

## PESTICIDE RESIDUES IN SOIL AND WATER

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Organochlorine pesticides are extensively used for control of agricultural pests and vector borne diseases. Among these pesticides, DDT, HCH, aldrin, dieldrin, heptachlor and endosulfan are of much concern because of their prolonged persistence, lipophilic nature and tendency to accumulate in animal and plant tissues. These pesticides have been reported not only to cause

serious diseases in humans but are detrimental to soil microflora and microfauna. The use of these pesticides, especially DDT, HCH, aldrin and dieldrin has therefore been either banned or restricted in several countries including India.

Forty-five soil samples of surface (0-15 cm) and subsurface (15 - 30 cm) soils from agricultural sites of Delhi, Haryana, Haridwar, Uttar Pradesh (UP) and around the hexachlorocyclohexane (HCH) manufacturing plant of IPL (Indian Pesticide Limited) and nine samples of different commercial brands of drinking water from markets in Delhi were analysed for the presence of residues of HCH isomers. Thirty-nine of the 45 soil samples contained residues of  $\beta$ -HCH (2.5  $\mu\text{g}/\text{kg}$  to 463 mg/kg of soil) and the remaining showed the presence of  $\gamma$ -HCH (0.08  $\mu\text{g}/\text{kg}$  to 43.00 mg/kg). Residues of  $\alpha$ -HCH (0.04  $\mu\text{g}/\text{kg}$  to 98.00 mg/kg of soil) and  $\delta$ -HCH (0.07  $\mu\text{g}/\text{kg}$  to 458 mg/kg of soil) were detected less frequently. All the nine samples of drinking water were found to contain residues of  $\gamma$ -HCH and  $\beta$ -HCH, whereas only 5 and 4 samples contained  $\alpha$ - and  $\delta$ -HCH respectively. Bisleri, Paras and VIP brands showed 99,240 and 141 fold higher levels of HCH respectively when compared to EEC norms. The contamination of mineral water could be due to heavy contamination of groundwater, which is used for making mineral water.

**Ref : Prakash, O., M. Suar, V. Raina, C. Dogra, R. Pal and R. Lal. 2004. Residues of hexachlorocyclohexane isomers in soil and water samples from Delhi and adjoining areas. *Current Science*, 87(1) : 73-77.**

### TIPS ON ORGANIC METHODS

- Leaf extracts of *Lantana camara* Linn., *Cajanus cajan* (Linn.) Millsp. and neem protects the potato crop against the attack of late blight disease.
- The ash of dried and burned banana leaves increases the yield in underground crops.
- Spraying the leaf extract of water-hyacinth (*Eichhornia crassipes* solms) enhances growth in brinjal, potato and tomato crops.

**Source : *Natural Product Radiance*, May - June 2004.**

## ALTERNATIVE CERTIFICATION FOR ORGANIC PRODUCTS

World over organic producers have been developing methods to guarantee the organic status of their product to consumers, processors, traders and also to regulatory authorities. However, over the last decade external regulatory pressures particularly in the developed economies have pushed the organic certification industry to adopt concepts from conventional conformity assessment systems. As a result, organic certification is now carried out in a similar approach, based on ISO norms.

In several countries, many groups of farmers, however, have continued to work with less formal systems of guaranteeing their produce. These 'alternative' assurance systems often arise from one or more of the following reasons : high certification costs, disagreement with the method for ensuring credibility, a political ambition to strengthen farmers and in some cases ISO65 type certification is thought to be inappropriate.

IFOAM which has been involved in the development of organic norms since 1970s, decided to assess the status of alternative certification systems around the globe and initiated the organisation of the workshop.

As a result, the first International Workshop on Alternative Certification took place in the hilly coast of southern Brazil, near Porto Alegre between 14 – 16 April 2004. It was organised by IFOAM and MAELA (Latin American Agroecological Movement) and hosted by the Centro Ecologico, an NGO that belongs to the Rede Eco Vida (Eco Life Network), uniting thousands of farmers in many states of Brazil. The workshop was proposed by IFOAM so that the different verification systems flowering in local markets all over the world, particularly in the South, could be assessed.

The workshop was mainly for people who are involved in these 'alternative' organic guarantee systems. The objective of the meeting was to

develop an evaluation of existing 'informal' methods by the people who are working with them.

Around forty people from all over the world participated. Twenty-five case studies, involving around 25,000 farmers in 22 countries, were presented. Intense and detailed group discussions on the strengths and weaknesses of the actual systems and their future possibilities took place. Information exchange and the debate focused on concrete proposals on how to link the 'informal' systems to the 'official' or 'formal' systems, so that all organic producers can work and benefit together. Based on a lively discussion on terminology this method of certification came to be known as "Participatory Certification".

