

जैविक खेती सूचना पत्र

Organic Farming Newsletter

वर्ष 6
Vol 6

अंक 3
No. 3

सितम्बर 2010
September 2010

संपादक Editor डा. ए.के. यादव Dr. A.K. Yadav निदेशक Director	Participatory Guarantee System (PGS) An Alternative Certification System for India A.K. Yadav	3
सहायक संपादक Assistant Editor डा. दुष्यन्त गहलोत Dr. Dushyent Gehlot राष्ट्रीय जैविक खेती केन्द्र, गाजियाबाद NCOF, Ghaziabad	Crop Residue Management and Development of Site Specific Value Addition Technology for Its use as Organic Source of Plant Nutrients Bhattacharyya et al	6
प्रकाशन सहायक Publication Assistant हरि भजन Hari Bhajan	Comparative Study on Homeo and Conventional Agricultural Practices on Crop Yields of Paddy Swami Parmanad	12
संरक्षक Patron संजय विक्रम सिंह Sanjay Vikram Singh	India Organic News	14
संयुक्त सचिव Joint Secretary कृषि व सहकारिता विभाग Department of Agriculture and Cooperation	Global Organic	17
	National and International Events	22
	Book Reviews	25

जैविक खेती सूचना पत्र, राष्ट्रीय जैविक खेती परियोजना के अन्तर्गत जारी एक बहुभाषीय तिमाही प्रकाशन है। जैविक खेती के उत्थान, प्रचार प्रसार व इसके नियामक तंत्र से जुड़े लेख, नयी सूचनाएं, नये उत्पाद, विशेषज्ञों के विचार, सफल प्रयास, नयी विकसित प्रक्रियाएं, सेमिनार-कॉन्फ्रेंस इत्यादि की सूचना तथा राष्ट्रीय व अन्तरराष्ट्रीय समाचार विशेष रूप से आमंत्रित हैं। सूचना पत्र में प्रकाशित विचार व अनुभव लेखकों के अपने हैं जिसके लिए प्रकाशक उत्तरदायी नहीं है।

Organic Farming Newsletter (OFNL) is a multilingual quarterly publication under National Project of Organic Farming. Articles having direct relevance to organic farming technology and its regulatory mechanism, development of package of practices, success stories, news related to conferences, seminars etc, and national and international events are especially welcome. Opinions expressed in articles published in OFNL are those of the author(s) and should not be attributed to the publisher.

संपादकीय

प्रिय पाठको

पिछले ६ वर्षों में जैविक खेती ने अभूतपूर्व सफलता प्राप्त की है और अनेक नये आयाम इस विधा के विभिन्न पहलुओं जैसे फसल उत्पादन, प्रसंस्करण, विपणन तथा गुणनियंत्रण में शामिल हुए हैं। भारत के जैविक गुणनियंत्रण कार्यक्रम का भी तेजी से विस्तार हुआ है और इसे अंतर्राष्ट्रीय सराहना भी मिली है परंतु यह प्रक्रिया आज भी अनेक किसानों की पहुँच से या तो दूर है या इसकी लागत पूरे उत्पादन को आर्थिक रूप से अलाभकारी बना देती है। इस समस्या के समाधान के लिये पूरे विश्व में सहभागिता प्रतिभूति प्रणाली (PGS) का विकास किया जा रहा है। भारत में कृषि व सहकारिता विभाग के राष्ट्रीय जैविक खेती योजना के अंतर्गत एक ऐसी सहभागिता प्रतिभूति प्रणाली (PGS) को स्वीकृत किया है जो न केवल अनूठी है वरन् पूरे विश्व में अपने प्रकार का प्रथम प्रयास है। आशा है कि इस प्रणाली के प्रचलन से न केवल अधिक से अधिक किसान जैविक खेती से जुड़ पायेंगे वरन् इससे पूरे जैविक खेती आंदोलन को बल मिलेगा इस अंक में इस प्रणाली का प्रारूप प्रस्तुत हैं साथ कम्पोस्ट संवर्धन तथा कृषि में होम्योपैथी की पैठ पर भी जानकारी प्रस्तुत है।

अन्य स्थायी स्तंभ जैसे राष्ट्रीय व अंतर्राष्ट्रीय सूचनायें अन्य जानकारी तथा पुस्तक समीक्षायें इत्यादि अपने पूर्ववत स्वरूप में हैं।

ए.के. यादव

संपादक

Dear Readers

Over the period of past six years the organic farming has grown significantly and has attracted many new innovative dimensions in production, value addition, trade and quality assurance. India's system of organic quality assurance has earned international respect and is growing steadily. But still this third party certification system is beyond the reach of many farmers or a costly uneconomical proposition to others. To address the affordability and to make the system more farmers friendly Participatory Guarantee Systems (PGS) are being promoted world over. Department of Agriculture and Cooperation under National Project on Organic Farming has decided to launch a PGS India initiative which is not only unique to the country but is also first of its kind in the world. This farmer empowering quality assurance system is likely to further strengthen the organic movement and bring in more farmers to organic farming. The current issue presents a brief sketch of this initiative. Concepts of value addition in compost making process and incorporation of homeopathic science in crop cultivation are few other dimensions being addressed in this issue.

National and international news, research developments, activities in states and book reviews are also there as standard columns.

A.K. Yadav

Editor

Participatory Guarantee System (PGS) An Alternative Certification System for India

A.K. Yadav
National Centre of Organic Farming
Ghaziabad, UP – 201 002

Introduction

Organic producers around the world have been developing methods to guarantee the organic integrity of their products for fifty years. Today, what are generally referred to as *Third-Party Certification* systems have become the dominant means of Organic Guarantee for world trade and Indian producers have 20 respected and accredited Third-Party Organic Certification agencies to choose from. While Third Party Certification is an essential component to world trade, there are downsides to the system. The inherent expense and paperwork required in a multi-level system discourages most small organic producers from being certified at all. This limits local and domestic trade as well as access to organic products. Worse yet, it limits the growth of the Organic Movement as a whole.

In an attempt to reduce the inequality, a number of alternative methods to guarantee the Organic integrity of products have been developed for small domestic producers, and they are growing rapidly. These alternatives programs are now collectively referred to as *Participatory Guarantee Systems* (PGS). The term PGS embodies the active participation of producers and other stakeholders in their organic guarantee process.

What is PGS?

Participatory Guarantee System (PGS) is a quality assurance initiative that is locally relevant, emphasize the participation of stakeholders, including producers and consumers and operate outside the frame of third party certification. PGS is a process in which people in similar situations (in this case small holder producers) assess,

inspect and verify the production practices of each other and collectively declare the entire holding of the group as organic.

PGS system has number of basic elements which embrace a participatory approach, a shared vision, transparency and trust. Participation is an essential and dynamic part of PGS. Key stakeholders (producers, consumers, retailers and traders and others such as NGOs) are engaged in the initial design, and then in the operation of the PGS. In the operation of a PGS, stakeholders (including producers) are involved in decision making and essential decisions about the operation of the PGS itself. In addition to being involved in the mechanics of the PGS, stakeholders, particularly the producers are engaged in a structured ongoing learning process, which helps them improve what they do. This process is facilitated by the PGS group itself or in some situations a supportive NGO. The learning process is usually 'hands-on' and involves field days or workshops. The idea of participation embodies the principle of collective responsibility for ensuring the organic integrity of the PGS.

PGS India

To make the organic guarantee system affordable and to empower farmer with the participatory decision making, it propose to launch a PGS India programme under National Project on Organic Farming of Department of Agriculture and Cooperation, Govt of India. In tune with the international trends and IFOAM's PGS Guidelines, PGS India system is also based on participatory approach, a shared vision, transparency and trust. In addition it proposes to give PGS movement a National recognition and institutional structure without affecting the

spirit of PGS. The PGS India programme is intended to be non-hierarchical at group level. This will reflect in the overall democratic structure and through the collective responsibility of the PGS group with sharing and rotating responsibility, by engaging producers directly in the peer review of each other's farms; and by transparency in decision making process.

PGS India while keeping the spirit of PGS intact also aims to give the entire movement an institutional structure. This is proposed to be achieved by networking the groups under common umbrella through various facilitating agencies, Regional Councils and Zonal Council. To make the system completely transparent and accessible to traders and consumers entire data will be hosted on a common platform in the form of a website. National Centre of Organic Farming shall be the custodian of data, define policies and guidelines and undertake surveillance through product testing for residues. Regional councils and facilitating agencies will facilitate the groups in capacity building, training, knowledge/ technology dissemination and data uploading on the PGS website. But at every stage it will be ensured that these agencies including apex body do not interfere in the working and decision making of the group. Even if surveillance is done and reports are made, the same will also be put on website in public domain. What action is to be taken on adverse reports will be left to the group and Regional Council.

Guiding Principles for Organic Participatory Guarantee System

PGS systems, world over are based on participatory approach, a shared vision, transparency and trust. PGS India programme with its national networking and institutional structure draws its strength from the following guiding principles

a. **Participation** - Participation is an essential and dynamic part of PGS. Key stakeholders (producers, consumers, retailers, traders and others such as NGOs) are engaged in the initial design, and then in the operation of the PGS and decision making. The idea of participation embodies the principle of

collective responsibility for ensuring the organic integrity of the PGS.

b. **Shared Vision** - Collective responsibility for implementation and decision making is driven by common shared vision. All the key stakeholders (producers, facilitating agencies, NGOs, social organizations and even the State Governments) support the guiding principles and goals, PGS is striving to achieve. This can be achieved initially through their participation and support in the design and then by joining it. This may include commitment in writing through signing an application/document that includes the vision. Each stakeholder organization (or PGS group) can adopt its own vision conforming to the overall vision and standards of PGS India

c. **Transparency** - Transparency is created by having all stakeholders, including producers and consumers, aware of exactly how the guarantee system works to include the standards, the organic guarantee process (norms) with clearly defined and documented systems and how decisions are made. Public access will be ensured to documentation and information about the PGS groups, such as lists of certified producers and details about their farms and non-compliance actions. These will be available through a dedicated national database websites. But still it does not mean that entire information of national PGS database will be available to everyone.

d. **Trust** - The integrity base upon which PGS are built is rooted in the idea that producers can be trusted and that the organic guarantee system can be an expression and verification of this trust. The foundation of this trust is built from the idea that the key stakeholders collectively develop their shared vision and then collectively continue to shape and reinforce their vision through the PGS. The ways this trust is reflected may depend entirely on factors that are culturally/ socially specific to the PGS group. The idea of 'trust' assumes that the individual producer has a

commitment to protecting nature and consumers' health through organic production.

