



**Pesticide
Action
Network**
Europe

Newsletter

Winter 2008

PAN Europe News

PAN Europe announces highest ever levels of pesticides in foods

Fruits, vegetables and cereals sold throughout the European Union contain record levels of pesticides – according to official data announced by PAN Europe in mid October. Almost half of fruits, vegetables and cereals are now contaminated with pesticides – a substantial increase on the level seen just five years ago. Some of the pesticides most common in the food chain are classified as carcinogenic, mutagenic, or disruptive to the hormonal system.

The findings of the EU food monitoring report (2008) were pre-published by PAN Europe just days before politicians in Brussels debated new EU pesticide legislation – including a proposal to eliminate the most hazardous pesticides from use in food production.

‘These are the worst pesticide results we’ve ever seen’, said Elliott Cannell, Coordinator of PAN Europe. ‘A record proportion of fruits and vegetables are contaminated, while 23 pesticides were detected at levels high enough to present an acute risk to public health – according to the EU’s own risk calculations.’

The need to reduce exposure to hazardous pesticides is more urgent now than ever. Politicians in Brussels must back the removal of the worst pesticides from the food chain, and ensure that hazardous pesticides are replaced with safer alternatives wherever possible.’

According to an advance copy of the forthcoming EU food monitoring report, seen by PAN Europe:

- Forty nine percent of fruits, vegetables and cereals contain pesticides. This is the highest ever level of pesticide contamination recorded in the EU and represents an increase of around 20% over the past 5 year period.
- 4.7% of fruits, vegetables and cereals contain pesticides at concentrations above maximum legal limits while over 10% contain 4 or more different pesticide residues. Food products sold in the EU now contain 354 different pesticides

– the highest total ever recorded.

- Five of the pesticides found most often in food products sold in the European Union are classified as carcinogenic, mutagenic, toxic to reproduction, or disruptive to the hormonal system. These substances are maneb, procymidone, iprodione, carbendazim, and deltamethrin.
- For the first time, imidacloprid – a controversial pesticide banned in France due to links with mass bee deaths – has been listed among the most common pesticide residues in foods.



News of the record levels of pesticides in foods made front page headlines in Brussels

Speaking out for tougher EU pesticides legislation

'What role for pesticides in sustainable agriculture?' asked the conference title. Hosted by the European Voice and held in



Elliott Cannell speaking on the need for tougher EU legislation on pesticides

Brussels on 14 October, the event brought together a broad spectrum of stakeholder groups and was attended by around 200 delegates. Speakers included Wolfgang Reinert (DG SANCO), Christa Klass MEP (EPP), Hiltrud Breyer MEP (Greens/ EFA), and Dan Jorgensen MEP (PSE).

Presenting on behalf of PAN Europe, Elliott Cannell highlighted industry's lengthy track record of scaremongering ahead of key decisions on new environmental legislation, and documented the

need to better protect public health and the environment from exposure to hazardous pesticides.

Dan Jorgensen MEP, shadow Rapporteur for the Socialists, reminded delegates of hazardous pesticides found in food samples purchased inside the European Parliament – a 2007 initiative orchestrated by Milieudefensie and PAN Europe. Pieter de Pous of the European Environmental Bureau also spoke at the conference.

New website showcases strategies for pesticide use reduction

On 21 November, PAN Europe launched a new mini website aimed at showcasing successful strategies for reducing the use of pesticides. The new website can be navigated from the PAN Europe homepage via the '6 Success Stories' button, and follows last years successful publication of 'Pesticide Use Reduction Strategies in Europe: Six Case Studies'.

Despite Brussels' chronic failure to endorse targets for pesticide use reduction at the EU level, a growing number of European farmers, food co-operatives, NGOs, national governments and retailers are nonetheless pushing ahead with low pesticides farming strategies. Targets for pesticide use reduction have now been adopted in Denmark, Sweden, Netherlands, and Germany, while in Belgium, Italy, UK and Switzerland farmers and retailers have joined together to reduce the levels of pesticides applied to foods.

While the final text of the proposed EU Framework Directive on pesticide use is unlikely to set out concrete targets for pesticide use reduction, the debate is scheduled to continue at the national level when Member States begin the process of creating mandatory National Action Plans on

pesticides. PAN Europe's new online information resource aims to inform those now preparing to call for tougher measures on pesticide

use at a national level on the potential to reduce pesticide use in Europe.

