

KISAN KI AWAAZ

(National Magazine of Farmers' Voice)



Sh. Om Parkash Chautala, Ex. C.M, Haryana, Dr. Murli Manohar Joshi, M.P. & Chairman Parliament Accounts committee, Dr. Krishan Bir Chaudhary, President, Bharatiya Krishak Samaj & Sh. Naresh Sirohi, Gen. Sect. Kisan Morcha BJP in a BKU meeting, 6, October, 2012 in Sisoli, Muzaffarnagar (U.P.)





Note of Caution to Government to Protect Farmers from MNCs Nuisance



The Government has opened the doors for foreign direct investment ((FDI) in the multi-brand retail chain in the country, totally unmindful of the harm likely to be caused to the farmers. While pushing for what is called the “big ticket reforms”, it ignored the voices of the Opposition parties and some of its allies. The Government also turned a Nelson Eye to the widespread resentment of farmers and consumer organizations across the country. The big ticket reforms was undertaken at the behest of powers outside the country – the mighty food MNCs and their patron, the United States of America. With the backing of these mighty forces, the Government conveniently ignored the opposition at home.

The hopes of the Government are that a lot of foreign capital will flow in which would facilitate the growth of the GDP to the magic 9% and above. FDIs and technology transfer are needed for the growth of the economy in select sectors which are capital and technology intensive like heavy industries, aviation, railways, shipping and others. FDIs are definitely not required in retail chains. The traders in this country have enough money and knowledge at their disposal to run the business. Handing over the retail business in the country to the mighty MNCs would lead to the exploitation of farmers and consumers. Developed countries where this trend of corporatization of retail chains began, experienced the distress of farmers and consumers. The UK Government had to appoint the Competition Commission to undertake a study. The report of the UK Competition Commission reveal awful distress to farmers, but the Government was helpless as it had no elbow space to deal with the situation.

In India, the Government while opening the doors to FDIs in multi-brand retail chains has made some cosmetic safeguards, but not enough to safeguard the interests of farmers.

The Government should establish a National Authority to act as a watchdog with majority representation of farmers. This Authority needs to have the power and resources to directly intervene and take action against malpractices and misdoings of the retail chains without waiting for a written complaint. Farmers

All the MNCs and domestic corporate houses in the retail chain should reveal their sources of supply and buying prices. Maximum Retail Price (MRP) must not be left open for retailers and there needs to be a reasonable cap on MRP in proportion to the input cost. The retail chains should ensure minimum 60% share of retail price to producers of milk, fruits and vegetables.

There is a need to regulate and monitor contract farming to protect farmers' interests and see their land is not confiscated. Payment to farmers should be within a month of procurement and no unreasonable rejection of farmers produce in the name of quality and standard should be made.

The watchdog should ensure that no single retailer monopolizes procurement operations in an area. It should prohibit verticle agreements between retailers or intermediaries and seed and fertilizer companies.

Food retailers or other agribusiness companies should not be allowed to corner and hoard foodgrains stocks under any circumstances. To prevent cornering of stocks by corporates, there should be rules for public disclosure of stock holding levels. Public agencies should be empowered to purchase foodgrains from the private holders at pre-specified prices.

Krishan Bir Chaudhary



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CONTENTS

How 'scientific poisoners' threaten the future * Mike Adams	2
Five things science & tech minister must do * Gopal Krishna	5
Asia-Europe People's Forum gathered	7
ekckby Oku) kjk xkø ds thou ea cnyko * vfi r'k 'kekj	9
Effect of Climate Change on Crop Pollination * Saurabh Singh	11
No more GM crops, but biotech tools * Ashok B Sharma	14
[kqjk {ks= ea , QMhvkbl ij jkt ulfr * j e s' k HkVV	16
Excess Cancers and Deaths with GM Feed: * Prof Peter Saunders	19
, QMhvkbl dk Qnk& uk cps fdI kuhj uk xjhc dk /kdkk * <i>uj'sk fl jkgh</i>	21
Sow FDI in retail, reap poison food * Sandhya Jain	24
Pollution Free Poultry Farming * Dr. G.N. Reddi	26
Cherries May Help Reduce Risk of Gout Attacks * Dr. Mercola	28
Retail FDI: The Last Nail in the Coffin * Dharmendra Kumar	30
80% of pesticides cause reproductive harm in men * T.M. Hartle	32

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Suggestions for improvement are invited

How 'scientific poisoners' threaten the future of life on planet Earth

* Mike Adams

October 15, 2012 - There is a battle being waged for your mind. To the victor comes influence over your beliefs, your purchase decisions, and even your values.

On one side of the battlefield are the so-called 'scientific' poisoners, who are really just proxy scientists and propagandists promoting corporate interests.

think is safe to put on your skin or ingest into your body. Hydrofluosilicic acid -- also mistakenly called "fluoride" -- is perfectly safe to drink, they say. Chemotherapy is good for you and doesn't make your hair fall out or damage your kidneys.

Psychiatric drugs are more important than vitamins. Pharmaceuticals should be your nutrition! And your immune system is incomplete without vaccine



These 'scientists' want to convince you that there's no such thing as a dangerous pesticide. That GMOs are harmless, in fact healthful. That autism isn't caused by any possibly related to chemical exposure, and that vaccines are a scientific gift to humanity, without which we would have all died from infectious disease.

There is no chemical the scientific poisoners do not

intervention at the tip of a needle.

This "cult of scientism" believes that nature is a failure. Your body is a failure. That nothing good happens without chemical intervention. Crops won't grow unless they're GMO. The world will starve without bt insecticides being engineered into the kernels of corn.

Humans would be extinct if not for vaccines and

pharmaceuticals. There is no God. Instead, we should worship Monsanto, Dupont, Dow Chemical, Merck, Pfizer, and all the other corporate giants that produce the chemicals we're supposed to consume.

The "naturalists" seek to protect life

On the other side of this battleground are the naturalists. The protectors of life. People who have a home garden and know the value of open-pollinated seeds. People who eat real food, organic food, grown without toxic chemical pesticides, fungicides and synthetic fertilizer.

These people recognize the wisdom of nature; the self-healing potential of the human body; the value of nutrition; and the importance of protecting the environment in the interests of sustaining life on our planet. To the naturalists, playing God with seeds is a crime against nature.

Injecting toddlers with mercury preservatives is a violation of basic human rights. Dumping toxic fluoride chemicals into the public water supply is a violation of not just law, but of the very principles of scientific medicine.

The naturalists want to stop the poisoning of the planet, of our children, of the oceans and the air. They want GMOs labeled on foods. They want the choice to opt out of dangerous experimental vaccines, none of which have ever been proven in randomized, double-blind, placebo-controlled studies.

The naturalists, in essence, want to protect life. They seek to live without the devastating scourge of synthetic chemicals. They see that life is sacred, and fragile, and that arrogant intervention is a dangerous thing.

The corporate agenda of death and profit

The naturalists are out-funded, however. The scientific poisoners have seemingly unlimited corporate funds to push their poison agenda. They have money to lobby lawmakers, to run television

ad campaigns that influence votes at the polls.

They have money to buy off the regulators such as the USDA and FDA. They have so much money, in fact, they have bought off virtually every university, every medical school and every medical journal in the world. On top of that, they own the mainstream media. They set the editorial agenda that you ultimately see at the New York Times, or CNN, or MSNBC.

The agenda is always pro-corporation. Anti-human. Pro profit. Anti-health. Pro sickness and disease. Anti wellness and longevity. Pro medical enslavement. Anti health freedom.

The scientific poisoners have now realized that truthful information is a threat to their entire business model. If GMOs have to be labeled on foods, for example, nobody will buy them. If the truth about chemotherapy had to be told to cancer patients, nobody would accept it.

If people really knew what chemicals go into their foods, and medicines, and skin lotions and backyard weed killers, they'd never buy them again.

That's because the truth about the toxicity of all these chemicals is horrifying. There are currently over 50,000 synthetic chemicals in your food, medicine, personal care and home care products which have never been safety tested nor approved by any government agency.

Taken one at a time, each individual chemical is already toxic at a certain level, but when absorbed in combination, the result on human health, cognitive function and fertility is catastrophic.

Cancer rates are skyrocketing. Autism is off the charts. Alzheimer's and dementia is happening to younger and younger people. Infertility is at record levels. Obesity is through the roof. Skin conditions, asthma, allergies and inflammation are all at the highest levels ever documented in human history.

But the scientific poisoners somehow want you to believe all of this has no cause. It couldn't be the chemicals, they insist, because the chemicals are

safe! And how do we know that? Because the corporate scientists said so.

As we are all being poisoned, the corporations are raking in record profits. As our soils are being killed with chemicals, made into infertile croplands, we're being lied to, told that GMOs will "feed the world." Yet millions of farmers in India who relied on GMOs are now dead, having committed suicide after experiencing total crop failures for their genetically engineered crops. They were lied to. And WE are being lied to as well.

A betrayal of humanity in the name of "science"

The scientific poisoners promise abundance but deliver starvation. They promise health but deliver suffering and disease. They promise control over nature but actually cause out-of-control nature, such as the antibiotic-resistant superbugs that now threaten humanity, and for which there is no defense.

The scientific poisoners are worse than politicians: They not only fail to deliver what they promise; they make things far worse. GMOs now threaten the planet with runaway, self-replicating genetic pollution. Fluoride chemicals dumb down the population, retarding brain growth. Medication chemicals only propagate chronic degenerative disease while curing nothing.

Corporate-sponsored science, it turns out, is a fraud. It offers nothing to humanity other than enslavement, sickness, starvation and death. Not all science is bad, of course, but when science is conducted in the name of corporate interests, it ceases to be any science at all.

It becomes a doctrine. A religion. A cult more dangerous than anything our world has ever witnessed. "Scientism" has become the new Church, and it is a Church that tolerates no dissention, no real scientific inquiry, and no opposing views.

You are either 100% in favor of pesticides, vaccines, GMOs, psychiatric drugs and lawn care

chemicals, or you are condemned by the Church of Scientism as a heretic.

Do you stand for life and the natural world, or do you stand for corporate-driven "scientific" death? It is time for us all to gain clarity on where we stand on this battleground.

The battle lines are drawn. On one side, there are the corporations, their proxy scientists, the media sellouts, and the pushers of everything toxic under the sun: vaccines, fluoride, chemotherapy, prescription drugs, GMOs, pesticides, fungicides, herbicides and genocide.

On the other side are those of us who seek to protect life. We hold sacred organic foods, home gardening, health freedom, the power of choice, knowledge, wisdom and the protection of our children.

We hold sacred open-pollinated seeds, and the insect pollinators that make them work! We believe in clean water, clean air, bright sunshine, rainwater collection, critical thinking, self-care, consciousness, spirituality and the healing arts. We are the future of humankind.

We are the answer to the continuation of life on Earth. And we will fight for that future, against the poisoners, against the fraudulent quack science, and against the toxic chemicals that corporations want to force us to consume.

Join me, Mike Adams, the Health Ranger, in this sacred battle for our future. At my website NaturalNews.com, we fight for organics, for GMO labeling, for medical freedom, and health freedom, and even the right to plant your own home garden without being terrorized by government officials.

We fight for liberty and much more: For our future. For a world that can still support life, that still has fish in the ocean, and microbes in the soil, and honeybees to pollinate our food crops. Our weapons are words, our strategy is to tell the truth. Our victory is inevitable.

http://www.naturalnews.com/037549_Cult_of_Scientism_poisoners_naturalists.html

Five things science & tech minister must do

* Gopal Krishna

October 29, 2012 - The new Science, Technology and Earth Sciences Minister Sudini Jaipal Reddy can contribute to undo India's pathetic scientific reputation in terms of invention and innovation, says Gopal Krishna



Outstanding Parliamentarian Sudini Jaipal Reddy, the new minister of science, technology and earth sciences deserves salute for his role as a minister of petroleum and natural gas from where he has been shifted in a stark controversial move.

Some external forces who believe in getting the law changed if the law is not favourable and getting the minister and officers changed if they are honest, have prevailed once again in the way it did earlier in the case Mani Shankar Aiyar.

First, reminding our romnesiac prime minister of his inaugural speech at the 99th Indian Science Congress in January 2012, the new minister should seek enhanced budgetary allocation for his ministry.

Although the prime minister emphasised the need for a major increase in investment in research and development, the allocation of funds for the science and technology sector in the Union Budget for 2012-13 was highly unsatisfactory.

