

International Institute of Sustainable Agriculture launched



Founder-President of IISA Claude Alvares breaks the ground during the Bhoomi Puja ceremony at Ovale, Pune on October 2, 2007 in the presence of Mr. and Mrs. Vikram Bokey of MOFF and V.B. Foundation, Mr. Shirish Beri, Dr. Rajaram Deshmukh and Dr. Krishna Lavekar

The Indian Institute of Sustainable Agriculture [IISA] was formally launched at a simple but solemn function on Gandhi Jayanti, 02 October, 2007, on a 25 acre farm property at Ovale, Pune, in Maharashtra state. Claude Alvares is the founder President of the IISA, which promises to be the new, and permanent, home of the organic farming movement in India. The institute is conceived as a centre to provide serious direction and focus to organic farming in India, rest of Asia, Africa, Latin America and elsewhere through a participatory process in which the organic farmers are in charge of the process.

A number of distinguished persons in the field of agriculture were present at the stone laying ceremony of IISA at Ovale 2nd Oct.2007. They include: Dr. Rajaram Deshmukh – Vice-Chancellor, Mahatma Phule Krishi Vidyapeeth, Rahuri, Dist- Ahmednagar, Maharashtra; Dr. Krishna Lavekar – Commissioner for Agriculture, Maharashtra State; Dr. Ashwini Ghorpade - Social Scientist & Advisor of MOFF; and Shri. Vijay Paranjpe – Chairman, Gomukh, Pune. The architect for the IISA campus at Ovale-Pune, Shri. Shirish Beri, the President of IISA, Dr. Claude Alvares and

other members of the IISA Governing Council like Dr. Thimmaiah, Shri. Yashwant Khaire and Shri.Vivek Broom were also present on the occasion.

There are reasons why India, a leading producer of organic food by intent or default, needs to be the hub of the organic farming movement world wide. Sir Albert Howard, one of the founders of the organic farming concept and practices, developed the ideas while working in India. Instead of treating soil merely as a source of mineral nutrients and anchorage for plants, he developed the concept of soil as a living system with a number of microorganisms playing a role. The Indore method of composting is now a part of the rich heritage of organic farming methods. On his return to UK, Sir Howard continued his work by setting up the Soil Association of Great Britain. There is already an international link in this.

In India, as elsewhere in the developing countries world wide, there are two types of organic farmers. A growing number of farmers have been switching over to organic farming after experiencing the long-term effects of us-

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Corporate Pests

Pesticides or Prosperity: Punjab finally confronts the issue

While ecologically conscious agricultural scientists the world over — even at the International Rice Research Institute (IRRI) in the Philippines — have now begun to realize that chemical pesticides were not really necessary and have caused large-scale collateral damage to farmers, the Punjab Agriculture University has yet to reconsider its role in developing “killing fields”, or so it would appear.

Ayurveda and other non-intrusive systems of medicine have caught the fascination of the Western world after years of allopathic treatment and surgery. With the advent of modern science, which began to view everything traditional as backward and sub-standard, the collective wisdom of generations of farmers was lost. Traditional farm practices find no mention in the standard agriculture textbooks and curriculum in India. The result is that expensive and unwanted pesticides are being promoted by the scientists and extension workers while farmers and the ultimate consumers of agricultural produce are looking for safe and healthy alternatives.

Interestingly, the Punjab Agricultural University (PAU), Ludhiana in collaboration with the State Department of Agriculture organized a symposium on “Pesticides and Environment” on Thursday, November 29, 2007 at PAU, Ludhiana. Needless to say, it was sponsored by the Agro-chemical Promotion Group [APG]. Its GM Rajendra Sundaresan <apg_rajendra@rediffmail.com> was kind enough to offer travel expenses and comfortable stay to the participants.

The reason for the seminar was stated to be the “urgent need to enhance the productivity and yields in agriculture in order to meet the growing demand,” which “requires sound management in the use of various inputs and technology. Crop protection chemicals is one of them.” The symposium was to be addressed by eminent persons including the PP Advisor, Govt of India, M.D., Oswal Health Hospital, Director of Agriculture, Govt. of India and others from Agriculture and Health sectors, who would present scientific data and facts to dispel the myth that “use of pesticides causes cancer”.

According to image managers of the PR firm hired by APG, “The presentations will highlight the importance of agrochemicals ensuring food

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IISA (continued)

ing synthetic chemicals for nutrition and pest control in crop lands. The organic farming is by a conscious decision. There is also a large segment of organic farmers by default. These farmers are either not exposed to or have access to synthetic fertilizers and pesticides because of remote location, specially in the tribal belts, or do not have the financial ability to procure expensive chemicals and hence rely on farm yard manure and other organic matter to provide



Architect Sirish Beri at the IISA site at Ovale

nutrients for their crops. Like a slow runner in a long distance relay race, the organic farmer “by default” is ahead of the other runners who are doing the next lap of organic farming by as much as 36 months of “transition” farming!

The IISA campus is designed by Shirish Beri & Associates, Kolhapur, as per the requirements laid down by the Board. It will have a Central Administrative Block that will also house the offices of the constituent organizations, viz MOFF, OFAI and VBF, with a common lounge/reception and exhibition area. The Research Centre will have the necessary laboratory for validation of field trials in the 25 acre campus and elsewhere. It will be supported by a Library containing books, journals, magazines, videos, CDs, etc on natural farming, a Seed Bank, Training Centre, Canteen/Dining Room and a Dormitory for trainees and visiting organic farmers. It is proposed to use this facility optimally by making it available to student groups and CSOs who may work in the area to rehabilitate the degraded forest land in the Western Ghats or to acquaint themselves with organic farming. There will be basic accommodation [bedroom +study +L.D.K.] for the permanent staff of IISA on the campus. The work will be carried out under the supervision of the architect and a Working Director of IISA.