A screenshot of a Mozilla Firefox browser window displaying the website 'http://www.pan-europe.info/PURSE/introduction.html'. The page features a header with a green leaf logo and the text 'Pesticide Action Network Europe'. Below the header is a photograph of a green tractor in a field. The main content area is titled 'Pesticide Use Reduction Strategies in Europe: six success stories' and contains an 'Introduction' section. The introduction text discusses the EU's failure to endorse targets for pesticide use reduction and mentions that targets have been adopted in Denmark, Sweden, Netherlands, and Germany. It also notes that farmers in Belgium and Italy have joined together to reduce pesticide usage. A 'Download report' button is visible at the bottom of the page.

Pesticide Use Reduction Strategies in Europe: six success stories

Introduction

Denmark

Netherlands

Switzerland

Belgium

Italy

United Kingdom

Conclusions

INTRODUCTION

Despite the EU's chronic failure to endorse targets for pesticide use reduction at the political level, a growing number of European farmers, food co-operatives, NGOs, national governments and retailers are nonetheless pushing ahead with low pesticides farming strategies.

Targets for pesticide use reduction have now been adopted in Denmark, Sweden, Netherlands, and Germany. Farmers in Belgium and Italy have come together to reduce pesticide usage and to market food produce grown under reduced pesticide protocols. Major retailers in the UK and Switzerland are now sourcing food produce endorsed by low pesticide labels, while NGOs across Europe continue to raise public awareness of pesticide contamination and engage consumers in demanding higher food standards across the board.

In 2007, PAN Europe set out to document some of these successes in a report: Pesticide Use Reduction Strategies in Europe: six case studies.

[Download report](#)

The new mini website can be found from www.pan-europe.info

Milieudefensie: Dutch farmers launch better foods label

Farmers belonging to Dutch agricultural cooperative 'FrEsteem' have become the first agricultural producers in the Netherlands to market fruits and vegetables under the newly created 'Better for Health and Environment' label. Tomatoes carrying the logo hit supermarket shelves in October and were available to consumers shopping at C1000 supermarket.



The 'Better for Health and Environment' logo identifies foods grown under low pesticide protocols

The food produce labelling scheme is a joint initiative established by FrEsteem agricultural producers and the 'Weet Wat Je Eet' (Know what you eat) partnership – which comprises Dutch environmental NGOs Milieudefensie and Natuur en Milieu, as well as consumer organisation Goede Waar & Co. The project aims to help consumers identify fruits and vegetables grown under low pesticide protocols and taking extra care to protect health and the environment.

"Following our supermarket campaigns for better protection of the environment and health, we were approached by the farmers of FrEsteem," said Rene Houkema, Agricultural Policy Officer, Milieudefensie. "They were interested to develop a way of identifying quality food produce grown under low pesticide protocols, which would meet the recommendations of our 'Know

what you eat' campaign'. Within several months, together we developed the 'Better for Health and Environment' agricultural scheme."

"It's fantastic to see the first fresh fruits and vegetables now on sale in Dutch supermarkets carrying the 'Better for Health and Environment' logo' said Rene. Our vision now is that these environmental and health criteria become a kind of Dutch standard carried by all mainstream foods".

Foods carrying the 'Better for Health and Environment' label must contain:

- no residues present above 70% of the MRL
- a maximum of 3 different pesticide residues
- the combined sum of percentage ARfDs does not exceed 100%

Farmers operating under the scheme must:

- endorse Integrated Pest Management protocols
- plan towards the eventual production of pesticide-free foods

- avoid spraying the 12 pesticides listed on the Dutch blacklist
- share all internal residues monitoring data
- avoid banned or unauthorised pesticides
- minimise energy use and emissions of greenhouse gases
- reduce emissions of artificial light
- reduce visual impacts on the environment
- reduce emission of nutrients

FrEsteem is a progressive Dutch agricultural cooperative encompassing 40 farmers growing tomatoes and sweet peppers with a combined agricultural area of 450 Ha. At present five producers comply with the 'Better for Health and Environment' standards – producing 9,000 tonnes of sweet peppers and 36,000 tonnes of tomatoes. More FrEsteem farmers plan to carry the label.

Looking to the future, Dutch farmer and member of FrEsteem, Frank van Kleef, said other Dutch producers would want to comply with the standards amid growing consumer demand for quality mainstream food produce.



'Better for Health and Environment': Four members of pioneering Dutch farming cooperative FrEsteem

HEAL: 'Pesticides and Cancer' campaign

On 13 November, Health and Environment Alliance (HEAL) together with Mouvement pour le Droit et le Respect des Générations Futures (MDRGF) launched 'Pesticides and Cancer': a new campaign aimed at delivering stricter regulation on the use of herbicides, fungicides and insecticides.

According to Monica Guarinoni, Deputy Director of HEAL "At least, one in every hundred cancers diagnosed each year in Europe may be directly associated with exposure to pesticides. The percentage is likely to be much higher for certain cancers, such breast, prostate, testicular, leukaemia and lymphomas."