Advantages of PGS over third party certification system

In PGS organic, farmers have full control over the certification process and are able to produce far more credible and effective system of quality assurance compared to third party certification. Important benefits of this system over third party certification system are as follows:

- a. The procedures are simple; documents are basic and use the local language understandable to farmers.
- b. All the members are local and known to each other. Being themselves practicing organic farmers have high degree of understanding on day-to-day knowledge or acquaintance of the farm.
- c. Farm inspectors are among the group and live in the same village, therefore have better access to surveillance
- d. Peer appraisal instead of third party inspections reduces cost
- e. Mutual recognition and support between Regional PGS groups ensures better networking for processing and marketing.
- f. Empowers farmers with increased capacity building
- g. Bring consumers to the farm without the need of middleman
- h. Unlike grower group certification system, PGS offer every farmer with individual certificate and each farmer is free to market it own produce independent of group.
- i. Consumers and buyers are often involved in production and verification process
- j. Random residue testing (even when there no element of risk) at regular intervals ensures the integrity and increases the trust.

Limitations of PGS

PGS certification is only for farmers or communities that can organize and perform as a group within the village or in close-by villages and is applicable mainly on on-farm activities comprising of crop production,

processing and livestock rearing. Off-farm processing by the members of the group of their own direct produce under their own supervision is also considered an on-farm activity under PGS.

Individual farmers or group of farmers having less than 5 members are not covered under PGS. They either have to opt for third party certification or join the existing PGS local group.

PGS is applicable only on crop production, animal husbandry and on-farm processing. Off-farm processing activities, storage, transport and value addition away from the group by individuals and companies are not covered under PGS. Off-farm input approval granted by the group is applicable on the members of the same group and can not be taken as a basis for universal approval for other groups. Off-farm inputs need to be approved by each group for their member's use on case to case basis.

PGS ensures traceability only up to farm gate. Once the product leaves the farm gate (beyond the custody of group) there is no control of PGS on its integrity, Therefore PGS is ideal for local direct sales and direct trade between producer and consumer. But Local Groups and buyers in consultation with Regional Councils can devise some mechanism with full traceability records to allow use of PGS logo on products packed by traders/ retailers.

To make the system operational under defined structure National Centre of Organic Farming has drafted an operational manual which is being circulated widely for comments and feedback of stakeholders. It is propose to organize three feedback workshops, scheduled at Pune, Bangalore and Delhi/ Ghaziabad during September to November 2010. Readers can obtain the copy of draft document through Email (nbdc@nic.in and akyadav52@yahoo.com) and can send their comments latest by 5th November 2010. The PGS India programme is scheduled for launch during first fortnight of January 2011.

Crop Residue Management and Development of Site Specific Value Addition Technology for Its use as Organic Source of Plant Nutrients

By

P. Bhattacharyya*, Sanjeev Kumar Gupta, Seema Banke and Bharat Bhushan Tyagi
Amity Institute of Bio-Organic Research and Studies, Amity University, Sector 125, Noida,
Uttar Pradesh-201303

Organic farming system which has environmental sustainability at its core is gradually becoming mainstream in agriculture all over the world (Yadav, 2008). The nutrient need of organic agriculture mainly depends on on-farm inputs which are safe and locally available. In this regard, crop residue plays a critical role in nutrient transformation, soil health and for sustaining the productivity of soils (Gaur 1984; Dwivedi et al. 2001; Pal et al. 2002).

Bulk of the crop biomass left after removal of the main product (grain, fruit etc) is known as crop residue. Most crops produce a voluminous amount of residues e.g. straw, stalk, stubble, trash, husk etc. During last 20 years several attempts have been made for crop residue estimates in India with widely different estimates. The variation depends on location, cropping pattern and production of the particular year when estimation was made (Bhattacharyya, 2007). About 240 million tonnes straw are produced in India. These crop residues contain good amount of nitrogen, phosphorus and potash. The crop residues derived from cereals and other major cultivated crops constitute important sources of organic materials. The main components of plant residue are carbonaceous compounds viz. cellulose, hemicellulose and lignin. The total NPK content of different crop residues vary from 1.75 to 5.15% (Table-1).

Scope and limitations of crop residues:

a) Scope: Crop residue

- Provides a cost effective means of supplying organic matter and plant nutrients.

- Prevents soil erosion and nutrient losses.
- Improves soil productivity, nutrient supply, microbial and enzymatic activity, soil organic matter content, N-efficiency & micro-nutrient uptake.
- Helps in C-sequestration, protects environment from CO₂-pollution.
- Rich source of potassium.

b) Limitations:

The total nutrient available from crop residues in India is about 2.5-3.0 million tonnes. But despite having potentiality, crop residues are not sufficiently used in agriculture. Only 80 million tonnes out of 240 million tonnes are available for agriculture. Farmers are not aware of its importance and usually burn it. As a result, not only precious nutrient resource is lost but it causes environmental pollution and adds to the problem of global warming. Another problem in its utilization is that majority of crop residues is mainly of rice, wheat and other cereals which have wide carbon-nitrogen ratio which is not good for decomposition. To make the resource usable with appropriate C : N ratio, it requires good management efforts (Bhattacharyya and Gupta, 2010), some of which are listed below:

1. Proper Management of crop in the field.
2. Use of mixed crop residue (cereal and legume).
3. Use of indigenous technology.
4. Use of value added crop residue directly.
5. Use of value added composted crop residue.
6. Emphasis on selection of site-specific value addition.

Table-1: Nutrient value of different crop residues

Sr. No.	Crop residue	Nutrient %			
		N	P ₂ O ₅	K ₂ O	Total
1.	Rice	0.61	0.18	1.38	2.17
2.	Wheat	0.48	0.16	1.18	1.82
3.	Sorghum	0.52	0.23	1.34	2.09
4.	Maize	0.52	0.18	1.35	2.05
5.	Pearl Millet	0.45	0.16	1.14	1.75
6.	Barley	0.52	0.18	1.30	2.00
7.	Finger Millet	1.00	0.20	1.00	2.20
8.	Sugar cane	0.40	0.18	1.28	1.86
9.	Lantana	2.50	0.25	1.40	5.15

Table-2: Different ways of crop residue management

Sr. No.	Suggestions for utilization	Problem to be faced	How to solve
1.	Use of crop residue straw in non-agriculture that is as raw material in brick making, board making, pulp making, alcohol making etc.	Lack of proper contact	Tie up with NGO may be helpful.
2.	Use as mulching (surface mulch)	Age old practice, but farmers do not show interest.	Need proper training.
3.	Use of crop residue in bio gas production.	Non-availability of biogas plant.	Govt. Schemes are available.
4.	Direct or in-situ incorporation	Lack of adequate moisture in rain fed area. Use of cereal residues only.	Value added residue incorporation before 15 to 20 days of sowing of next crop. Inclusion of residue of legume crop.
5.	Use of shredder before incorporation of crop residues directly to minimize its bulk size.	Cost of shredder.	Government scheme may be available to support its purchase.
6.	Management through direct field decomposition as conservation tillage system.	Inadequate knowledge of farmer.	R & D information is available with PDCSR, ICAR, Modipuram, U.P. Dissemination of knowledge on surface residue decomposition management is necessary.
7.	Handling of residue with indigenous technology, that is residue decomposition at cattle shed with use of dung/urine.	Transportation is problem.	But this local value-addition system is unique-Farmers may arrange transport on cooperative basis.
8.	Use of value added composted /fermented crop residue.	Lack of knowledge on source of value-addition & Technology.	Site-specific or customized value addition may be done.

Need for proper Management of Crop residue

After harvest of the crop, large quantities of crop residues are left in the field, especially in the areas where operations are mechanical. It is very difficult to remove and manage it. Collection and transport of these materials are not easy due to bulk quantities and costs involved. For quick preparation of field for next crop, many farmers burn these residues and damage the environment. Burning is not at all solution and needs cost effective and widely acceptable approach for residue management. Through participatory appraisal with local farmers, research workers and government officials, some problems have been identified and its possible solutions have also been worked out (Table-2).

Indigenous technology for value addition of Crop residue (based on farmers practice):

The age old practice as developed by farmers is to bring crop residues from the field and store it in gunny bags kept on the floor of cowshed where cows, buffaloes excrete dung and urine. Mixing of these dungs/urines with crop residues make it highly enriched & help in quick decomposition. Incorporation of these decomposed Crop residues are quite helpful for maintaining soil health. Some farmers at Syna block, Bulandsehar district, U.P. have got huge success by using the technique in organic cultivation.

Technology on Site specific value addition & AIBORS/DST Project:

Looking to the need of using crop residues as organic resources of plant nutrients, the Amity Institute of Bio-organic Research and Studies (AIOBORS), Amity University, UP has undertaken a project entitled "Organic & mineral value addition of site specific crop residues for enrichment of Nitrogen, Phosphorus & Sulphur, Its optimization & technology dissemination to farmers". The project has been funded by Department of Science and Technology (Science and Society Division), Government of India, with an aim to build farmer's own resources for better crop production and soil health. Site-specific sources of value additives means those additives which are available locally

for enrichment of crop residues. It may be dung, poultry dropping, farm yard manures, oilcake, vermicompost, phosphocompost, pressmud, Bone meal etc.(Gaur 2006; Manna et al 1997; Rupela 1995; Rupela et al 1998).The project is being implemented in 10 villages of Uttar Pradesh namely Baddawajidpur, Behta, Dehra, Ranapur, Karouthi, Vairafirojpur, Thal, Kisola, Makadi, Dhaniawali.