Once functional, this campus will be the hub of the organic farming communities and centre for Participatory Guarantee System [PGS] and Third Party Certification System [TPS] of organic farms and product assurance. It will also network with organic farming organizations internationally, initially in Asia and Africa and expanding beyond thereafter. Well begun is half done. The IISA has been launched and the future is promising.

Corporate Pests (continued)

security and expose the hidden intent of a number of national & international NGOs and agencies that have been raising the issue of pesticides being harmful to the environment and a health hazard. The highlight of the symposium will be an open debate on the most talked about subject of ‘Pesticides and Environment’ between doctors, NGOs and industry.”

The very thought of an agriculture university in the present day promoting use of pesticides was appalling to many agricultural scientists. Wrote Dr. Devinder Sharma, “For over four decades now, PAU has been in the forefront of pushing unwanted, risky and irrelevant technologies into farms. This has not only created an environmental crisis but also led Punjab to an ecological suicide.”

Dr. Ernest Albert was more direct in his approach. He wrote to the GM of APG directly, “It is only amusing that what Union Carbide (read Dow chemicals) did above the earth and almost got away, you are doing almost the same beneath. No doubt you will have your own noble and national motives. My best wishes to you and your cohorts at PAU, where you have been able to augment your sales pitch”, adding, “even the salmon knows when to return.”

The extensive use of pesticides since the middle of the last century has caused untold misery through pesticide residues in the food chain, in domestic animals and even human beings as well as resurgence and mutation of insect pests and disease-causing organisms. At a time when the world is looking at naturally and organically grown food, it is a pity that our educational and research organizations still promote, at the behest of pesticide manufacturers, the use of harmful chemicals by countering the fact of their damage as a myth created by NGOs and organic farmers.

Umendra Dutt is livid at the collaboration of a public funded university with the private APG and the industry it represents. His “Open letter” to Dr M. S. Kang, Vice Chancellor, Punjab Agricultural University has a point blank salvo in the subject line that reads thus: WHICH SIDE ARE YOU ON – FARMERS OR AGRICULTURE INPUTS INDUSTRY? He reminds the VC that “the pesticide industry in the past attempted to stifle the very freedom of expression and speech. They tried to threaten concerned members of the civil society including eminent doctors and scientists of legal consequences if they so much as attended certain workshops which wanted to initiate debates around chemical pesticides! Today, PAU does not seem to have any qualms in collaborating with such agencies and individuals.”

Umendra Dutt recalled that the pesticide industry has “also been staunchly refusing to acknowledge that pesticides can cause health hazards, a fact which the ICAR clearly acknowledges and many health institutions including ICMR and National Institute for Occupational Health (NIOH) have well documented.” He stated that “the pesticide industry has hijacked science of agriculture as preached and implemented by the agriculture universities and the industry has used scientists in institutions like PAU as its marketing people. While expressing alarm “that PAU has

handed over the entire management of this symposium to a group which represents the manufacturers of deadly poisonous pesticides with a foregone conclusion on several things – that alternate methods of pest control are wholly inadequate and that crop protection chemicals are part of ‘sound management.’” Umendra Dutt’s letter disputes specially that part of the PR statement that reads: “On the other hand, agricultural scientists confirm that for agricultural productivity and food security of the country we have to use agro chemicals because alternate methods of pest control are wholly inadequate,” and calls on the VC to substantiate claims made in it apparently on the VC’s behalf. He invites the VC to show us evidence on how he would increase productivity in a sustainable fashion that is socially just, environmentally safe, economically viable manner, protecting livelihoods of farming community members including their health and the health of consumers. It also demands “Scientifically proven and peer-reviewed evidence, including that generated by PAU, to prove that ‘alternate methods of pest control are wholly inadequate.’” The letter from APG and the fact that the pesticide industry puts it out on behalf of the VC “with conclusions that are not tenable is proof that PAU is hijacked by the industry.”

It is time for PAU to let Punjabi farmers know which side it is on – the agri-inputs industry or Punjab’s indebted and distressed farmers? This question is not empty rhetoric but a clear analysis of the agrarian distress in India. While Indian farmers are committing suicides and are reeling under the burden of rising debts, the agri-inputs industry is posting impressive growth rates and this in itself is an indicator of the current crisis and its causes.

Addresses and Contact details for forthcoming OFAI workshops.

Bharatendu Prakash (Jhansi workshop)
Kisan Vigyan Kendra
Tindwari (Banda)
Uttar Pradesh - 210128
Ph: 05192 292010, 292218,
Mob: 09452508251
Email: vsk_73@sancharnet.in

Shri. N. Gopalakrishnan (Trichy workshop)
19, Akila Nagar, 1st Cross Street
Ganapathy Extension,
Mambalasalai,
Trichy, Tamilnadu - 620005
Ph: 0431 2431880 / 09443148224
Mob: 09443148224 Fax:
Email:dngopal2003@yahoo.co.in,
dngopal2003@gmail.com

Dr.K. Natarajan (Erode workshop)
Rural Community Action Centre,
R.S. Hospital Complex.,
By pass Road, Kodomudi - 638 151,
Erode District, TN
04204 222369/222469 / 9443358379
Email: rcacngo@yahoo.com

Rony Joseph (Ernakulam workshop)
INFACT, Kizhathadiyoor PO, Palai,
Kottayam District Kerala - 686574
T7285525(M); 04822 211997/211689
Email: ktm_infact@sancharnet.in

PGS: Getting Farmers Together

The Participatory Guarantee System for peer certification of organic farming within a group of organic farming practitioners has many advantages over third party certification. Farmers in India can take to PGS as a duck takes to water, naturally and easily. The good news is that the process has begun and farmers have accepted the PGS as their own Organic Labeling Scheme [OLS]

What is PGS?

