

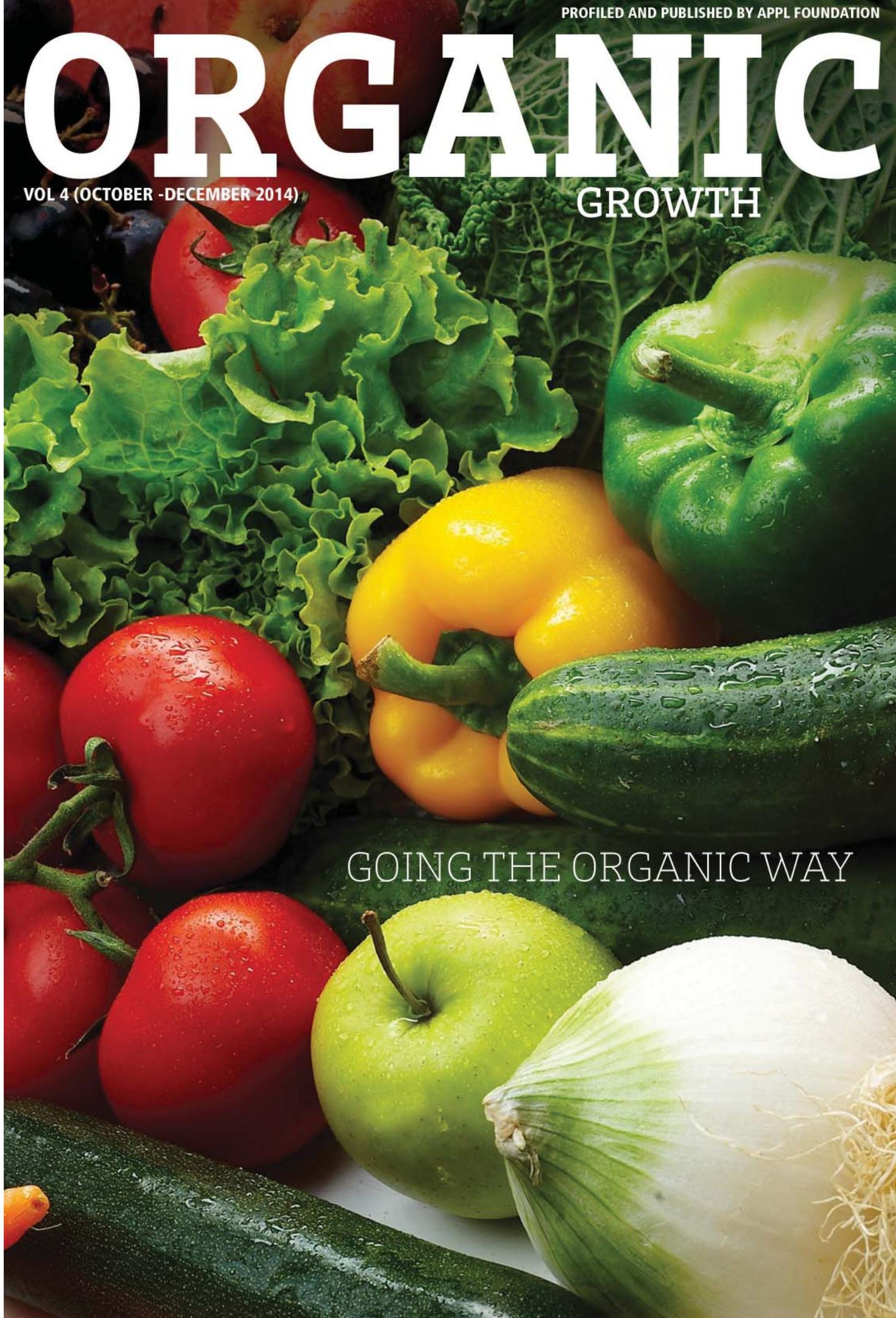
PROFILED AND PUBLISHED BY APPL FOUNDATION

ORGANIC

VOL 4 (OCTOBER - DECEMBER 2014)

GROWTH

GOING THE ORGANIC WAY





Organic Farming: India And International Standards

Inside

Homage

- Maniram Dewan

Organic farming has grown rapidly, says EU

Farm to fork, our food is becoming a toxic cocktail

Why more farmers in India are going organic

Organic farming gaining popularity

Organic food costs more than conventional food. Is it worth the extra money?

Major study documents benefits of organic farming

Study finds clear differences between organic and non-organic food

Organic foods may help prevent cancer: Study

In fond remembrance- Howard Thomas Odum

Hathikuli Organic-Growing Naturally

Organic News

In Memorium - William Oliver

The three previous editions of Organic Growth have been devoted towards research on the critical needs and variants of Organic farming. As the world begins to grapple with rising food insecurity associated with varying weather conditions, this points to the critical understanding of the crucial role that organic farming plays, which is now about to experience a resurgence across the globe.

At the recent World Economic Forum, Mr. William McDonough, who co –developed Cradle to Cradle, a project dedicated to Circular Economy showcased how two distinct material flows are safe and regenerative: biological materials are designed to be returned to nature, technical materials are designed for perpetual cycles of use by industry.

While affluent regions and social classes struggle with surplus production and surplus consumption, close to one fifth of the global population lives in constant under-nourishment. Organic Agriculture contributes to food security by a combination of many features, most notably by increasing yields in low-input areas, conserving biodiversity and nature resources on the farm and in the surrounding area, increasing income and/or reducing costs, producing safe and varied food and being sustainable in the long term.

Thus, organic farming takes the best of the practices and combines them with modern scientific knowledge.

INDIA

India has the greatest number of certified organic producers around 400, 551 farmers. Small-scale farmers, who were previously viewed as being too conservative, are now willing to learn and eager to adopt organic farming. Farmers, however require support from the state and national government to deal with such changes. Organic farming system in India is not new and is being followed from ancient time. It is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good

health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (bio fertilizers) to release nutrients to crops for increased sustainable production in an eco-friendly pollution free environment.

Organic farming not only enhances the biodiversity but also reduces the vulnerability of the region to climate change. Besides the beneficial aspects, what is inspiring to motivate farmers in organic farming is that organic products are relatively high prized and global demand is surging.

INTERNATIONAL STANDARDS

The International Federation of Organic Agriculture Movements (IFOAM) has produced a set of international organic standards, laid down by many countries. These give guidelines about what organic farming is and how it should be practiced on the farm.

The main principles of organic farming, laid down by IFOAM in 1992, focused on how to produce food of high nutritional quality in sufficient quantity, interaction of all natural systems and cycles, enhancement of biological cycles within the farming system, maintenance and increasing long term fertility of soils, utilization of renewable resources in locally organized agricultural systems, working within a closed system, reusability and recycling of materials, good living conditions for livestock, minimal pollution, maintenance of genetic diversity of the agricultural system, safe working environment and social and ecological impact of the farming system.