Using the local resources two technologies have been developed. One for preparation of Value Added Crop Residue (VACR) and another for preparation of value Added Crop Residue Compost (VACR compost). Brief description of the technology is as follows:

Development of technology on value addition:

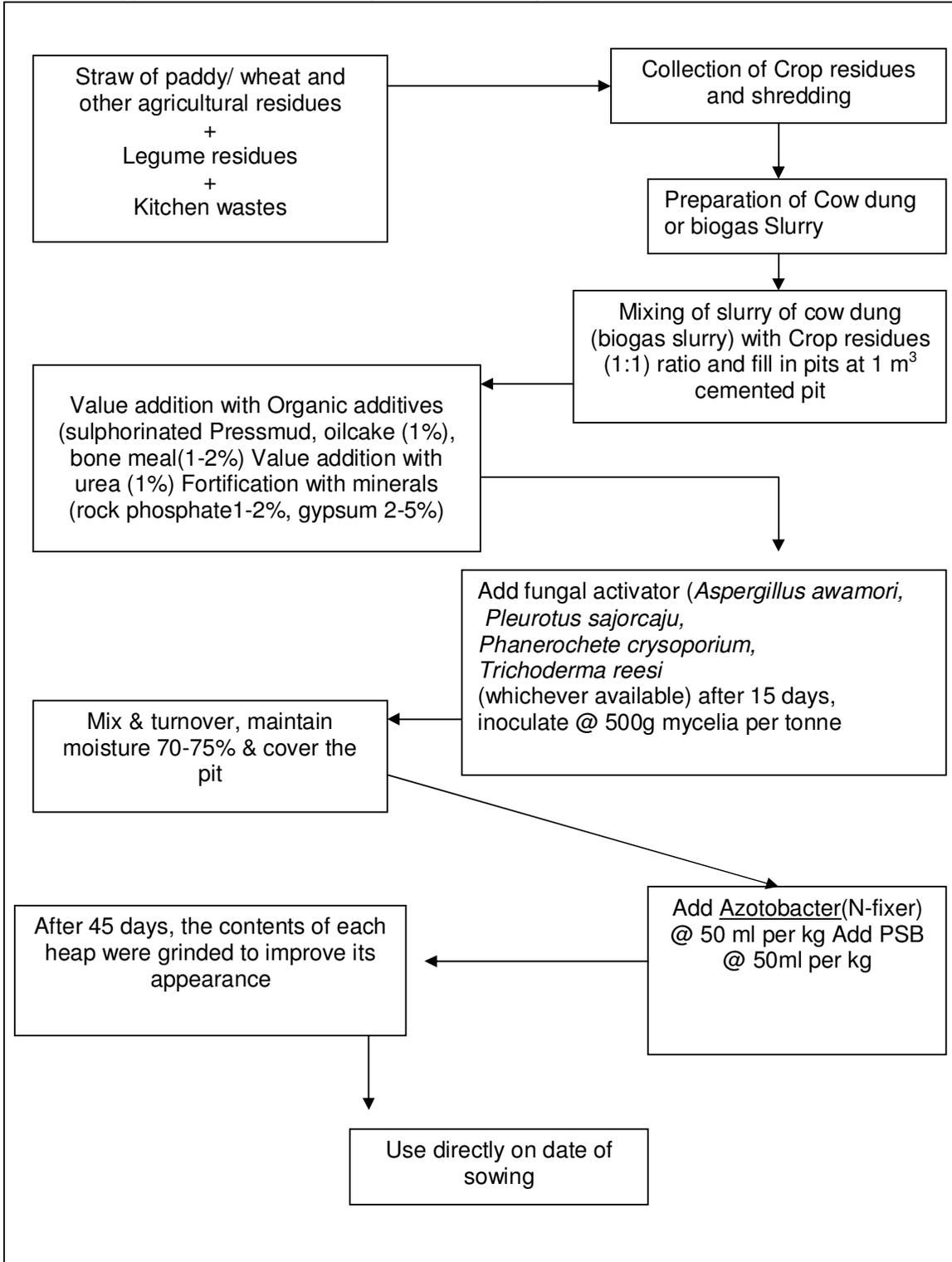
Technology for Value Added Crop Residue

- 1. Step 1** - Crop residue is collected and made into bundles (of about 3-5 kg each, based on convenience of dipping these lots in soaking solution) and tied up in plastic net. (Fig.1- see inside backcover)
- 2. Step 2:**150-200 litre soaking solution is prepared by using Urea (0.3-0.5%), Rock phosphate or Bone meal (1-2%) , Oilcake (1%), kitchen waste water (1%), Vermiwash (1%), Activator fungus (@ 10^8 propagules/spores), N-fixing Azotobacter (50 ml/kg with 10^7 cells/ml), P- solubiliser (50 ml/kg with 10^7 cells/ml), Gypsum (1%) and Pressmud (1%) (Fig. 2 see inside backcover).
- 3. Step 3:** Bundles of crop residues are dipped in soaking solution for 30-45 minutes.(Fig. 3 see inside backcover)
- 4. Step 4:** After soaking for 30-45 minutes in soaking solution, bundles are allowed for draining and the drippings are collected on a polythene sheet/tarpaulin sheet. This dripping solution is further sprayed on the crop residues.
- 5. Step 5:** Moistened and value added crop residues are allowed to stay on the polythene or tarpaulin sheet (in the form of heap) for overnight. Keep it covered

by plastic/or polythene. It will help minimize losses due to evaporation or protect from additional moisture due to

rain, if any. Next day, collect value added crop residues and incorporate in the soil, 15-20 days before sowing

Technology for Value Added Crop Residue Compost



Effect of value added crop residue (CR) on the growth of wheat:

Three field demonstrations were undertaken at farmers' field in 3 villages e.g. Baddha Vajidpur, Behta and Dehra, Syna block, Bulandsehar District U.P. during 2009-2010 with 5 treatments: (1) Control (T₁), (2) Chemical fertilizers at 50 % recommended dose (CF 50%) + Value added crop residue (CR) (T₂), (3) VACR-compost only (T₃), (4) CF 50 % + VACR compost (T₄) and (5) Chemical fertilizer 100 % recommended dose (T₅).

From the experimental results, it has been observed that application of value added (direct) crop residue with 50 % chemical fertilizer enhanced yield of wheat to the extent of 11.8 % (Baddha Vajidpur), 13.6 % (Behta) and 8.0 % (Dehra) respectively while the response of value added composted crop residues along with 50 % CF (T₄) in Vajidpur, Behta and Dehra was 43.8, 42.2%, 41.8% respectively over and above the control (Table-4). In absence of chemical fertilizer, use of value added composted crop residue (T₃) is also effective as it increased crop yield by 29.7 %, 33.5 % and 28.8 % over control in respective

villages. At Behta and Dehra villages, the response of value added crop residue with 50 % CF much more better than use of 100 % CF (Fig.4 a & b see inside backcover)

Conclusion:

Management of crop residue at the farm is very important not only to harvest precious organic carbon and other nutrients but also to ensure microbial life in to the soil, which is the key to the sustainability of the system. Appropriate technologies needs to be developed, for effective conversion of waste into nutrient rich organic source within shortest possible time at affordable cost and transferred to the farmers. Farmers need to be trained for value addition technology. Massive efforts are needed on the same scale, as were used for chemical farming to harvest the best benefits in the interest of the nation, environment and sustainability of the system for future generations. AIBORS is disseminating the technology and is making full efforts at village level to promote the concept of value added crop residue and value added crop residue compost for effective utilization of locally available resource at no extra cost.

Table -4:-Grain Yield (Kg/Plot)

Sr. No	Treatments	Baddha Vajidpur		Behta		Dehra	
		Yield (Kg/Plot)	Percent increase over control	Yield (Kg/Plot)	% increase over control	Yield (Kg/Plot)	Percent increase over control
1.	Control(T ₁)	52.4 Kg. (29.1Q/ha)+	-	50.6 Kg. (28.1Q/ha)	-	48.5 Kg. (26.9Q/ha)	-
2.	C.F.50%+ value added CR Direct (T ₂)	58.6 Kg. (32.5Q/ha)	11.8	57.5 Kg. (31.9Q/ha)	13.6	52.4 Kg. (29.1Q/ha)	8.0
3.	VACR Only (T ₃)	68.0 Kg. (37.3Q/ha)	29.7	67.6 Kg. (37.5Q/ha)	33.5	62.5 Kg. (34.7Q/ha)	28.8
4.	C.F.50%+ VACR Compost (T ₄)	75.4 Kg. (41.8Q/ha)	43.8	72.0 Kg. (40.0Q/ha)	42.2	68.8 Kg. (38.2Q/ha)	41.8
5.	C.F. Only (100%) (T ₅)	76.0 Kg. (42.2Q/ha)	45.0	71.5 Kg. (39.7Q/ha)	41.3	66.2 Kg. (36.7Q/ha)	36.4

In parenthesis, figures in quintal/ha.

Acknowledgment

Authors express their sincere gratitude to Dr. Ashok K Chauhan, Founder President, Amity University, Noida for providing facilities. Thanks are also due to Dr. Sunil Saran, Chairman & Sr. Vice Chairman, AICCPHTCCM & ASTIF, Amity University, Dr. Vinita Sharma, Advisor, DST, Dr. Sunil Aggarwal, Senior Scientist, DST, New Delhi and Dr. A.C. Gaur, Former Head, Division of Microbiology, IARI for providing technical support and guidance. Authors are also thankful to Dr. A. K. Yadav, Director, NCOF, Ghaziabad for his valuable suggestions on use of crop residue during his visit at the site.

Reference:

- Bhattacharyya, P. 2007. Prospect of Organic Nutrient Resources Utilization in India. *Indian J Fert.* Vol. 3(1), pp 93-107.
- Bhattacharyya P and Gupta Sanjeev Kumar. 2010. Importance of Crop residues and its value addition for enhancement of nutrients. *Agrobios Newsletter*, vol: Viii (12), p12-13.
- Dwivedi, B. S., Shukla Arvind, Singh V. K., and Yadav, R. L., 2001. Sulphur fertilization for sustaining productivity of rice-wheat system in Western Uttar Pradesh. Project Directorate for Cropping Systems Research, Modipuram, Meerut. 250110, India.
- Gaur, A.C. 1984. A manual of Rural Composting. FAO/UNDP. Regional Project RAS/75/004, Document No. 15, p102.
- Guar, A.C. 2006. Handbook of Organic Farming and Biofertilisers. Ambica Book Agency, Jaipur, India.
- Manna M.C., Hazra Z. N., Sinha N. B. and Ganguly T. K. 1997. Enrichment of compost by bioinoculants and mineral amendments. *Journals of the Indian Society of Soil Science*, Vol. 45, (4), pp831-833.
- Pal. S. S., Jat M. L., Sharma, S. K. and Yadav, R. L. 2002. Managing Crop Residues in Rice-Wheat system. Project Directorate for Cropping System Research, Modipuram: 250110, Meerut, U.P., pp 1-40.
- Rupela O. P. 1995. Composting Crop residues and Plant Litter-A Business enterprise in R.K Behl, A. L. Khurana and R.C. Dogra (eds.), *Plant Microbe Interactions in Sustainable Agriculture*, pp184-97, CCS Agricultural University, Hisar, India.
- Rupela, O.P., Sidhu B.S., Gopala Krishnan S, Saini S.K. and Beri V. 1998. Preparation and evaluation of Rice straw compost. Paper presented at the 2nd Research coordination Meeting of the FAO/ IAEA Coordination Research Project, 20-24 April, 1998, Viena, Austria.
- Yadav, A. K., 2008. Status of Organic Farming in India and the world. In: *Organic Farming in Rainfed Agriculture: Opportunities and Constraints* (Ed: Venkateswarlu, B., Balloli. S. S. and Ramakrishna, Y.G.). Central Research Institute for Dryland Agriculture, Hyderabad, pp 185.

A Success Story

Comparative Study on Homeo and Conventional Agricultural Practices on Crop Yields of Paddy

Swami Parmanand
Patron, Bimases

Gohari Road, Shantipuram, Fafamau, Allahabad (U.P.)

