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Message in a Bottle

Press Release, Notes to Editors
& Media Contact Details

Press Release (26 March 2008): European wines systematically contaminated with pesticide residues

Pesticide Action Network Europe, together with NGOs from Austria, France and Germany, has uncovered substantial evidence that wines on sale in the European Union may contain residues of a large number of pesticides. The announcement follows an NGO investigation of 40 bottles of wine purchased inside the EU – including wines made by world famous vineyards.

100% of conventional wines included in the analysis were found to contain pesticides, with one bottle containing 10 different pesticides. On average each wine sample contained over four pesticides. The analysis revealed 24 different pesticide contaminants, including five classified as being carcinogenic, mutagenic, reprotoxic or endocrine disrupting by the European Union.

The discovery of pesticides in samples of wine follows the publication of a report by the French Ministry of Agriculture which identified 15 pesticides as being systematically transferred from grapes into wine during the wine-making process. Grapes are among the most contaminated food products on sale in the EU and receive a higher dose of synthetic pesticides than almost any other crop.

‘The presence of pesticides in European wines is a growing problem’, said Elliott Cannell of PAN Europe. ‘Many grape farmers are abandoning traditional methods of pest control in favour of using hazardous synthetic pesticides. This trend has a direct impact on the quality of European wines. In two thirds of cases the pesticide residues identified in this study relate to chemicals only recently adopted into mainstream grape production in the EU’.

‘Hazardous pesticides applied to food crops growing in the field can and do end up in food products. Almost half of all fruit and vegetables sold in the EU are contaminated with pesticides, with one item in 20 containing pesticides at concentrations above legal limits.

The NGOs are now calling on EU politicians and retailers to help eliminate hazardous pesticides from the food chain. ‘The problem of food contamination needs a political solution and a retail solution. European politicians have a responsibility to end the use of hazardous pesticides in the EU – starting with those classified as carcinogens, mutagens, reprotoxins and endocrine disruptors. Food retailers owe it to their customers to support farmers in lowering the amounts of pesticides applied to food crops.’

The analysis of wine samples purchased within the European Union was coordinated by PAN Europe and supported by Greenpeace Germany, Global 2000 (Friends of the Earth Austria) and MDRGF (Mouvement pour le Droit et le Respect des Générations Futures).

Notes to Editors

Design of the Analysis

- Forty bottles of wine were sent to commercial laboratories to be tested for the presence of pesticides: including 34 bottles of wine produced conventionally as well as six organic samples. The conventional wines included 10 French wines, 10 German wines, seven Austrian wines, three Italian wines, one Portuguese wine, one South African wine, one Australian wine, and one wine from Chile. Three organic wines from France and three from Austria were also tested.
- While the majority of wines tested were selected from low cost affordable brands, three of the bottles analysed are world famous wines of which the most expensive bottle was purchased for over €200.
- All wine samples were purchased in the EU. Wine sampling in Germany was conducted by Greenpeace Germany; in Austria by Global 2000 (Friends of the Earth Austria); and in France by MDRGF (Mouvement pour le Droit et le Respect des Générations Futures). While the results of this study provide important evidence of the widespread contamination of European wines samples, they should not be taken as providing a comprehensive overview.

Results of the Analysis: Conventional wines

- Together the 34 bottles of conventional wine contained 148 pesticide residues. All 34 bottles contained at least one pesticide, while the mean number of pesticides per bottle was more than four. The highest number of residues found in a single bottle was 10.
- Twenty four different pesticides were identified in total. Of these chemicals, five classified as being carcinogenic, mutagenic, reprotoxic or endocrine disrupting by the European Union. A further three are suspected carcinogens. Four more are classed as hazardous by the World Health Organisation.
- 16 bottles of conventional wine – 47% of the total tested – contained pesticides classified by the EU as being either carcinogenic, mutagenic, reprotoxic or as being endocrine disruptors.
- The most widespread pesticide contaminant was pyrimethanil, a possible carcinogen, which was detected in 25 bottles of conventional wine – almost 75% of all conventional samples analysed. Cyprodinil and dimethomorph were both present in 18 bottles. Procymidone, an EU classified carcinogen, reprotoxin and endocrine disruptor, was present in 11 bottles. 7 pesticides, including the neurotoxin fenitrothion, were detected in only one bottle each.