The new initiative aims to provide civil society groups and individuals with the scientific tools necessary to influence policy makers at European, national and local level, particularly at key moments in the legislative process on pesticides and cancer. Specifically, the campaign aims to deliver:

- A ban on pesticides that are known or suspected to be hazardous
- A reduction in the use of pesticides to eliminate or minimise exposure



For more information on the campaign visit www.pesticidescancer.eu

- Strong regulation to stop pesticide use in areas where children are most exposed
- Health care strategies and national cancer plans that integrate reducing pesticide exposure into strategies for the primary prevention of cancer
- An informal network of individuals and groups who are concerned and ready to act to reduce the impact pesticides may be having on the incidence of cancer

The project is now underway in France, the biggest user of pesticides in the EU, and already has the support of several organisations and groups including Nationale Médicale Santé Environnement (CNMSE), a French national public health organisation representing 3,500 health professionals, and Association Santé Environnement France (ASEF), which is active on health and pesticides issues. The campaign is due to be rolled out in the UK in January 2009.

WECF: European Parliament must protect children's brains

On 8 October 2008, Women in Europe for a Common Future (WECF) organised an expert meeting at the European Parliament to highlight the latest scientific evidence on the connection between children's health problems and chemicals found in children's food and products. The meeting was hosted by Dorette Corbey MEP, a member of the Committee on Environment, Public Health, and Food safety, and was attended by MEPs, European Commission representatives and NGOs. The

meeting was held as MEPs were preparing to vote on revisions to the Pesticide Directive, the Cosmetics Directive and the Toys Safety Directive.

Current chemicals legislation does not require testing on neurotoxins. WECF informed attendees that European children were at risk of damage to their brains and reproductive organs through exposure to hazardous chemicals if the European Parliament did not improve on proposed legislation relating to pesticides, toys, cosmetics and chemicals.

Sascha Gabizon, Executive Director of WECF said that for parents it is "unacceptable to have



Dorette Corbey MEP, speaking at the WECF event in October

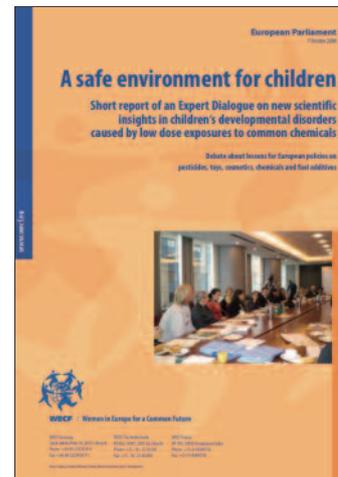
to wait many years until the European Commission has agreed to require neurotoxicity testing, whereas all children born today are at risk of having retarded brain development or later in life cancers, from contaminants their mothers are not even aware of they are being exposed to and passing on to the child in their womb. We want that European Parliamentarians take their responsibility and protect our children now, by making sure neurotoxins and endocrine disruptors are not allowed to be in children's food, toys and body care products".

Professor Philippe Grandjean, adjunct professor of Environmental Health at Harvard University and expert on children's environmental

health, spoke at the meeting. He stated that what "we are seeing is a world-wide pandemic, the child population in the world is affected by over 200 neurotoxins in their direct environment, many of them being pesticides. Perhaps as many as one out of six children's brain development have been adversely affected, in part by neurotoxins, as a scientific report in the Lancet already showed in November 2006. Testing for neurotoxins is a necessity, in pesticides as well as in other consumer products."

Dorette Corbey concluded the meeting by asking the European Commission to include testing of neurotoxins as part of the chemicals legislation and for appropriate testing methods to be developed. She stated the use of

pesticides should be subject to clear rules, which are currently being laid out in European legislation.



WECF's report of the meeting, *A safe environment for children*

ECHO: Journalists keen to report on pesticides

Over the past year Slovenian NGO ECHO has found success in highlighting pesticide issues through the country's media. With their media coverage in 2008 including four significant articles in prominent journals and a front page headlined story in a major national newspaper ECHO feels journalists are finally taking the harmful effects of pesticides seriously.

Since its foundation in 2003 ECHO has been actively engaged with pesticide issues. Raising awareness about the impacts of

pesticides has been one of its key activities. However, it has only been this year that the media has shown a strong interest, not just in reporting on pesticide issues, but also in writing longer articles about their harmful effects. ECHO has ensured this new found media interest has been put to good use and has grabbed the opportunity to inform the public about the severe negative impacts of pesticide exposure. It now cooperates with some journalists on a regular basis, especially those covering topics about mothers, children and families.