Homeopathy is not only a human health care system but a whole science benefiting the entire life forms on the planet including the plants and crops. With the surge in demand for chemical residue free food and growing awareness for sustainability of the system various alternative models are being promoted. Homeopathic preparations specially formulated for use in soil and on plants offer supplementary and complimentary solutions for growing nutrient and plant protection needs without affecting and degenerating the resources and environment. Bimases a civil society organization is the originator of the concept and has introduced various novel Homeo formulations. To prove their efficacy and production potential experiments were conducted on farmer's fields. Multilocational study trial conducted on the fields of 11 farmer's in Allahabad District and 03 farmers in Pratapgarh District on 10 varieties of paddy. Main varieties of paddy on which the study was undertaken were 6444, JK-4, Royal Bhog, Kaveri, Pusa Basmati, Sonam, Rupali, PHV-78, Ravina, Shobha Musoori. The varieties were cultivated under Homeo Production System with the use of *Homeo Sudha* and *Homeo Sanjivani*. On an average 02 sprays of the formulations were applied during the entire crops and it was observed that out of 10 varieties of paddy yield of 06 varieties was found comparatively high compared to the use of conventional inorganic fertilizers. Detailed results of the study are summarized in Table 1 and 2.

Interesting findings include reduction in crop maturation period, increase in grain yield (q/ha) with the application of homeo products, improvement in test weight of grains and reduction in cost of inputs.

On the basis of weight of 1000 grains (Test Weight) it was observed that under Homeo Production System varieties JK-4, 6444 and PHV-78 were found to be with high test weight (weight of 1000 grains was 23.36, 23.29 and 20.78 gm respectively). Tillage pattern in 03 varieties with homeo products and in 04 varieties with conventional inorganic production system was studied and it was found that maximum tillage was observed with Ravina variety (Homeo Production System: 24 Tiller/sett; conventional system 22 tiller/sett). In terms of total grain productivity, homeo production system yielded additional grains to the tune of 6.40, 5.00, 10.00, 2.50, 5.00 and 0.50 q/ha, respectively with var. 6444, Pusa Basmati, Sonam, Rupali, Ravina and Sambha Masuri compared to conventional practices. Highest yields were observed with the varieties sonam and 6444.

To analyze economic aspects of the study, input cost for both the systems were also compared and it was found that total savings with the use of homeo production system was ranging between ₹ 619 to ₹ 1990/ha. With input cost of ₹ 1000/ha on homeo inputs a yield of 71.5 q/ha with variety 6444 and with a input cost of ₹ 1070/ha a yield of 80 q/ha with JK-4 variety was observed. However, under

conventional inorganic production system with input cost of ₹ 1140/ha in variety sonam and ₹ 1386.40 with variety 6444 a yield of 35.0 and 59.6 q/ha was observed. In var. 6444 with an input cost of Rs. 1000/ha in homeo inputs the grain yield was 71.5 q/ha while in conventional system with input cost of ₹ 1386.4 yield was only 59.0 q/ha.

On the basis of comparison made over per hectare yield and inputs cost involved, it was observed that under homeo production the input cost per quintal of grain produced was ₹13.38 and ₹14.21/q with JK-4 and 6444 varieties while under conventional inorganic production system it was ₹25.10/q with 6444 variety.

Table 1. Comparative Economic Analysis of Homeo and Conventional Agricultural Practices

Variety	Conventional Practices		Homeo Practice		
	Maturation Period	Yield (q/ha)	Maturation Period	Yield (q/ha)	Additional Yield (q/ha) over conventional practices
6444	111.20	59.60	97.80	71.20	6.40
JK-4	-	-	80.0	80.0	-
Royal Bhog	-	-	101.0	50.0	-
Kaveri	-	-	102.0	60.0	-
Pusa Basmati	96.0	37.0	88.0	42.50	5.0
Sonam	96.0	35.0	101.0	45.0	10.0
Rupali	103.0	55.0	87.0	57.50	2.5
PHV-78	-	-	87.0	65.0	-
Ravina	111.0	47.0	106.0	52.50	5.0
Sambha Masuri	120.0	53.0	107.0	52.50	0.5

Table 2 Comparative Analysis of Homeo and Conventional Agricultural Practices on grains test wt and cost of inputs

Variety	Conventional Practices			Homeo Practice		
	Wt. of 1000 Grains(gm)	Cost of inputs/ ha (Fertilizers)	Input Cost /q	Wt. of 1000 Seeds(gm)	Cost of homeo inputs/ ha	Input Cost /q
6444	23.29	1386.40	25.10	22.50	1000	14.21
JK-4	-	-	-	23.36	1070	13.38
Royal Bhog	-	-	-	19.89	1000	20.00
Kaveri	-	-	-	18.55	1000	16.66
Pusa Basmati	14.01	2990.00	80.81	16.78	1900	44.71
Sonam	14.81	1140.00	32.57	12.90	1000	23.38
Rupali	16.15	1640.00	30.0	13.23	1000	17.39
PHV-78	-	-	-	20.78	1000	15.38
Ravina	16.78	1765.00	36.97	16.62	1000	19.05
Sambha Mausami	14.02	3019.00	58.63	13.86	2400	45.71

India Organic News

First PGS-India Feedback Workshop at Pune during 20-21st September 2010 – To collect the feedback of organic stakeholders on the proposed PGS India draft operational manual first workshop was organized by NCOF through Regional Centre of Organic Farming, Nagpur in collaboration with Maharashtra Organic Farming Federation (MOFF), Pune. The workshop was inaugurated by the Commissioner of Agriculture, Govt. of Maharashtra, Sh. Prabhakar Deshmukh. Director of Horticulture, Sh. Bakwad, Joint Director and Deputy Director of Agriculture I/C Organic Farming were also present. Sh. Deshmukh, in his inaugural speech underlined the importance of PGS and lauded the efforts of DAC for institutionalization of the system. Dr. A.K. Yadav, Director, National Centre of Organic Farming (NCOF) gave elaborate presentation on draft PGS operational manual and PGS standards. Inaugural session was followed by intense discussion on each and every aspect of draft PGS manual prepared by NCOF and comments / feedback as received from various organization on the draft document. Important issues discussed and decisions made were as follows:-

1. The definition of PGS as described by IFOAM may be added as optional or another definition
2. Regarding PGS National database, it was advised that the proposal of NCOF was valid and it was agreed that there is no need to make the entire information public in one go through public web portal. There was lot of discussion on hosting of Residue Analysis Report straightway. It was strongly suggested that the report be first communicated to the Zonal Council (NC) and concerned Regional Council (RC) for investigation and further needful action. The same may be hosted on the website along with RCs investigation report and action taken, thereof. It was felt that further discussion on the matter may be taken up in subsequent workshops.
3. There was overwhelming demand that PGS should not be restricted to crop

production and animal production, it needs to be extended to off-farm processing and wild harvest. IFOAM has also suggested for inclusion of off-farm processing, if it is done under the supervision of the group.

4. Participants were of opinion that off-farm processing under hired facilities needs to be permitted under PGS, provided it is for the produce of their own group and processing is done under the group's supervision.
5. It was also advised that provisions should be made for combined processing of more than one group at one facility and marketing / branding may be done under common name.
6. There was overwhelming demand to include wild harvest collection also under the ambit of PGS
7. Against the suggestions of IFOAM to eliminate National/zonal Council from the operational structure of PGS, it was agreed that constituting National/zonal Councils would ensure greater autonomy to PGS operational structure.
8. In National Advisory Council (NAC), there should only be 02 members from NCOF and four farmer members from local groups (LGs) of respective Zonal Council, that too with adequate standing in PGS system.
9. Selection of RCs should be based on their expertise and experience in PGS and members of RCs should also be trained in PGS system.
10. Each local group should comprise of minimum 05 members and there should not be any upper limit. Further each local group needs to registered once without the requirement of renewal
11. Other issues related to holding of meetings of local groups, time frame for decision by RCs were also discussed

This two days brainstorming workshop was quite effective with active participation from various levels of participants. The workshop ended with commitment to work together for the successful future of PGS.

Organic farming gets big push - Biotechnology Department of the Bapuji Institute of Engineering and Technology (BIET), Davanagere has taken up the responsibility of propagating organic farming among the farming community in the district. For the past one and half years, under the stewardship of Dr B E Rangaswamy, Head of Biotechnology, the department has been organizing several awareness camps, workshops, training programmes including field visits pertaining to organic farming and zero till cultivation, besides bee keeping, under the Department of Biotechnology, Government of India sponsored project. The project aims to train 400 to 500 farmers in the district to take up organic farming in about two years, said B E Rangaswamy, Principal Investigator of the project. Fifty selected farmers from Yelebether, Kadajji, Kalapanahalli, Kadlebalu, Kondajji and Hanumanalli of Davanagere taluk were taken to a plot at B G Kere in Molakalmuru taluk on Sunday, to demonstrate the progress made in the field of organic farming, zero till cultivation and water management by Veerabhadrappe, a progressive farmer, under the guidance of faculty members Rangaswamy, Praveenkumar and D Basavaraj. Sixty eight year old Veerabhadrappe, a B.Sc. (Agri) graduate, has gone in for organic farming in his 80 acres of plot, and succeeded in the dry land region of Malakalmuru taluk, the least rain fed area of Karnataka. Today, he has converted his plot into a green zone with thick vegetation. He has grown all types of trees and crops including coconut, tamarind, banana, gliricidia (for fertilizer) Subabul and Azoal (for fodder) and bamboo. Pick up some soil from his farm, you will get a handful of earthworms. Veerabhadrappe does not use chemical fertilizer and solely depends upon organic manure he prepares in his plot itself. Besides, he has his own cattle shed with cows, goats and sheep. He maintains a milk dairy too. This progressive farmer has taken up rainwater harvesting and has adopted drip irrigation. He has been a model and inspiration to other farmers, who want to take up organic farming and make use of the available natural resources to the fullest. (Source:<http://timesofindia.indiatimes.com/city/hubli/Organic-farming-gets-big-push/articleshow/>)

Himachal Pradesh: Stress laid to adopt organic farming techniques - Shri Ram Subhag Singh, Secretary Agriculture, Animal Husbandry reviewed the progress of various on-going schemes of Animal Husbandry, Agriculture and Horticulture Departments and gave them necessary directions in this regard. He urged them to work with full devotion and sincerity so that the people were benefited and all the on-going welfare schemes launched by state Government could be effected forcefully. He directed Animal Husbandry authorities to implement the Artificial Insemination Programme in a better way and keep a constant monitoring so that the number of the milch animals and production of milk could be increased. He asked them to send the report of the Artificial Insemination Programme to the office of the Secretary through the Deputy Director. He also emphasized to identify land for the construction of gau-sadan to cope up with the menace of the stray cattle. He told six veterinary dispensaries would be set up at six Gram Panchayats, before 25th of September, where the building and the services of the retired pharmacists were made available by the concerned gram panchayats. Later talking to media person, Shri Ram Subhag Singh said that Pangi valley, is one of the beautiful but difficult terrains of the state and stress should be on adopting organic farming techniques. He said that but it would help the farmers in getting them better price for their produce. The matter would be taken with the experts of the HP Agriculture University, Palampur for the certification of different produce of the valley so as to sell these in the National and International markets. He said in the coming meeting of the gram sabhas in all the 3,243 gram panchayats of the state on 2nd October on the birth anniversary of the Father of the Nation, Kisan Mitras would be who would act as communication and co-ordination managers between the public and govt. and aware the public about various schemes of the govt. (Orissadiary.com)