Admittedly, the current spending on R&D in the country was "too low and stagnant" at about one per cent of GDP. The current allocations for the science ministries and departments reveal the prime minister's insincerity.

Second, the imminent launch of the Rs 450 crore Mars Orbiter Mission to study martian atmosphere from the spaceport in Sri hari kota, Andhra Pradesh, making India the sixth country to launch after United States, Russia, Europe, Japan and China in November next year merits his attention.

The first thing he should is to set up a high-level scientific team to study why the mars mission by China and Japan was abandoned midway. The spacecraft is expected to take nearly 300 days to reach the martian orbit.

The spacecraft will be placed in an orbit of 500x80,000 km around mars and has a tentative scientific objective for studying the climate, geology, origin, evolution and sustainability of life on the planet. The Union Cabinet approved the mission at a meeting on August 4, which was announced by the prime minister in his 66th Independence Day address.

Third, at a time when exploitation of unfathomable global commons like the deep sea bed, Antarctica and space is imminent and the UN even has a committee to discuss resource exploitation on the moon his role in turning the current reductionist approach of the ministry into a holistic approach towards the life-bearing planet will be path breaking.

He must undo the current well entrenched inequality by ensuring that most scientific findings become available in vernacular languages in real time instead of letting it trickle down after decades. The access to most fruits of modern science and technology is getting cornered by 1 per cent private

interests at the cost of commons. Industries displace more earth per annum than is lost through natural erosion.

The annual runoff from aquifer mining nearly matches the sea level rise from the "melt" of polar glaciers; and there is 3 to 6 times more water dammed than in natural rivers.

Its adverse impact will be unprecedented. Knowledge of the carrying capacity of earth's space occupied by India is extremely limited this must be ascertained before replumbing of planet unfolds and before it is too late.

Fourth, while the international nature of scientific inquiry is admitted what appears forgotten is that science exists in a local/national social setting. If that setting is molded decisively the conceptual growth of science will determine the depth of its influence. The ministry must overhaul its institutional structure to reach every local setting, every village of the country.

Fifth, technological transformation at least since 1992 through information technologies, biotechnologies and engineering has unfolded amidst lack of trusted and transparent mechanisms for technology evaluation at global, regional and national levels.

India is not an exception to such unhealthy trend. It may be recollected that Agenda 21's Chapter 34 had called for regional capacity-building for technology assessment but in 1993, the UN all but eliminated its Center for Science and Technology for Development, moved the remnants from New York to UNCTAD in Geneva, and, simultaneously, eradicated its Centre on Transnational Corporations, thus terminating the minimal global capacity that had existed to monitor and advice on new technologies and on private sector technology transfer..

There is a surveillance regime emerging for people but not technologies. The speed and cost of mapping the human genome has dropped from 13 years and \$1.3 billion to 14 days and \$5,000 en route to 15 minutes and a few hundred dollars soon

after 2012. Governments have spent more than \$50 billion on nanotech research & development; the cost of carbon nanotubes has dropped by a factor of 20 since 2001.

It is frightening that there are thousands of consumer products that rely on it but there is no agreed nanotech definition or regulation.

As to synthetic biology, undergraduates with \$400 gene synthesisers can download templates to build DNA while scientists can create self-replicating artificial microbes and six letter DNA. The world is moving towards a convergence era.

Governments and scientific institutions are predicting the unification of "Bits, Atoms, Neurons and Genes" as the next Industrial Revolution transforming trade, economies and industrial production unfortunately without evaluation.

Failure of new technologies and innovations without evaluation since the 1992 Earth Summit proved socially, ecologically and financially costly in Europe and globally. The greatest technological transformation in history has occurred over the last 20 years while governments systematically downsized or eliminated their capacity to comprehend science and monitor technologies.

The minister must create an institutional architecture that can make technology companies and their unverified and experimental technologies subservient to legislative will and institutional regulation.

Ministers come and go at the whims and fancies of ungovernable business enterprises in all the parliamentary democracies but the positive impact the minister can leave behind on country's science, technology and India's share of earth can contribute to undo India's pathetic scientific reputation in terms of invention and innovation.

<http://www.rediff.com/news/column/five-things-science-tech-n-earth-sciences-minister-must-do/20121029.htm>

Asia-Europe People's Forum gathered in Vientiane (Laos)

“We demand a people-centered world not a system based around deregulation of markets and increasing power of multinational corporations”

Vientiane, Laos, October 2012- At the 9th Asia Europe People's Forum we focused on developing strategies and demands to the governments which meet at the 9th ASEM meeting in Laos in November.

Over 1000 citizens from Asia and Europe joined together from 16th to 19th October 2012 in Vientiane at the 9th Asia Europe People's Forum. The AEPF9 tackled four major themes, Universal Social Protection and Access to Essential Services; Food Sovereignty and Sustainable Land and Natural Resource Management; Sustainable Energy Production and Use; and Just Work and Sustainable Livelihoods.

Preceding the 9th Asia-Europe People's Forum we held three preparatory workshops in South and South-East Asia. In Laos, 16 Provincial level consultations. These brought together the reflections, aspirations and visions of the Lao people from a wide range of civil society organisations.

The AEPF brought into sharp focus the drastic inequalities, injustices and poverty experienced by people across Asia and Europe. What is often presented as a 'financial crisis' is in reality part of a series of interlinked crises - food, energy, climate, human security and environmental degradation - that are already devastating the lives, and compounding the poverty and exclusion faced on a daily basis by millions across Asia and increasingly across Europe.

There was a strong consensus among Asian and European citizens gathered at the AEPF9 that the dominant approach over the last decades - based around deregulation of markets, increasing power of multinational corporations, unaccountable multilateral institutions and trade liberalisation - has failed in its aims to meet the needs and rights of

all citizens. We need to go beyond an analysis and response that focuses solely on short term measures benefiting a few financial institutions and large corporations. There is a deep felt need and demand for change and for new people-centred policies and practices.

On the press conference held on October 19th, the following quotes were made:

Andy Rutherford, member of the International Organizing Committee of the AEPF (Great Britain): “We are in Vientiane for fundamental change. The current system of deregulated markets, unfair trade, forced privatization of public services has completely failed the majority of people causing and compounding the financial crisis, climate change. The gap between the rich and the poor is widening, and access to resources, livelihood and basic services remain grossly unequal.

The AEPF was a significant achievement and success: over one thousand citizens attended representing people's organizations, NGOs and social movements. It will be of a great inspiration for the future work of the organizations who participated in the people's forum. The final declaration was handed over today to the Laos Government with the commitment that it will shared with the Head of States at the ASEM9 summit. The ASEM9 is an historic opportunity for ASEM governments to take the timely and decisive actions needed to address this.”

Mary Ann Manahan, Focus on the Global South (Philippines): “We are facing a global water crisis. Never has there been such pressure on water resources and such water scarcity. The AEPF has shown how the water crisis has been manipulated by the International Finance Institutions' to fuel water grabbing and the takeover of water resources

and services by corporations and private companies. On the other hand large-scale irrigation projects and hydropower in Thailand and the Mekong countries have negative impacts on food security on rice cultivation and river-based livelihoods especially fisherfolk.

The new phenomenon of hydrological fracturing or “fracking”, which is the extraction of unconventional gas from rock formations presents high risk of water contamination. AEPF encourage civil society to form alliances to resist corporate capture of water resources. We demand to the Asian and EU government to uphold the human rights approach to water, especially in terms of allocation, distribution and resource management.

We also ask the authorities to promote and support alternatives that are people-centered, just and ecologically sustainable such as the inspiring examples of public power and public water service provision in Thailand that challenge private companies, and promote traditional ways of water management by communities, especially indigenous peoples and rural folks.”

Mariana Mortagua, Debt-Audit Campaign (Portugal): “We, the social movements, organizations and citizens here in the AEPF agree, that austerity, liberalization and the attacks on labor and social rights that is happening in Europe will only bring more poverty and economic disasters. It repeats the experience of Asia that suffered the crisis in the 1990s with imposed structural adjustment programs, unemployment, austerity measures, tax increases on the poorest, illegitimate debt burden, privatization and financial deregulation.

The AEPF calls on the governments to stop austerity programs, halt paying the debt of the banks and markets, and reverse trade and financial liberalization and privatization. Therefore we demand that the EU Governments break up with memorandums signed with the Troika (IMF, ECB, European Commission) and with the Fiscal Treaty as well as unjust fiscal policies. We need new ways to finance the public budgets outside financial markets. We need public policies in order to invest

public money to create jobs and to reverse precarity. We reclaim dignity for the working class.”

Vaishali Patil, Jaitapur Anti Nuclear Movement (India): “During the Asia-Europe People's Forum we launched the 'Asia-Europe Initiative against nuclear power and nuclear weapons'. After Fukushima nobody can deny the danger of nuclear power projects for humanity and the planet. We appeal to Asian and European Governments to phase out all nuclear energy like the German government has done.

We also demand the elimination of all kinds of nuclear weapons. In the context of the economic crisis it is completely unacceptable to continue investing public money into nuclear energy and the weapons industry, when millions of people are still suffering from poverty and hunger and struggling to survive. Renewable energies –like solar or wind– have proven to be cheaper, safer and more efficient than fossil fuel or nuclear.

As the first action of this Asia-Europe initiative we are going to pressure and denounce the Indian government for its repression against anti-nuclear movements and thousands of villagers who are protesting non-violently. We will organize a Parliamentarian Mission to India to visit the anti-nuclear movement and the places like Jaitapur where one of the biggest nuclear power plants worldwide is being built. We want to avoid another Fukushima.”

Sombath Somphone from National Organizing Committee (Laos): “There is an urgent need for action and education is a key one. Our societies have to learn to live a simpler way and reduce consumption, especially in the rich countries. We have to reduce carbon emissions. We have seen that the private sector only wants to increase their profits. We have to resolve the root causes of the problem to have real happiness and not have our societies working most of the time to reproduce the current system.”

http://www.europe-solidaire.org /spip.php ? page=article_impr&id_article=26696

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Effect of Climate Change on Crop Pollination

* Saurabh Singh

Changing climates may cause changes in the time of growth, flowering and maturation of crops, with consequent impacts on crop-associated biodiversity, particularly pollinators.

Climate change is any long term substantial deviation from present climate because of variations in weather and climatic elements. It is one of the most important global environmental challenges of the present century. The impacts of climate change vary across space and there are important yet complex interactions occurring at different spatial scales.

The most visible impacts of climate change are the increased global mean surface temperature; increased frequency and severity of drought, variations in precipitation, and increased heavy precipitation events. All these manifestations have a significant impact on world agriculture.

Of all the sectors of economic activities, agricultural sector is heavily dependent on weather and climate and highly influenced by global warming. Crop production must meet the demands of feeding a growing population in an increasingly degraded environment and uncertainties resulting from climate change.

Climate change has the potential to severely impact ecosystem services such as pollination. Insect pollination is threatened by several environmental and anthropogenic factors. The Intergovernmental Panel on Climate Change (IPCC) reports an approximate temperature increase ranging from 1.1-6.4°C by the end of this century.

Climate change will exert great impacts on global ecosystems. Pollination is a crucial stage in the reproduction of most flowering plants, and pollinating animals are essential for transferring genes within and among populations of wild plant

species. In recent years there has been an increasing recognition of the importance of animal pollination in food production.

Maintaining and increasing yields in horticultural crops, seeds and pastures through better conservation and management of pollinators is critically important to health, nutrition, food security and better farm incomes for poor farmers.

The fruit, vegetable or seed production from 87 of the world's leading food crops depend upon animal pollination, representing 35 percent of global food production. The leading pollinator-dependent crops are vegetables and fruits, followed by edible oil crops, stimulants (coffee, cocoa, etc.), nuts and spices.

A rapidly increasing human population will reduce the amount of natural habitats through an increasing demand for food-producing areas, urbanization and other land-use practices, putting pressure on the ecosystem service delivered by wild pollinators. At the same time, the demand for pollination in agricultural production will increase in order to sustain food production.

Animal pollination of both wild and cultivated plant species is under threat as a result of multiple environmental pressures acting in concert. Depending on only a few pollinator species belonging to the *Apis* genus has been shown to be risky. *Apis*-specific parasites and pathogens have lead to massive declines in honey bee numbers.