Some of their media achievements include:

- Journal Super mami (Super Mum): "Don't poison your children and yourself"
- Journal Nosečnica (Pregnant Woman): "Pregnant women exposed to chemicals dangerous for unborn baby"
- Journal Otrok in družina (Child and Family): "Pesticide exposure is a huge problem"
- Special issue of the journal Dojenček (Baby): "Mothers, protect your babies from pesticides exposure"



Mojca Zgec, the Director of ECHO, pictured on the front page of Žurnal24 next to the headline "Poison! There is the highest amount of pesticides found in food in Europe"

ECHO's greatest media success so far occurred this October when their press release exposing the high levels of pesticide contamination in food met a with huge media response. The story put ECHO on the front page of Žurnal24, a daily newspaper with the largest circulation in Slovenia.

More information about ECHO's work on pesticides can be found on their website at www.ech-o.org.

HEAL & MDRGF: Cartoon comic strips highlight how chemicals are harming our health

On 1 December 2008 in Brussels HEAL together with MDRGF launched the Choosing our Future comic strip, a humorous warning of the harm to health of certain chemicals widely used in the environment.

Produced jointly by HEAL's Chemicals Health Monitor project and

Mouvement pour les Droits et le Respect des Générations Futures (MDRGF) and available in English and French the publication and associated website aim to inform readers of what is known about the links between health and man-made chemicals. It also gives examples of individual actions and EU policy opportunities that can help produce changes for the better.

There are four comic strip stories each using novel and entertaining characters to touch on health conditions which may be associated with man-made chemicals in the environment

including allergies, asthma, brain development disturbances, cancers, and fertility problems. They cover the special vulnerabilities of unborn babies and children; how synthetic substances are building up in our bodies; and how exposure to a mixture of chemicals known as the "cocktail effect" may be multiplying the adverse effects of exposure, while the final story suggests some alternatives that can be found in an "organic life".

The author of the comic strips is David Ratte who is well-known in France for his "Toxic Planet" series that recount funny tales from a world in which the air is so polluted that everyone has to wear gas masks.

In addition to the comic strips the publication explains the facts behind the cartoons and also covers what both the individual and the EU can do to ensure a healthier and better future.



Choosing our Future can be downloaded in English and French at www.choosingourfuture.eu

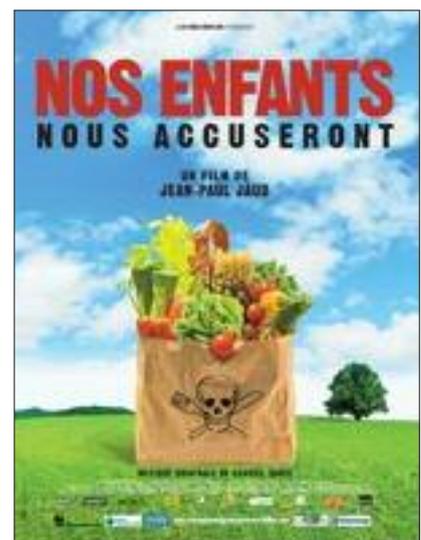
MDRGF: 'Our Children will Accuse Us' – a film by Jean Paul Jaud

French public awareness of the damaging impacts of pesticides took another giant leap forward on 5 November with the film premier of 'Nos enfants nous accuseront', a feature length documentary now showing in mainstream cinemas across France. The film is the brainchild of Jean Paul Jaud a famous French TV Director who became aware of the consequences of industrial agriculture having recovered from cancer a few years ago.

Following his illness Jean Paul decided to make a documentary on the effects of hazardous pesticides. His film centres on Barjac – a

typical rural village situated in southern France where local residents decided to take action against the effects of pesticides and whose school canteen now serves only organic food.

In preparing to make the documentary Jean Paul Jaud approached MDRGF to advise him on pesticides and health. 'Nos enfants nous accuseront' has already created quite a buzz in France receiving widespread publicity in the French national media. A six minute on-line preview of the film can be found at www.nosenfantsnousaccuseront-lefilm.com



Who sells the best grapes? Testing supermarkets across Europe

In mid-October, Greenpeace Germany, Milieudefensie, MDRGF, Legambiente, Levego and PAN Europe came together to conduct a coordinated analysis of table grapes sold by 18 major EU food retailers. 124 different grape samples were bought from across five different countries and sent for laboratory analysis. The results complete with national league tables were published on 24 November.

Ninety nine percent of grapes tested contained pesticides. On average seven pesticides were detected per sample. One third of grapes were classified as 'Not Recommended' for consumers owing to critical levels of pesticide contamination.

Six grape samples contained pesticides at concentrations above EU maximum legal limits. These were purchased from Auchan, Carrefour and ALDI in France, from Esselunga in Italy, and from the wholesale fruit and vegetable market in Hamburg, Germany (Großmarkt Hamburg).