Organic India farming area touches 50,000 hectares in UP - Lucknow-based Organic India, which manufacture and exports herbal food products, has spread its organic farming profile to 50,000 hectares in Uttar Pradesh. Organic India managing

director Krishan Gupta said that the company was planning to rope in more state farmers to cultivate herbs and organically grown fruits and plants used in the manufacturing process of its products. The company's product line, includes organic spices, herbal tea, medicines, Ayurvedic supplements, chyawanprash and organic food grain. The US is the primary export destination for Organic India and several of its products are exclusively manufactured for the export market. However, now the company is introducing such products in the domestic market as well, he said. Meanwhile, the company is eyeing a turnover of Rs100 crore for the current financial year, up Rs 60 crore in 2009-10, Gupta said. Organic India has tie-ups with the major organised sector retailers for marketing its products. (Sify.com)

India's organic product biz to cross Rs.100bn by 2015

India to take a leap in organofarming acreage to grow nearly ten folds to cross one crore hectares in next five years. The farmers are too seen taking keen interest in growing organic products that can boost income as well as ensure better quality for consumers. "Since the beginning of organic farming almost ten years back, acreage in India is still minuscule at 11 lakh hectares. I hope this will grow ten-fold in five years," Mukesh Gupta, President, International Competence Centre for Organic Agriculture was quoted by PTI today. The chemical-free and pesticide-free process of farming is growing at a rapid pace in India due to enhanced awareness among the people on the back of higher per capita income. "Unlike in chemical agriculture, in organic farming you don't use anything from outside for production. Everything you use is there in the land. No chemical fertiliser, pesticide. This ensures sustainability of yields at no cost. Farmers are now more inclined to this mode of farming," Gupta was quoted as saying. Organic farming is successfully taken up in

the states like Himachal Pradesh, Haryana, Rajasthan, Gujarat, Maharashtra, Sikkim, Meghalaya, Mizoram, Chattisgarh and Jharkhand. The Indian organic product market is currently pegged at Rs.1500 crore, which is expected to go up to Rs.10,000 crore over next five years. Meanwhile, the global market is over USD 100 billion. The country exports organic food products worth Rs.350 crore every year and is expected to increase to over Rs.3,000 crore in coming years. (commodityonline.com)

Sikkim committed to become "organic farming state"

Sikkim Chief Minister Shri Pawan Chamling has said, his government is committed to take it to 'Organic Farming' status by the year 2015. At the launch of the Rabi Campaign-2010 ceremony, Chamling said the department of food security and agriculture was motivating farmers to take up wheat, mustard and buck wheat cultivation in the ensuing Rabi season. Chamling described organic farming as the only option which could deliver higher earnings from the same plots of land and produce. Organic produce, he highlighted, commanded a premium in the market, and the most advisable option for a hill state like Sikkim with limited availability of land for agriculture. Chamling said farmers need to move with the times by adopting modern technologies and scientific knowhow to facilitate activities. "Trainings are being imparted to the youth of Sikkim on organic farming which will make them technically and professionally better grounded, the Chief Minister said. Chamling also informed about the State Governments new scheme which seeks to cover all Sikkimese under an annual health check-up program. He expressed concern over childbirth mortality rates among Sikkimese women and called for undertaking steps to minimize this rate. Calling the farmers as the backbone of the Sikkimese society, he asked them to call him up personally whenever they faced harassment at official work. (PTI)

Global Organic

New MDA report shows increase in certified organic farms-The number of certified organic farms and acres is on the rise in Minnesota according to a new Minnesota Department of Agriculture (MDA) report. The Status of Organic Agriculture in Minnesota report provides detailed information about the economic performance of organic farms, organic consumer and market data, environment and human health topics and an inventory of state and federal programs directed toward organic agriculture. Highlights of the 55-page report prepared for the Minnesota legislature include:

- The number of certified organic farms in Minnesota increased 42% between 2000 and 2008. Organic acreage in the state increased 88% during the same period.
- Consumer appetite for organic products has continued to grow, even during the recent economic downturn.
- Most (78%) Minnesota organic farmers started their careers as conventional farmers.
- Organic farmers are optimistic about the future of organic agriculture and of their farming operations.
- Weed control and production costs remain top concerns of organic farmers, while weed management, soil health and nutritional studies on organic foods are their top research priorities.

The report also includes comprehensive recommendations about efforts and activities that would aid the continued growth and development of this agricultural sector, including expansion of processing and distribution capacity, assistance to farmers during the period of transition from conventional to organic production, enforcement of organic standards to protect the rights of organic growers and consumers, and identification of organic farming practices that provide the greatest environmental benefits. Organic agriculture is governed by a comprehensive set of federal regulations that prohibit the use of

genetically modified seeds, antibiotics and hormones. The regulations also prohibit the use of most synthetic pesticides and herbicides, and require practices that conserve soil and water and promote animal welfare. "Certified organic" is a verified claim, which means an independent organization reviews records and inspects each farm at least once a year to make sure farmers are complying with the national organic standards and consumers are getting what they pay for. The report is available at

<http://www.mda.state.mn.us/organic>.

(Source: reviewmessenger.com)

Organic farms have better soil - The Centre for Ecology and Hydrology looked at microscopic fungi in the soil that helps plants grow. The study of nine farms in England, published in the Journal Environmental Microbiology, found that organic farms have a much more diverse range of fungi living in the soil than on conventional farms. Arbuscular mycorrhizal fungi (AMF) has a symbiotic relationship with most plants, allowing the roots to absorb nutrients better and fighting off disease. Dr Christopher van der Gast, of the CEH, said the use of herbicides and pesticides, as well as constant tilling of the soil breaks down the fungi on intensive farms. But on organic farms, that do not use chemicals, there is a more diverse range of microbes living in the soil. This helps the crops to grow without the expense of artificial fertilisers. Dr van der Gast said the findings could help farmers around the world to understand how to make plants grow better in the long term, without destroying the nutrients of the soil with intensive farming. "For most people it is about what you can see above ground. But the below ground biodiversity of the organisms in soil is a missing factor that most people do not think about," he said. "Our research demonstrates that the way humans manage the landscape can play a key role in determining the distribution of microbial communities at both the local and regional scales." Co-author Dr Gary Bending, from the University of Warwick,

said the findings could help boost food security.

"The work provides us with new understanding which we can use to promote these fungi in agricultural systems. This in turn could improve crop production. With the proportion of the earth's surface which is managed by humans increasing rapidly, this understanding is essential if we are to predict and manage microbial functioning in the environment to meet many of the major challenges faced by human society, such as food supply and the mitigation of climate change. Addressing these challenges, whilst maintaining environmentally sustainable agricultural practices, requires an understanding of microbial diversity." Farmers are increasingly using compost on fields around Britain as more councils collect food scraps from homes. Research on behalf of the Association for Organics Recycling found the use of compost increased by 10 per cent last year. Farmers said the increase was because of the rising cost of artificial fertiliser and the increasing quality and amount of compost coming from local authorities that now collect food and garden waste.

Organic Food Is Healthier, Tastier, Better For Environment: WSU Study - Does growing food organically really matter? Supporters of conventional agriculture say that organic farming is little more than a fad - and that organic produce lightens consumers' wallets for no tangible benefits. And unfortunately, since agro-ecosystems are so complex, scientists have had a hard time cutting through the haze of claims and counter-claims. Until now: "Fruit and Soil Quality of Organic and Conventional Strawberry Agroecosystems," a study led by Washington State University Regents professor of soil science John Reganold, is one of the most comprehensive, persuasive studies yet to show the nutritional and environmental benefits of organic farming. Its findings only apply to strawberries -- but they do point the way to the kind of research that can, and should, be done with other crops as well. The study design was both careful and comprehensive in scope. The strawberries were grown on 13 conventional

and 13 organic fields, with organic/conventional field pairs located adjacently in order to control for soil type and weather patterns. The data was drawn from repeated harvests over a two-year period, and the strawberries were picked, transported, and stored under identical conditions to replicate retail practices. And just as farming is a complex business, scientists contributing to the study range from soil and food scientists to genetics experts and statistics specialists, who analyzed 31 soil properties, soil DNA, and the relative taste and nutritional quality of three strawberry varieties in California. The results are pretty convincing: organic strawberries are healthier, tastier, and better for the soil than conventional strawberries. First, let's take a look at strawberry quality. Consumers buying organic products consistently cite the health benefits of organic foods as a main purchasing motivation. Yet there is a general lack of conclusive data to back this up. However, the WSU study found that organic strawberries ultimately beat conventional strawberries in quality, based on a number of factors: Organic methods resulted in strawberries with increased antioxidants, vitamin C, and total phenolics. While phosphorus and potassium levels were higher in conventional crops, the study emphasized the importance of vitamin C and antioxidants in relation to human health; vitamin C from strawberries has been shown to have a direct, negative effect on cancer cell growth. The plants themselves are also healthier: Organic strawberry plants showed fewer instances of post-harvest fungal rots than conventional strawberries, despite the fact that no fungicides were used on the organic fields. The study notes this finding may prove that organic systems help defend plants against infection through systemic-acquired resistance rather than chemical inputs. And for those who value flavor more than health, organic also outdoes conventional in taste tests. Consumer-sensory panels found little difference between two of the organic and conventional strawberry varieties, but preferred the organic "Diamante" variety for its appearance and sweetness over its conventional counterpart. Then there's the issue of soil quality. While consumers may