Biotic stress accompanied with climate change may cause further population declines and lead farmers and researchers to look for alternative pollinators. Well-known pollinators to replace honey bees might include the alfalfa leaf-cutter bee (*Megachile rotundata*) and alkali bee (*Nomia melanderi*) in alfalfa pollination, mason bees (*Osmia* spp.) for

pollination of orchards and bumblebees (*Bombus* spp.) for pollination of crops requiring buzz pollination. Stingless bees are particularly important pollinators of tropical plants, visiting approximately 90 crop species. The effect of changing climatic variables on pollinator and pollination response is described as follows:

Temperature

Bees are the most important pollinators worldwide and like other insects, they are ectothermic, requiring elevated body temperatures for flying. The thermal properties of their environments determine the extent of their activity. The effect of climate change on pollinators depends upon their thermal tolerance and plasticity to temperature changes.

Timing of both plant flowering and pollinator activity seems to be strongly affected by temperature. Insects and plants may react differently to changed temperatures, creating temporal (phenological) and spatial (distributional) mismatches – with severe demographic consequences for the species involved. Mismatches may affect plants by reduced insect visitation and pollen deposition, while pollinators experience reduced food availability.

Precipitation

High precipitation may limit pollinator's foraging activity. Optimal foraging conditions for pollinators are sunny days with low wind speed and intermediate temperature. Climate change is expected to alter existing precipitation patterns. Some areas will likely experience decreased rainfall, leading to more extensive drought periods. This water stress may decrease flower numbers and nectar production. Snow cover might also be reduced with increased temperatures.

Agricultural Practices

Agricultural intensification by covering large areas with monocultures increases agro ecosystem's vulnerability to climate change. Adaptation

strategies at the farm level can include increased farm diversity, including crop diversity, and changes in sowing date, crops or cultivars.

Greater crop diversity can decrease crop's vulnerability to climate variability, as different crops respond differently to a changing climate. Regional farm diversity may also buffer against the negative effects of climate change at a large scale as it entails a large variability in farm intensity and farm size.

Invasive Species

Climate change is predicted to increase invasion of alien species, especially in northern regions. However, the effects of climate change on invasive species and pollination interactions may vary depending on the species and ecosystem in focus.

Two major causes of honeybee declines globally are parasitic mites (*Varroa jacobsoni* and *Acarapsis woodi*) and the expansion of the range of Africanized honeybees.

Pest Species, Pesticides and Pathogens

Some invasive insect and plant species are pest organisms, which may cause severe damage to agricultural production. Increased demand for control of plant pests often involves the use of pesticides, which can have negative impacts on human health and the environment including ecosystem services such as pollination. Pollinators are also negatively affected by predators, parasites and pathogens. Natural movements of pollinator species and exchanges of domesticated bees among beekeepers will bring them into contact with new pathogens. Pests and pathogens may find new potential hosts.

It is therefore important to conserve the genetic variability among and within important pollinator species (including races and varieties) to decrease disease-mediated mortality. Managed pollinators may need veterinary aid and appropriate control methods to prevent catastrophic losses.

Changes in Nectar and Pollen Amounts and Quality

Pollen quality may change along with climatic conditions. It can be assessed by measuring post-pollination events such as counting the pollen germination rate on stigmas, measuring pollen tube growth and competition, and counting the survival of fertilized ovules, developed embryos and seed and fruit abortions.

Changes in nectar quantity and quality can be measured at controlled temperatures in climatic chambers. Nectar volume can be measured by inserting calibrated micro capillaries into each flower and nectar concentration can be measured with a pocket refractometer

Changes in Phenology

Crop flowering phenology can be manipulated by altering climatic variables (temperature, precipitation, etc.). Important phenological events include the timing of flowering (e.g. duration and date of the first and last flowering), and frequency of flowering.

Changes in Pollinator Behaviour

Pollinators may change behaviour in response to shifts in climate. The time taken for thermoregulation at higher temperatures comes at the cost of foraging, with negative consequences for pollination. It is likely that pollinators will change their activity patterns as temperature increases, in turn changing the efficiency of pollen removal and deposition. For this reason, it is important to investigate taxonomic differences in pollinator's ability to regulate body temperature and avoid overheating. Climate change may also impact activity patterns of pollinators.

As temperatures increase, pollinators are at risk of overheating, particularly in regions where current ambient temperatures are high and climatic conditions are stable. Bees have different mechanisms for avoiding overheating, such as shade seeking and prolonged time spent in the nest.

Bumblebees are particularly prone to overheating if temperatures increase because of their large size, dark colour and hairy bodies. Pollinators require a range of resources from their environment for foraging, nesting, reproduction and shelter. The loss of any one of these requirements can cause pollinators to become locally extinct.

Mountain agriculture and need for pollination.

Many varieties of the cash crops currently cultivated in mountain areas are self sterile and require cross pollination for producing fruit or seeds. A diversity of pollinators including bees, flies, butterflies, moths, beetles help in cross pollination of these crops, thereby helping in maintaining (or improving) their yield and quality.

Pollinators, thus, play a crucial role in improving food security and livelihoods of mountain households through provisioning of the pollination services. Pollinators also play an often unrecognized role in combating soil degradation by enhancing the replenishment cycle i.e. more pollination, more seed, more plants, retuning more biomass to the soil, more food for birds, insects and other animals.

However, in recent years, pollinator abundance and diversity is declining worldwide, particularly in cash crops farming areas due to habitat loss, excessive use of pesticides, climate change and other factors leading to a serious reduction in yields and quality of crops, particularly those requiring cross pollination.

This decline in pollinator abundance and diversity presents a serious threat to agricultural production and maintenance of biodiversity. Thus, it is important to ensure a sustained supply of pollination services in order to maintain or improve crop productivity.

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No more GM crops, but biotech tools

* Ashok B Sharma

New Delhi, Though India has become slow in approving the release of controversial genetically modified (GM) crops for commercial use on account of stiff public resistance, it has stepped up efforts for developing modern biotechnology tools.

The scientists at the Indian Council of Agricultural Research (ICAR), state agricultural universities (SAUs) and Banaras Hindu University have successfully decoded the genome of pigeon peas, commonly known as arhar.

This is the first plant genome sequenced entirely through a network of Indian institutions. Earlier, India had contributed to the sequencing of the gene-rich region of the tomato chromosome and gene sequencing of rice.

The ICAR also launched Rice Knowledge Management Portal which is serving as an information highway for sharing knowledge through latest ICT tools including mobile telephony.

Whole genome sequencing of a female Murrah buffalo was undertaken and buffalo genome assembly integrated into a publicly available genome browser.

India has so far approved only one GM crop – Bt cotton – for commercial cultivation. It has developed many other GM crops, some are in the process of developing and field trials.

The first GM food crop – Bt brinjal (eggplant) was approved by the regulator, Genetic Engineering Approval Committee (GEAC) after field trials.

But the then Minister for Environment and Forests,

Jairam Ramesh put on hold the approval after a series of public consultations across the country. Addressing the Economic Editors' Conference-2012, here on Tuesday, the Indian Agriculture Minister Sharad Pawar said that the Government was taking a "very, very cautious" approach on the



issue of genetically modified (GM) crop.

"The government has only given clearance to Bt Cotton so far," he said, adding that genetically modified brinjal had not been cleared so far. The clearance to any genetically modified seed is given by the Environment Ministry, he added.

"Agricultural scientists do the research, but the utility and effect is judged by the Environment Ministry," he said, adding "we don't want to go hurriedly".

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खुदरा क्षेत्र में एफडीआई पर राजनीति

* रमेश भट्ट

मल्टी ब्रांड रिटेल में 51 फीसदी प्रत्यक्ष विदेशी निवेश को सरकार की हरी झंडी मिलने के बाद इसका राजनीतिक विरोध शुरू हो चुका है। वामदल और भाजपा ने सरकार को सड़क से लेकर संसद तक इस मामले में पेपर्दा करने की चेतावनी दी है।

सरकार के लिए मुश्किल विपक्षी दल ही नहीं बल्कि सहयोगी दल तृणमूल कांग्रेस भी है जिसको सरकार का यह कदम नागवार गुजरा है। लिहाजा आगामी चुनावों के मददेनजर सरकार का इस मुद्दे पर धिरना तय है।

मगर सवाल यह उठता है कि यह महज एक राजनीतिक विरोध है या वाकई इस कदम से इस देश के किसान, खुदरा कारोबारी और रेहड़ पट्टी वालों की आजीविका खतरे में पड़ जाएगी।

चूंकि इसके विरोध में सबसे बड़ा तर्क यह

दिया जा रहा है कि खुदरा क्षेत्र से जुड़े 4 करोड़ से ज्यादा कारोबारी सरकार के इस कदम से तबाह हो जाएंगे।

लघु उद्योग प्रतियोगी माहौल में दम तोड़ देंगे। यह बड़ी कंपनियां आकर हमारे देश में मनमानी करेंगी। मगर किसी भी निर्णय में

पहुंचने से पहले यह समझना जरूरी है कि भारत में खुदरा बाजार की क्या स्थिति है? इसका हमारी अर्थव्यवस्था में क्या योगदान है?

रोजगार के क्षेत्र में यह क्या भूमिका निभाता

है? क्या महंगाई को कम करने में यह कदम रामबाण साबित होगा। क्या सालाना होने वाली फल और सब्जियों की बर्बादी में कमी आएगी? यह ऐसे सवाल हैं जो हर किसी के जेहन में उठ रहे होंगे।

दरअसल भारत में खुदरा कारोबार वर्तमान में 28 बिलियन डालर का है जिसके 2020 तक 260 बिलियन डालर तक पहुंचने की उम्मीद है। मतलब इस क्षेत्र में वर्तमान से 9



गुना ज्यादा बढ़ोत्तरी होगी। साथ ही जीडीपी में इसका योगदान बढ़ेगा और रोजगार के नए अवसर पैदा होंगे।

आज हमारे खुदरा क्षेत्र में सबसे बड़ी दिक्कत यह है कि खुदरा क्षेत्र में 95 फीसदी लोग असंगठित क्षेत्र से हैं। महज 5 फीसदी लोग संगठित क्षेत्र से हैं। खुदरा क्षेत्र का 70 फीसदी कारोबार खाद्य से जुड़ा है।

बस इसी को सामने रखकर विरोध में कहा जा रहा है की हमारी खाद्य सुरक्षा पर इन बहुराष्ट्रीय कंपनियों का अधिपत्य हो जाएगा। मगर इसके पक्ष में भी बेशुमार तर्क है। उदाहरण के तौर पर, इससे उपभोक्ताओं को 5 से 10 फीसदी की बचत होगी। किसान को अपने उत्पाद के 20 से 30 फीसदी ज्यादा दाम मिलेंगे। 30 से 40 लाख नए रोजगार उपलब्ध होंगे।

इसके अलावा अप्रत्यक्ष तौर में 40 से 60 लाख रोजगार का सृजन होगा। सरकार को इससे जुड़े ढांचागत विकास मसलन प्रोसेसिंग, मैनूफैक्चरिंग, वितरण, डिजाइन, गुणवत्ता, कोल्ड चेन, वेयरहाउस और पैकेजिंग जैसे कामों में तेजी आएगी। इन सब वजहों की कमी के चलते सालाना 50 हजार करोड़ का नुकसान हमें उठाना पड़ता है।

मसलन 16500 करोड़ का अनाज जो उत्पादन का 10 फीसदी है, बर्बाद हो जाता

है। इसी तरह 15 फीसदी दालें, 30 फीसदी फल और सब्जियां और 40 फीसदी फलोरीकल्चर से जुड़े उत्पाद रखरखाव के अभाव में बर्बाद हो जाते हैं।

अगर निवेश का 50 फीसदी हिस्सा इस बुनियादी क्षेत्र को विकसित करने में लगता है जैसे की कहा गया है तो हालात में तेजी से सुधार आएगा। सरकार के मुताबिक बैंक एंड इन्फ्रास्ट्रक्चर में कुल निवेश का 50 फीसदी खर्च करना अनिवार्य होगा।

बहरहाल सरकार के इस फैसले से वालमार्ट, कैरीफोर, टेस्को और मेट्रो जैसे बहुराष्ट्रीय कंपनियों का भारत में कारोबार करने का रास्ता खुल गया है। मगर वर्तमान राजीनीतिक माहौल में यह कदम सरकार की साख और सुधारों को गति दे पाएगा इसपर कुछ नहीं कहा जा सकता।

बहरहाल सरकार ने 10 लाख से ज्यादा आबादी वाले शहरों में इन रिटेल स्टोरों को खोलने की अनुमति दी है। साथ ही कुछ ठोस प्रावधान भी किए हैं। 2011 की जनगणना के मुताबिक देश में 10 लाख से ज्यादा आबादी वाले शहरों की संख्या 53 है।

इससे पहले औद्योगिक और संवर्धन विभाग द्वारा जारी चर्चा पत्र में मल्टी ब्रांड रिटेल के क्षेत्र में प्रत्यक्ष विदेशी निवेश की बात कही गई है।

रिटेल भारत में कृषि क्षेत्र के बाद सबसे ज्यादा रोजगार देने वाला क्षेत्र है। 8 से 9 प्रतिशत की सालाना दर से यह क्षेत्र आगे बढ़ रहा है।

इससे पहले एकल रिटेल ब्रांड में 2006 में 51 फीसदी एफडीआई को अनुमति दी थी। जिसे अब 100 फीसदी कर दिया गया है। साथ ही होलसेल में 100 फीसदी विदेशी निवेश लागू है। एक अनुमान के मुताबिक 2006 से मई 2010 तक 901 करोड़ का निवेश इस क्षेत्र में आया है।

इसमें से ज्यादातर निवेश खेल से जुड़े परिधानों, मसलन लग्जरी समान जेवरात और हैंडबैग में आया है। आज सरकार को यह स्थिति भी स्पष्ट करनी चाहिए कि छोटे कारोबारियों और रेहड़ी पट्टी वालों पर इसका क्या प्रभाव होगा?