Overview of Results: Conventional wines

Pesticide	Number of bottles contaminated	Carcinogen	Developmental or Reproductive Toxin	Endocrine Disruptor	Neurotoxin	WHO Hazard Class	Use
azoxystrobin	6						Fungicide
benalaxyl	2						Fungicide
boscalid	7						Fungicide
bromopropylate	1						Insecticide
carbendazim	3		√ ^{2,3}				Fungicide
cyprodinil	18						Fungicide
dimethomorph	18						Fungicide
fenarimol	1		√ ³	√ ⁴			Fungicide
fenhexamid	12						Fungicide
fenitrothion	1				√ ⁹	II ⁷	Insecticide
fludioxonil	10						Fungicide
flusilazole	2	√ ¹	√ ³			III ⁸	Fungicide
iprodione	6	√ ¹					Fungicide
iprovalicarb	9	Likely ⁵					Fungicide
metalaxyl	3					III ⁸	Fungicide
methoxyfenozide	2						Insecticide
penconazole	1						Fungicide
procymidone	11	√ ¹	√ ³	√ ⁴			Fungicide
pyrimethanil	25	Possible ⁶					Fungicide
spiroxamine	1					II ⁷	Fungicide
tebuconazole	4	Possible ⁶				III ⁸	Fungicide
tebufenozide	3						Insecticide
tebufenpyrad	1					III ⁸	Insecticide
tetradifon	1						Insecticide
TOTAL	148						

KEY:

- 1) Classified as a carcinogen under the EU Directive on Dangerous Substances
- 2) Classified as a mutagen under the EU Directive on Dangerous Substances
- 3) Classified as a reprotoxin under the EU Directive on Dangerous Substances
- 4) Classified as an endocrine disruptor (category 1) under EU COM(1999)706
- 5) Listed as a 'likely' carcinogen under the US EPA (Pesticide Programs) Carcinogen List
- 6) Listed as a 'possible' carcinogen under the US EPA (Pesticide Programs) Carcinogen List
- 7) Listed as Class II under the World Health Organisation classification of pesticides by hazard
- 8) Listed as Class III under the World Health Organisation classification of pesticides by hazard
- 9) A cholinesterase inhibitor

Newly adopted: synthetic fungicides not applied to European grapes prior to 1993

Substantial increases: synthetic fungicides whose use on grapes has greatly increased since 1993

Results of the Analysis: Organic wines

- Of the six bottles of organic wine tested, five contained no detectable pesticide residues. These results provide a clear proof of principle that pesticide free wine production is possible where no synthetic pesticides are applied to grapes. One sample contained a low concentration of pyrimethanil, a possible carcinogen. The presence of pesticide residues in organic wines is a rare but well documented phenomenon. A 2004 study published by FiBL, the world's leading research centre for organic agriculture, suggests that small organic wine producers located in areas of intensive conventional grape production may suffer occasional contamination due to the drift of pesticides from neighbouring plots affecting front-line organic vines.¹

World Famous Wines

- The present analysis included three world famous wines; of which the most expensive is sold for over €200 per bottle. Pesticide residues identified in these bottles are set out below:

Description	Pesticides Identified	Carcinogen	Developmental or Reproductive Toxin	Endocrine Disruptor
Bordeaux (Pessac-Léognan Cru Classé)	procymidone: 8.6 µg/l	✓ ₁	✓ ₃	✓ ₄
	cyprodinil: 6.8 µg/l			
	fludioxonil: 1.3 µg/l			
Bordeaux (Saint Estèphe Cru Classé)	pyrimethanil: 233.8 µg/l	Possible ⁶		
	procymidone: 69.1 µg/l	✓ ₁	✓ ₃	✓ ₄
Bordeaux (Pessac-Léognan Cru Classé)	azoxystrobin: 13.2 µg/l			
	dimethomorph: 13.1 µg/l			
	procymidone: 5.8 µg/l	✓ ₁	✓ ₃	✓ ₄
	pyrimethanil: 2 µg/l	Possible ⁶		
	fenhexamid: (trace)			