The Participatory Guarantee System is a quality assurance system adopted and recognized in USA, Brazil and New Zealand that is becoming increasingly popular among the farmers and consumers of farm products world wide. The system does away with the need for certification institutions that charge hefty appraisal and certification fees to declare a product as "organic" and lend it their label or logo. In PGS, the group of organic farmers does the appraisal and certifies the applicant-member's farm and its produce after satisfying themselves that it meets the minimum standards prescribed under the OLS.

Who promotes and monitors the PGS?

A PGS India National Council has been set up in September, 2006. The current council members are Matthew John of Keystone Foundation, Tamil Nadu; Sonali Bisht of INHERE, Uttaranchal; Claude Alvares of OFAI, Goa; Niranjana Maru of AARC, Maharashtra; Mary Vattamattam of Timbaktu Collective, Andhra Pradesh and Joy Daniel of IIRD, Maharashtra. For details visit www.pgsorganic.in

How to get PGS?

A person or farm family desiring to get their farm and produce thereof certified under PGS has to join a "Local Group" of organic farmers. For PGS done through the Organic Farming Association of India [OFAI], the farmer has to enroll as an ordinary member of the OFAI. That is the first step.

Next, the farmer or farm family must read or, if unable to read, have it read to him/them the OFAI "Basic Standards" document that is currently available in English, Hindi, Marathi, Kannada, Tamil and Telugu to enable to farmers fully understand their commitment to organic farming practices. Once this is done, and the farmer accepts the basic standards for adoption on his farm, he has to sign the "Farmer's Pledge" in token thereof.

What is the farmer's pledge?

The farmer's pledge is his written commitment to adopt the prescribed organic farming practices on his farm in exchange for the right to use the OLS and its logo on the produce of his farm. This commitment is to ensure that his farm remains permanently free from synthetic chemicals, including fertilizers and pesticides while encouraging the revitalization of the soil to serve the cause of health of the soil, the environment, family and the community in which he/she lives.

Organic farming meetings (OFAI)

Events taken place:

Use of Beneficial Microbes in Organic Farming, Bhubaneswar

A meeting to develop skills among farmers concerning the maintenance of living soils with beneficial microorganisms was held from January 10-11, 2008, at Bhubaneswar. The meeting was organised by the OFAI Orissa Secretariat. More than 110 farmers participated with enthusiasm. Faculty comprised experienced organic farmers of the Association.

National Steering Committee of OFAI meets at Pastapur, Hyderabad

The National Steering Committee of OFAI met at Pastapur in January. Members participated in the annual mobile biodiversity mela of DDS on January 14 and decided policy issues for OFAI on the 15th.

Events ahead:

Organic Farming for Farmers in North India (February 9-10, 2008)

A special workshop focused on the needs of organic farmers in north India is being held at Jhansi from February 9-10, 2008. For further details, contact Dr Bharatendu Prakash from the OFAI UP Secretariat. Venue: Indian Grassland & Fodder Research Institute, Gwalior Road, Near: Pahuj Dam, JHANSI 284003

Use of Beneficial Microbes in Organic Farming, Kerala (March 3, 2008)

OFAI Kerala secretariat will host a one-day workshop on the use of beneficial microbes in organic farming for the benefit of Kerala organic farmers on March 3, 2008. Venue: SEVASHRAM, Mangattukara, Puliyanam - Post, Angamally 683577, Ernakulam Dist.

National workshops on Vermiculture and Panchagavya (18-20 April, 2008)

A two-day workshop on earthworms for organic farming will be organised at Trichy from 18-19 April at Trichy. A one day workshop on Panchagavya will be organised by Dr K Nararajan, the inventor of the Panchagavya formula at Erode on 20 April, 2008. Participants can attend both meetings.

OFAI Bi-Annual Convention of Organic Farmers. October 1-2, 2008 at Trichy, TN

Theme of the convention is organic seed production and exchange. This will be the occasion for the biggest exchange of organic seeds in the history of the country.

Farmer's pledge, consumer's guarantee

A PGS farmer using the "organic" label pledges to adopt the following Do's and Don'ts

DO's

- * Sell product as "organic" only when it is grown in certified organic farm land meeting the basic standards* laid down under OLS-PGS.
- * Ensure that the crop is grown using organic and natural inputs only.
- * Ensure that all post harvest operations on farm like bagging, transportation, grading, processing, etc are free from chemical contamination.
- * Use containers and bags that are not chemically treated and that are labeled as "organic" at every stage from harvest to sale
- * Take care of the livestock using organic systems to ensure their health and well being.
- * Check with the Local Group [LG] before using any product/input when unsure.
- * Attend meetings with fellow farmers to share information about standards and innovative practices in organic farming.
- * Participate in the appraisal of other farms in the LG.
- * Report to the LG even minor and unintentional violation of the basic standards.