क्या वालमार्ट और कैरीफोर जैसी दिग्गज कंपनियां जो भारत के बाजार में प्रवेश के लिए ललायित हैं, उतने लोगों को रोजगार दे पायेंगी जितने लोग असंगठित खुदरा कारोबार से जुड़े हैं? इस बात में कितना दम है कि किसान और ग्राहकों का इसका सबसे ज्यादा फायदा मिलेगा? क्या सरकार के इस कदम थोक और फुटकर दामों में अन्तर पाटने में हमें कितनी मदद मिलेगी?

क्या महंगाई की रफ्तार को थामने में यह कदम कितना मदद करेगा?

और आखिर में सबसे अहम भारत की अर्थव्यवस्था पर इसका क्या असर पड़ेगा?

सच्चाई यह है कि सिंगल ब्रांड में इन नियमों का पालन नहीं हो रहा है। भारत में रिटेल में जीडीपी की हिस्सेदारी 10 फीसदी के आसपास है जबकि चीन में यह 8 फीसदी, ब्राजील में 6 फीसदी और अमेरिका में 10 फीसदी है।

भारत में तकरीब 1.5 करोड़ रिटेल स्टोर हैं जिनमें प्रमुख हैं पैन्टलून, सौपर्स स्टॉप, स्पैसर, हाइपर सीटी, लाइफस्टाइल, सुभिक्षा और रिलायंस। वाणिज्य मंत्रालय से जुड़ी स्थाई समिति ने मल्टी ब्रांड में प्रत्यक्ष विदेशी निवेश को लेकर असहमति जताई थी।

इस समिति ने सरकार से इस कार्य को करवाने के लिए देश के निजी क्षेत्र को शामिल करने का सुझाव दिया था। मगर सरकार ने इस सुझाव को नकार दिया था। खुदरा व्यापार राज्य का विषय है। लिहाज इस मामले में हरी राज्यों की भी हमी जरूरी है। बहरहाल कई राज्य इसे अपने यहां लागू न करने की बात साफ कर चुके हैं।

इसलिए देखना दिलचस्प होगा की बीजेपी द्वारा शासित राज्य में इन दिग्गज कंपनियों का प्रवेश होता है या नहीं। इसमें कोई दो राय नहीं भारत और चीन दुनिया

के सबसे बड़े उपभोक्ता बाजार है ऐसे में यह कंपनियां यहां आने के लिए लम्बे समय से प्रयासरत थी।

मगर आशंकाओं के सहारे भविष्य की आवश्यकताओं को नकारना बुद्धिमानी नहीं। आज इस क्षेत्र में निवेश की जरूरत है। खुदरा क्षेत्र में बुनियादी ढांचे को मजबूत करने की जरूरत है।

महंगाई से आम आदमी को राहत देने की जरूरत है। हमारे देश खाद्य सुरक्षा की अहमियत से परिचित हैं। कोई भी सरकार

चाहे फिर वह किसी भी दल की हो, अपने नागरिकों का अहित नहीं चाहेगी।

वैसे भी यह मामला 16 साल से अटका पड़ा था। हिमांचल और गुजरात में चुनाव से पहले सरकार का यह कदम महत्वपूर्ण है। बहरहाल धीमी पड़ती अर्थव्यवस्था के लिए यह कदम एक अच्छी खबर है। मगर इतना भर से कुछ नहीं होगा। सुधारों की गाड़ी को सरकार का आगे बढ़ाते रहना होगा।

*** एंकर, लोकसभा टीवी**

'खुदरा व्यापार में एफ डी आई का विरोध करेंगे'

नई दिल्ली, 2 नवम्बर (एनईयू)। देशभर के लगभग सौ किसानों खुदरा व्यापार से जुड़े फूटकर व्यापारियों, डॉकर्स, मजदूरों, उपभोक्ताओं और लघु उद्योग संगठनों ने एकजुट होकर खुदरा व्यापार में विदेशी पूंजी निवेश को अत्यन्त घातक बताते हुए उसका खटव्यापी विरोध करने की घोषणा की है।

इन संगठनों ने मिलकर 'खुदरा एफडीआई विरोधी राष्ट्रीय मोर्चा' का गठन किया है जिनके पदाधिकारी आगामी 2 नवम्बर को जन्तार मन्तर पर एक संयुक्त बैठक कर आन्दोलन की रपदेखा तैयार करेंगे। इस नवगठित मोर्चा के प्रथम संवाददाता सम्मेलन को सम्बोधित करते हुए भारतीय जनता पार्टी के वरिष्ठ नेता एवं सांसद डॉ. पुरली मनोहर जोशी ने कहा कि सरकार ने रिजर्व बैंक के नियमों में प्रशोधन कर खुदरा व्यापार में विदेशी पूंजी निवेश को मंजूरी देने की जो अधिसूचना जारी की है उसे संसद की मंजूरी होना आवश्यक है और एक महीने में इसको लेकर कोई आपत्ति भी नहीं होगी चाहिए। उन्होंने बताया कि संसद में इसे रखते ही भाजपा और राष्ट्रीय जनतांत्रिक गठबंधन के सहयोगी दल तथा अन्य मित्र दल मिल कर पहले ही दिन विरोध दर्ज कराएंगे। श्री जोशी ने आरोप लगाया कि मनमोहन सरकार ने यह अधिसूचना अमरीका के दबाव में आकर की है जो अपनी बिगड़ी अर्थव्यवस्था को सुधारने और बेरोजगारों दूर करने के लिए ऐसा दबाव बना रहा है। जिससे हमारा किसान और फूटकर



व्यापारी तबाह हो जाएगा। उन्होंने कहा कि वाजपेयी सरकार के शासनकाल में मनमोहन सिंह ने राज्यसभा में और श्री धिवरंजन दासमुंशी ने लोकसभा में खुदरा व्यापार में विदेशी पूंजी निवेश का विरोध किया था पर अब उसको तत्कालत कर देश भर में उसे थोपा जा रहा है। जिसका हम विरोध करेंगे और कदापि बर्दास्त नहीं करेंगे। मोर्चा संयोजक गणेश सिरोहो ने कहा कि खुदरा व्यापार में विदेशी पूंजी निवेश से देश बहुराष्ट्रीय कम्पनियों का गुलाब हो जाएगा। जिनकी दबड़ से

अमरीका को प्रतिवर्ष एक अरब डॉलर की सब्सिडी कियानों को देना पड़ रही है। उन्होंने कहा कि पिछले दस वर्षों में देश में दूई लाख किसानों ने आत्महत्या की है और अब सरकार जनता को गुमराह कर खुदरा व्यापार में विदेशी पूंजी ला रही है जिसका जप कर विरोध किया जाएगा। भारतीय कृषक समाज के अध्यक्ष डा. कृष्णवीर चौधरी ने कहा कि सरकार का यह कहना कि खुदरा व्यापार में विदेशी पूंजी निवेश से किसानों का फायदा होगा सरासर झूठ है क्योंकि यह बहुराष्ट्रीय कम्पनियों अमरीका में सब्जी व फलों के उपभोक्ता मूल्य का मात्र 26 से 27 प्रतिशत और दूध उत्पादकों के उपभोक्ता मूल्य का मात्र 33 से 34 प्रतिशत भुगतान कर रही है जबकि भारत में सहकारी संस्था अमूल उपभोक्ता मूल्य का 65 प्रतिशत से ज्यादा किसानों को भुगतान कर रही है। अंतरराष्ट्रीय स्तर पर यह कम्पनियों विकसित देशों में किसानों और उपभोक्ताओं का खुला शोषण कर रही है। उन्होंने कहा कि सरकार का यह कहना कि वह कम्पनियों भारत के उत्पादकों से 30 प्रतिशत माल खरीदेगी जो गैर निवर्तों के चलते अंभल नहीं है। डॉ. चौधरी ने कहा कि टेका कृषि के माध्यम से खेतों पर इन कम्पनियों का कब्जा हो जाएगा जिससे किसान बीज, उर्वरक व कीटाणुनाशक मामलों में उन पर निर्भर हो जाएगा। संवाददाता सम्मेलन में अनेक किसान संगठनों के पदाधिकारी मौजूद थे।

Excess Cancers and Deaths with GM Feed: the Stats Stand Up

* Prof Peter Saunders

That cancers are found even with a small number of rats tested is strong evidence that the GM feed and herbicide are carcinogenic
Prof Peter Saunders

In September 2012, the research team led by Gilles-Eric Séralini at the University of Caen published the findings of their feeding trial on rats to test for toxicity of Monsanto's genetically modified (GM) maize NK603 and/or Roundup herbicide in the online edition of Food and Chemical Toxicology.

Séralini and his colleagues had previously found evidence for toxicity of GM feed in data from Monsanto's own experiments, which they had obtained through a Freedom of Information demand. Monsanto challenged their conclusions and, to no one's great surprise the European Food Standards Agency (EFSA) supported Monsanto.

So the team decided to run their own experiment, using an unusually large number of animals and over a period of about two years, roughly the life expectancy of the rats, rather than the usual 90 days required in toxicity trials including Monsanto's.

What Séralini and his colleagues found was that NK603 and Roundup are not only both toxic as expected, but also carcinogenic, which was unexpected.

The proportion of treated rats that died during the experiments was much greater than the controls; moreover, in almost all groups a higher proportion developed tumours, and the tumours appeared earlier.

As soon as the paper appeared, the GM lobby swung into action. In particular, the Science Media Centre (SMC), a London-based organisation partly funded by industry, quickly obtained quotes from a number of pro-GM scientists and distributed them

to the media. According to a report in Times Higher Education, the SMC succeeded in influencing the coverage of the story in the UK press and largely kept it off the television news.

Séralini has rebutted the pro-GM critics point by point on the CRIIGEN website. The statistician Paul Deheuvels, a professor at the Université Pierre et Marie Curie in Paris and a member of the French Académie des sciences, has now drawn attention to another serious error in the criticisms : the complaint that Séralini used only 10 rats per group when the OECD guidelines recommend 50 for investigations on carcinogenesis.

Because the experiments did not follow the accepted protocol, their results, they argue, can be safely ignored.

In the first place, this was not a wilful disregard of the guidelines. The experiment was designed to test for toxicity, and for that the recommended group size is 10.

But Deheuvels pointed out that the fact Séralini and his colleagues had used smaller groups than recommended makes the results if anything more convincing, not less.

That is because using a smaller number of rats actually made it less likely to observe any effect. The fact that an effect was observed despite the small number of animals made the result all the more serious.

To see why, we have to look carefully at how common statistical tests are carried out. We begin with a null hypothesis, which as the name suggests is essentially the hypothesis that nothing unusual has happened.

Here it is the hypothesis that rats fed on GMOs and/or herbicide are no more likely to develop

cancer than the controls. Clearly, we would like to reject the null hypothesis if it is false and accept it if it is true. But statistics is about taking decisions in the face of uncertainty – if there were no uncertainty there would be no need to use statistics – and so however careful we are, we may come to the wrong conclusion.