Increased conversion to organic agriculture will bring appreciable changes in land use and food supply chains. Organic agriculture has the potential to narrow the producer-consumer gap and enhance local food markets. Organic agriculture will result in decreased food surpluses in industrial countries and improved productivity in developing countries.

Ranjit Barthakur, Chairman, APPL Foundation



Homage- Maniram Dewan

If the three ingredients - the man, the moment and the milieu-constitute the recipe for human greatness, these too occasionally conspire to bring about individual tragedies. Maniram Dutta Barua (1806-1858), popularly known as Maniram Dewan, undoubtedly the greatest Assamese of the first half of the 19th century is a poignant illustration of this truism. Maniram Dewan otherwise known as Maniram Datta Barua is popular among the people of Assam as a tea cultivator. He was one of the first people to establish tea gardens in Assam.

Maniram Dewan and tea cultivation in Assam

Born on 17 April 1806, Maniram's family had migrated to Assam from Kannauj in the early 16th century. The paternal ancestors of Maniram held high offices in this Ahom court. Maniram started his career by becoming a loyal associate of the British East India company administration under David Scott. This David was the agent of Governor General in North East India. At the age of 22, Maniram was appointed as the Tehsildar and Sheristadar. Later he was made a Prime Minister (Borbhandar) by the titular king, Purandar Singha of Assam.

In earlier times, tea was grown in Assam state by Singpho people, who speak the Singpho dialect of the Jingpo language. Maniram informed British about this tea cultivation and he helped Robert Bruce and Charles Bruce to get into connection with the local Singpho chief Bessa Gam for getting information about this tea cultivation. After collecting the tea plants from this Singphos and analyzing them, they found that they were not same species as china tea plants. When the East India Company decided to start tea cultivation in India, Assam was one of the suggested places.

In the year 1839, Maniram was appointed as the Dewan of Assam Tea Company at Nazira.



Born: April 17, 1806

Died: February 26, 1858

Maniram Dutta Barbhandari Baruah, popularly known as Maniram Dewan, was an Assamese nobleman in British India. Maniram was the first local Tea Planter who was Organic by Default ..an inspiration to the tea community through the ages.

But in 1840's Maniram quitted the job due to differences of opinion with officers. But he had acquired sufficient tea cultivation expertise. Later Maniram became the first Indian to grow tea commercially in Assam by establishing his own tea gardens at Cinnamara in Jorhat and Seleng in Sibsagar respectively. He was not only a tea cultivator but also ventured into gold procuring, salt production, iron smelting, manufacturing of goods, boat and brick making, ivory work, ceramic, agricultural products, and many more. From these points itself we can

understand that Maniram was very popular among the people of Assam.

Maniram was hanged by the British for conspiring against them during the 1857 uprising, more commonly known as the Indian rebellion of 1857. He was hanged to death on 26 February 1858, at the age of 51 in Jorhat.

To live in the minds and hearts of those you inspired is not to die...his memory and his legacy lives on indelibly etched in the annals of tea in Assam.

Maniram became the first Indian to grow tea commercially in Assam by establishing his own tea gardens at Cinnamara in Jorhat and Seleng in Sibsagar respectively.



Organic farming has grown rapidly, says EU

The organic farming sector has grown rapidly over the past ten years, to about 500,000 new hectares every year, according to EU statistics.

Both the number of organic farm holdings and area grew by more than half between 2003 and 2010.

In 2011, the European Union had 9.6 million hectares of organic farming land. The year before, there were more than 186,000 of such farms registered across the then 27-country bloc.

Organic farming is defined as food production which has a minimal impact on the environment by operating as naturally as possible.

The EU has standards for organic farming, including the use of chemicals, in pesticides, fertilisers and animal medication, as well as the protection of animal welfare. Genetically modified organisms are not allowed to be used in organic agriculture.

Data shows that organic farmers are generally younger than the average conventional farmers in the EU. In 2010,

some 61.3% of organic farmers were under 55, compared to 44.2% in the non-organic agriculture.

The 12 countries that have joined the EU since 2004, excluding Croatia, which joined last year, were also seeing a growth in organic farming, according to the EU executive.

Organic agriculture grew by 13% per year between 2002 and 2011 and the number of farms multiplied by ten times between 2003 and 2010.

Permanent pasture accounts for the largest share of such farming (45%), followed by cereals (15%) and permanent crops (13%). Animal production accounts for 1%.

The European Commission released proposals for further rules on organic farming in March, aimed at strengthening and harmonising legislation on the sector.

“The Commission is looking for more and better organic farming in the EU by consolidating consumer confidence in organic products and removing obstacles to the development of organic agriculture,” said

Dacian Ciolo, the European commissioner for agriculture and rural development.

The European Court of Auditors has urged for stronger enforcement of the rules on organic farming. Products labelled as such have been found to contain pesticides, antibiotics or GMOs.

The Commission says that organic food responds to the growing consumer demand “while at the same time delivering public goods in terms of environmental protection, animal welfare and rural development”.

Organic agriculture grew by 13% per year between 2002 and 2011 and the number of farms multiplied by ten times between 2003 and 2010.





Farm to fork, our food is becoming a toxic cocktail

That India's food chain is heavily contaminated is well known. Even then the latest study by the Centre for Science and Environment, a public interest research and advocacy organisation based in New Delhi, on the growing antibiotic resistance in humans, thanks to indiscriminate use of antibiotics in poultry industry is frightening. The report, which was released on Wednesday, claims that Indians are developing resistance to antibiotics and so falling prey to a host of otherwise curable ailments. And some of this resistance, the study adds, might be due to large-scale unregulated use of antibiotics in the poultry industry. The study done by the organisation's pollution-monitoring lab tested 70 chicken samples from the Delhi-National Capital Region for six commonly used antibiotics: 40% samples were found positive and residues of more than one antibiotic found in 17% samples. Such large-scale contamination can only mean that the poultry industry uses these antibiotics

as growth promoters. India has not set any limits for antibiotic residues in chicken.

This indiscriminate use of antibiotics, leading to resistance, has happened because the country has no regulation on controlling antibiotic use in the poultry industry, or to control sales of antibiotics to the industry. That the situation is extremely serious can be gauged by the fact that even people who stay in rural areas, who don't use antibiotics regularly, are found to be antibiotic-resistant. This is happening because our everyday food is also becoming contaminated by antibiotics. Add to these, there have been several reports that traces of toxic metals have been found in fruit and vegetables. In fact, the Delhi government is planning a ban on farming with contaminated water from the Yamuna. Additives and compounds are also routinely added. Food additives, scientists say, are capable of altering hormones.

