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## Ancient medical practices on livestock still prove effective

More than 12,000 animals have been administered the masala bolus



**Old practice: Sheep being fed with the herbal mixture.**

Diseases affecting farm animals such as sheep are seasonal, endemic, and lead to severe economic loss, especially when say 10 to 40 animals die in a herd.

“Often poor management practices lead to such casualties. In many cases immediate veterinary attention may not be possible, as some villages are quite remote and contacting a local doctor from a nearby town takes time,” says Mr. P. Vivekanandan, Executive Director, Sustainable Agriculture and Environmental Voluntary Action (SEVA), Madurai.

## Pilot study

Seva undertook a pilot study at Nallampalayam village, Erode district (1,028 sheep from 40 farmers), and the other at Vembur, Tuticorin district (1,357 sheep from 32 farmers), to test the effectiveness of ancient traditional management practices being practiced by sheep farmers in olden times.

These two places are famous for sheep husbandry and well known breeding tracts of two prominent sheep breeds — Meicherry and Vembur.

Every month farmers from the two areas under supervision from seva staff administered a mixture of several herbs (called masala bolus) and a herbal dewormer alternatively (first month masala bolus and next month herbal dewormer) for nearly six months to their animals.

At the end of the project more than 90 per cent of sheep farmers expressed satisfaction on their animals' health, compared to previous years' casualties, due to diseases such as Blue tongue and Foot and mouth disease.

Explaining the procedure for making the bolus Mr. Vivekanandan says:

The masala bolus, the size of big amla fruit, weighs about 20 gm and is made from (all Tamil names and Botanical names are italicized): Kandankathri (*Solanum surattense*), Thumbai (*Leucas aspera*), Kuppaimeni (*Acalypha indica*), Veeli leaves (*Cadaba farinosa*), Peruthumbai (*Leucas martinicensis*), Usilai (*Albizia amara*), Thulasi (*Ocimum tenuiflorum*), Avarampoo (*Cassia auriculata*), Moongil (*Bambusa arundinacia*), Puliampirandai (*Vitis setosa*), Thuthi (*Abutilon indicum*), Musumusukkai (*Mukia maderaspatana*), Kolunchi (*Tephrosia purpurea*), Manjanathi (*Marinda tinctoria*), Veliparuthi (*Pergularia daemia*), Nilavembu (*Andrographis paniculata*), Virali (*Dodonaea viscosa*) and Mavilangam (*Crateva adansonii*). (50 grams each of the above materials are taken, shade dried, pounded well and stored).

Addition

In addition, Thippili (*Piper longum*), Seeragam (*Cuminum cyminum*), Sombu (*Foeniculum vulgare*), Perungayam (*Ferula asafoetida*), Valmilagu (*Piper cubeba*), Sukku (*Zingiber officinale* – dried), Pepper (*Piper nigrum*), Chillis (*capsicum annum*), Kasakasa (*Papaver somniferum*), Lavangam (*Cinnamomum zeylanicum*), Fenugreek (*Trigonella foenumgraecum*), Omam (*Trachyspermum ammi*), Seeds of coriander (*Coriandrum sativum*) (10 grams each and pounded well).

Banana (*Musa paradisiaca*) one inflorescence, unripe Kaleathi fruits (*Ficus tinctoria*), Guava bark (*Psidium guajava*), Sotru katralai (*Aloe vera*), Garlic (*Allium sativum*) and Kollankovaikilangu (*Corollacarpus epigaeus*) 100 grams each, Pirandai (*Cissus quadrangularis*) 500 grams, Onion (*Allium cepa*) 250 grams, Coconut (*Cocos nucifera*) one, are also used.

#### Shelf life

All the above mentioned materials are ground, mixed well, and made into boluses (weighing 100 grams) and dusted with turmeric powder. It is ideal to administer the bolus twice daily for three days in the morning and evening. (The shelf life is for three days).

“Before administering the bolus, a venous puncture is made with the help of sterile needle in the dark green vein visible on the ventral side of the tongue. Later using common salt and tamarind fruit (*Tamarindus indica*), rub the upper surface of the tongue. [This can be practised with the help of expert healer],” explains Mr. Vivekanandan.

“We recorded positive results in cows and an increase in milk yield (upto 3 litres a day) in Umbalachery cattle in Madurai, Thoothukkudi, and Nagapattinam districts,” he says.

#### Numbers treated

So far, more than 12,000 animals (both sheep and cattle) have been administered the masala bolus.

“This traditional practice existed many centuries ago, is cheaper than chemical treatment and many livestock keepers developed the skill of preparing and administering it,” says Mr. Vivekanandan.

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## **GM plants used to fight haemophilia**

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*Gene that makes the protein inserted in plant genome*

*Plant cell walls protect gene till release time*

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The standard treatment for haemophilia is infusion with an expensively produced protein that helps the blood to clot. But in some patients the immune system fights the therapy, and in a subset of those, it sets off an allergic reaction that can result in death.

Developing tolerance

Now researchers at the University of Florida and the University of Central Florida have devised a way that potentially could help patients develop tolerance to the therapeutic protein before they are in need of treatment.