There are two ways in which we can go wrong. On the one hand, we can make a “Type 1 error” in rejecting the null hypothesis when it is correct. Here that would mean reporting that GMO and/or herbicide are carcinogenic when they are not.

Or, we can make a “Type 2 error” in accepting the null hypothesis when it is false. Here that would mean reporting that GMO and/or herbicide are not carcinogenic when in fact they are.

Naturally we would like to design experiments to make either of those probabilities as small as possible, but there is a problem. The two types of error are linked. We can reduce the probability of making a Type 1 error by requiring stronger evidence before we reject the null hypothesis.

But if we do that we necessarily require less evidence to accept it, but that increases the probability of making a Type 2 error. We have to find a balance, and usually what we do is insist that the probability of a Type 1 error must be very small, conventionally 0.05. That's the origin of the “significant at 5 percent” level.

A probability of 0.05 is very small, so what we are saying is that we will only accept that the effect is real if we can be convinced “beyond reasonable doubt”; and most of the time that makes sense.

If you're thinking of installing a new manufacturing process or a new way of running your farm, you want to be very confident that it really is better before you make a major investment.

It is not so obviously sensible when safety is concerned. If there is scientific evidence that a product is hazardous, then it is hardly surprising if the manufacturer would not want to withdraw it unless the evidence is very strong indeed.

The rest of us, however, might take a different view. Are we really willing to accept NK603 maize, or Roundup herbicide, unless and until they have been shown beyond reasonable doubt to be carcinogenic?

The standard statistical test does seem to be the wrong way around, but that's partly because so far we have only been considering the Type 1 error, the false positive.

But as Deheuvels reminds us, there is also the Type 2 error, the false negative. If NK603 and/or the herbicide are actually carcinogenic, what is the probability that we will fail to observe that?

The way to reduce the probability of a Type 2 error is to use larger groups. Because we would expect carcinogenicity to be slower to appear and harder to detect than toxicity, the group size for experiments on carcinogenicity should be larger than for toxicity, and this is precisely what the OECD Guidelines require.

If the experiment had not detected carcinogenicity, that might have been because the groups were too small. As the experiment did detect it, that the groups were small is not an issue.

The scientists who were asked to supply sound bites for the Science Media Centre were quick to object that Séralini and his group had used the protocol for testing toxicity rather than the one for carcinogenesis.

Had they taken a moment to ask themselves why the two protocols are different, they would have realised that in using the toxicity protocol (and remember, that was because it was what the experiment was designed to test) Séralini and his group made it less likely that they would detect carcinogenesis. To criticise a result because the experiment was conducted in a way that was more conservative than required is totally unjustifiable.

<http://www.occupymonsanto360.org/2012/10/23/excess-cancers-and-deaths-with-gm-feed-the-stats-stand-up/>

, QMhvkbl dk Qank& uk cps fdl kuh] uk xjhc dk /ka'kk

* uj'sk fl jkgh

Vkt dy n'sk eafdl kukadks, dckj fQj ykHkdkjh eW; fnykus ds fy, ljdkj fplurr utj vk jgh gA ljdkj dk rdZgSfd vxj [kqjk {ks= eafons kh fuosk glosk rksfdl kukadks vi uh Ql yka ds vPNsnke feyaks vks] ubZ i kS] kSxf; kadk i d kj gloskA

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yfdu l jdkj }kjk i R; {k fonsk fuosk ; kuh , QMhvkbl dks ykus dh tYnckth fdl kukadks mudh tehu vks] Nks/s [kqjk 0; ki kfj; ka dks muds jkstxkj l sgeskk dsfy, nj dj n'shA , d ckr tks l e>usdh gSog ; g gSfd fl QZfdl ku] Nks/s 0; ki kjh vks] vl; egurd'k gh i Hkkfor ughagkascfYd jkt uhr eabu da fu; kadk glr {k} gksk vks] n'sk ds dkuu vks] uhr; ka ea vi uh ethz dk cnyko dj kusea; sda fu; kal {ke gkacha



vi uh vkfFkd cngkyh l scgjj fudyaxA ljdkj dk ; g rdZ cgn ykHkouk gA fdl kukadks ykHkdkjh eW; fnykus dsfy, bl h rjg dk rdZ, dl h, DI ; kuh eYVh deksMVh , DI pat dsok; nk 0; ki kj dsgokys l shh fn; k x; k FkA yfdu vkt ge tkursgA fd bl ok; nk 0; ki kj l s fl QZ [kk] oLrq a ds nke c<s vks] fdl kukadks dkbZ ykHk ughafeykA

n'sk eadF'k l cl svf/kd jkstxkj nusokyk {ks= gA dF'k {ks= dk l dy ?kjs ymRi kn 1/2 thMhi h/2 ea; ksnku djhc 16-6 Qhl nh gA n'sk eadjhc 12 djkm+fdl ku gS yfdu [ksh ij fuHkj 0; fDr; ka dh l q; k dy vicknh dk 60 Qhl nh l shh vf/kd gA

budsJe l svkt n'sk eavlu mRi knu djhc 24 djkm+Vu gS tks vc rd dk fjdKMZ gA nfu; k Hkj eadF'k ds vrfjDr , d k dkbZ {ks= ughagSft l esbruh cMh vicknh dks jkstxkj i klr gkrk gA

; g , d rjg l snh jh xgykeh dks tUe n'sh] vkfFkd xgykeh ftl l s eQDr i kuk vki ku ughagkskA bl h dkj .k l Hkh 0; ki kjh l aBu] Je l aBu] vusd l aBu , dtv gkdj [kqjk {ks= ea , QMhvkbl ds fojksk ea [kMgksx , sgA

fQj Hkh l jdkj D; ka vMh gpZgA [kqjk cktkj eaeYVh ckm ea 51 Qhl nh vks] fl xycM ea 100 Qhl nh fonskh i R; {k fuosk ; kuh , QMhvkbl ykus dsfy, ljdkj bruk iz, kl jr D; kagA

dF'k dsckn l cl svf/kd jkstxkj nusdh {kerk Hkkjr ds [kqjk cktkj eagh gA Hkkjr dk [kqjk cktkj djhc 28 yk [k djkm+#i ; s dk gA bl [kqjk cktkj dk 67 Qhl nh [kk] vks] ijpuh gA bl s yxHkx 20 djkm+Hkkjr h; kadk thfodk py jgh gA

[kqjk dkjkskj eadjhc , d djkm+20 yk [k nqkusgA vks] yxHkx

pkj djkm+yks bl eajkstxkj i krs gA [knpjk {ks= dk nsk dh t hMhi h ea; ksnku djhc 14 Qhl nh dk gA nsk ea [knpjk dkjckkj eanksoxZg, d l afBr vks nit jk vl afBrA

, d rktk fjikV/dsvud kj dpy nks Qhl nh gh l afBr [knpjk 0; ki kj dk fgLI k gS tcf d vl afBr {ks= dh [knpjk dkjckkj ea fgLI nkjh 98 Qhl nh gA bl vl afBr {ks= ea djhc 3-95 djkm+yks dke djrs gA tcf d l afBr {ks= ea djhc ikp yk [k depljh gA

i zkkuea=h usodr0; fn; k g^geuscgr l kpk gsvks gekjk n<+ fo'okl gSfd ; g fu.kz ¼[knpjk cktkj ea, QMhvkBZ ge l cdk Hkjh ykth igpk, xk--bl l s d f k {ks= ea vk/kfudre VDUksyKt h ykuseaenn feysxh de cjcknh gskh vks T; knk jkstxkj i hnk gkx^ i zkkuea=h us Li "V fd; k gSfd [knpjk , QMhvkBZ ij i hNs gVusdk l oky gh ughagA

vFkZ kL=h i zkkuea=h ds /; ku ea ; g ckr D; ka ugha vkrh fd vejhdk dh [knpjk da uh okVekVZ vejhdk eajkstxkj D; ka ugha c<k jgh\

dkj Qj da uh Qkda eajkstxkj c<kuseaD; kavI Qy gA

Vk dksfcl/ua eajkstxkj D; kaughac<k jgh\

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Hkjr eantZuka d f k fo'of o | ky; gS l s l Mes d f k egkfo | ky; gS osD; k ubZVDUksyKt h fd l kuka rd ugha i gpk l drs

eupkQk [kksj da fu; ka l s, d h mEehin djuk fdruh l e>nkjh dh ckr gskh\

vl y ckr ; g gSfd i zkkuea=h ij vejhdk dk Hkjh nco gA

vejhdki ; jki eaenn dk nks py jgk gA ogkadh l jdkjaHkjr l jdkj dks d n ykyp nsj ¼ a Qr jk"V^ dh l j {kk i fj"kn dk LFk; h l nL; cukuseaenn vkfn½ml l svi uh da fu; kadscktkj [kksyusdk nco cuk jgh gA

gky gh ea varjjk"Vh; i zku l ykgkdkj da uh fd, u s vi uh fj i kVZ ea Hkjr dks rh l mHkjr h vFk; oLFk vka ea nit jk l cl s vkd"kd fjVsy cktkj crk; k gA Hkjr h; l dy ?kjsywmRi kn ; kuh t hMhi h eafjVsy dh fgLI nkjh 14 Qhl nh vks i j s dk; Zy dk djhc 7 Qhl nh fjVsy {ks= eadk; j r gA [ksh dscn fjVsy ea l cl svf/kd jkstxkj mi yC/k gA

D; kad fjVsy eadkQh jkstxkj dh l Hkkouk, agSbl fy, bl sfo'k k egRo fn, t kusdh vko' ; drk gA yfdu ges; g Hk l e>uk gskh fd fjVsy {ks= l sgh d f k mRi knu dh [ki r gksh gA

bl fy, tksufh fjVsy dsfy, ?kkrd gskh oksuf' pr gh d f k vks fd l kuka dks Hk h yhy yxhA vl y eafjVsy ; k [knpjk dkjckkj i gysl svf/kh l svf/kd vkcknh dk cks> >y jgh d f k dh rgyuk ea c jkstxkj ka dks d n dekus dk , dek= l gkjk gA , d i zkj bl Lojkt xkj ds tfj, djhc 20 djkm+ykska d k i s/ Hkjr k gA ds s

vxj fjVsy eadke djusokyadh l ; k djhc 4 djkm+vkrh xbZ gS rks 1% ds vuq kr l s n s k k tk, rks i k p ykska ds i fjokj dh fuHkjr fjVsy ij curh gA bl i zkj l s, QMhvkBZ l scjstxkj gksusokyk sdh l ; k 4 djkm+0; fDr g pZrks i j s i fjokj dks feyk dj 20 djkm+ykska ds eg l s fuokyk fNu tk, xkA tcf d l jdkj jkstxkj c<kusdk l i uk fn [k jgh gS

fjVsy ea, QMhvkBZ [kksyus l s n s k eafuekZ k {ks= dks vf/kd ykHk ugha gskk D; kad ; s da fu; ka phu t s s n s kka l Lrk eky [kjhnrh gA l jdkj dk dguk gSfd nsk eadkM LVkj vks d f k mi t ds HkMkj . k dsfy, 7]687 djkm+# i ; sdh vko' ; drk gSbl fy, futh fuosk vko' ; d gA

vc dkbZ ; g l oky djs dh l jdkj dk l kykuk ctV djhc 12 yk [k djkm+# i ; sdk gS rks ml ea l s 7]687 djkm+# i ; sughafudkys tk l drs tc l jdkj dk uo s Fk [kksyus Qkkyk ou j s vkfn ij g tkj ka djkm+# i ; s [kpl dj l drh gS rks D; k fd l kuka ds fy, 7]687 djkm+# i ; sugha [kplfd, tk l dra vc fo'o dh l cl s cMh [knpjk dkjckkj djusokyh da uh ; k dgafd fo'o dh l cl s cMh da uh dsfy, Hkjr h; [knpjk cktkj [kksyus dk D; k i Hkko gskk bl shh l e> yrs gA

fo'o dh l cl s cMh fjVsy da uh okVekVZ dk okf"kd VuZ/kvj djhc 21 yk [k djkm+# i ; sdk gA o"kd 2004 ead da uh dk 'k p ykHk djhc 45 g tkj djkm+# i ; s Fk vks ml l e; okVekVZ ds 4]806 LVkj Fksftuea 14 yk [k yks dke dj jgs FkA

okVekVZ ds LVkj dk vks r vkdkj 85]000 oxZQV/ gS tcf d Hkjr ea d n LVkj gh 500 oxZQV/ l s FkMh vf/kd ds gA okVekVZ ds i R; d LVkj dk vks r VuZ/kvj djhc 255 djkm+# i ; sgA