Two samples of Italian-grown grapes contained the banned insecticide endosulfan. Use of endosulfan has been illegal since 31 December 2007 following the announcement of an EU-wide ban in 2005. Both samples of affected grapes were purchased from ALDI in France.

Grapes sold by food wholesaler Metro in Germany contained the carcinogenic fungicide 'procymidone' at levels above the ARfD according to standards established by the German Federal Institute for Risk Assessment and World Health Organisation. Worryingly, while the pesticides present in this grape sample exceeded recognised safety levels, they did not breach EU legal limits.

In total 38 of the 124 grape samples (30.6%) received 'Not Recommended' status according to evaluation protocols pioneered by Greenpeace. The Greenpeace system takes into account residue levels exceeding the maximum residue levels, the Acute Reference Dose (ARfD), and the Acceptable Daily Intake (ADI), as well as multiple exposure and the special sensitivity of children.

Despite widespread pesticide contamination some supermarkets performed much better than others. The best grapes were sold by LIDL – the German discount retailer, which beat leading quality brands such as Carrefour, Albert Heijn, and Super de Boer.

The results also gave the first opportunity to assess the impact of new EU legislation introduced in September 2008 which substantially increased many of the maximum residue limits (MRLs) for



Ninety nine percent of grapes tested were shown to contain pesticides

food products sold in the EU. While only six samples of grapes breached MRLs at the time of purchase in October 2008, 37 samples would have exceeded legal limits had the grapes been purchased in 2005. These figures demonstrate the dramatic relaxation in EU food standards over the past three years.



Aurele Clemencin, a spokesperson for MDRGF, announcing the results of the supermarket testing initiative on French national television

Danish Ecological Council: A new pesticide plan is on its way

The last few years have been a disaster for the Pesticide Use Reduction Policy in Denmark. Despite the country's Pesticide Plan stating a pesticide Treatment Frequency Index (TFI*) goal of 1.7 for 2009, recent data shows the use of pesticides is actually increasing from a TFI of 2.1 in 2002 to 2.5 in 2007.

A midway evaluation published in October 2008 highlights the reasons for this adverse trend. Firstly, the Pesticide Plan is

voluntary so there is no economic incentive for the country's farmers to meet its goals. And secondly, farmers' pesticide use should match the economic optimal level. The economic optimal level is influenced by crop price; higher crop prices make greater pesticide use financially viable. Though a TFI of 1.7 was the economic optimal level in 2003 a new study has shown the economic optimal level has been increasing. In 2008 a TFI of 2.08 was the economic optimal

level with a low crop price and a TFI of 2.32 with a high crop price. The reasons for this advance can be broken down into:

- **More pest problems due to warmer autumn and winter temperatures**

Weeds are now growing much more in these seasons and farmers are therefore using more herbicides. The warmer autumns have also lengthened the aphid season, which spread yellow dwarf luteovirus to winter

wheat and winter barley. Farmers have therefore begun to use insecticides into the autumn.

- **An increase in the intensive production of winter crops**

Production of winter crops has become much more intensive. When winter crops are produced on more than 60% this encourages the growth of farm grass weeds and the use of herbicides is increased significantly.

- **Mechanical weeding has been priced out by new effective pesticides**

New effective herbicides have meant that the use of mechanical weeding in winter rape and sugar beets is no longer competitive compared to the use of herbicides.

- **Pesticides prices relative to crop prices are the lowest they have been since 1993**

The government is now preparing a new Pesticide Plan, which will come into force in 2010. The new plan will include higher taxes on pesticides. Today these are 54% of wholesale price for insecticides and 34% of the wholesale price for herbicides and fungicides.

Ecological Council is calling for a new plan with clear goals and regulations. The plan's focus should be on pesticide use that is most harmful to the environment. In addition to higher taxes Danish Ecological Council is recommending:

- i) a ban on the intensive production of winter crops and the pesticide applications which are most harmful to nature e.g. the use of insecticides on cereals in spring;
- ii) compulsory pesticide free buffer zones along watercourses and protected nature areas; and
- iii) the promotion of the use of the best available technology for pesticide application e.g. spraying equipment with induction and GPS-equipment based on weed maps to minimise the use of pesticides.



* The TFI expresses the average number of times per year agricultural land can be treated with the sold quantity of pesticides, assuming that the pesticides are used in the prescribed normal dosages. In Denmark the TFI is used as the most important indicator for the spraying intensity and the environmental load.