DON'T's

- * Avoid mixing with inorganically grown produce at any stage up to sale.
- * Avoid synthetic pesticides: weedicides/herbicides, insecticides, fungicides.
- * Avoid synthetic fertilizers
- * Avoid Genetically Modified [GM] seeds e.g. BT cotton
- * Prevent contamination of the farm by suitable buffers, etc.

The above steps, monitored by the LG, collectively ensure the "organic" quality of the produce in the market. Cheating is less likely as there is peer pressure to maintain the standards for the common good.

* Details of Basic Standards at www.ofai.org

Organic Farming News: India

Seeds Meeting in Bangalore Organic seed producers' workshop

Seed has been the lifeline and source of sustenance ever since organized agriculture came into existence. Saving, selecting, reproducing, storing and sowing seeds is often dependent on farmer's knowledge and expertise. Farmers over centuries developed varieties with favorable characteristics to suit the local conditions and conserved the seeds for themselves and their communities.

Saving seeds thus became a part of the culture and tradition that made agriculture a way of

to overhaul the existing seed laws to streamline the quality control and supply mechanisms have drawn criticism and are still pending before parliament. The new Seeds Bill, she said is apparently in favor of the private seed sectors helping them consolidate their business in a clandestine manner. It is detrimental to the interest of the farming community which have been producing, saving and exchanging seeds over the generations, by attempting to discourage sale by farmers in the guise of imposing quality standards. In effect, she felt it an infringement on the community's right over the seeds. In this context, she stressed that the purpose of this work shop is to dwell upon the "seed challenge" to arrive at a work-

information among the farming community to facilitate exchange/sale.

There were deliberations on the seed bill, 2004 by a university resource person. The consensus was that there are many contradictions and detrimental clauses in the bill coming in the way of seed production and exchange at farmers level.

Participants presented their experience in seed saving and traditional varieties in their respective regions.

Outcome of the workshop

It was agreed that procedures on organic seed production and cataloguing would be based on organic production standards of OFAI. It was also agreed to evolve a simple format for cataloguing seed varieties of use to farmers within the association.

The Green Foundation was entrusted with this assignment and to circulate the format to the participant groups. Groups agreed to send the varietal information with photographs wherever possible. The updated information would be put into a printed catalogue which would be circulated among the network members. It will be an informal, non-commercial exchange network of organic seeds. Supply of seeds included in the catalogue would be ensured by the respective groups upon enquiries from the interested farmers or groups.



Participants of the meeting on organic seeds in Bangalore end August 2007

life. Biodiversity conservation has received a major thrust with organic farming policies. Sourcing organic seed material is a major problem faced by the farmers. Now it is imperative to strengthen the conservation of local seed diversity and the community seed supply system for the success of the organic farming in the country.

In this backdrop "Organic Seed Producers Workshop" was jointly organized by GREEN Foundation, Bangalore and the Organic Farming Association of India, Goa from 30 – 31st August, 2007 at Fireflies, Bangalore, with an objective of producing organic seeds mainly in food grains, vegetables and exchange of organic seeds among the seed production network partners.

Dr. Vanaja Ramaprasad, Managing Trustee of the Green Foundation inaugurated the workshop by welcoming the participants who had come from different regions of the country. She observed, "The seed savers are the vital constituents and play a pivotal role in conservation of plant biological diversity and promoting Sustainable Agriculture Practices."

She further added that the recent efforts by the government, amidst spiraling seed prices,

able mode of action to synergize the efforts by the participating agencies and farmers towards the organic seed production and supply networking in order to boost up productivity under organic practices.

The role of seed savers and need for networking:

Mr. Claude Alvares, Director, Organic Farming Association of India, opening up the maiden session on the role of seed savers in today's context, deliberated on the issue. With increased awareness about the ill effects of green revolution and the changing shift towards "organic" both by producers and consumers, the demand for genuine organically produced seeds is also being felt. Now, the responsibility to evolve a network system to make available quality organic seeds calls for a renewed systemic approach to ensure the desired quality in right time/season and place. He stressed that this specific need to produce, exchange and study organic seed varieties within the farming community working with seeds is a crucial beginning in this direction. The seed savers are central to the whole concept and what is needed are proper documentation, cataloguing and dissemination of the

Organic farming is striking roots in Punjab:

by Sunil Sharma

The deterioration of soil and sub-soil water, including drinking water, due to the use of chemical fertilisers and pesticides by farmers is slowly making farmers in Punjab to turn their attention towards organic farming. The farmers who are turning "organic" are still a trickle but could well be the first sign of a torrent that will flood this granary of India.

OFCP, set up a year ago, has acquired a model organic farm spread over 577 acres of land to enables farmers learn scientific ways of preparing vermi-compost using cow urine for termites control, etc.

It is reported that about 1,200 farmers have registered themselves with the Organic Farming Council of Punjab [OFCP]. They will be imparted training in organic farming and then be eligible for grant of Rs.1.2 lakh, that will be adjusted towards certification for use of organic farm trademark their products in the market.

Jasbir Singh, a farmer from of Punjab's Fatehgarh District has this to say: "It will take some time to farmers to fully adopt organic farming. The farmers are facing uncertainty and are caught in the loan's vicious circle. The trend is such that without a loan, farmers cannot survive." Organic farming is seen as the way forward. Outlets to sell the produce labeled as "Organic" by OFCP have been set up to ensure fair returns to the farmers.