; kuh i R; d depljh ij okVekVZ dk VuZ/kvj vks ru 87 yk [k 50 g tkj # i ; s gA tcf d Hkjr h; [knpjk dkjckkj dk vks ru VuZ/kvj gh, d yk [k 86 g tkj 75 # i ; sgA

Hkjr ea vl afBr {ks= ds [knpjk dkjckkj; ka dk VuZ/kvj l kr yk [k 35 g tkj djkm+# i ; s Fk ft l ea djhc 3-95 djkm+yks dk; j r gA vxj cMh fjVsy da fu; ka us 20 Qhl nh Hk Hkjr h; [knpjk dkjckkj dk fgLI k vi us d Ct seaysfy; k rksorEku cktkj ds vdkj ds vuq kj djhc vLI h g tkj djkm+# i ; sdk VuZ/kvj gskkA vks bl dsfy, bu da fu; ka }kjk fl QZ 43]540 yksks dks jkstxkj fn; k tk, xk ft l l s vl afBr {ks= ds 80 yk [k yks c jkstxkj gsktk, xkA

vc bl l s ; g rks l e> ea vkrk gh gSfd fjVsy ea, QMhvkBZ l s c jkstxkj h c<xhA ij l jdkj dgrh gSfd fd l kuka dks Qk; nk gskk

vkj mi HkkDrkvdks l Lrseal keku feyxa vxj fl QZ , d gh cMh da uh okWyeKvZHKjr eavkrh gSrsog bruh cMh gSvkj i jh nfu; k eamI dk dkjckkj QSyk gpk gSft l l s' kq dsdnl I ky rksog upl ku eadkv yxh tcrd ml dsifr;nh [kre u gks tk, A

fQj bl dsckn fdl kukaI sl Lrk yuk vkj mi HkkDrkvdkssegak cpuk gh bl dk /; s; gkska , d k ml gj ns k eans[kusdksfeyk g; tga&tga; sda fu; kaekstn ga

vxj fdl ku dsfy, ; sda fu; kabruh gh Ok; nean garsvejhdk vkj ; jki dscMans kkaefdl kuka dks l h/ks l fcl Mh nclj D; kai kyk tk jgk gS

vxj ; g fctud ekWly bruk gh dkjxj gSrsogkafdl kuka dks ykHk D; kaugh gksj gk\ D; kaogkacj kst xkj h c-<j gh gS

D; kafons kkaea [kkl rkj l s; jki eavkj vejhdk eaykscksdks [kkuk egak feyk jgk gS

, d ckj bu da fu; kadk ftl Hkh ns k ea, dkf/kdkj LFkfi r gks x; k ogkabl gksus'ckbae yks, M l syak gkbz; kuh l Lrk [kjhrksvkj egak cpsdch uhfr vi ukbzga

bu da fu; ka dh fi Mv/jh i kbfl x i koj ; kuh brusde nke ea cpusdh 'kfdR gSfd vkj dkbz da fu; k fvd gh u l da tksagn [krjukd ga D; kaid ; sda fu; ka dbz ns kka ea dkjckkj djrh ga bl fy, , d ns k dsuapl ku dh Hkj i kbz nu jsns k l sgrh jgrh ga

e'kgj y[kd fud jkscd usbzLV baM; k da uh dsckj seafy [kk Fkk fd Uka kyk ds nksuka Nkj ij fu; x k ds ckn vc da uh l Lrk [kjhn l drh gSvkj egak cp l drh ga l jdkj , QMhvkbz ds tfj, fQj ogh xykeh dk jkLrk [kxy jgh ga

bl HkmeMy dh fot; ; k=k ij fudyk okWyeKvZHKjr dk njoktk [kv [Kvk jgk ga vHkh l pny Hkjr h feRry uke ds Hkjr h; 0; ki kjh ds l kfk i DV djds Fkcd 0; ki kj ea mrjk ga 'kh?kz gh [knpjk dsfo' kkydk; LVkj [kxyusdh okWyeKvZdh r\$ kj h ga

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mngj.k ds fy, bxyM ds , l Mh, l eg dk 100 Qhl nh] cktthy dsck i dksdk 100 Qhl nh] vejfdk dh ekyu da uh dk 100 Qhl nh] tki ku dh l b; ka dk 53-56 Qhl nh] eSDI dks ds fl Qk l eg dk 53 Qhl nh] l b/y vejdu fjVy gkYMak da uh dk 51 Qhl nh ekfyduk gd okWyeKvZga

okWyeKvZ ds dkjckkj dh i jh nfu; k ea Hkjh vkykpuk bl fy, gkrh gSfd ; g

- 1- vi usl lyk; jkadk Hkjh ' kksk.k djrk gS
- 2- vi usdepkfj; kads l kfk /kks[kk/kMh djrk gS
- 3- HksHkko dh uhfr; kapykrk gSt S sefgykvkads i # "kkadh rgyuk eade oru nsuk]
- 4. LFkkuh; vFKD; oLFkk dk fouk' k djrk gS
- 5- jkt uhfrd gLr{ki djrk ga

vxLr 2002 eavejhdh l a n ea QkelZ; fVdy fcy ij cksyrsgq l husj , MoMZ , e- d&Mh us dgk 'D; k Qdz gS Mkdwka vkj cggk"Vh; da fu; kaek

, ujkMh dks nf [k,] vjcka Mkvj Mdkj x; k vkj depkfj; ka dks l Mel ij Qad fn; ka ; snok da fu; kaD; k de ga

buds' kdkj curs ga ofj "B ukxfjd vkj chek ykx^ njvl y cggk"Vh; da fu; ka ek; koh ga vkj buds Mkd Mkyus ds vud rjhds ga , d rjhdk gS NkV&NkV's yk [kka nplkunkjka dh jksth&jksh Nhu yuk vkj mlgsnj&nj dk fHk [kjh cukukA

330 vjc Mkvj dk l kykuk dkjckkj djusokyh nfu; k dh l cl s cMh [knpjk 0; ki kj dh vejhdh da uh oky&ekVZ, d h gh , d Mkdw ga fdrud [kks[kyk rdZgS^OkeZVwOkadZ^ rd dka l jdkj dgrh gSfd fdl ku dk l keku mi HkkDrk rd i gpkuseafcpkfy; sxMeMh djrsgj eky fdl ku l sl h/ksmi HkkDrk dks tk, A cgr vPNh ckr ga

fQj chp eaokWyeKvZD; kaD; k og fcpkfy; k ugha gS D; k okWyeKvZ nkk dk /kyk gS Ny&Qj; vkj 'kksk.k ds vufxur fd l s ga ml da

l cl s cMh ckr ; g gSfd tksyxk vi us i kj a fjd /kalka l sm [kkm+ fn, tk, xos vl; {ks=ka ea dke djus ds dkfcy ugha gks vkj fjVy {ks= ds vfire Lrj ij dke djus okys dkjckkj; ka dks vk/kfud fjVy {ks= eadke djusdk eadk gh ugh feyck] D; kaid ogkaf l QZvaxst h cksyusokys l gk; dkadh vko'; drk gkschA

phu] eyf' k; k vkj FkkbzM usgky gh eafj Vy {ks= dks, QMhvkbz dsfy, [kxyuseadk Qh tYnckth fn [kkbZFKhA yfdu vc bu ns kka eabu fons kh da fu; kads QSyko dks jkcdusdsfy, u, dkuu cuk, tk jgsga

vHkh Hkh prus dk l e; ga gea bu da fu; ka dh djrurka dks l e>uk gksck vkj vi us NkV's dkjckkj; ka dh jkst xkj l tu ea vge; r dks Hkh l e>uk gkska ns k fQj l s xykeh dh tathkaea tdmk tk, bl sjkcdusdsfy, vHkh l sl kfkZd vkj l rr-iz kl dh t: jr ga ; g l jdkj rksns k dks Bsyh ij Mkydj cpusfudy i Mh ga okWyeKvZ vkj da fu; ka ds, QMhvkbz ds Qu mB pps ga vkj muds Quka dks vHkh vkj vHkh dpy nsuk pfg, A vHkh ugha rks dHkh ugha

Sow FDI in retail, reap poison food

* Sandhya Jain

The notification of FDI in retail and announcement of plans by giant retailers for a major Indian debut, coincide with disturbing evidence about the toxic effects of genetically modified foods which are expected to arrive in this country at the same time.

The absence of appropriate legislation could thus adversely affect the health of the very segments of society that favour FDI in retail as a marker of upgraded lifestyles.

when it was found to introduce birth defects).

The rats were fed NK603 GM corn grown widely in North America and fed to animals and humans; it figures in corn-based breakfast cereal, corn tortillas, corn snack chips.

The Roundup pesticide consumed was at levels legally permissible in the water supply, but the rats suffered a 200 per cent to 300 per cent increase in large tumours, particularly female rats — 80 per



A new in-depth study into the long-term effects of consuming Monsanto's genetically modified corn along with trace levels of its Roundup chemical fertiliser has found that rats develop gigantic tumours, organ damage (liver and kidney), and suffer premature death (up to 50 per cent of males and 70 per cent of females).

Some tumours were so large that the rats could hardly breathe. Early reports hint that GM food could emerge as the “new thalidomide” (a sedative drug introduced in the 1950s and later withdrawn

cent of whom developed mammary tumours by the end of the trial. The study suggests consumption of GM maize and the herbicide Roundup have harmful effects on human health, and it is being taken seriously by experts around the world.

Dr Joel Spiroux and Professor Gilles-Eric Seralini, who published the results of their two-year study in Food and Chemical Toxicology, are members of the Committee for Research and Independent Information. The study questions the adequacy of regulatory processes in vogue all over the world,

which tend to cover a period of just three months, whereas theirs was a two-year study with a large sample size of 200 rats.

The results on Roundup toxicity suggest it has permeated the underground water, with serious implications for local consumers.

So far, governments the world over have done little to stop predatory seed companies from monopolizing and controlling food supply through genetically engineered seeds that are patent-protected against reuse in the traditional manner, pushing farmers into eternal bondage.

Farm saved seeds are healthier than GM seeds that need costly fertilisers and pesticides to produce an adequate crop yield, which even then may fall short of profitability for the debt-ridden farmer.

India was forced to open its seed sector to multinational corporations in 1998 by the World Bank. Besides ensuring a captive market for MNCs, the seed monopoly caused instant loss of biodiversity.

Where farmers once grew legumes, millets, and oil seeds, they began growing only cotton to cover input costs.

This monoculture hiked the risk of crop failure as the new seeds were not adapted to the diverse ecosystems in which they are being imposed by strong arm tactics. Hence the farmer suicides.

Worse, GM seeds sterilise natural / wild crops by contaminating their genetic material. This is why India, with nearly 30 types of brinjals, stoutly resisted Bt Brinjal being imposed by some embedded scientists and experts in 2010.

But now, GM foods may sneak in via multinational retailers who have resisted labeling foods for consumer information and choice.

In America, activists canvassing for laws to ensure that products are labelled if they contain GMOs, point out that food allergies in America have doubled in the past 15 years, which could be linked

to GM foods. But giant retailers counter that labels would frighten buyers into believing there might be something wrong with genetically engineered foods, and this could hurt the farming industry.

If governments are not sufficiently proactive in the matter, consumers worldwide could be exposed to ingesting chemicals with toxic side effects until a health disaster accumulates on a large enough scale.

By then, the soil, water, and natural seeds of myriad plant species may have been hopelessly contaminated.

For India, the better option is to say no to GMO foods and GM seeds, and to take the campaign to neighbouring countries like Nepal, from where potential contamination could spread to India.

An immediate impact of the study is that Russia has suspended import and sale of Monsanto's GM corn. Russian scientists opposed to GMO in food have planned a public experiment in March 2013, so that people can see and assess the process themselves.

The National Association for Genetic Safety (NAGS) will install web cameras in cages with rats and broadcast all stages of the experiment on the Internet 24/7 worldwide.

A previous study in 2006 had found that by the third generation, some animals became infertile. Should the animals suffer in the experiment, it would pave the way for banning GMOs in Russia.