Pesticide News

INDIA: Neem-based products to be registered as pesticides

08 December

The Indian Government plans to register neem-based products as pesticides after trials have shown them to be effective in managing pest attacks on vegetables and fruits. Neem is claimed to be completely non-toxic and effective against a wide variety of pests.

PHILIPPINES: Call for aerial spraying ban

01 December

Groups in the Philippines are calling for aerial spraying of banana plantations to be banned after workers have developed skin complaints. It is feared the pesticides sprayed by aerial application are responsible.

USA: EPA sued over moth spraying programme

25 November

A lawsuit was filed today against the Environmental Protection Agency (EPA) calling for a moth spraying programme to be halted after hundreds of individuals reported injuries as a result of the aerial spraying in California last November. Hundreds of dead or injured birds were also found. It is alleged the EPA unlawfully approved two pesticides for use against the brown apple moth.

MEPs vote to protect bees

20 November

MEPs have voted in favour of creating recovery zones in farmland to give declining bee populations across the continent a chance to re-establish. This new directive has been set up under the Common Agricultural Policy.

UK: high court rules crop spraying is damaging to health

14 November

The UK Government will be required to review its pesticide policy after a landmark legal victory by pesticide campaigner Georgina Downs. A high court judge has ruled the Government has contravened EU law and is failing to adequately protect local residents from harmful pesticide exposure.

Tributyltin added to prior informed consent list

03 November

The United Nations has announced tributyltin (TBT), the pesticide used in antifouling paint on ships, is the 40th chemical to be put on the Prior Informed Consent (PIC) list. No agreement was made over endosulfan which remains off the list.

Atrazine harmful to frogs

29 October

The widely used herbicide atrazine weakens the immune system in northern leopard frogs making them more vulnerable to infection according to a study published in *Nature*. Atrazine, in combination with phosphate used in fertilizer, was shown to suppress the amphibian immune response thereby increasing trematode infections in the frogs.

Pesticides may cause brain damage

24 October

Pesticides that are widely used in the European Union may damage developing brains according to a study published in *Environmental Health* today. The study reviewed nearly 200 scientific reports relating to pesticides and the brain. It warns that pesticides could cause neuro-developmental toxicity.

MALAYSIA: Farmers suffer after using banned pesticide

17 October

Padi farmers in Malaysia are suffering skin complaints and weak joint after using the banned pesticide endosulfan to treat a snail infestation. The pesticide killed the snails instantly but a few weeks later the farmers suffered side-effects which doctors have confirmed are due to contact with pesticides.

SCOTLAND: Toxic pesticide used on salmon farms

14 October

Teflubenzuron, known commercially as Calicide is again being used by salmon farmers in Scotland years after it was thought to have been phased out. Teflubenzuron has been found by the Scottish Environmental Protection Agency to be highly toxic to some commercially important marine animals such as lobster, crab and shrimp.

PHILIPPINES: Endosulfan use on pineapples to end

14 October

As of next year, Dole and Del Monte will no longer use the toxic insecticide endosulfan on their pineapple plantations. They will not be renewing their endosulfan licence and instead have drawn up a list of alternative pesticide options.

Pyrethroids may delay puberty

22 September

Doses of synthetic pyrethroids, a widely used class of insecticide, at very low levels have been found to delay the onset of puberty in rats according to a study published in the journal *Environmental Health Perspectives*.

For latest news updates as well as links to original news sources visit the PAN Europe website at <http://www.pan-europe.info>

Academic Review

Organophosphate exposure may be linked to obesity and diabetes

Parathion and other organophosphates are well known for their toxic effects on the nervous system. More recent evidence indicates that they can also affect an organism's basic metabolism.

Obesity and type 2 diabetes have become increasingly common in our society over the past couple of decades. Evidence now indicates that developmental exposure to certain chemicals could affect a child's metabolic programming.

In this study newborn rats were given parathion at 0.1 or 0.2 mg per kg of body weight per day for the four days immediately after their birth which corresponds to the second and early third trimester of pregnancy in humans (0.1 mg/kg/day is just below the threshold for neurological effects while 0.2 mg/kg/day is just above the threshold).

Both doses altered the rat's metabolism into adulthood but the effects were different for males and females. Male rats on the lower dose ate about as much food as control rats but outweighed them throughout the 22-week study. They also showed signs of pre-diabetes with raised fasting glucose levels and impaired fat metabolism. The rats on the higher dose ate less than control rats but weighed the same.

In contrast females on either the lower or higher dose of parathion weighed less than controls despite eating as much, indicating a 'wasting' condition. Glucose and lipid metabolism was disrupted at both doses.

After reaching adulthood half the rats were switched to a high fat diet. Parathion exposure exacerbated the female rats response to this; those exposed to 0.1 mg/kg/day gained weight more rapidly than control rats on a high fat diet.