Organic Farming News: India

Use of Beneficial Microorganisms in Organic Farming

OFAI organised a major training workshop for more than a hundred farmers from Orissa, Chattisgarh, Jharkhand, West Bengal, Andhra Pradesh and other eastern states on January 10-11, 2008 at Bhubaneswar.

The workshop was impeccably organised by Debjcet Sarangi and his OFAI-Orissa secretariat team.

For the first time, the entire faculty for the training was recruited from the organic farming community. Each of the farmer "lecturers" made excellent presentations, mostly practical, which kept the participants engrossed both days. All the processings were painstakingly translated into Oriya, since many of the farmers were unable to read or write and only a few understood English.

Faculty included Manohar Parchure from Nagpur who gave an excellent presentation on the concept of a living soil in contrast to conventional farming approaches which no longer rely on the assistance of the living community of soil species. His lecture was followed by a two hour practical demonstration by Dr K Natarajan from Erode (the originator of the Panchagavya recipe) on how to make good quality Panchagavya. Dr Natarajan also made a powerpoint presentation of the scientific aspects of the subject.

Another major highlight was the eloquent and again very practical presentation of Subhash Sharma, one of India's most outstanding, innovative farmers from Yeovatmal. Mr Sharma is a much sought after speaker. On the present occasion, Mr Sharma spoke of how organic farming through species that are in harmony can increase production further.

After Subhash Sharma, Jayant Barwe of Vita, Sangli, made an expert presentation on the preparation of jeevamrut and other microbial preparations. Dr Barwe insisted that farmers need not worry too much about using exact proportions in their recipes for preparing microbial solutions. They should remember that cow dung and cow urine plus jaggery were paramount ingredients and they should experiment on their own, depending on the quality of their soils and what was needed.

The workshop concluded with a major demonstration of the art of raising earthworms from N Gopalkrishnan from Trichy. Gopalkrishnan held the audience spellbound. Besides introducing them to vermiculture, he also showed them how to make new microbial recipes with the use of eggs and fish.

The organic farmers were so happy with the workshop they took away with them whatever panchagavya, amrutpani and earthworms they could find after the sessions.

The two day workshop was inaugurated by Prof. Radhamohan, founder of Sambhav organic farm, and at present, Information Commissioner for the State of Orissa.

Later in the day, Parchure addressed a meeting of heads of department of the Orissa University for Agriculture and Technology, presided over by the vice-chancellor himself. Though Mr Parchure made an eloquent plea for the scientific community to learn again from natural principles, the reaction from the academic community remained passive and defensive. The two issues raised by them — that organic farming cannot feed the growing population and that we do not have adequate organic matter within the country — are raised ad nauseam by the scientific community, despite astonishing results from organic farmers.

NBA chief offends public science; defends GMOs

Prof. S Kannaiyan is the chairman of the national biodiversity authority (NBA) which was set up explicitly to protect and conserve the country's biodiversity resources, now seriously threatened by GMOs. Yet, inaugurating a national seminar at Loyola College, Chennai, the man disclosed his true colours: he came out in defence of GMOs.

How come this person was appointed Chairperson of the NBA? Doesn't the government look into the background, bonafides and scientific expertise of the persons it appoints to responsible scientific positions?

According to Prof. Kannaiyan, "The world is being ravaged by severe food crisis due to factors like population explosion, global warming, pests, over exploitation of water resources and of arable land. There also has been an unprecedented attack on food crops by organisms like fungi and bacteria which destroy 45 per cent of the total crops. It is our responsibility to put to use all technological and scientific methods to prevent this from getting worse."

He then went on to claim that genetically modified cotton approved for cultivation in India "has been a success."

The NBA chairman claimed (without a shred of evidence) that genetically modified crops had revolutionized agricultural productivity and the nutritional status of several important crops. "Genetically engineered traits include insect pests resistance, herbicide tolerance and virus resistance," Prof Kannaiyan said. He pointed out that GM crops have been developed and applied successfully since the early 1970s under controlled conditions and since the mid-80s for commercial applications.

"I am surprised to note that many non-governmental organisations are shouting from rooftops against the introduction of GM crops. They are either ignorant about the ground realities or have some ulterior motive," he charged.

Well, at least NGOs do not do unsolicited campaigning or advertising for the products of corporates dealing with the seeds business. If the government of India is not careful, we can be sure that under Prof. Kannaiyan's dubious leadership, nothing much will be left of the country's biodiversity.

Please protest to the Ministry of Environment and demand his removal. Write to:

Ms Meena Gupta, Secretary,
Ministry of Environment & Forests,
Government of India,
Paryavaran Bhavan,
C.G.O. Complex,
Lodi Road, New Delhi 110003



Dr K Natarajan, the inventor of the original Panchagavya recipe, doing a hands-on demonstration of how to manufacture it on the farm using various locally available ingredients.

What pesticides have done to Punjab: Interview with Dr S.G. Kabra

Claude Alvares: *Dr.Kabra, can you begin by telling us about your experience in medicine?*

Dr.Kabra: I work in a multi-disciplinary hospital and I look after their Hospice and Perinatal Care Centre. I also work at the Indian Institute of Health Management Research as a faculty member. Most of students are of diploma courses there. These are the two places where I work formally. I am a medical activist and legal advisor. Those are my fields of work.

CA: *How did you get involved in pesticides-related research?*

Dr.K: It is within my general line of interest involving health topics and this was one of the key areas which interested me.