be solely interested in the end result, farming leaders such as Will Allen and Wendell Berry have stressed that high-quality soil is the basis for healthy agro-ecosystems. California farmers have relied on methyl bromide (an ozone-depleting toxic fumigant) to sterilize their soil for decades, and as a result have reduced soil from a habitat for microorganisms into a growing medium devoid of nutrients. Despite the conventional practice of spraying soils with synthetic fertilizers, the study found that organic fields contained significantly higher amounts of nutrients. Organic and conventional soils contained similar levels of most extractable nutrients, but organic soil had higher levels of zinc, boron, sodium, and iron. Organic soils also performed better through a number of biological properties, such as enzyme activities, micronutrient levels, and carbon sequestration. But what's perhaps most interesting in the study is the use of DNA analysis, which helped scientists establish that organic soils contain a significantly higher amount of unique genes and overall genetic diversity. In a time when global warming is creating increasingly unpredictable weather conditions, biodiversity is one of our greatest defenses against climate change (for more on this idea, look no further than activist and physicist Vandana Shiva, a compelling advocate of the social, economic, and health-related benefits of biodiversity). Strawberry fumigants are a hot-button issue in California right now, making this study especially timely. While the negative effects of methyl bromide have been established, and it was technically banned under an international treaty back in the 1980s, the fumigant is still being used until a substitute can be found. However, the proposed methyl iodide, approved under the Bush administration in 2008, is possibly even more toxic than methyl bromide, as Tom Laskawy has covered for Grist. In light of the study, this controversy is bordering on the absurd -- why even look for a new fumigant when organic production clearly produces better soil quality, increased nutrient density, and doesn't rely on chemicals that make farm workers sick? For any naysayers out there who believe that conventional agriculture is the only way to feed the world, while this study doesn't delve into crop

yields itself, a 2009 report put out by the Union of Concerned Scientists may put that claim to rest. Despite the fact that in some instances conventional methods may marginally raise the yield of food crops (while genetically modified crops were shown to produce no increase in yield), this study notes it comes at a high cost to the environment and our health. The chemical inputs used in conventional farming are directly contributing to unpredictable climate changes, which will affect our long-term ability to consistently grow food. It's hard to argue against Reganold's findings. Even while some categories of analysis produced similar results between conventional and organic strawberries, the fact that organic methods did not rely on toxic chemical inputs is a big, juicy point in its favor. Promoting organic agro-ecosystems means fewer people will be exposed to toxic chemicals, all in the name of producing a healthier, tastier piece of fruit. (Source:huffingtonpost.com)

Sri Lanka President promotes organic farming-Sri Lanka President Mahinda Rajapaksa says the Government has a clear vision to boost the organic farming in the country to provide the public with local foods free from artificial chemicals and the agricultural officials should encourage the farmers to adhere to organic farming. Speaking at the opening ceremony of the agricultural exhibition at Agricultural Technology Park, Bata-atha in Hambanthota, the President said necessary funds will be disbursed to agricultural projects and urged the farmer community to take the maximum advantage of the country's soil and natural resources to create a self-sufficient economy. The President said it is mandatory to attract youth to the agricultural sector and pointed out that due prestige should also be given to the farmer community and farmers should be promoted in the society. The President renamed the Bata-atha Agricultural Technology Park as the Chamal Rajapaksa Agricultural Technology and Tourism Park in observance of the "Farmers' Week" under the theme 'Tharuna Govi Diriya Isurubara Heta dadasai' (Strength of young farmer brings in a prosperous tomorrow). Using the newly installed video technology facility at

the Agriculture Research Centre at Bata-atha, President Rajapaksa joined a video discussion with Peradeniya Agriculture Centre after opening the Agri Sales Centre, at Bata-atha. A First Day Cover issued to mark the event was also presented to the President. Speaker of Parliament Chamal Rajapaksa, Ministers Mahinda Yapa Abeywardena, Mahinda Amaraweera, Chief Minister of Southern Province Shan Vijayalal de Silva, Deputy Minister Jagath Pushpakumara, MPs Namal Rajapaksa and V K Indika and officials of the Agriculture Ministry were present at the occasion. (colombopage)

Australia Launches Organic Agriculture Website-

A new website featuring information, links and stories about organic agriculture was launched today by the Rural Industries Research and Development Corporation (RIRDC). The Organics Knowledge Hub www.organicshub.com.au provides people with a quick and easy way to search and find information about organic farming. At the heart of the Knowledge Hub is a search engine which is designed to specifically search, index and return results from leading national and international organics websites. These websites were selected by representatives from the organics industry, universities and state and federal research agencies as those which are the most credible, current, relevant and comprehensive. "The beauty of this website is that it's a far more targeted way of searching for information about organic farming compared to more conventional search engines," said Dr Dave Alden, RIRDC Senior Research Manager. "So if you type 'organic strawberries' into the hub, it will go away and search around 200 leading organic websites for information about organic strawberries, and come back to you with the most relevant and up to date links "You probably won't get as many returns as if you were using a normal search engine – what you will get however are far more targeted returns from leading organic sites. "Search results are sorted into various categories, including consumers, producers, retailers and researchers, which enable visitors to the website to download information that is most relevant to them." The Hub's search engine automatically

identifies new documents as they become available in cyberspace, as long as they are publicly accessible via a website. Dr Alden said the site also contains a number of organic agriculture success stories. These include a salad grower from the outskirts of Melbourne who is growing pesticide-free vegetables in the same way his grandfather did half a century ago, and two organic goat cheese farmers near Bendigo who took out the Sydney Royal Show's grand champion cheese award, which is the first time goat's cheese has ever won the overall award. Dr Alden said the list of searchable sites is growing all the time as new sites are found, selected and uploaded to the Knowledge Hub search engine. (thegovtmonitor.com)

Europe: Natural Cosmetic Brands on Expansion Spree -

A growing number of natural cosmetic companies are building a pan-European presence by entering new country markets. Established companies such as Korres Natural Products and Melvita are opening concept stores across Europe, whilst new brands are expanding distribution. Madara Cosmetics, the leading natural cosmetics company in Eastern Europe, has entered a number of new countries this year. The Latvian company opened its first concept store outside its home country in Moscow in January. It is also expanding distribution in Western Europe and Asia. Madara Cosmetics is looking to build a new manufacturing plant as it plans to double production levels to meet burgeoning demand. The company's products contain locally sourced organic herbal extracts and are certified organic. Another Latvian natural cosmetics company, bio2you, has started marketing its products in Lithuania. The natural cosmetics are based on sea buckthorn and are available in Douglas and Sarma stores. It also plans to enter the Estonian market. Burt's Bees, a leading American brand of natural cosmetics, is also building a European presence. The brand is well-established in the UK but has made little inroads in mainland Europe. This could change as it enters new distribution agreements. Burt's Bees has signed an exclusive distribution deal with Sephora retailers in France. Its product range comprises lip balm, face wash, body lotion

and various creams. An important new entrant is the fashion retailer H&M. It launched a line of certified organic skin care products under the H&M brand in April. The range comprises shower gel, body lotion, body scrub, hand cream, and lip balm. The Stockholm-based company is rolling out these products in H&M stores across Europe.

Australia: Organic Products Market Strengthens-

The organic industry is expected to produce retail sales worth more than Aus \$1 billion (EUR 715 million) this year, up from Aus \$623 million (EUR 445 million) two years ago. The sector's rapid growth is highlighted in the Australian Organic Market Report, released by the Biological Farmers of Australia to help benchmark the sector's growth. BFA director and co-author Dr Andrew Monk said the organic industry had been taken by surprise by the significant leap in retail value. "We had expected some growth, but we weren't quite expecting this type of performance," Dr Monk said, "A fundamental reason is that the big retailers are pushing more volume through and it is becoming more mainstream." The report shows that more than 60 per cent of Australian households buy organic food on occasion, up from 40 per cent in 2008. Stand-out performers include essential oils production (up 155 per cent), eggs (75 per cent), dairy (36 per cent) and fruit and wine (16.5 per cent). Dr Monk said milk and wine are two key organic products produced in SA by companies such as BD Farm Paris Creek and Temple Braur, while the fruit and vegetable sector is thriving and beef production along the

Birdsville Track is expanding.

"The largest organic sector in Australia is fruit and vegetables, partly because it's the freshest item and people fear it is the most vulnerable to pesticides," he said. Dr Monk said he could see the organic sector becoming a mainstream niche industry one day. The report said 91 per cent of Australians say "chemical-free" is important to them and is a stand-out feature of organic production." The organic industry employs an estimated 25,000 people, and the report shows that organic farmers tend to be younger than non-organic farmers. Dr Monk said the results were testament to the resourcefulness and maturity of the organic industry. (Source: organicmonitor.com)

Kyrgyzstan: Organic Cotton Project Gives Yields -

The 'Organic cotton production development and sales promotion' project has been implemented in Kyrgyzstan with the participation of the Ministry of Agriculture. The project is directed to support cotton producers of Suzak region of Jalal-Abad oblast. The project provides training for more than 1,000 local farmers, as well as certification and quality control of cotton fibers. It also provides training in new techniques of organic farming. These measures are taken to meet organic standards of the European Union, since trade agreements have been reached with European customers. The project plans to export 180 tons of cotton. The organic cotton project, partly sponsored by the World Bank, is worth US\$ 2.9 million and has been implemented since 2003. (Source: organicmonitor.com)

More Funding for Organic Farming in Philippines

The recent approval of the implementing rules and regulations (IRR) for Republic Act 10068, otherwise known as the Organic Agriculture Act of 2010, will institutionalize funding for natural farming programs and projects in Philippines. Cabigas, Managing Director of La Liga Policy Institute (La Liga) which acts as the secretariat of the Environment Cluster of the Alternative Budget Initiative (ABI), said Rule 25.1 of the IRR states that funds will be allocated out of the P50-million appropriation for the promotion and development of organic fertilizer, "to support the coordination, implementation, and monitoring and evaluation, of the research, development and extension activities on the Organic Agriculture Program." On the other hand, Rule 25.2 mandates that: "The DA shall thereafter allocate the amount of at least 2 percent of its annual budget for the implementation of the Organic Agriculture Program." (Source: Manila Bulletin)

National and International Events, Seminars, Conferences

BioFach India together with India Organic 2010: Success in the market of the future in India

BioFach India celebrated its premiere in 2009 and together with India Organic attracted 129 exhibitors and 3,044 visitors from production, processing, trade and the service sector. The two events in the Bombay Exhibition Centre from 7-9 December 2010 offer an established platform for getting to know the market and making and cultivating contacts. Under the patronage of the International Federation of Organic Agriculture Movements IFOAM and supported by the Indian Ministry of Agriculture, NCOF, the Ministry of Food Processing Industries MOFPI, and the Agricultural and Processed Food Products Export Development Authority APEDA, the fifth international daughter of BioFach in Nürnberg is poised to a brilliant start. The organizers expect more international exhibitors and trade visitors at this year's event because the Indian organic sector is developing very promisingly. Experts assume that India will be the biggest economy in the world by not later than 2050. The present population of 1.2 billion people is growing by some 18 million a year, and 50 % of the population is under 25 years of age. "The demographic development is associated with enormous market relevance for the future," says Guido Christ, Deputy Chief Executive Officer at the Indo-German Chamber of Commerce IGCC in New Delhi, the partner of NürnbergMesse for BioFach India. The favourable general economic conditions are accompanied by positive forecasts for the development of the organic sector. The Indian Government supports organic agriculture with its National Program for Organic Production NPOP for certification and National Project on Promotion of Organic Farming for promotion and area expansion. Many farmers are converting and the domestic demand for organic products is also growing. The co-organizer of BioFach India, the International Competence Centre for Organic Agriculture ICCOA, expects the area of organically

farmed land to grow steadily. Domestic sales of organic products are to rise to some 15 billion Indian rupees (about 250 million EUR) by 2012. According to experts, the total market volume for organic products could reach approx. 40 billion rupees by 2012, about 656 million EUR.