Even though public health experts have

long suspected that such rampant use of antibiotics in animals could be a reason for increasing antibiotic resistance among humans in India, the government has no data on the use of antibiotics in the country, let alone on antibiotic resistance. Worldwide, governments are adopting regulations to control the use of antibiotics: The European Union, for instance, has banned the use of antibiotics as growth promoters. Since much of the food trade in India is in the unorganised sector, the first step to reverse the present bull run of antibiotics will be to set up a mechanism to gather data on the depth of the problem and also a system to check the rampant use of antibiotics. But the most comprehensive step forward would be to do what the EU has done: Ban the use of antibiotics as growth promoters

- See more at: <http://www.hindustantimes.com/comment/farm-to-fork-our-food-is-becoming-a-toxic-cocktail/article1-1246911.aspx#sthash.KpGJhvdR.dpuf>



That the situation is extremely serious can be gauged by the fact that even people who stay in rural areas, who don't use antibiotics regularly, are found to be antibiotic-resistant.



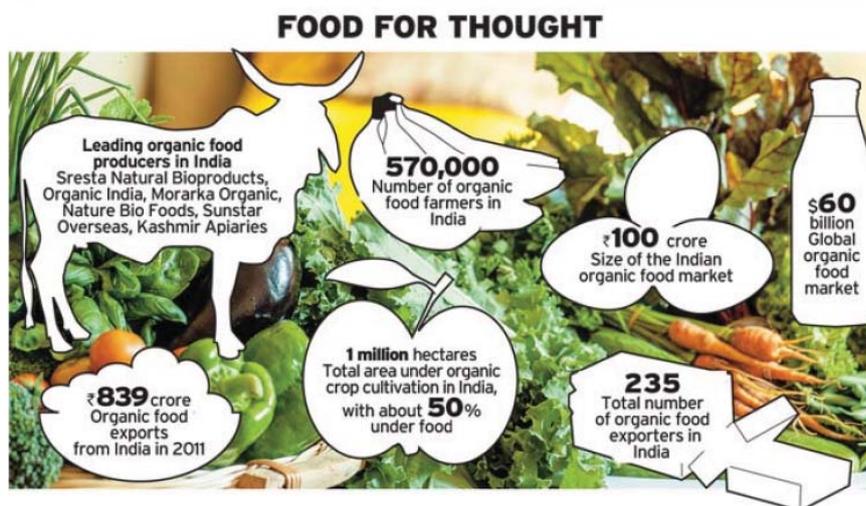
Why more farmers in India are going organic

Since the 1950s, chemical fertilisers and pesticides have been widely used across India to improve crop yields and grow more fruit and vegetables.

This trend has been credited with helping to feed a growing population and reduce food imports. Most farming today still uses these methods, but things may be slowly changing.

While there's limited evidence of the health benefits of organic food, more and more people are choosing to buy it if they can.

Today there are thousands of farms across India certified as organic and the BBC has visited one of them in the state of Karnataka.



Organic farming gaining popularity

Endeavours from many help vermicompost technology spread across Bangladesh

Mymensingh's Harirampur village, situated in Muktagachha upazila's Dulla union has become a hub of vermicompost plants with the help from Department of Agricultural Extension (DAE) and local associations and farm entrepreneurs, specially women. If we really want to revive soil fertility, we need to use a lot of organic fertilizers.

Production and extension of vermicompost is moving onward pretty fast. The rural women are benefitted in two ways. They can earn extra money while setting up vermicompost plants, and also by producing organic food using this technology. I have talked with homemaker Ruma and others from Chandpur village in Dulla union.

"How many times can the earthworms be reproduced?"

"Many times."

"Don't the earthworms lose their strength?"

"No."

I also spoke to another female farmer.

"Do you use cow dung?"

"Yes."

"No straws?"

"No."

"Did any of you used vermicompost on your crop land", I asked.

"I have used it on my paddy land", replied Sima along with other women in the village.

"What differences did you find?"

"The paddies look stronger and greener".

Twenty two women are commercially producing vermicompost through their association. This association is doing a very good job in the village and across the union.

"I don't have to buy fertilizer from market. Rather, I can produce it from household waste", said a female member of the association. These women are contributing to revive the soil quality in a meaningful way.

"What's the cost difference between using urea and vermicompost?"

"Vermicompost saved a lot of cost for me. It's a very handy technology."

Mohammad Ali and his wife Fulesa Begum have built their own plant of vermicompost at home.

"This fertilizer is very much necessary. If you apply it on soil, it gets more fertile. It works better than the chemical fertilizers."

Another farmer from this village, Anwar Hossain Kamal. He's using vermicompost on his eggplant plot.

"Before using vermicompost my eggplants looked reddish."

"How much have you used here on this land?"

"20 KGs."

"What's the price of it?"

"Tk. 200 only."

I talked with Jalil, a young and educated farmer who had the same experience.

"I used to spend around Tk. 1000 before on chemical fertilizer, and now I only spend 200 taka".

Ruhul Amin is the Chairman of a local youth association based on voluntary labour, known as 'Jubo Krishi Shomaj Unnayan Shongstha'. This association is also helped and guided by DAE and is contributing to promote vermicompost.



Organic farming gaining popularity Cont.

“We have three major targets. Using agricultural inputs in an integrated way, revival of soil quality and better farming”, said Ruhul. The organization tries to raise awareness amongst farmers through field level training. They tell them that chemical fertilizers are not the food for soil but only for crops.

The organic fertilizer is just the opposite of chemicals. Mostly they have to deal with illiterate farmers. Ruhul has formed this organization to make them aware about the benefits of organic farming.

Amin says it would have been impossible to spread the organic farming across the region without the help of farmer-friendly SAAO, Selim Reza.

It's a great news that farmers are becoming aware of producing fresh agricultural products while maintaining soil fertility. Hridoye Mati O Manush's Grow Green initiative has also helped them in this awakening process.

Meanwhile, in different regions of the country, farmers as well unemployed youth and people from different walks of life are

building their own vermicompost plants. This is very profitable and environment friendly agricultural initiative for sure.

Bangladeshi arable lands have gradually lost 85% of fertility. According to SRDI, soil lacks both organic matters and nutrients. Out of 8.3 million hectares of arable land in the country, nutrients have decreased alarmingly in 3.3 million hectares of lands. Plants absorb 14 organic chemical compounds from among the total 17 from the soil. All over Bangladesh, these chemical compounds are missing from the soil. The main reason behind this is the organic matter from the soil is decreasing.

For a higher yield, using the organic fertilizer is the only way. In the past, with government initiative, for producing quality organic fertilizer, entrepreneurs were provided with loans. Around 30 organizations received loans from government but only four of them actually built plants. One of these four is the Agro Organic Food Complex, situated in Faridpur's Komorpur area. But, the organization is closed now. The concerned authority says until the market of organic fertilizer is not settled, the producers can

never run their organization. The closed factory has ten thousand tons of organic fertilizer. These fertilizers could have played a great role in the revival of the soil fertility.

This factory had once all the facilities for producing quality organic fertilizer. As they didn't get any market, the entrepreneurs had to shut it down. Agro-entrepreneur Syed Abu Siddiqui was explaining why organic fertilizer couldn't get the market.

“Farmers are not fully aware of this new technology and that's why they weren't interested to use vermicompost. If government takes the initiative to promote the benefits of this technology among farmers of Bangladesh, definitely farmers will show up for using organic fertilizers”, said Syed Abu Siddiqui.