¹ Wyss et al. 'Pollution environnementale et problèmes de dérives des traitements touchant des parcelles viticoles biologiques', FiBL (2004)

The Causes of Contamination

- The contamination of wines is a direct result of over reliance on pesticides in grape production. In the EU grapes account for 3% of all cropland while being responsible for 15% synthetic pesticide applications. The coordinated Community food monitoring programme ranks grapes among the most contaminated items in the European food chain.
- The evidence of contamination presented in this report follows the publication of a comprehensive assessment commissioned by the French Ministry of Agriculture which concluded that around one third of the pesticides applied to grapes are systematically transferred during wine production.

A Growing Problem

- The cultivation of grapes is exceptional in being associated with substantial amounts of inorganic sulphur – a relatively non-hazardous chemical used to protect against powdery mildew. Since 1993 the use of inorganic sulphur in European grape production has declined by 39% as European grape farmers abandon sulphur in favour of hazardous synthetic fungicides. Between 1993 and 2003 the dose of synthetic fungicides applied to grapes increased by 22%.
- Over one third of the total residues detected in the bottles of conventional European wines relate to fungicides recently adopted by European grape producers. A further third of residues identified relate to classes of fungicide whose use in grape production has escalated substantially over the past decade. The presence of these pesticides in conventional wines confirms the link between the escalating use of synthetic fungicides in European grape production and the changing nature of wine contamination.

Economics of EU Wine Production

- Over the past decade the EU has overtaken the US as the world's leading agricultural exporter with total food exports of around US\$ 73 billion per year.² The growth of European agricultural exports has been achieved by emphasising lucrative products including wine, liquor and cheese rather than cheap commodities. Extra EU wine sales accounts for 11.6% of total EU agricultural exports.
- Europe accounts for two thirds of global wine production and consumption. Italy, France, Spain are major exporters selling around 64% of all wine traded internationally. Germany and UK are the world's largest wine importers.

² 'Europe's New Herd Mentality', Newsweek, March 24 (2008)

Pesticides in the EU Food Chain

- The presence of pesticides in food products is a major concern among European consumers. A 2005 poll conducted by Eurobarometer identified pesticide contamination as the most common issue raised by consumers questioned about food; with 71% expressing concerns on pesticide residues.

The Worst Pesticides in the Food Chain

- In 2006 the European Commission proposed new legislation which would eliminate 23 pesticides classified as carcinogens, mutagens, reprotoxins or endocrine disruptors from food items produced in the European Union. These chemicals represent some of the very worst pesticides present in the EU food chain.
 - carcinogen: an agent directly involved in the promotion of cancer
 - mutagen: an agent which increases the rate of DNA mutations
 - reprotoxin: an agent which is toxic to the reproductive process
 - endocrine disruptor: an agent which disrupts the body's hormone system
- In February 2008, Greenpeace Germany published a list of 327 pesticides which according to a new study are particularly dangerous to health and the environment. A total of 1134 pesticides in use worldwide were examined on behalf of the environmental organisation by two independent experts who looked at them under 14 different aspects. 29 per cent were put on a 'blacklist of dangerous pesticides'. These included 168 pesticides permitted in the European Union.

Action Needed

- PAN Europe is calling on politicians and retailers to help eliminate hazardous pesticides from the food chain. European politicians have a clear responsibility to endorse strict 'cut off' criteria designed to eliminate exposure to carcinogenic, mutagenic, reprotoxic and endocrine disrupting pesticides. Food retailers should provide support to farmers in lowering the amount of hazardous pesticides applied to food crops.

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