CA: *How long have you been working in this area?*

Dr.K: You mean in the pesticides area. It is almost 10 years now.

CA: *The question is – Why are these pesticides-related impacts, like cancers, birth defects, etc. not so well known or acknowledged despite pesticides being in use now for 40 years.*

Dr.K: Unfortunately in the health sector, there is no any surveillance system nor any reporting. Hospitals do not report their statistics. Since there is no surveillance system, things don't get reported and nobody becomes aware of them. For instance, the first study that we did was in the 1990s about congenital anomalies. When we reinvestigated it, the interest in such research started. They are not recorded and reported cases. That is how the general state is.

CA: *Where did the research begin to establish such a connection with pesticides and how?*

Dr.K: In the 1990s, we had for first time done a study along with the students and got the data from the "Labour Room" of the maternity ward analysed. Quite a faithful data bank was maintained. At that time I was working as a professor in a medical college. There are two large medical colleges, which have two hospitals for women attached to them. So I got the data from the maternity Labour Room analysed and found congenital anomalies and especially the gross congenital anomalies that are recorded.

The main gross defects that were recorded were the neural tube defects and among these, it was essentially the brainlessness defect, what we call (zero-encephalus?) That means children are born without brains, i.e. the brains were not formed. The incidence of this was pretty high. When the entire data base was analysed, we found that there were two seasonal peaks, which was quite unusual. We calculated the dates backwards. The brain is formed in the first six weeks of pregnancy or early pregnancy. So any environmental factors that would affect this should be operative in that period. It was surprising that such factors should have a

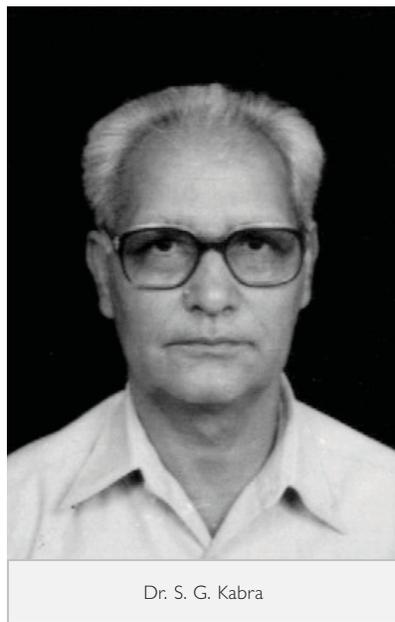
seasonal peak. It was calculated backwards to the month of conception and it was revealing that these coincided with two major crops that come into the market. It is well known fact that these two major crops contained quite a substantial amount of residual pesticides.

CA: *So what you are saying is that these women ate food which contained pesticide residues in those particular months.*

Dr.K: That is right. These are congenital anomalies – because those are the months in which the children who were conceived, there were greater incidences of brainlessness.

CA: *This is almost similar to the endocrine disrupters.*

Dr.K: Endocrine disrupters are worse because they operate at an embryo-toxic level (i.e. they are poison to the child) and also at the cytotoxic [poison to the cells] level. Endocrine disrupters operate through the glands secret-



Dr. S. G. Kabra

ing hormones in to the blood stream. The effect would be greater in the adults, specially during the spermatogenesis [sperm production in adult males]. Of course, the endocrine disrupters may be responsible for the pro-congenital anomalies and the enhanced rate of spontaneous abortions.

CA: *That is also because some of them are known pesticides.*

Dr.K: Yes. A good number of known pesticides are endocrine disrupters. We know those pesticides. There are some which affect estrogen [i.e. the female hormone produced during ovulation] and those which affect the testosterone [i.e. the male hormone]. There are different kinds of endocrine disrupters. There are others which are thyroid-toxic which affect the thyroid glands.

CA: *How would you compare the severity of pesticide-related impacts with those from radiation and tobacco use, for example?*

Dr.K: Well, these are three main ones. Their comparison shows up their carcinogenicity i.e. their cancer-causing effects. These are three well-known ones:

Those from tobacco use: We call them tobacco-related cancers. There may not be any specific cancer which is formed by tobacco-related but there are certain types of cancers which increase with tobacco-consumption, such as lung cancer.

Similarly, there are radiation-related cancers. In our country, diagnostic X-rays are done without any safety measures. So there is a tremendous amount of radiation exposure. Radiation exposure effects in two ways. It affects the male genitalia – the sperms. It acts as genotoxic. It changes the genes of the sperms and that is manifested as childhood leukemia. In our country childhood leukemia is fast rising. These are known as radiation-related cancers.

Now there are newly emerging ones, which have been found out recently since cancer registries are being maintained. There are a number of them which appear to be pesticide-related cancers. There is a high incidence of esophageal [food tube at the throat] cancer, gall-bladder cancer and liver cancer which I would term differently as pesticide-related cancer. There is an increase in the incidence of these specific types of cancers and they are quite prevalent in certain geographical areas which have excessive use of pesticides.

CA: *And they are only prevalent in those areas?*

Dr.K: No, we cannot say that they are prevalent in these areas only. Till now, the evidence which we have found is that these are the cancers that are relatively more common in these areas.