Lassiter TL, Ryde IT, MacKillop EA, Brown KK, Levin ED, Seidler FJ and Slotkin TA. Exposure of neonatal rats to parathion elicits sex-selective reprogramming of metabolism and alters the response to a high-fat diet in adulthood. Environmental Health Perspectives 116 (2008) 1456-1462.

Many pesticides used in Europe could affect brain development

The current procedure used in Europe to assess risk from pesticides does not test their developmental neurotoxicity. A validated rodent test exists but is considered too expensive. A neurotoxicity test in hens is only required for organophosphates and some carbamates.

This lack of precaution exists in spite of evidence that our children are suffering developmental impacts on their nervous systems in the form of conditions such as Attention Deficit Hyperactivity Disorder (ADHD), autism, developmental delays and behavioural and emotional problems.

In this paper the authors examine published data on the neurotoxicity of pesticides currently used in Europe paying particular attention to risks during early development. The evidence suggests that many – including organophosphates, carbamates, pyrethroids, ethylenebisdithiocarbamates and chlorphenoxy herbicides – can cause neurodevelopmental toxicity and that the effects can be severe and irreversible. Pregnant mothers can be exposed to residues in food, by breathing residues after pesticide application and through other exposure routes. The authors advocate immediate action to reduce exposure and prevent neurodevelopmental impacts.

Bjorling-Poulsen M, Andersen HR and Grandjean P. Potential developmental neurotoxicity of pesticides used in Europe. Environmental Health 7 (2008) 50.

Farmer field schools are more effective than classroom lectures at teaching pest management knowledge and skills

Vegetable farmers from 11 villages in Yunnan Province in south west China were trained in pest management either through Farmer Field Schools (FFSs) or through conventional classroom lectures. Interviews were conducted a year before the training to establish the farmers' baseline knowledge, and again a year after the training to assess its impact. Farmers who had undergone FFS training showed significant improvements in their knowledge of vegetable pests, natural enemies, insect and pest ecology and pest management. Conventionally trained farmers showed no such improvements. Prior to training most farmers in the study reported that they did not carry out field observations and that they responded to the presence of pests by spraying with pesticides. The hands-on training gained in FFSs allowed farmers to make more complex and environmentally friendly pest management decisions.

Despite the additional costs (US\$22.8 per FFS trainee compared with US\$8.6 per conventional trainee) this study indicates that FFS training is more effective than conventional training at promoting integrated pest management in developing countries.

Yang P, Liu W, Shan X, Li P, Zhou J, Lu J and Li Y. Effects of training on acquisition of pest management knowledge and skills by small vegetable farmers. Crop Protection 27 (2008) 1504-1510.

The herbicide EPTC is associated with colon cancer and leukaemia

In the United States the Agricultural Health Study (AHS) enrolled licensed pesticide applicators from Iowa and North Carolina between 1993 and 1997 and has been following their health for the past decade.

The United States Environmental Protection Agency (US EPA) has indicated that the herbicide S-ethyl-N,N-dipropylthiocarbamate (EPTC) is 'most likely' not a human carcinogen. However, epidemiological data available to them when making this assessment was limited.

This study assesses exposure to EPTC and incidence of cancer. Out of 9,878 applicators exposed to EPTC, 470 cancer cases were diagnosed up to the end of 2004. Statistical analyses indicated a link between exposure and colon cancer and a weaker link with leukaemia.

van Bremmel DM, Visvanathan K, Beane Freeman LE, Coble J, Hoppin JA and Alavanja MCR. S-ethyl-N,N-dipropylthiocarbamate exposure and cancer incidence among male pesticide applicators in the Agricultural Health Study: a prospective cohort. Environmental Health Perspectives 116 (2008) 1541-1546.

Lindane ban reduces exposure of birds

Organochlorines have been linked to impaired behaviour, reduced reproductive performance and poor survival in birds. Exposure to the organochlorines lindane and endosulfan were assessed by measuring levels in blood samples of booted eagles in a region of south-east Spain (Murcia) from 1999 to 2003. The highest levels of lindane (average 38 ug/l) were obtained in 1999. Following its prohibition in 2000 in the European Union levels dropped dramatically to under 1 ug/l by 2001.

However, the ban on lindane use and changes in cropping patterns in the region (an increase in woody crops such as plum trees) led to an increase in endosulfan use from 2000 onwards. Lindane residues were replaced with endosulfan residues in booted eagle blood samples.

The results show how effective the lindane ban was at reducing exposure levels in birds. They also point to the need to ensure that banned products will not be replaced with equally harmful alternatives.