The workshop included a day of visit to local farmers to discuss their marketing and certification system, as well as a visit to what the host organiser claimed as the world's biggest open air organic fair with 300 producers marketing their products based on a participatory certification system.

### Quality assurance

The Alternative Certification schemes (ACs) presented at the workshop have adopted different types of assurance systems :

- ⇒ *First-party assessment* : Farmers take a pledge and sign an affidavit.
- ⇒ *Second-party assessment* : The organisation that markets the products backs the scheme with its reputation.
- ⇒ *Third-party assessment* : A farmers' organisation, belonging to a group certification scheme with an internal control system implemented to facilitate the export of their main crop, has individuals or groups of farmers that sell their side crops in the local market.
- ⇒ *Participatory network assessment.*

## Key features of Alternatives Certification Schemes

### Principles, values and ideology

- ✎ Food sovereignty, food security and food safety.
- ✎ Appropriate to small farmers' realities and small agricultural enterprises.
- ✎ Flexible system emphasizing a learning process in a transparent and trust-building system.
- ✎ Priority to local markets and long term relationships.
- ✎ Co-responsibility and decentralized decision making, emphasizing empowerment, capacity building and gender sensitivity.

### Participation

Inclusion of grassroots participation not just 'qualified' technicians.

### Standards and norms

Inclusion of social justice norms alongside organic production norms.

### Co-responsibility of the guarantee system programme

Principles and standards are built together, put in practice and verified through the involvement of all participants in the network.

- ✎ Standards/norms are normally revised every 2 or 3 years.

- ✎ Minimal and simple paperwork and registration procedures.
- ✎ Frequent meetings, visits and social interactions between participants within the network.
- ✎ Visit report is evaluated by committees in the network. Approval, sanctions and deregistration are decided collectively.
- ✎ Conflict of interest is managed through prohibiting farmers or stakeholders to take part in the evaluation related to their property, and encouraging the active participation of conscientious consumers.
- ✎ Emphasis is placed on training and empowering participants in the network to take an active role in the norm setting and certification process.

### Documentation and transparency

Transparency and open access to information is the general norm for all schemes. Some are based mainly on oral accounts, most function with minimal paper work.

### Funding and resources

Schemes rely a lot on voluntary work. Direct costs are covered by membership dues, donations, advanced payments from consumers, and / or percentage of sales. Many indirect costs are covered by development funding from international and / or national government and private agencies.

*Source : The Organic Standard © GroLink AB Issue 37/May 2004 and 38/June 2004*

## To control rot disease

- Spraying the extract prepared using eight leaves of *Aloe* in one litre of water controls fruit rot disease in brinjal.
- Treating the seeds of tomato for 6 hours in the extract prepared using 20 ml of *Bougainvillea* leaf extract in 1 litre of water controls rot disease in the nursery.

**Ref : Sundaramari, M. 2001. Adoption and Perceived effectiveness of Indigenous Practices in different farming systems. Ph.D. Thesis, Gandhigram Rural Institute (DU), Gandhigram.**



## Books & Educational Materials

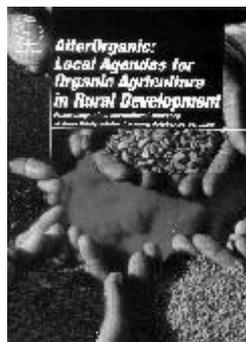


### Past Roots, Future of Foods: Ecological Farming Experiences and Innovations in Four Asian Countries

This resource book published by PAN AP challenges the current practices of agriculture that utilises high external outputs by presenting five successful sustainable and ecological agriculture case studies in the Asian region. Farming groups and communities around the world are challenging and resisting industrial highly chemicalised agricultural systems, and reclaiming and protecting their natural resources. In their efforts to once again develop sustainable ecological farming based on their ancient roots, they are further exploring, experimenting and innovating to find their own solution to their problems and improving their agriculture. Encompassing different geographical land areas, the book highlights novel and creative ways that have been adopted to address local concerns.

*Source : [www.panap.net](http://www.panap.net)*

### AlterOrganic : LocalAgendas for Organic Agriculture in Rural Development : Proceedings of an International Workshop at Bonn-Konigswinter, Germany, October 21-24, 2002. Edited by Kotschi, J, Bayer W, Becker T & Schrimpf B



This proceeding shares the ideas and efforts of the participants of the workshop on local agendas in organic agriculture for rural development. The keynote address by the delegates from different parts of the globe provides a better understanding of

the status and constraints faced by the organic growers world wide. The topics discussed in the workshop include technology development and advisory services in organic agriculture, standards and certification in organic agriculture and development of local markets for organic products.

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