When saving the soil fertility and producing crops without pesticides are the most important issues, we need an integrated venture to spread the organic fertilizer across the country. Public and private initiatives are key to restart facilities like this huge organic fertilizer producing factories.

Recent developments

“ GB Pant Agricultural University in Uttarakhand does extensive research in this area ”

“ Kerala declared some areas in Wayanad and Idukki hill districts as fully organic ”

“ It has enrolled about 52,000 farmers and earmarked 71,000 hectares across the state to use only organic material for growing crops, vegetables and fruits ”

“ Karnataka government has set up an organic farming mission with budgetary support of Rs.100 crore this fiscal ”

“ When government banned rice exports, the farmers who had cultivated organic rice incurring more expenses faced huge losses ”

“ This is the beginning in the government's efforts at declaring some panchayats as fully organic by next year, leading to conversion of the whole State as organic in the long run ”

Meanwhile, in different regions of the country, farmers as well unemployed youth and people from different walks of life are building their own vermicompost plants. This is very profitable and environment friendly agricultural initiative for sure.



Organic food costs more than conventional food. Is it worth the extra money?

As a rule, organic food costs more than conventional food. But is it worth the extra money?

“We want consumers to appreciate that by buying organic food, they are helping to support farming methods for plants and animals that are healthier for the Earth’s soil and water supply in the long run,” says Urvashi Rangan, executive director of Consumer Reports’ Food Safety and Sustainability Center. Here’s Consumer Reports’ take on which organic choices provide the most immediate benefit and why.

Fruits and vegetables

Priority level: High.

Why: To avoid exposure to pesticide residues. Rinsing conventionally grown fruits and vegetables doesn’t effectively reduce pesticide residues. Organic produce isn’t treated with synthetic fertilizers or most synthetic pesticides in the first place.

The benefits are considerable for many items, including fruits, vegetable, meat and dairy products. (Juliette Michel/AFP/Getty Images)

Poultry

Priority level: Medium to high.

Why: To discourage the routine use of antibiotics and questionable feed.

Organic poultry is almost always raised without the routine use of antibiotics. (The widespread use of such drugs in food animals is contributing to a rise in antibiotic-resistant bacteria.) And organic birds can’t be fed poultry litter — a mixture of droppings, spilled feed and feathers — or arsenic drugs.

Consumer Reports’ tests have found that

organic birds raised under organic standards are just as likely to harbor bacterial contamination as non-organic poultry, but a smaller percentage of the bacteria tends to be resistant to antibiotics.

Beef

Priority level: Medium to high.

Why: Nutritional benefits.

As with chicken, organic cattle aren’t raised with routine antibiotics. For optimal nutritional benefits, look for organic meat that’s labeled “American Grassfed Approved” or “USDA Process Verified Grass-fed,” which guarantees that the animal was raised on a diet of 99 percent grass and forage and had seasonal access to a pasture. Studies suggest that meat from such animals might provide more health benefits than meat from animals fattened on a conventional diet of grain.

These eggs are all organic. (Maddie Meyer/The Washington Post)

Dairy

Priority level: Medium to high.

Why: Nutritional benefits.

Research has found that organic milk contains about 60 percent more heart-healthy omega-3 fatty acids than non-organic versions, a benefit that also extends to cheese and yogurt. Organic dairy cows aren’t treated with growth hormones, and they eat a diet free of animal byproducts.

Packaged food

Priority level: Low to medium.

Why: To avoid consumption of food additives and synthetic dyes.

At least 95 percent of ingredients in certified-organic processed foods must themselves be

organic. A “made with organic” label means that at least 70 percent of the product’s ingredients must be organic.

Organic packaged foods might be most important for children because the foods are not allowed to contain synthetic dyes, which have been linked to attention-deficit hyperactivity disorder. (Natural food colorings include annatto, beets and turmeric.) There’s little evidence that conventional packaged goods are a health hazard to adults — except perhaps to their waistlines. Remember, organic cookies are still cookies.

Seafood

Priority level: Not applicable.

Why: Organic labels on fish and shellfish are meaningless, because there are no government-approved organic standards for seafood.



YES, ORGANIC CAN COST MORE BUT HERE ARE 10 REASONS WHY IT’S WORTH IT:

1. Organic farmers get no government subsidies.
2. You will automatically become an environmentalist.
3. You will be healthier.
4. You can feel good about your contribution to a better world.
5. You’re supporting families and businesses that are making the world better.
6. You’re helping to prevent climate change.
7. You’re helping to prevent drought & floods.
8. You’ll leave the world a better place than you found it.
9. Karma points.
10. It just tastes better!



Major study documents benefits of organic farming

PULLMAN, Wash. – The largest study of its kind has found that organic foods and crops have a suite of advantages over their conventional counterparts, including more antioxidants and fewer, less frequent pesticide residues.

The study looked at an unprecedented 343 peer-reviewed publications comparing the nutritional quality and safety of organic and conventional plant-based foods, including fruits, vegetables and grains. The study team applied sophisticated meta-analysis techniques to quantify differences between organic and non-organic foods.

Quality of studies improves

“Science marches on,” said Charles Benbrook, a Washington State University researcher and the lone American co-author of the paper published in the British

Journal of Nutrition. “Our team learned valuable lessons from earlier reviews on this topic, and we benefited from the team’s remarkable breadth of scientific skills and experience.”

Most of the publications covered in the study looked at crops grown in the same area on similar soils. This approach reduces other possible sources of variation in nutritional and safety parameters.

The research team found the quality and reliability of comparison studies has greatly improved in recent years, leading to the discovery of significant nutritional and food safety differences not detected in earlier studies. For example, the new study incorporates the results of a research project led by WSU’s John Reganold that compared the nutritional and sensory quality of organic and conventional strawberries grown in

California.

Responding to the new paper’s results, Reganold said, “This is an impressive study, and its major nutritional findings are similar to those reported in our 2010 strawberry paper.”

Organic plants produce more antioxidants

The British Journal of Nutrition study was led by scientists at Newcastle University in the United Kingdom, with Benbrook helping design the study, write the paper and review the scientific literature, particularly on studies in North and South America.

In general, the team found that organic crops have several nutritional benefits that stem from the way the crops are produced. A plant on a conventionally managed field will typically have access to high levels of synthetic nitrogen and will marshal the extra resources into producing sugars





the **HEALTHY, HAPPY** FACTS about **ORGANIC**

ORGANIC means we happily say NO to...

- Toxic synthetic pesticides and fertilizers
- GMOs
- Irradiation
- Artificial Ingredients and preservatives

ORGANIC is a better choice because...

- It's safer!** For the people who eat it, the farmers who grow it and the planet we all share
- It's healthier!** Research suggests that organic produce may be more nutritious than conventional
- It's happier!** A recent study showed that people who eat more fruits and vegetables have better mental health,* and choosing organic produce means it's healthy for their bodies too

ORGANIC means we have a long-term commitment to building healthy, thriving soil. We use techniques such as...