Martinez-Lopez E, Romero D, Maria-Mojica P, Martinez JE, Calvo JF and Garcia-Fernandez AJ. Changes in blood pesticide levels in booted eagle (Hieraetus pennatus) associated with agricultural land practices. Ecotoxicology and Environmental Safety 72 (2008) 45-50.

To request a quarterly listing of peer reviewed scientific articles relating to pesticides and their impact on health and the environment, please contact Pesticide Action Network UK (admin@pan-uk.org)

PAN Europe in the news

The articles below represent a selection of media coverage of PAN Europe and its activities over the past three months. Links to the full articles are available from our website.

Supermarket survey (24 November)

TF1/ LCI: **Des pesticides dans le raisin** (25 November) - Interview with Aurele Clemencin, MDRGF

RTBF: **Des pesticides interdits dans les raisins européens** (24 November)

Telenord la televisione della Liguria: **Pesticidi** (24 November)

Radio Due (RAI, Channel 2) **il Ruggito del Coniglio** (27 November)

Le Monde: **Des résidus de pesticides interdits dans du raisin** (24 November)

Le Parisien: **Des pesticides dans les raisins** (25 November)

L'Express: **Des raisins bourrés de pesticides!** (25 November)

NFU warning over EU Regulation (1 November)

BBC Breakfast: **Pesticide ban "treat to farming"** (1 November) - Interview with Elliott Cannell, Coordinator, PAN Europe

Highest Ever Levels of Pesticides in Foods (15 October)

RTBF TV: Interview with Valérie Xhonneux, Inter Environnement Wallonie (16 October)

Brussels Metro (Front Page) **Record de pesticides dans nos fruits et legumes** (16 October)

Žurnal24 (Front Page): **Rim gori, senat pa razpravlja** (16 October)

L'Express: **Trop de pesticides dans les fruits et légumes européens** (16 October)

TR1-LCI: **Toujours plus de pesticides dans nos fruits et légumes** (16 October) Interview with Aurèle Clemencin, Campaigner at MDRGF

BBC Radio 4, Farming Today: Interview with Elliott Cannell, Coordinator, PAN Europe (16 October)

Politiken: **Mere sprøjtgift i EU-grøntsager e** (16 October)

Európa Rádió: **A report in "Svédasztal"** (17 October)

Sunday Herald: **Record level of pesticides on fruit and veg** (26 October)

Regulatory Updates

Towards a global ban on Endosulfan

On 13-17 October the Chemical Review Committee of the Stockholm Convention (POPs) convening in Geneva approved an EU proposal that endosulfan be considered as a candidate for inclusion under the treaty. The Committee concluded that endosulfan meets all of the technical screening criteria as a Persistent Organic Pollutant. The insecticide will now move forward to the next stage of evaluation; a two year review process culminating in a final decision by government representatives likely in 2011.

Decisions of the Chemical Review Committee of the Stockholm Convention (POPs) are usually made by consensus. However in the case of endosulfan irresolvable differences of opinion gave way to a vote. Twenty nine countries including Germany, France, Australia, Canada and Brazil moved to support evaluation of endosulfan as a candidate. Three countries abstained: including India and China.

At the 4th Conference of Parties (COP4) of the Rotterdam Convention on Prior Informed Consent (PIC), the news was not so good. Meeting in Rome on 27-31 October, delegates failed to reach a consensus on adding endosulfan to Annex III of the treaty. While the substantial majority of the 133 countries included under the Convention were in favour, with a number of African governments in particular speaking out on the harm done by endosulfan and the need for prior informed consent, a small handful of signatories, including India and Pakistan, blocked the listing of endosulfan. The Secretariat was unwilling to move towards a vote although several national delegations supported this measure as a way of ending the stalemate. A final decision on the listing of endosulfan is now postponed to COP5 scheduled for 2010.



Endosulfan survivor: Shrutu of Kasargod, Kerala in India

European Food Safety Authority recommends stricter MRLs

On 27 November, the European Food Safety Authority (EFSA) issued recommendations for lower Maximum Residue Levels (MRLs) for several pesticides. EFSA proposed to lower MRLs where safety concerns were identified and also for substances where data available were not sufficient to substantiate the safety of the current MRL.

News of EFSA's recommendations comes as the European Commission prepares to defend Commission Regulation 149/2008 implemented on 1 September 2008 which brought about substantial increases in the maximum legal limits on many pesticides found in foods. The new legislation is being challenged in a joint legal action by PAN Europe and Natuur en Milieu on the basis that the increases in MRLs violate food safety and provide inadequate protection for consumers.

In the same statement EFSA also recommended that for active substances not authorised in the European Union but which may be found as residues in foods, MRLs be set at the lowest level which can be measured through routine monitoring in line with usual Community practice.