Krishi Mela 2010 starts Oct 2 in Dharwad-

The University of Agricultural Sciences in Dharwad which is turning 25, will host the four-day Krishi Mela-2010 at the University campus here during October 2-5. UAS V-C R R Hanchinaal told. The Krishi Mela-2010 aims to disseminate information on the recent developments in agriculture and allied fields to the farming community. Agriculture Minister Shri Umesh Katti will inaugurate the mela. Hanchinal said the District Krishi Utsav will be held for the first time along with Krishi Mela. Nearly, 600,000 farmers are set to participate, he added. Seminars, workshops and live demonstrations on dry land technologies for enhancing agricultural productivity, models on rainwater harvesting, ground water recharging, water conservation practices and watershed development activities will be held during the mela. Organic farming systems, integrated farming systems for sustainable agriculture, nutrient management, bio-fertiliser and soil health care, would be organized. The mela will feature exhibition on farmers innovations, polyhouse cultivation technologies, agro-forestry, bio-fuel crops and improved livestock breeds. Eminent scientists, researchers and progressive farmers would discuss at length with the farmers on the new technologies available in the market for taking up hassle-free cultivation.

Everything Organic and Natural – Services International, Delhi is organizing an exhibition from 26-28 September, 2010 at Chennai Trade Centre, Chennai. Everything Organic and Natural (EON) exhibition will provide the hub of organic products which include organic and natural food, herbs, commodities like spices, cereals & pulses,

teas, coffees, natural remedies, essential oils, yarns & fabrics, personal care products, eco-friendly gifts, etc. Main industry focus in the exhibition will be from farmer groups, practicing organic farmers, corporate with organic farming projects, Govt. Agencies, NGOs, Organic Certifying Agencies etc. EON is expected to meet importers, exporters, farmers groups, retailers etc. Exhibitors will be given an opportunity to showcase their products by means of product showcase theatre. A time slot will be allotted to the exhibitors to give the demo of his /her product in product showcase theatre and visitors can visit free of cost. For more details about participation contact Services International through www.eonexpo.com

National Symposium on Food Security in Context of Changing Climate - Two days National Symposium on Food Security in Context of Changing Climate will be organized by the C.S. Azad University of Agriculture & Technology, Kanpur during 30 October, 2010 and 01 November, 2010. In changing climate scenario, organic farming will play a significant role in sustaining our food and livelihood security. A special session on organic farming and quality aspects of agri-horti products would be organized in which scientist, agriculture/horticulture officers, line Department officers, industries, progressive farmers etc. would also be participating where all the issues would be discussed and strategies would be chalked out. The symposium has been planned to provide an excellent platform for debate on research outcomes and future research to help preparations of road map for sustainable agriculture with enhanced productivity and profitability under changing climate. Interested participants may contact Dr. H.B. Singh, Convener, Dean College of Agriculture, CSAUA&T, Kanpur-208 002 (UP), Phone NO. 0512-2533906, 09415157763 website: www.csauk.ac.in

41st Nature-Health Fair 7-10 October 2010 with the slogan: Welcoming tomorrow! - The Nature-Health Fair is based on long-term trends of rising environmental awareness and the importance of a healthy lifestyle. The whole project, consisting of an exhibition and a professional part, aims at

showing the nature's diversity and integrity that nowadays affects the everyday of our whole society - of individuals and companies alike. The event is composed of several thematic sets that show visitors several ways of healthy life and harmony with the nature, as well as enabling exhibitors to prepare a target presentation for their most potential customers. The event has an added value in the form of a professional part that is related to the above-mentioned features and a presentation on practical experiences of acknowledged professionals. For further details contact organizers at narava.zdravje@gr-sejem.si and website www.narava-zdravje.si

Sustainable Cosmetics Summit...the next generation of summits on natural beauty and sustainability - Some of the thought leaders in sustainability will be discussing practical initiatives for the beauty industry at the upcoming Sustainable Cosmetics Summit, taking place in Paris, 18-20th October 2010. For the first time, an executive summit will look at the various ways cosmetic and ingredient companies can reduce their environmental and social impacts. Major topics on the summit agenda include green formulations, standards & regulations, sustainable packaging, reducing carbon emissions, biodiversity preservation, ethical retailing and marketing & distribution innovations. Case studies will be given of companies who have legitimately and successfully met the sustainability challenges. Organized by Organic Monitor, the aim of the Sustainable Cosmetics Summit is to encourage sustainability in the beauty industry by bringing together key stake-holders and debate major issues in a high-level forum. The summit comprises a 2-day conference programme and 2 interactive workshops geared at business, marketing and technical professionals. For more details visit <http://www.sustainablecosmeticssummit.com/programme.htm>

Sustainable Foods Summit-New Horizons for Eco-Labels and Sustainability-Eco-labels continue to gain popularity in the food industry, however are they going far enough to meet consumer demand for ethical & ecological products? The third edition of the Sustainable Foods Summit explores new

horizons in sustainability for eco-labels. How do organic, fair trade and other eco-labels contribute to sustainability? What role should they play in a food industry that is increasingly looking at the triple bottom line? The summit aims to debate and discuss such issues in a high-level forum. The North American edition of the Sustainable Foods Summit will take place in San Francisco on 18-19th January 2011. Key topics on the summit agenda include pioneering sustainability initiatives, ethical sourcing, sustainable ingredients, organic plus strategies and marketing & distribution innovations. To receive more information and regular updates, register Like previous summits organized by Organic Monitor, the summit will bring together key stake-holders in the food industry that include food manufacturers, ingredient & raw material suppliers, retailers & distributors, industry organizations & certification agencies, researchers & academics, investors, etc. for more details visit <http://www.sustainablefoodssummit.com/contactus.htm>

MENOPE 2010 - Middle East Natural & Organic Product Expo being organized during December 6-8, 2010 is a "never to be missed" expo in the region as it attracts high quality trade buyers from all over the world especially from GCC, Middle East and African countries. The overwhelming response from the trade community in the region showed at MENOPE 2009 is a clear example that there is a high demand for organic products in the Middle East market. MENOPE 2010 is the premier platform for global players in this sector to capitalize on this opportunity of emerging market needs. Significantly, the show is held in Dubai, the cosmopolitan city-state of the UAE. Dubai offers a vantage point to companies for regional penetration with the city being the trading and export hub for the whole of Middle East and Africa. For further details log in at <http://www.naturalproductme.com/>

BioFach America 2010 – North American edition of International trade fair BioFach is scheduled for 14 – 16 October 2010 at Boston, USA. BioFach America will also feature two other parallel organic events, The Natural Products Expo East and All

Things Organic. This years event will be more varied and interesting. The annual general meeting of the Organic Trade Association (OTA) of Greenfield, Massachusetts, USA, and its get-together All Things Organic will take place in parallel in Boston for the first time. It is expecting some 190 exhibitors at BioFach America and the 20,000 trade visitors at the three events. Everything will focus on the market for organic and natural food, drinks, natural cosmetics, natural textiles and pet supplies. The display area is virtually booked up. The conditions for successful business are good, as experts expect the sector to reach two-figure growth rates again in the coming years. Good preparation for market entry is essential for success, and exhibitions offer the best possibilities for this. According to the Organic Food and Drink Retailing US Report 2009 by the international market research institute Mintel of London (GB), sales of organic food remained steady from mid 2008 until the end of the first half of 2009. The total market for organic and natural products grew by 5.3 % to 26.6 billion US dollars for the whole of 2009. Both Mintel and the OTA expect the growth curve to rise again appreciably from 2010 onwards. In general, the mood among three-quarters of the German firms with activities in the USA is positive again, according to information from German American Chambers of Commerce in the United States. Moderate growth is expected in 2010.

Biodynamics and the Future of Agriculture - Biodynamic Farming and Gardening Association National Conference 2010 - Biodynamic Farming and Gardening Association, USA is organizing 2010 National Conference on Biodynamics and the Future of Agriculture during September 30, 2010 to October 03, 2010 hosted by the Three Fold Educational Center, Chestnut Ridge, NY. Conference will include topics like youth and biodynamic farming and other relevant topics on biodynamics. For more details and registration visit <http://www.biodynamics.com/biodynamic-conference-2010/registration>

Book Reviews

Organic Horticulture-Principles, Practice and Technologies, 2010. H.P. Singh & George V. Thomas, Wesville Publishing House, New Delhi pp440 ISBN 978-81-85873-61-9 -The Book based on the papers presented in a 'National Conference on Organic Farming in Horticulture Crops with Special Reference to Plantation Crops' has eight sections, viz current scenario and principles, technological advances, input management, organic vs. inorganic, soil health management issues, quality control and certification. Advancements have been made in developing technologies designed to increase soil organic matter, biological activity and nutrient availability through the use of renewable resources, conservation of energy, soil, water and environment maintenance and enhancement, while producing optimum quantities of produce without the use of artificial fertilizers or synthetic chemicals. Besides, a chapter on standards and certification is added to provide information on principles, basic standards of production, documentation, inspection and certification procedure as approved by National Standards Committee. Information of certification agencies and model application forms are included in the annexure for the benefit of the framers for taking up organic farming.

Sustainable Food and Nutrition Security in National Economy, 2010. H.C. Panda, Agrobios (India), Jodhpur, pp481 ISBN (13): 978-81-7754-402-2 - The book entitled, "Sustainable Food and Nutrition Security in National Economy" is written to serve a text/reference/guide book for the students of agriculture, agricultural meteorology, agronomy, veterinary, soil conservation, agricultural engineering-farm machinery and power, Agricultural Economics and field practitioners. The book fills the need for an up-to-date comprehensive text on Increase the Crop Production by controlling the physical environment and more accurate forecasting for the students at under graduate and post graduate levels. Forecasting may be of weather, it may be the predictions of crop yield and quality, or it

may the estimation of livestock production and climatic hazards. The control of the physical environment consists in preventing frost, growing windbreaks, adopting flood control measures, controlling temperature and humidity in livestock barns. Contingent Crop Planning for different aberrant weather situations like flood, drought, cyclone, hail storm, land slide, heat and cold waves, epidemic out breaks and industrial hazards should be taken up in appropriate time to increase the crop production minimizing the loss or damage for adopting alternate methods or techniques for management. This book will be of immense use in imparting knowledge on the basic principles and applied aspects of the Agricultural meteorology, Natural Disasters and its Management and Contingent Crop Planning for increasing Crop Production through the greenhouse and adopting modern scientific agricultural practices for students, teachers, scientists, extension workers and professionals engaged in agricultural development. This book contains 21 chapters which include Introduction, Role of Sustainable Agriculture, Sustainable Food and Nutrition Security, Sustainable Strategies in the Context of Climate Change, Effect of Climate Change on Indian Agriculture and Food Security, Agro-meteorology for Potential Crop Productivities, Climate and Crops, Environmental Balance and its Sustainability, Agricultural Technology, Agricultural Policy in India Since Independence, Agricultural Marketing, Crop and Land Management Practices, Integrated Farming System, Mechanized Farming, Integrated Nutrient Supply System for Crop Production, Time of New Irrigation Strategies, Current Challenges facing Indian Economy, Poverty and Unemployment in India, Infrastructure and Development Strategies, Role of Women in Agriculture, Future Guideline and Conclusion with adequate references. Each chapter is brief, comprehensive and full-fledged with respect to technical information.