- Cover cropping:** Planting non-cash crops that enrich the soil and discourage weeds
- Crop rotation:** Moving our crops regularly to ensure we're not depleting essential nutrients from the soil
- Composting:** Enriching our soil by adding organic matter and microorganisms
- Creating beneficial insect habitats:** Cultivating flowering plants near our fields to attract insects (like ladybugs) that help us control pests

The best way to find ORGANIC products is to...

- Look for the Earthbound Farm logo! We're only organic, all of the time!
- Look for the USDA organic seal
- Look for a "9" on bulk produce items

When you choose ORGANIC you're in good company...

- 81% of U.S. families are buying organic!**
- 52% of U.S. families are buying more organic today than a year ago!**

and starches. As a result, the harvested portion of the plant will often contain lower concentrations of other nutrients, including health-promoting antioxidants.

Without the synthetic chemical pesticides applied on conventional crops, organic plants tend to produce more phenols and polyphenols to defend against pest attacks and related injuries. In people, phenols and polyphenols can help prevent diseases triggered or promoted by oxidative damage, like coronary heart disease, stroke and certain cancers.

Overall, organic crops had 18 to 69 percent higher concentrations of antioxidant compounds. The team concludes that consumers who switch to organic fruit, vegetables and cereals would get 20 to 40 percent more antioxidants. That's the equivalent of about two extra portions of fruit and vegetables a day, with no increase in caloric intake.

10 to 100 times fewer pesticide residues

The researchers also found pesticide residues were three to four times more likely in conventional foods than organic ones, as organic farmers are not allowed

to apply toxic, synthetic pesticides. While crops harvested from organically managed fields sometimes contain pesticide residues, the levels are usually 10-fold to 100-fold lower in organic food, compared to the corresponding, conventionally grown food.

"This study is telling a powerful story of how organic plant-based foods are nutritionally superior and deliver bona fide health benefits," said Benbrook.

In a surprising finding, the team concluded that conventional crops had roughly twice as much cadmium, a toxic heavy metal contaminant, as organic crops. The leading explanation is that certain fertilizers approved for use only on conventional farms somehow make cadmium more available to plant roots. A doubling of cadmium from food could push some individuals over safe daily intake levels.

Team surveys more and better studies

More than half the studies in the Newcastle analysis were not available to the research team that carried out a 2009 study commissioned by the UK Food Standards Agency. Another review published by a Stanford University team in 2011 failed

to identify any significant clinical health benefits from consumption of organic food, but incorporated fewer than half the number of comparisons for most health-promoting nutrients.

"We benefited from a much larger and higher quality set of studies than our colleagues who carried out earlier reviews," said Carlo Leifert, a Newcastle University professor and the project leader.

The Newcastle study cost about \$429,000 and was funded by the European Framework Programme 6, which is a research program of the European Union, and the Sheepdrove Trust, a private charity that supports research on sustainability, diversity and organic farming.





Study finds clear differences between organic and non-organic food

LONDON: It is now official - fruits and vegetables grown organically are up to 69% higher in a number of key antioxidants than conventionally-grown crops.

The largest study of its kind by an international team of experts led by Newcastle University in UK analysed 343 studies into the compositional differences between organic and conventional crops and found that a switch to eating organic fruit, vegetable and cereals - and food made from them - would provide additional antioxidants equivalent to eating between 1-2 extra portions of fruit and vegetables a day.

The study, published in the British Journal of Nutrition on Saturday also shows significantly lower levels of toxic heavy metals in organic crops.

Cadmium, which is one of only three metal contaminants along with lead and mercury for which the European Commission has set maximum permitted contamination levels in food, was found to be almost 50% lower in organic crops than conventionally-grown ones.

The study, funded jointly by the European

Framework 6 programme and the Sheepdrove Trust, found that concentrations of antioxidants such as polyphenolics were between 18-69% higher in organically-grown crops.

Numerous studies have linked antioxidants to a reduced risk of chronic diseases, including cardiovascular and neurodegenerative diseases and certain cancers. Substantially lower concentrations of a range of the toxic heavy metal cadmium were also detected in organic crops (on average 48% lower).

Nitrogen concentrations were found to be significantly lower in organic crops. Concentrations of total nitrogen were 10%, nitrate 30% and nitrite 87% lower in organic compared to conventional crops.

The study also found that pesticide residues were four times more likely to be found in conventional crops than organic ones.

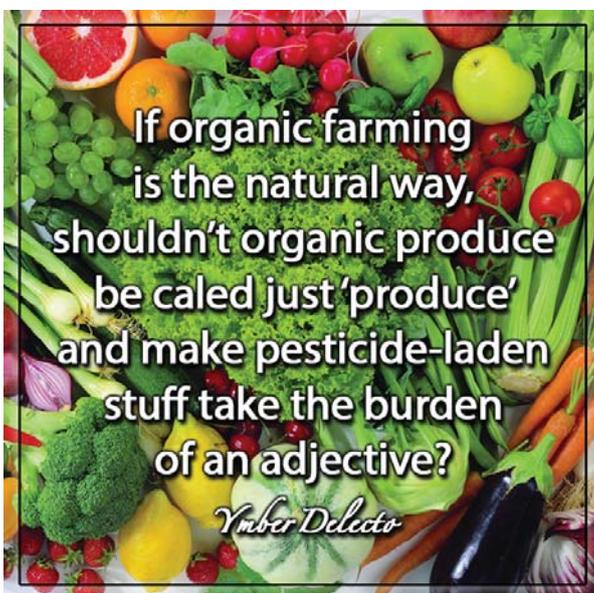
Newcastle University's professor Carlo Leifert who led the study said "This study demonstrates that choosing food produced according to organic standards can lead to increased intake of nutritionally desirable

antioxidants and reduced exposure to toxic heavy metals.

Professor Charles Benbrook, one of the authors of the study and a leading scientist based at Washington State University, explains "Our results are highly relevant and significant and will help both scientists and consumers sort through the often conflicting information currently available on the nutrient density of organic and conventional plant-based foods".

Professor Leifert added "The organic vs non-organic debate has rumbled on for decades now but the evidence from this study is overwhelming - that organic food is high in antioxidants and lower in toxic metals and pesticides.

This is the most extensive analysis of the nutrient content in organic vs conventionally-produced foods ever undertaken and is the result of a ground-breaking new systematic literature review and meta-analysis by the international team.



The organic vs non-organic debate has rumbled on for decades now but the evidence from this study is overwhelming - that organic food is high in antioxidants and lower in toxic metals and pesticides.





Organic foods may help prevent cancer: Study

WASHINGTON: Organic foods and crops have a suite of advantages over their conventional counterparts, including more antioxidants, fewer, less frequent pesticide residues, and properties that may help prevent cancer, a study suggests.

Without the synthetic chemical pesticides applied on conventional crops, organic plants tend to produce more phenols and polyphenols to defend against pest attacks and related injuries, the findings showed.

