Reason to develop data – if non-existent Japan (default) and Korea (uniform limit) of 0.01 pp m

Critical things to remember



The CRC is different from other commodity groups

The MRLs are here to stay

The CRC/USA Rice/ Registrant/Country engagement is critical



Thank You/Questions?

Photo courtesy California Rice Commission