Soil Management and Organic Farming, 2010. H.C. Panda, Agrobios(India), Jodhpur, pp492, ISBN 9788177542660-We increasingly face ecological and environmental problems as a result of injudicious use of fertilizers and other chemicals (pesticides, herbicides etc.) in intensive agriculture. The deteriorating soil and water quality, and the raising agrochemical toxicity in farming are serious concerns. All these factors jeopardize efforts to sustain growth in food production. The big questions before us are "Can we sustain high productivity with deterioration of soil and water environment? Most of the additional food grain production must come from irrigated and potential rainfed lands. We need to use more complex technologies and management practices to further intensify crop production systems and to conserve resource base from which all food is produced. The immense task before us is "How to orient our research to generate innovative technologies". Plants like human being, animals, birds and other living organisms need energy for their survival and proper functioning. Unlike other living organisms, they use to manufacture their food through conversion of solar energy into chemical energy vide process called as photosynthesis. The photo-synthates, thus synthesized, are partly consumed by plants for their growth and development till their active vegetative growth and rest is accumulated which we harvest. The entire process is regulated by various elements which are known as plant food elements. The list of such elements, is gradually enlarged with the advancement of physiological and biochemical knowledge. These elements, though present in soil yet the quantity being so meager need to be supplemented through their respective carriers called as fertilizers. Role of fertilizers in boosting agricultural production has already been proved and they have become so essential that the cultivation of present day plant types without them is rather a dream. There has been ever increasing trend in fertilizer consumption starting from negligible quantity in 1950 to over 13 million tones of nutrients or over 28 million tones of fertilizer materials in 1992-93. Concern about environmental safety and sustainability of land productivity is

increasing among scientists, administrators and environmentalists. With increasing population, it is also becoming clear the food security to the teeming millions will not be possible unless the available resources are efficiently utilized for increasing the productivity. The strategy adopted during the green revolution era can not be valid anymore under the prevailing conditions. A new strategy of living with the nature and nurturing it for sustainable high productivity should be evolved. Though use of chemical inputs can not be altogether avoided, their use in agriculture has to be rationalized. Organic agriculture shows us the way of effectively use the available natural resources for the benefit of the mankind. But, unfortunately there are a lot of misconceptions about organic agriculture. Though a large amount of information has been generated on various aspects of agriculture, they are scattered in literature. A compilation of the available information has been a felt need for students, teachers, research workers and administrators in agriculture. At present, there is no comprehensive text book on Soil Management and Organic Farming and applied aspects suitable for farmers. This book will provide comprehensive information on the subject matter and fulfil the needs of students and other professionals. This book makes an attempt to present the available information on organic agriculture in a cogent and easily understandable manner. This is a book containing all sorts of chapters on soil fertility management and organic farming basing on the integrated farming and cropping systems. Though this book primarily written to serve as a text book/reference for the students of agriculture in under graduate and post graduate levels and technologists in developing organizations, it is hoped that this book will be valuable for similar groups in the third world countries of Asia and Africa. This book also serves as a valuable reference for the candidates preparing Agricultural Research Services and other competitive examinations. Professional Institutions in Soil Conservation, Krishi Vigyana Kendras and Rural Institutions and similar other Institutions would find this book very much helpful. The farmers may refer this book to practice integrated farming and

cropping systems as the considerable emphasis is placed for obtaining maximum, profitable production per unit area per unit time. This book contains 21 chapters which include introduction, soil management, soil formation, soil and its physical properties, soil taxonomy and survey, soil colloids and clay minerals, saline, alkaline and acid soils, soil organic matter, soil and water conservation, soil fertility and productivity, nutrient management, source of plant nutrients, fertilizers, green revolution, organic farming, farming systems, components of farming systems, integrated farming systems (IFS) under varying situation, IFS models under agro-ecosystem, organic farming in India and Abroad, and sustainable agriculture with adequate references. It is hoped that the book will serve a good reference source for those interested in organic agriculture.

Handbook of Organic Farming and Compost Technology 2010. Joy Daniel, Vilas Patil and Alka Najan, SBS Publishers, 2010, xiv, 757 p, ISBN : 9789380090085-

This publication provides an introduction to organic farming food fertilizer and agriculture focusing on natural organic matter biodegradable and green waste recycling. An understanding about biotic material and biomass organic horticulture and lawn management organic gardening and forest gardening green agriculture biodynamic agriculture farming and gardening association is created. This handbook also discusses organic farming its history and methods and importance of crop rotation. The main motivations principles economics and traderelated to organic agriculture and food crop productions are described in detail including the growing trade in imported organic foods and baby products. The handbook also provides readers with the required knowledge needed towards formulating sustainable organic agriculture policies and best practices ultimately useful for building sustainable organic sectors particularly in developing countries. The handbook also focuses on provisions in North America regarding organic farm regulation and food certification. The process of certification and standard setting of organic farming agriculture and animal

husbandry in Australia is also covered. An overview of Indias national programme for organic production and its current status is also given. An overview of compost composting process and compost technology is provided. Composting bins and systems containers equipment and techniques are described in brief. Home composting composting toilet vermincomposting and decompiculture are discussed. Elements and dimensions of organic fertiliser and eco sanitation are described in detail. The handbook also makes a case towards adopting biological pest control and biopesticides. Main contents of the book includes chapters like 1. Introduction to organic farming food fertilizer and agriculture. 2. Organic farming: history and methods. 3. Organic agriculture and food crop production: motivations principles economics and trade. 4. Towards sustainable organic agriculture policies and best practices. 5. Organic farm act and food certification: focus on provisions in North America. 6. Certification and standard setting of organic farming agriculture and animal husbandry in Australia. 7. Indias national programme for organic production: an overview. 8. Compost composting process and compost technology: an overview. 9. Organic fertilizer and eco sanitation: elements and dimensions. 10. Biological pest control and bio pesticides: an overview. 11. Useful resource material on organic farming and compost technology. 12. Indias agriculture and national programme for organic production.

Organic Farming : Principles, Prospects and Problems, 2010. Edited by Suresh N. Deshmukh, Agrobios, Jodhpur, xvi, 360 p, tables, figs, ISBN : 81-7754-363-6-

This book aims at clarifying different aspects of organic farming. There are 20 chapters in this book, the first being essentially introductory in nature. Success of organic farming depends upon the replenishment of social fertility. The common notion that nutrients are given to the plant crop has to be changed. The fact is nutrients are to be given to the soil and that too in a balanced way -- needs to be emphasized. Taking this into consideration a chapter on soil world has been included. The success of

commercial organic farming depends upon a certification from recognized certified agency and hence a chapter on soil world has been included. For the benefits of organic farmers chapters on 'Present Indian Scenario' and 'International Scenario' have been included. Post harvest technology is the most neglected activity in India and hence has been covered in details. Economics of organic farming, frequently asked questions by farmers, do's and don'ts etc. have also been discussed." Main chapters of the book are 1. Organic farming. 2. Organic foods. 3. Principles, objectives and components of organic farming. 4. Soil world. 5. Guidelines for organic farming. 6. Organic inputs. 7. Plant protection in organic farming. 8. Biological control. 9. Organic certification. 10. Present status of organic farming. 11. Post harvest handling and processing of organic food. 12. Economic viability of organic farming. 13. Frequently asked question and doubts about organic produce. 14. Organic farming in news. 15. Organic package of practices for important crops. 16. Pros and cons of organic farming. 17. Export of organic produce. 18. Use of bioagents and disease management in organic farming system. 19. Potential role of biofertilizers and biopesticides in sustainable agriculture -- an overview. 20. Concluding remarks.

Plant Protection Practices in Organic Farming, 2010. Edited by Ajay Sharma and Rajeshwar S. Chandel, International Book Distributors, xiv, 566

p, tables, ISBN : 81-7089365-8,- In the book entitled "Plant Protection Practices in Organic Farming" a sincere effort is being made to provide the society all the practices which can be used in reducing the pest populations from our agricultural/horticultural ecosystems and in turn may also reduce the pesticide pressure being exerted on our environment. In addition there are some chapters which do not directly address the issues pertaining to the plant protection but are of immense importance for the management of a healthy crop so as to get better returns. In the first chapter the authors have mentioned the importance of the organic farming and why it is so much need in the present day scenario. This chapter also

covers the information on the various guidelines set for the practicing organic farming. In the second chapter the pesticide residues pertaining in different crops are highlighted. Third and fourth chapters contain exhaustive information on the biocontrol agents of various insect pests and the biopesticides available in the market to manage these pests respectively. In the fifth chapter the concept of nutrient management for the plants has been discussed. Sixth chapter is based on the information pertaining to the protected cultivation and the different structures used in this type of cultivation. Seventh and eighth chapters deal with the insect pests and diseases encountered in the poly houses respectively and their management with out the use of chemical pesticides. The insect pests and disease of vegetables, temperate fruits, subtropical fruits and potatoes are covered in the separate chapters. Insect pests management of spices and cereal crops are covered in chapters sixteen and seventeen. The eighteenth chapter is on cultivation and utilization of medicinal plants. It covers the aspect of medicinal; plants use as biopesticides against various insects. In the nineteenth chapter the wild fruits are discussed as they can be an important source in increasing the biodiversity in an area. After growing a good crop it is important to get good returns, and for that the yield is to be taken to a good market. The time between the harvest and the use of yield is very important as an appreciable portion is lost in this transit. The next chapter deals with how to minimize the post harvest losses in different crops. In the modern world biotechnology is playing an important role in the human life. The plant science is also not devoid of this important science. The transgenic plants and GMO's are important in the plant science. In the last chapter, role of biotechnology has been discussed in reference to the plant protection and its role in producing a crop organically. All these chapters are of immense importance to the farmers, Orchardists and plant scientists and can act as a valuable source filling the gap that is prevailing in the know how producing the crop organically and to protect it from its enemies i.e. insects and diseases."