In people, phenols and polyphenols can help prevent diseases triggered or promoted by oxidative-damage like coronary heart disease, stroke and certain cancers.

Overall, organic crops had 18 to 69 percent higher concentrations of antioxidant compounds, the study said.

"This study is telling a powerful story of how organic plant-based foods are nutritionally superior and deliver bona fide health benefits," said co-author of the study Charles Benbrook, a researcher at Washington State University in the US.

The team found that organic crops have several nutritional benefits that stem from the way the crops are produced.

A plant on a conventionally managed field will typically have access to high levels of synthetic nitrogen, and will marshal the extra resources into producing sugars and starches.

As a result, the harvested portion of the plant will often contain lower concentrations of other nutrients, including health-promoting antioxidants.

The study looked at an unprecedented 343 peer-reviewed publications comparing the nutritional quality and safety of organic and conventional plant-based foods, including fruits, vegetables, and grains.

The researchers applied sophisticated meta-analysis techniques to quantify differences between organic and non-organic foods.

Pesticide residues were three to four times more likely in conventional foods than organic ones, as organic farmers are not allowed to apply toxic, synthetic pesticides.

Consumers who switch to organic fruit, vegetables, and cereals would get 20 to 40 percent more antioxidants, the researchers concluded.

The study appeared in the British Journal of Nutrition.

Be S.M.A.R.T.
Sustainable, Meaningful Actions for a Responsible TATA Way

Eco-Label: Mobius Loop
Significance: Product is capable of recycling. Do not throw.
Seen on: All Products

Eco-Label: Leaping Bunny
Significance: No animal testing has been done. Prefer them.
Seen on: Cosmetics

Eco-Label: WEEE Symbol
Significance: Give to authorised recycler & get discounts.
Seen on: Electronics

Eco-Label: Energy Rating
Significance: More stars, more energy efficient. Choose to reduce electricity bills and climate impact.
Seen on: Appliances

Know What You Are Buying. Make A Conscious Decision.

Green Consumer Day

28th September 2014



In fond remembrance

Howard Thomas Odum

(also known as Tom or just H.T.) (1924–2002) was an American ecologist. He is known for his pioneering work on ecosystem ecology, and for his provocative proposals for additional laws of thermodynamics, informed by his work on general systems theory.



Odum was the third child of the American sociologist Howard W. Odum, and the brother of Eugene Odum. Their father “encouraged his sons to go into science and to develop new techniques to contribute to social progress. Howard learned his early scientific lessons about birds from his brother, and about fish and the philosophy of biology while working after school for the marine zoologist Robert Coker.

Howard Thomas studied biology at the University of North Carolina at Chapel Hill, where he published his first paper while still an undergraduate. His education was interrupted for three years by his World War II service with the Army Air Force in Puerto Rico and the Panama Canal Zone where he worked as a tropical meteorologist. After the war, he returned to the University of North Carolina and completed his B.S. in zoology (Phi Beta Kappa) in 1947.

In 1950, Howard earned his Ph.D. in zoology at Yale University, under the guidance of G. Evelyn Hutchinson. His dissertation was titled *The Biogeochemistry of Strontium: With Discussion on the Ecological Integration of*

Elements. This step took him from his early interest in ornithology and brought him into the emerging field of systems ecology. Through this a meteorologist “analysis of the global circulation of strontium, anticipated in the late 1940s the view of the earth as one great ecosystem.”

While at Yale, Howard began his lifelong collaborations with his brother Eugene. They continued to collaborate in research as well as writing for the rest of their lives.

From 1956 to 1963, Odum worked as the Director of the Marine Institute of the University of Texas. During this time, he became aware of the interplay of ecological-energetic and economic forces. He then taught at the University of North Carolina at Chapel Hill, where he was in the Department of Zoology, and one of the professors in the new Curriculum of Marine Sciences until his move to the University of Florida in 1970 where he taught at the Environmental Engineering Sciences Department, started and directed the Center for Environmental Policy and founded the University’s Center for Wetlands in 1973, the first of its kind in the world that is still in operation today.

Odum continued this work for 26 years until his retirement in 1996. In the 1960s-1970s Odum was also chairman of the International Biological Program’s Tropical Biome planning committee and was supported by large contracts with the United States Atomic Energy Commission. His featured project at University of Florida in the 1970s was on recycling treated sewage into cypress swamps, one of the first projects that began the now widespread approach of using wetlands as water quality improvement ecosystems. This is one of his most important contributions to the beginnings of the field of ecological engineering.

In his last years, Odum was Graduate Research Professor Emeritus and Director of the Center for Environmental Policy. He was

an avid birdwatcher in both his professional and personal life.

The Ecological Society awarded Odum its Mercer Award to recognize his contributions to the study of the coral reef on Eniwetok Atoll. Odum also received the French Prix de Vie, and the Crafoord Prize of the Royal Swedish Academy of Science considered the Nobel equivalent for bioscience not originally honored by Nobel himself. Charles A S Hall has called Odum one of the most innovative and important thinkers of our time, noting that Howard Odum, either alone or with his brother Eugene, received essentially all of international prizes awarded to ecologists. The only higher education institute to award both Odum brothers honorary degrees was The Ohio State University which honored H.T. in 1995 and Gene in 1999.

Odum’s students have carried on his work at institutions around the world, most notably Mark Brown, David Tilley, Patrick Kangas, Daniel Campbell, Enrique Ortega and Sergio Ulgiati. Work done by them continues to evolve and propagate the Odum’s concept of emergy. His former students Bill Mitsch, Robert Costanza, and Scott W. Nixon are among a cadre of former students who have been recognized internationally for their contributions to ecological engineering, ecological economics, ecosystem science, wetland ecology, estuarine ecology, ecological modeling, and related fields.

Odum also received the French Prix de Vie, and the Crafoord Prize of the Royal Swedish Academy of Science considered the Nobel equivalent for bioscience



Dragon fly

Sandeepan Bhattacharjee

Hathikuli Organic-Growing Naturally

-by Sandeepan Bhattacharjee



Lesser Cormorant



Purple Marsh Hen



Peacock Soft shell Turtle



Palm Squirrel



Greater Goldenback wood pecker



White Lipped Put viper



Sandeepan Bhattacharjee

Eastern Eyed Cat Snake



Black Kite



Lesser Adjutant Stork



Sandeepan Bhattacharjee is an Assistant Manager at Hathikuli Tea Estate.

Sandeepan is a talented photographer and a wild life and nature enthusiast so this has given him ample opportunities to click pictures of animals and birds in Hathikuli and Kaziranga.





Organic News

World Scenerio

1) 45% of Americans try to include organic foods in their diet, 15% try to avoid them

<http://www.freshplaza.com/article/125663/45-percent-of-Americans-try-to-include-organic-foods-in-their-diet,-15-percent-try-to-avoid-them>

- Nearly half of all Americans have embraced organic foods, according to a new national poll
- As part of its annual Consumption Habits survey, Gallup for the first time asked respondents about their feelings on organic foods. The polling firm found 45% of respondents say they try to include organic foods in their diets.