<http://www.niticentral.com/2012/10/sow-fdi-in-retail-reap-poison-food.html>

KISAN KI AWAAZ
National Magazine Of Farmers' Voice

www.kisankiawaaz.org

Pollution Free Poultry Farming Through 'IMO' Technology

* Dr. G.N. Reddi

The Problem

Poultry Industry is creating serious health problems to the neighborhood community due to contaminated foul smell and menace of flies. The workers in the poultry industry are subjected to various health hazards.

A Way Out

Providing healthy natural environment for the poultry birds and utilization of IMO cultures is the real answer for preventing foul smell, menace of flies, feces management and improved Sanitary conditions through fermentation technology.



Feces management is a severe problem. Sanitary situation is unacceptable.

There are several instances in the country, where the local communities have registered their protest and agitated against the continuation of commercial poultry units in their vicinity.

The units have been forced to shift to far away areas because of the pollution and contamination problems from the poultry enterprises.

DR. CHO HAN KYU (1935 - -) an agriculture and livestock scientist from South Korea learnt IMO technology from Japanese farmers in 1965. It is an age old practice in Japan for enhancing crop and Livestock productivity. More than 20,000 farmers in South Korea and 10,000 farmers in Japan are utilizing PFPF technology.

Chinese are utilizing CHO's technology in Piggery Farms. South Korean, farmers are practicing pollution free dairy cattle farms. CHO visited PULICHARLA and TIRUPATI in 2006 and 2010

and helped SARRA to develop a training resource centre for the farmers, scientists and activists from South Asia region.

Application of IMO – 3 in kitchen waste Management has produced enriched manures with no foul smell. The experiment has been carried out with 1500 families in Pondicherry.

IMO means INDIGENOUS MICRO ORGANISMS. They are native to the soil from time immemorial IMO cultures can be prepared at home and farm environment as follows:

IMO – 1 Rice covered with fungal growth through fermentation process.

IMO – 2 IMO 1+ Jaggery in equal proportion through fermentation process.

IMO – 3 IMO 2+ rice bran, paddy straw pieces and other natural farming (NF) Inputs diluted.

IMO – 4 IMO 3 10kgs, field soil 5 kgs, red soil or anthill soil 5 kgs.

IMO – 5 Mix IMO 4 with fermented compost @ 1:10 ratio.

Technical Details – Poultry Shed Design

Poultry shed faces east and west (18 to 20ft. width) with no walls. Galvanized steel mesh is used to prevent rats and snakes into the poultry shed. This device facilitates free entry of sun light and air in the morning and evening.

Length of the poultry shed is expanded towards North and South. The length depends on the size of the poultry. Usually it is 4 Sq.ft. per bird.

There is no need for artificial lighting system and concrete floor. Flooring constitutes six inches raised bed by mixing red soil, rice straw pieces IMO-3 and other natural inputs. The flooring design helps in the multiplication of soil micro Organisms.

Feces of the poultry birds functions as a feed factory for the IMO and poultry birds. It is a fertilizer unit for the farm. There is no need to remove the feces since it is consumed by the poultry birds and micro organisms.

Poultry Feed

Poultry birds secure feed Up to 20% from soil micro-organisms, 30% from green grasses, and remaining 50% from nutritious grains which are locally available.

There is no need to depend on the commercial feed. Feeding Azolla helps to reduce feed cost. There is no force feeding. Water facility on one side and feed another side enhances the movement of the birds.

Restoration of animal Rights

Co-Habitation of male and female birds is practiced and respected unlike the conventional poultry enterprises where male birds are segregated. Caging system is not practiced. Free roaming enhances physical sturdiness.

Disease free environment exists. Contamination is eliminated through IMO and natural farming technology. Simple structures are made for seating when the birds fly or jump.

Conclusion

A three member team from SARRA visited South Korea during 2007 for 4 weeks. They were astonished to witness 20 to 30 thousand birds in family farms.

The secret of PFPF is IMO technology, Design of the shed and the floor for the multiplication of soil Micro – Organisms, significant reduction in the costs are achieved through natural poultry farm. Productivity levels are high by 20%. The quality of eggs is highly superior.

How to enhance proficiency in the Application of PFPF

SARRA organizes hands on training at quarterly intervals for 3 days. The training location is CGNF demo centre at PULICHERLA (40Kms. from TIRUPATI), A.P.

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Cherries May Help Reduce Risk of Gout Attacks

* Dr. Mercola

Painful, stiff and inflamed joints are a few of the characteristic symptoms of gout, which is a type of arthritis that is typically, but not always, located on your great toe.

When an attack occurs, the pain can be debilitating, with sufferers often describing it as being burned by a flame or skewered with a hot poker.

Gout symptoms usually go away within three to 10 days, and the next attack may not occur for months, or even years, if at all. However, oftentimes gout becomes a lifelong problem, with attacks occurring with increasing frequency and severity. In time, this can permanently damage your joints and surrounding areas.

Needless to say, preventing gout attacks is essential to maintaining your quality of life – which is why new research showing cherries might do the trick is worth shouting from the rooftops.

10-12 Cherries a Day Can Reduce Gout Attack Risk

In a study of over 600 people with gout, those who ate a ½-cup serving of cherries a day, the equivalent of about 10 or 12 cherries, or consumed cherry extract, had a 35 percent lower risk of a subsequent gout attack.

Those who ate more cherries, up to three servings in two days, had an even lower, 50 percent reduction in risk.

It might seem strange that cherries would lower your risk of gout, as this condition is often associated with sugar, fructose and fruit juice consumption.

But you only need to eat a small amount of cherries to get the benefit, meaning the sugar contribution is small.

Plus, they contain powerful compounds like anthocyanins and bioflavonoids, which are known to fight inflammation. They may also be beneficial because of their impact on your uric acid levels.

Gout occurs when the metabolic processes that control the amount of uric acid in your blood fail to do their job effectively. The stiffness and swelling are a result of excess uric-acid-forming crystals in your joints, and the pain associated with this condition disease is caused by your body's inflammatory response to the crystals. Past studies have found:

- Eating two servings of cherries after an overnight fast lead to a 15 percent reduction in uric acid, and lower nitric oxide and C-reactive protein levels (which are associated with inflammatory diseases like gout). The researchers noted the study supports "the reputed anti-gout efficacy of cherries" as well as "evidence that compounds in cherries may inhibit inflammatory pathways."
- Consuming tart cherry juice daily for four weeks may lower your levels of uric acid

Fructose and Uric Acid: If You Have Gout, You Need to Know The Connection

Drinking just one soda or 6-ounce glass of orange juice a day has been linked to a significant increase in gout – 74 percent and 41 percent, respectively – compared to drinking these only rarely. We believe the primary culprit is fructose, which typically generates uric acid within minutes of ingestion. You probably already know that fructose is a sugar, but you may not realize is that it's distinctly different from other sugars as it's metabolized through very specific pathways that differ from those of glucose, for example, and through its distinct metabolic action, uric acid is generated.

For those of you who maintain that "a sugar is a

sugar is a sugar," fructose -- and fructose ALONE - drives up uric acid. And elevated uric acid levels are not only a factor in gout, they're a factor in many other health conditions, including hypertension, insulin resistance/diabetes, obesity and kidney disease. Not coincidentally, many of these conditions, like diabetes and hypertension, also increase your risk of gout (as does the use of thiazide diuretics, which are commonly used to treat hypertension).

The connection between fructose consumption and increased uric acid is so reliable that a uric acid level taken from your blood can actually be used as a marker for fructose toxicity. I now recommend that a uric acid level be a routine part of your blood screening. According to the latest research, the safest range for uric acid is between 3 and 5.5 milligrams per deciliter, and there appears to be a steady relationship between uric acid levels and blood pressure and cardiovascular risk, even down to the range of 3 to 4 mg/dl.

As you probably know, two-thirds of the U.S. population is overweight, and most of these people likely have uric acid levels in excess of 5.5. Some may even be closer to 10 or higher (this may explain why being overweight also increases your risk of gout). Dr. Richard Johnson, professor of medicine at the University of Colorado, suggests that the ideal uric acid level is probably around:

- 4 mg/dl for men
- 3.5 mg/dl for women

You can find out more about how uric acid in your blood can cause not only gout but also wreak havoc on your blood pressure, insulin production and even kidney function in the interview with Dr. Johnson below.

What are the Top Tips for Preventing and Managing Gout?

Be careful not to overdo it on cherries. I know from personal experience because they are my favorite fruit and I could easily eat a pound of them in one sitting. The key is moderation, as large amounts

of fructose on a regular basis are not a good strategy for health. Fortunately, they have a relatively short harvest season and are not a temptation for too long.

According to Dr. Johnson's research, a quarter of the U.S. population consumes a whopping 134 grams of fructose a day. This is a staggering amount of fructose when you consider the fact that you need to restrict your fructose intake to below 25 grams a day in order to maintain good health.

If you have gout, this is extremely important, and you must take into account the fructose you consume from fruit. For instance, if you eat cherries for their therapeutic value, 10 sweet cherries or 1 cup of sour cherries contain about 4 grams of fructose. The fructose level of other fruits are listed in the graphic below.

So if you had no other sources of fructose 25 cherries would put you at 10 grams of fructose. You would need to eat more than 60 cherries to put you over the limit. My guess is that if you only did this occasionally and did not have insulin resistance this would likely not be a problem. However, you would activate your fat switch and put on some storage fat. But that is ok as you have the metabolism designed to burn it, especially if you are not consuming cherries every day.

Limiting fructose in your diet is one of the most important parts of managing and preventing gout attacks, and you can find a simple guide for doing so using my nutrition plan. You'll want to be sure to cut out soda, fruit drinks and other sweetened beverages, as these types of drinks are a primary source of excessive fructose. Instead, drink plenty of pure water, as the fluids will help to remove uric acid from your body.

Alcohol in general, and beer specifically, may also raise the levels of uric acid in your blood, so this should also be limited or avoided.

<http://articles.mercola.com/sites/articles/archive/2012/10/15/cherries-reduce-gout-attack-risks.aspx>

Retail FDI : The Last Nail in the Coffin

* Dharmendra Kumar

Govt. of India has finally allowed Foreign Direct Investment (FDI) in Multi Brand Retail (MBR). The Indian Govt. does possess right to frame such trade policies but this particular trade policy decision does not auger well for the so-called largest democracy of the world. It is so because it seems at the outset that the decision to allow FDI in MBR lack sanction of the majority in the parliament.

Despite the fact that the Indian economy is now largely service driven, two third of its billion plus population still survives on farming.

The Mahatma's saying that India is a country of villages still holds ground. Even today, one can safely say that India is a country of small producers. Small-holder farmers comprise close to 80 per cent of the country's farmers. Amidst the robust growth rate of 6 to 8 percent India is home to one-fourth of the world's total of under-nourished people.

Moreover, the intensity of the hunger among those undernourished is also high. Child malnutrition is here the world's highest: one in four Indian children is seriously under-nourished. Anaemia affects more than half of the pre-school children and more than half of the pregnant women.

In such precarious condition, food security must be of highest priority and the task of feeding India reside with small farmers who produce 41 percent of the country's food-grains from only 33 percent of

the total cultivated land. Their productivity is somewhat higher than that of medium- and large-size farms.

Studies reveal negative impact of corporatization of agriculture on small farmers particularly with respect to market access and prices. A study of farmers in US finds that farmers suffered from severely depressed prices while the corporations booked high profits.

Another study of Mexico finds that small-scale producers generally have not benefited from the reconfiguration of food retailing supply networks.

The Indian experience of corporate procurement channels already indicates that corporations would deal with large and efficient growers rather than small ones. Studies reveal that the procurement practices of corporate retailers have threatened traditional wholesale markets and do not

include small and medium farmers.

It is believed that corporatization of agriculture could be much more devastating for small farmers of India as majority of them are already operating at the subsistence level. Along with small farmers agricultural labourers constitute the majority of India's population.

It also does not seem that the process of corporatization of agriculture will benefit agricultural labourers in India. A recent study confirms that Wal-Mart was reducing wages in agriculture in Mexico. With its all round impact on



employment and wages corporate retailers contribute to poverty in areas where they operate. A study of counties in the USA finds that family poverty increases in areas where Wal-Marts are located.

Another study by a UK team finds that the connection between agriculture and poverty alleviation is weakened as concentration of 'buyer-driven' supermarket chains rises. The requirements for 'entering' such a chain put small and marginal farmers in disadvantaged position and they lose out in the race.

Apprehensions have been expressed about the anti producer strategy of Supermarket chains as they try not to overlap the operating area and compelling farmers to sell at uncompetitive prices.