CA: *In relation to these 2-3 different types of effects, would you describe the impacts of pesticides on thyroid-related disturbances.*

Dr.K: Here in Rajasthan, we have the thyroid goitre, which is very common (the thyroid becomes highly enlarged) and thyroid cancers are also relatively high. A number of substances are toxic to the thyroid and they affect its functioning. One peculiar thing that is emerging is that 70-80% of the thyroid tumours or thyroid cancers occur only in women. So there is a peculiar susceptibility of females to these thyroid tumours.

There are environmental toxins which are affecting people. For instance, in the case of the brainless children, 70-80% of these are female. So and female fetuses or girl children are more prone or more vulnerable. That is something peculiar. It is a well known fact that brainlessness and neural tube defect are because of folic acid deficiency. Why should folic acid deficiencies affect female children only?

Obviously they are more vulnerable to certain environmental factors? The usual presumption that foetuses of both sexes should be equally affected by the environment is fallacious. Why should folic acid deficiencies occur in Punjab and Haryana, where the nutritional status is much better than Rajasthan? Why should that occur over there? The conclusion is that there is something in the environment which neutralizes or antagonizes the effect of folic acid, what we call folic acid antagonists. A number of pesticides affect folic acid antagonists and this would lead to a larger incidence of neural tube defects.

CA: *The reason why I am asking for a little bit of detail on these symptoms of these disturbances is because many of these interviews and information that are produced in the Organic Farming newsletters are read very closely by farmers and at least they should be able to identify them in their area and help in the reporting of these type of impacts.*

What is the descriptive nature of the defects that you have found in newborn children?

Dr.K: In new born children, the main defect is brainlessness or otherwise part of the spinal cord remains open. Then you have hydro-encephalus or fluid accumulation in the brain and the head is very much enlarged. So the main defect is brainlessness. The other impact that should be looked up that is from the reproductive health of women. That is the worst impact. There are two susceptible populations, as we call it: one is the children and the other is the females (the reason being that developing and multiplying cells are more in them). In females, the worst effect is on menstrual periods, they become irregular. The other things are high rate of spontaneous abortions and a very high rate of stillbirths. That is another thing that we noticed in the population, that there is a very high rate of stillbirths. That means that the pregnancy continues but towards the end of the pregnancy the child suddenly dies. The reproductive health impacts are the worst.

CA: *In the study that was done by Greenpeace called "Arrested Development", the main findings there were in relation to development and performance. What does this signify?*

Dr.K: Yes, development and performance. This signifies that exposure to pesticides retards or affects the developmental abilities of the brain i.e. the brain does not develop. The brain is formed and seems perfectly alright but the learning abilities that are there i.e. the cognitive and the motor learning abilities (what we call developmental milestones) are worst affected. The functioning component of it, not the structural component, of the brain is not allowed to function and develop properly.

CA: *There is quite an extensive research done on this by Greenpeace and it has been well publicized as well. How much of this research, or rather, is there any official recognition of the scale of the problem?*

Dr.K: In the early stages there were two studies, which were excellent and scientifically conducted - one was by Greenpeace and the other was by PGI of Punjab. These made a great impact. But the pesticide lobby is a very powerful lobby and so the appreciation and awareness in the political system were not that much. But they have made the impact and it made them think at the administrative and political levels that pesticides, yes, have harmful effects.

CA: *Has there been any attempt by the pesticide lobby to controvert this type of research?*

Dr.K: Yes, they have tried all kinds of things. They hire people and try to controvert this. The usual way is by personalizing it - by accusing and threatening and that kind of thing. The pesticide lobby is very powerful.

CA: *Yes, they are very powerful and considering that they own practically half the scientific community which is dealing with agriculture, it is not very difficult for them to achieve this either.*

The last question that I would like to ask you is do you think the evidence is serious enough to ban the use of pesticides completely, at least the ones that are implicated in these reports?

Dr.K: Sure. That is done elsewhere. At least all the highly toxic ones should be banned. But the unfortunate thing is that even those which were banned are still available. I mean the ban is not effective. But it is high time that the highly toxic pesticides are banned and their use is also regulated. It should be the duty of the State to ensure that if they are not banned altogether i.e. they should be used in very safe measures, in minimum quantity, if at all.

CA: *That is going to be very difficult because most of the people who prescribe the use of pesticides in combinations or cocktails are the pesticide dealers and they have a vested interest in promoting pesticide use rather than trying to see that they are safely regulated and controlled.*

Dr.K: That's where the state comes into the picture. They have to see that it is the responsibility of those who are marketing. They are not supposed to market murder. If they are marketing and earning out of it, they should be somehow compelled to see that it is used safely. Those who deal in dangerous substances, it is their absolute duty to see that nobody is harmed by them.

Members of OFAI are invited to visit the updated website of the association at www.ofai.org. Organic farmers recognised by OFAI will soon be offered the free facility of offering their produce on the OFAI website for direct sale to customers. Please get in touch with the OFAI secretariat for the necessary information required.

Pesticide contamination of water creates health risk.

From Punjab water 'is risk to health' by Sunil Raman in BBC NEWS:

A study commissioned by the Punjab Water Pollution Control Board [PWPCB] has revealed that ground water contamination with pesticide residues in Punjab is causing human DNA to mutate in people of the state. Research over a two-year period found that poisonous pesticides and heavy metals had entered the food chain. This had caused a high prevalence of congenital deformities, cancer and kidney damage, according to team of senior doctors, from the post-graduate Institute of Medical Education in Chandigarh, who conducted the study over the past two years.