2) Canada funds research to boost organic produce

<http://www.thepacker.com/fruit-vegetable-news/marketing-profiles/Canada-funds-research-to-boost-organic-produce-272048741.html>

- The Canadian government is investing \$8 million in organic research that includes projects on increasing yield and quality of organic fruits and vegetables.
- Investments like this in research and development span the entire value chain, from production through to the consumer, and support the competitiveness, growth and prosperity of the organic sector and our overall economy

3) Organic growth spurt in Spain

<http://www.theolivepress.es/spain-news/2014/08/23/organic-growth-spurt-in-spain/>

- SPAIN has the largest area dedicated to organic farming in the whole of Europe, according to Eurostat data.
- It is also placed fifth in the world – following Australia, Argentina, the United

States and China – thanks to its mild climate and perfect farming conditions.

4) Organic Farm products gain Popularity in Italy

<http://www.oryza.com/news/rice-news/organic-farm-products-gain-popularity-italy>

- According to the Italian Agriculture Minister, Consumption of organic farm products in Italy has increased by around 17.3%, despite a decline in general food consumption by around 1.4%

5) Organic buyers not concerned by country of origin

<http://www.agriland.ie/news/organic-buyers-concerned-country-origin/>

- The organic customer in Italy tends to be less concerned with a product's country of origin
- Confidence in organic production methods is a more important factor in determining purchasing decisions."

6) Organic farming couple honoured by White House

[http://www.freshplaza.com/article/126171/US-\(CA\)-Organic-farming-couple-honoured-by-White-House](http://www.freshplaza.com/article/126171/US-(CA)-Organic-farming-couple-honoured-by-White-House)

- An Escondido couple who run an organic farm were among a dozen military veterans and their families honoured today as "Champions of Change" by the White House.
- Colin and Karen Archipley co-founded Archi's Acres Organic Farming Enterprise, a seven-year-old, 1-acre certified organic greenhouse operation that grows basil and kale and other things for Whole Foods.

7) Organic Material Recycling Momentum Builds

<http://biomassmagazine.com/articles/10842/organic-material-recycling-momentum-builds>

- As more systems come on line in jurisdictions where there are financial

incentives for biogas, competition is increasing for organic material

- As the biogas sector grows, it is faced with a new challenge. Biogas systems convert decaying organic material into useable energy and a soil amendment.

8) Organic farming takes root in Nepal

<http://www.freshplaza.com/article/125646/Organic-farming-takes-root-in-Nepal>

- Lama and his enterprise are part of a new agricultural sector flourishing in Nepal. The 60 varieties of vegetables grown on his farm bring in NRs. 1.5m (\$15,470) monthly.

9) Organic farming training helps create self-employment

<http://www.thedailystar.net/organic-farming-training-helps-create-self-employment-37820>

- An organic farming training center has been built on 8 acres of land in a remote area under Kaliganj upazila. This is the first such training center in Bangladesh.
- The farmers and female workers of different districts are receiving training from the center, which is housed in two four-storied building in Kaliganj upazila.

10) Organic food growing popular in Hong Kong thanks to food safety scare

<http://www.freshplaza.com/article/127009/Organic-food-growing-popular-in-Hong-Kong-thanks-to-food-safety-scare>

- One of the world's most densely populated places, the former British colony imports nearly all of its food with just two per cent of its vegetables locally grown.
- While still flown in to the semi-autonomous southern Chinese city, homegrown organic vegetables now make up 12 per cent of the 45 tons of vegetables the city produces daily.
- Shoppers are shrugging off the fact that



Organic News

they cost more than their mass produced counterparts.

India news

1) Organic farming in State by 2016

<http://www.thehindu.com/news/cities/kozhikode/organic-farming-in-state-by-2016/article6325687.ece>

- Chief Minister Oommen Chandy has said organic farming will cover the entire State by the end of 2016.
- the State would be able to utilise the technology and technical know-how of foreign nations. Besides, steps would be taken to put into practice the results of the agriculture research centres in the country.

2) Government focuses on organic farming

<http://timesofindia.indiatimes.com/city/nashik/Government-focuses-on-organic-farming/articleshow/41292666.cms>

- Divisional commissioner Eknath Dawale on Saturday urged farmers to increase source of organic contents.
- Organic farming is a low-cost method, but we have very limited resources for organic farming. We would not be able to increase the areas under organic farming until we increase the source of organic contents," he said

3) Agriculture college to start in-house organic course for farmers

<http://timesofindia.indiatimes.com/city/madurai/Agriculture-college-to-start-in-house-organic-course-for-farmers/articleshow/40382949.cms>

- In a major move to give thrust on organic farming, Agricultural College and Research Institute (AC & RI), Madurai of Tamil Nadu Agriculture University, will sign a Memorandum of Understanding with organic farming community of Aruppukottai.

- The college will be signing the MoU with Sustainable Agro Alliance (SAAL) of Aruppukottai during the inauguration of golden jubilee year on Tuesday.
- The minimum qualification for attending this course will be a pass in Class 8. The course fee has been fixed as Rs 4,000

4) Farm fresh organic vegetables at your doorstep in Surat

<http://timesofindia.indiatimes.com/city/surat/Farm-fresh-organic-vegetables-at-your-doorstep-in-Surat/articleshow/41807792.cms>

- Three youngsters in their 20's have started free home delivery of the farm fresh organic vegetables and fruits in the diamond city.
- The organic vegetables are sourced from a farm based out of Ahmedabad and that the normal vegetables and fruits are sourced from the wholesaler dealers in APMC market in the city

5) Organic veggies the new flavour for Onam in Kerala

<http://www.deccanherald.com/content/429399/organic-veggies-flavour-onam-kerala.html>

- As the state prepares for the festival this time, the feast would not only be tastier but safer as well, thanks to the organically grown vegetables.
- The rise in pesticide residues in vegetables sold in local markets prompted many to turn to the organic variety, as sellers press home the merits of switching to organic food in the season of indulgence.

6) Bihar to team with CII for organic farming promotion

<http://www.thehindubusinessline.com/news/states/bihar-to-team-with-cii-for-organic-farming-promotion/article6383210.ece>

- Bihar has asked the Confederation of Indian Industry to collaborate with the

government in promotion of organic farming and skill development in the State.

- The industry apex body said that Jitan Ram Manjhi, Chief Minister of Bihar made this proposal on Friday when a CII Eastern Regional team met him at Patna,

7) Rs 1.5 crore plant at Kopri will turn floral waste into organic manure

<http://timesofindia.indiatimes.com/city/thane/Rs-1-5-crore-plant-at-Kopri-will-turn-floral-waste-into-organic-manure/articleshow/41451096.cms>

- The Thane Municipal Corporation's (TMC) pollution control department in collaboration with a local non-governmental organization - Samarth Bharat Vyaspeeth (SBV) has initiated a Rs 1.5 crore project for generating organic manure from all the floral waste that shall be collected from immersion sites across the city.