Recounting the experiences in Africa and Latin America, the study further states that for Cocoa farmers of Ghana the farm-gate price is just 3.9% of the retail price while the retail margin hovers around 34.1%, and for banana farmers of Latin America the figures are 5% and 34%.

In a study on E-choupal initiative by ITC Ltd and its long term prospect and dangers, it is suggested how strategic move and designs may dislodge 16 million small and marginal farmers from their distorted exploitative equilibrium without any alternative structure to support them.

No doubt, there is ample of scope to reduce the difference between farm-gate and retail prices. Models of marketing cooperatives like HOPCOMS may offer some solutions of the problem.

Prosperity to farmers and benefit of contract farming are almost taken as a priori assumptions without any substantial base. There are conflicting results on the efficacy of contract farming in the economic betterment of farmers.

In Punjab the state Government was forced to intervene at several times in the resolution of conflicts between farmers and contracting companies. In Maharashtra the exploitation of

grape farmers by the wineries owners hit the media headlines in 2009-10. The issue of direct marketing also needs further analysis and regulations. In Uttar Pradesh private companies including ITC purchased the wheat below the Minimum Support Price (MSP) in 2010.

No doubt, there is need to strengthen the wholesale markets governed by APMC Act to further make it in favour of farmers but attempts to replace the APMC markets with international and giant cartels look myopic so far containing inflation is concerned.

It is indeed an irony that state regulated democratic marketing bodies are termed as cartels and superstores are being projected as saviours. Superstores never provide farmers an open space to bargain for better returns of their produce as is available in APMC markets.

It is also to be noted that India is simultaneously negotiating free trade agreements at multiple levels to completely eliminate tariffs on processed food and all kinds of export restrictions including export taxes on agricultural raw materials.

Small farmers hardly benefit from export based policies. It is unfounded to think that small farmers would benefit from restructuring of the food supply chain given high agricultural subsidy in other parts of the world.

In fact, superstores and tariff free trade may put our small farmers to compete with industrialized world's heavily subsidized products such as dairy, poultry, coffee, fruits and vegetables.

India had already liberalized almost every sector to facilitate corporations in the food supply chain including wholesale cash-n-carry, export trade, warehousing, construction, real estate, agriculture, food processing, horticulture, cold chains, and food parks.

Allowing FDI in MBR may prove last nail in the coffin.

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80% of pesticides cause reproductive harm in men

* T.M. Hartle

Reports from European countries have found sub-fertile semen quality in 1 out of 5 young men ages 18 to 25. Research has also shown increasing rates of testicular cancer, undescended testes in babies, and other hormone-related problems in men.

Fertility and reproductive health is declining in men and has been over the last 50 years according to recent reports. The cause of this decline in health is multi-factorial, but research continues to expose agribusiness chemicals as potent hormone disruptors.

The evidence of declining male reproductive health in connection with commonly used agricultural chemicals is found in a host of scientific research that has spanned decades.

Research found that men with high levels of three common pesticides in their urine were 10 times as likely to have low sperm quality.

The conclusions of the study suggested that **common weed killers including Alachlor, Atrazine and Diazinon harm the reproductive health of men**, who drink water contaminated with these common chemicals.

Several studies published in late 2010 found that many pesticides and fungicides used on the food supply impaired testosterone synthesis.

Despite the evidence that these chemicals have the potential to cause serious reproductive harm no action is being taken.

As the scientific literature exposes the dark side of our chemical laden society, the government barely takes notice and the use of these chemicals continues.

The evidence from this research deserves the

attention of researchers, government regulatory agencies, and the agricultural community. There is strong evidence that agribusiness chemicals have anti-androgen and hormone disrupting properties, and this certainly is a major contributing factor to the declining reproductive health in men.

The declining sperm count and rising reproductive impairment in developed countries has a myriad of causes.

There are many contributing factors in food packaging, chemicals used in food production, plastics and a host of other factors in the environment.

Despite the reality that there is no simple, one answer solution to the declining reproductive health in men, action should be taken when significant contributing factors are identified.

The use of toxic chemicals is based on increasing profitability, not public health. However, the general public does not have to be at the mercy of agribusiness.

Men can take a stand and protect their reproductive health by supporting organic agriculture, avoiding processed foods, drinking only pure water filtered to remove contaminants, or joining the local community supported agriculture.

If there is a shift in profitability because of a larger demand for organically produced food, there will be a movement toward safer, organic, and sustainable food production practices in order to follow public demand. The greatest tool for change in food production is in our wallet.

<http://beyondthecurtain.wordpress.com/2011/03/03/80-of-pesticides-cause-reproductive-harm-in-men/>



वॉलमार्ट ने खुद कहा है कि उसने भारत में एफडीआई पर 6.3 करोड़ डॉलर लॉकिंग पर खर्च किया है। यह धन किसके पास गया? राजिना को समझने की जरूरत है।
- डॉ. मुरली मनोहर जोशी, भाजपा के वरिष्ठ नेता



बड़े रिटेलर भारत में अपने मकसद से आरंभ करेंगे, लेकिन शर्त हमारी होगी। विदेशी निवेश का 50 फीसदी गोदान और बुनियादी ढांचे पर खर्च होगा। उन्हें 30 फीसदी सामान लघु उद्योगों से खरीदना होगा।
- हरीश रावत, केंद्रीय कृषि राज्य मंत्री

रिटेल में एफडीआई, सहमे से हैं व्यापारी और किसान बड़ा सवाल : 16 का 80 कैसे होता है

रिटेल में एफडीआई के खेती पर असर को लेकर किसान चिंतित हैं। उपज का वाजिब दाम न मिलने और बढ़ती लागत के चलते घाटे का सौदा होती जा रही खेती में एफडीआई से कोई राहत मिलेगी, यह बात किसान संगठनों के गले नहीं उतर रही है।

किसानों के साथ धोखा

- राकेश टिकैत, भारतीय किसान यूनियन आम किसान को पता ही नहीं कि एफडीआई क्या है और इससे क्या नुकसान होने वाला है। दिल्ली में सरकार पता नहीं किन किसानों से बात करके फैसले ले लेती है। हकीकत यह है कि उदड़ की दाल किसान 16 रुपये किलो के



भाव बेचता है और बाजार में यह 80 रुपये किलो बिकती है। किसान अपनी चीज कौड़ियों के भाव बेचता है और बाकी सारी चीजें महंगी खरीदता है। अपने संघर्ष में किसान हमेशा अकेला रहा है। कभी भी न व्यापारी ने उसका साथ दिया और न ही नौकरीपेशा लोगों ने। सरकार ने किसानों को धोखे में रखकर एफडीआई लाने का फैसला कर लिया। अब तक छोटे बिक्री लिए किसान को लुटते थे, अब बड़े-बड़े आ जाएंगे। सारी कंपनियों की निगाहें किसान की जमीन पर हैं, इसे छीनकर बड़े-बड़े फार्मों में खेती करवाएंगी कंपनियां। हम एफडीआई का विरोध करेंगे। यह आंदोलन एनसीआर में 300 किलोमीटर के इलाके में किया जाएगा।

उदारी नहीं उधारीकरण !

- कृष्णवीर चौधरी, भारतीय कृषक समाज सरकार हर आर्थिक फैसले को किसानों की भलाई के नाम पर लाती है। डब्ल्यूटीओ गेट समझौते के वक्त इन्हीं मनमोहन सिंह ने दावा किया था कि हम अंतरराष्ट्रीय बाजार पर कब्जा कर लेंगे। लेकिन क्या हुआ? कब्जा करना तो दूर हमने अपने बाजार विदेशी



कंपनियों के हाथों गिरवी रख दिए। रिटेल में एफडीआई देश की पूरी कृषि व्यवस्था पर हमला है। अगर वॉलमार्ट जैसी दिग्गज रिटेल कंपनियों से किसानों का भला होता तो अमेरिका और यूरोप में किसानों का भला क्यों नहीं हुआ? अमूल जैसी सहकारी संस्थाएं अपने मुनाफे का जितना हिस्सा किसानों को बांटती हैं, वॉलमार्ट जैसी कंपनियां उसका आधा भी नहीं बांटती हैं। खेती और किसानों के नाम पर सब्सिडी की लूटमार मची है। ऐसी ही लूट स्टोरेज के नाम पर भी हो रही है। अगर सरकार वाकई खेती की बेहतरी के लिए कुछ करना चाहती है तो किसानों को स्टोरेज के लिए ब्याज मुक्त कर्ज क्यों नहीं देती है।

किसानों पर दोहरी मार

- वी.एम. सिंह, किसान मजदूर संगठन पहले सरकार ने खेती में सीलिंग के जरिए बड़े किसानों को खत्म किया, अब छोटों को खत्म करने की नीति अपना रही है। अमेरिका में खेती वॉलमार्ट जैसी रिटेल कंपनियों के शिकंजे में है। वहां इसके गंभीर नतीजे सामने आए हैं। 1982 में



अमेरिका में किसान की हिस्सेदारी 34 फीसदी थी, जो अब घटकर 17 फीसदी रह गई है। अगर वॉलमार्ट अमेरिका का भला नहीं कर पाई तो यहां क्या भला करेगी। ग्रामीण भारत में खुदरा दुकानदार भी किसान ही है, इसलिए उस पर दोहरी मार पड़नी तय है। रिटेल में एफडीआई की तरह न्यूक्लियर डील के समय कहा गया कि किसानों को फायदा होगा, उसे 10 पैसे प्रति यूनिट की दर से बिजली मिलेगी। लेकिन कुछ नहीं हुआ। अगर सरकार कुछ करना ही चाहती है तो किसान या उत्पादक से लेकर उपभोक्ता तक एक ऐसी नियामक व्यवस्था बनाए, जो मुनाफे को नियंत्रित करे।

किसान को बहुराष्ट्रीय कंपनियों के भरोसे छोड़ा

- नरेश सिरोही, भारतीय किसान मोर्चा देश में करीब 12 करोड़ छोटे किसान और 4-5 करोड़ खुदरा दुकानदार हैं। रिटेल में एफडीआई लाने की छूट का असर इनकी रोजी-रोटी पर पड़ेगा। अफसोस की बात है कि जब लाखों किसानों ने आत्महत्या की तब सरकार आगे नहीं आई लेकिन रिटेल में एफडीआई लाने के लिए बलिदान करने



को तैयार हो गई। मतलब साफ है, सरकार को किसानों से नहीं बड़े उद्योगपतियों से मतलब है। पिछले तीन साल में केंद्र सरकार 13 लाख करोड़ रुपये की कस्टम एंड एक्साइज ड्यूटी माफ कर चुकी है। सरकार अपनी व्यवस्थाएं दुरुस्त करने के बजाय अपने बाजार, व्यापारी और किसान को बहुराष्ट्रीय कंपनियों के भरोसे छोड़ रही है।

सुलगते सवाल

अधिकतर वक्ताओं ने यह माना कि यदि वॉलमार्ट जैसी कंपनियां इतनी प्रभावी हैं तो अमेरिका में क्यों बेरोजगारी कम नहीं हो रही है। वहां की अर्थव्यवस्था इतनी खराब क्यों है। दुनिया के दूसरे देशों में एफडीआई के उदाहरणों से साफ है कि यह कंपनियां धीरे-धीरे घरेलू बाजार को नष्ट कर देती हैं। ऐसे में इस छलावे से बचने में ही हमारी भलाई है।



L to R, Dr. Krishan Bir Chaudhary, President, Bharatiya Krishak Samaj, Dr. Murli Manohar Joshi, M.P. & Chairman Parliament Accounts committee addressing Press Conference to oppose FDI in Retail, Sh. Naresh Sirohi, Gen. Sect. Kisan Morcha BJP on 02, November, 2012 in Chelmsford Club, New Delhi.



नई दिल्ली के कांस्टीट्यूशन क्लब में अमर उजाला की ओर से आयोजित 'मंथन' कार्यक्रम में भाग लेते (बाएँ से दायें) डॉ. हरिवंश चतुर्वेदी (डायरेक्टर बिमटेक), राकेश टिकैत (भाकियू), कृष्णवीर चौधरी (भारतीय कृषक समाज), प्रवीण खंडेलवाल (व्यापारी प्रतिनिधि), नरेश सिरौही (भारतीय किसान मोर्चा) और वीएम सिंह (राष्ट्रीय किसान मजदूर संगठन) 12, October, 2012