According to the study, 80% of ground water samples had mercury that was far beyond the permissible level. Arsenic was found in 70% of samples of effluent, 50% of tap water samples and 57.7% of ground water samples. A high degree of pesticides had contaminated water in drains in parts of Ludhiana, Amritsar, Jalandhar and Nawanshahr. The study says that blood samples collected from people in the area showed that in 65% of the cases the DNA had mutated.

According to the chairman of the Water Pollution Control Board, Yogesh Goel, the recommendations of the study had to be "debated and discussed". Mr Goel said, "The industry was not just to blame, the overuse of pesticides was another reason. We have to ascertain reasons for it". The study has recommended constant monitoring of water supply and sewerage, involvement of village councils in the treatment and disposal of solid waste, and the need for industries to adopt new technology in extracting ground water. The state has begun implementing a World Bank project to improve water supply and sanitation in the state.

95 Buffaloes die of nitrate poisoning in Punjab

From The Tribune

GADVASU sources have revealed that nitrate poisoning was the cause of death for 95 buffaloes at a dairy on Tajpur road near Ludhiana on November 28. The experts said despite their repeated warnings to farmers, the use of urea spray on fodder grasses continues unabated in order to get high fodder production in the shortest time span. A case has already been registered against the fodder supplier of Meharbaan village, but it will not bring the dead buffaloes back or stop urea use in fodder production.

One of the experts of GADVASU said farmers frequently sprayed pesticides without giving a second thought to its side effects. "Pesticides save crops from pests but their ill-effects on animals and humans are a matter of concern," he said.

List of organic farming CDs made by S. Krishnan of Ahimsa Foundation available at OFAI CS, Goa

1. Sweet methods of farming (sugarcane) (Hindi/English) Rs. 200
2. Fruits from the vineyard (grapes) (Hindi/English) Rs. 200
3. The Power of Gobar/Gobar Ki Shakthi (Hindi/English) Rs. 200
4. Liquid Asset Cow's Urine For Medicine (Hindi) Rs. 200
5. Compost – Indore-Bangalore Process (Hindi) Rs. 150
6. Compost – NADEP (Hindi) Rs. 150
7. Compost- from the flowers of sacred places (Hindi) Rs. 150
8. Vermicompost - small scale for self use (Hindi) Rs. 150
9. Vermicompost - Large scale for self use (Hindi) Rs. 150
10. Vermicompost - Large scale for marketing (Hindi) Rs. 150
11. From Waste to Wealth - Composting sugar mill waste (English) Rs. 150
12. Amrutpani – or Panchagavya (Hindi) Rs. 150
13. Jaivik Gram - Malgaon (Hindi/English) Rs. 150
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15. Fruit Crops (Hindi) Rs. 150
16. Naturally Sweet - Gulhars for Jaggery (English) Rs.100

You can also get the above CDs from Ahimsa Foundation in Chennai at the following address:

Ahimsa Foundation
(87-B) New No. 143, Lloyds Road,
Royapettah, Chennai 600 014
Ph: 044-28115768 / 09444415768

Editorial information about The Living Field

The Living Field also comes out in Hindi for the Northern Hindi-speaking belt. Editor of the Hindi edition is well-known environmental activist and scientific researcher, Dr Bharatendu Prakash. Those who wish to receive a copy of the Hindi edition in place of the English edition are requested to get in touch with either Dr Prakash or OFAI, Goa. *The Living Field* is published by:

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Membership form of the Association

I, _____, aged _____ male/female, desire to become a member of the Organic Farming Association of India. My membership fee is enclosed herewith.

My complete and correct address (with phone and email data, if available) is provided below:

I would qualify to be a member of the Association under one of the following categories (please underline the chosen category):

- a) Organic Farmer
- b) Company/Society/Trust involved in organic food production
- c) Green Shop (applicable only to shops marketing organic produce)
- d) Green Trader (also includes suppliers of organic farming inputs)
- e) Organic Farming Promoter
- f) Organic Consumer

I am willing to assist the Association in the furtherance of its objectives as and when I have the time or when called upon to do so. I can assist in the following ways:

----- Name and signature of applicant -----

Details for applicants:

- * Membership fees as per bye-laws of the association:
- * Individuals: Rs. 100 per year. Non-profit organizations: Rs. 1,000 per year. Companies and partnerships: Rs. 5,000 per year. This amount can be sent by dd or MO or deposited directly into UTI/AXIS bank branch anywhere in the country in account No: 180010100029917 Mapusa branch in the name of "Organic Farming Association of India".
- * All members are entitled to free issues of *The Living Field* or *Shyashaya Shamala* newsletters.
- * Membership can also be paid direct at the following OFAI secretariats:
 - **Andhra Pradesh: Deccan Development Society**, 101, Kishan Residency, Road no.5, Begumpet, Hyderabad, Andhra Pradesh Tel.: 040 27764577, 27764744 Email: ddshyderabad@gmail.com
 - **Maharashtra: Maharashtra Organic Farming Federation**, 1038/11, Balaji Niwas, Flat.No.5, Cosmos Bank Lane, Deep Bungalow Chowk, Model Colony, Pune, Maharashtra 400 016 Tel: 020 25659090, 32907302. Mob.: 9881497092/9822060606 Email: moffpune@gmail.com
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(Please note: Since OFAI state secretariats are managed by NGOs, membership may be required to be paid in the name of the NGO concerned and not OFAI. Receipt may also be given by the concerned organization. However, the applicant will get a membership certificate from OFAI, after the fee is transmitted to the central secretariat of the organization by the state secretariat concerned.)