8) Now, actor markets organic produce

<http://timesofindia.indiatimes.com/City/Kochi/Now-actor-markets-organic-produce/articleshow/42381994.cms>

- When buyers and sellers from several countries converge here in November for 'BioFach India together with India Organic 2014', a niche trade fair on organic products in India, to scout for organic products, actor Sreenivasan will have something to offer.
- The harvest from 40-acre paddy fields near his house in Kandand near Tripunithura will be up for grabs.

9) Hyderabad takes to organic foods

<http://www.deccanchronicle.com/140911/nation-current-affairs/article/hyderabad-takes-organic-foods-0>

- The demand for organic food products has been rising steadily in the city, with a



Organic News

48 per cent increase since 2011.

- Today, there are 32 new mini stores selling organic produce in the city. Moreover, weekly and monthly organic bazaars are organised and there is also the option of home delivery of organic products.

10) Going the organic way

<http://www.thehindu.com/features/friday-review/going-the-organic-way/article6379576.ece>

- She has built a label block by block! When Neesha Amrish began a one-table fabric printing unit in T. Nagar, Chennai, six years ago, she never imagined she would survive the winds of change sweeping the fashion industry.
- "All I could see in the market was machine-made fabric with kilos of bling. And here I was, working in a non-descript studio trying to go organic with block prints and homespun textiles."
- But her vibrant colour stories, delicate motifs and fuss-free styling attracted

a steady stream of clients and she progressed from a one-table unit to a six-table, two-level studio in Tiruvanmiyur, where she displays saris, stoles, ethnic suits, fusion wear, jewellery and knick knacks made of organic textiles.

North-East News

1) Small growers await nod for organic tea factory

<http://www.assamtribune.com/scripts/detailsnew.asp?id=sep0314/state053>

- A section of officials of the Tea Board of India is alleged to be causing difficulties to some small tea growers who are taking to organic farming.
- Vijay Kashyap, a small tea grower and owner of the Agnigarh Bioplantations in Sonitpur district, alleged that though his farm submitted an original application to set up an organic tea factory to the Tezpur Tea Board office on December 10, 2013, the farm is yet to get the Board's nod for this.

Events

Asia's biggest Organic fair at Kochi in Nov

http://www.business-standard.com/article/pti-stories/asia-s-biggest-organic-fair-at-kochi-in-nov-114082700838_1.html

- Aiming to provide a common platform for buyers, sellers and other stakeholders in the organic sector, Kerala will be hosting Asia's biggest International Organic trade fair 'BioFach India'-India Organic 2014 at nearby Angamally from November 6-8. organised by the state government, Kerala State Industrial Development Corporation
- The conference is expected to create awareness about organic agri business, best practises in quality and value addition at global standards
- round 20 buyers from various parts of the country are expected to participate.





In Memorium

William Oliver

William was the former Chair of the IUCN/SSC Wild Pig Specialist Group, which he set up and coordinated for 32 years.

We have not only lost a widely valued conservation activist who spent most of his life fighting for the survival of endangered species, but also a remarkable character in conservation and a very talented artist.

Following a brief period as an animal keeper and education officer at Marwell Zoo, William launched his wildlife career at the Jersey Wildlife Preservation Trust (now the Durrell Wildlife Conservation Trust) in 1974. In 1977, he undertook a Pygmy hog field survey in Assam, India and from then onwards became a passionate conservationist and defender of the plight of wild pigs and other often overlooked taxa in the Philippines, Asia and across the globe. He helped establish the original Pigs and Peccaries Specialist Group in 1980 at the invitation of (the late) Sir Peter Scott, then Chair of the SSC.

William was instrumental in the development, from 1990 onwards, of the Philippines Biodiversity Conservation Programme with initially as core components the conservation programmes for the Visayan spotted deer, the Calamian deer and the Visayan Warty Pig. Over time the conservation activities expanded to other taxa, other areas and other partners, eventually resulting in the Philippines Biodiversity Conservation Foundation. In recent years, William was the Director of Programme Development and Conservation Partnerships for the foundation.

In 1995, 18 years after the formal submission and approval of the first 'pygmy hog action plan', William was instrumental in the establishment of an International Conservation Management and Research Agreement between the Union Ministry of Environment & Forests, India, the Assam Forest Department, the Pigs, Peccaries, and Hippos SG, and the Jersey Wildlife Preservation Trust and the

Pygmy Hog Conservation Programme was born. Today, the programme team in India has worked hard on habitat restoration, is running a very successful captive breeding operation in two facilities and has so far managed to reintroduce 85 captive bred hogs in two locations - significant numbers considering that the last naturally surviving population in Imlanasmay may count less than 200 animals. Recently, William was acknowledged for his work with the Pygmy Hog Conservation Programme when he was nominated as an Earth Hero by the Balipara Foundation in Assam, India. William received an award at the inaugural 2013 Balipara Foundation Awards - Recognizing Ecological Best Practices in the Eastern Himalayas.

It is no exaggeration to say that William was the founder of wild pig conservation worldwide. It was his life-long dedication and determination to put the conservation of these previously ignored species on the map. Without him, quite possibly an entire genus, *Porcula* (the Pygmy Hog), would have been lost.

William was an extraordinary character who left a lasting impression on all those who met him. He worked closely with Ranjit Barthakur, John Oliver, Mohan Pal Sidhu and continued to work with Gautam Narain till his untimely demise. He was well known among the planters especially visionaries like Mr. Richard Magor, Mr. B.M. Khaitan,

Mr. Aditya Khaitan.

He had an incredible grasp of the details of many conservation issues, and yet also had a huge vision. William was also a very talented wildlife illustrator. His artwork is published as wildlife stamps, book illustrations, awareness posters, logos etc. and has been used in the service of conservation for taxa in Asia and across the globe.

William Oliver passed away on 10 September 2014.

William will be sorely missed. No doubt the best way to honour him is to keep carrying out species conservation with passion, grit and determination.

It is no exaggeration to say that William was the founder of wild pig conservation worldwide. It was his life-long dedication and determination to put the conservation of these previously ignored species on the map.



A Grey Langur at Hathikuli Organic Tea Estate



Profiled and Published by APPL Foundation
Registered Office: 1 Bishop Lefroy Road. Kolkata 700020.

Editorial Board:

Conrad Dennis - conrad.dennis@amalgamated.in, **Husain Rajkotwala** - husain.rajkotwala@gms.net.in, **Ranjit Barthakur** - ranjit.barthakur@agilisys.co.uk, **Bittu Sehgal** - bittu@sanctuaryasia.com, **Prabir Banerjea** - prabir.banerjea@amalgamated.in, **Nicholas Claxton** - nicholas@wowmediaco.com,
Dr. Raman Srinivasan - Ignitesrini@gmail.com, **Kaustuv Bhadra** - kaustuvbhadra@gmail.com