They genetically modified plants to encapsulate the tolerance-inducing protein within cell walls so that when ingested, it can travel unscathed through the stomach and be released into the small intestines where the immune system can act on it. The low-cost

plant-based system, now being tested in mice, eventually could help improve the lives of many people who have haemophilia and dramatically reduce related health-care costs. The findings were published recently in the Proceedings of the National Academy of Sciences.

Haemophilia is characterized by defects in the gene that produces a protein required for blood to clot. People with haemophilia can suffer from spontaneous internal bleeding or severe bleeding resulting from minor injuries.

Males get the disease, which is linked to the X chromosome, while females are “carriers” who rarely exhibit symptoms. The two forms of the disease — haemophilia A and B — are associated with the absence of proteins called factor VIII and factor IX, respectively.

Haemophilia treatment consists of infusing the missing protein into a patient's blood. But in 25 per cent of patients, the immune system rejects the therapy and makes inhibitors that stop the clotting factor from taking effect.

In haemophilia B, up to 4 per cent of patients develop inhibitors to the protein therapy and many develop severe systemic allergic reactions, called anaphylaxis, which can be life-threatening.

To help patients tolerate therapy, doctors try to exhaust patients' immune systems by administering the therapeutic protein intravenously at frequent intervals and for long periods until the body no longer responds by producing inhibitors.

While that brute force approach works for haemophilia A, it often doesn't for haemophilia B.

New, gentler approach

To find a new, gentler approach to developing tolerance, one of the study's leaders, Roland Herzog, of University of Florida teamed with Henry Daniell, of the University of

Central Florida, who has spent the last two decades developing transgenic plants for producing and delivering oral vaccines and immune-tolerant therapies.

They inserted the gene responsible for producing the therapeutic protein into the genome of plants. To maximize the amount of protein produced, they inserted thousands of copies of the genes into chloroplasts — the energy-producing centres of plants — using a gene gun.

The research team fed the encapsulated protein to haemophilic mice for an extended period. Once it arrived safely in the small intestines, however, surrounding bacteria chewed on the cell walls, causing the protein to be released and acted on by the immune system to induce tolerance, according to a University of Florida press release.

When the mice were later treated intravenously with the clotting factor therapy, they produced little or no inhibitors, and none developed anaphylactic shock. — **Our Bureau**

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## **Water spray for control of papaya mealy bug**

Mulberry farmers face difficulties in controlling papaya mealy bug because it escapes from insecticides and its natural enemies as it secretes and embeds in thick waxy masses.

Monsoon failure followed by prolonged drought and increase in temperature also encourage its heavy population build-up and further spread to newer areas and neighbouring states.

Deformed leaves

The bugs suck the sap of mulberry plants both from stems and leaves resulting in deformation of leaves and stunted growth which reduce the rearing capacity of the silkworm.

The dense waxy coating secreted by the pest and development of sooty mould pollute the garden in case of severe infestation. Feeding papaya mealy bug infested mulberry leaves also affects the growth and development of silkworm and cocoon formation.

Application of strong jet of water using a power sprayer is generally recommended to manage the sucking pests. Though the practice is effective, it is not popular as it is time consuming, laborious and it is a drudgery to fetch bulk quantities of water.

Hence an effective and user friendly water jetting technology has been developed eliminating the above drawbacks, in which jetting is effectively done by diverting a portion of irrigation water through a suitable length of one inch garden hose attached to the pipeline outlet opening in the irrigation channel.

A strong jet of water through the garden hose is obtained by partially blocking water flow into the irrigation channel using a gate valve.

Jetting is done by attaching a jet gun to the end of hose or by blocking half circle of the hose end using thumb, the jet of water is targeted towards the pest population. The plants are thoroughly drenched to get an instant result for complete elimination of the pest.

#### Effective

The strong jet of water effectively dislodges and washes out cent per cent of the pest population along with its waxy masses and sooty mould from the plants.

As the jetted water flows into the root zone of the plants they are simultaneously irrigated and hence water is not wasted. The system may also conveniently be adopted for agricultural and horticultural crops.

**N.Sakthivel**

**& R.Balakrishna**

Research Extension Center

Central Silk Board, Srivilliputtur & Regional Sericultural Research Station, Salem, Tamil Nadu

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## Farmers, fishermen hit by SIPCOT units: UN team

*Says forcible land acquisition has resulted in migration*



**UNEARTHING THE FACTS: Oliver de Schutter, United Nations Special Rapporteur for Right to Food, at a meeting in Cuddalore on Wednesday.**



CUDDALORE: A three-member United Nations team led by Oliver de Schutter, Special Rapporteur for Right to Food, on Wednesday visited some villages to assess the impact of SIPCOT industries on the livelihood of farmers and fishermen.

Mr. Schutter told reporters that the industrial estates/zones had disrupted the livelihood of the farming and fishing communities. Forcible land acquisition had reduced many landowners to the level of daily wage earners and forced many of them to migrate in search of livelihood as they could not sustain themselves on the meagre compensation provided.

Mr. Schutter was on a visit organised by social activists and environmentalists.

When cultivable lands were appropriated for industrial purposes the resultant pollution muddied the sea water, which led to dwindling fish catch, endangering marine life and affecting the livelihood of fisher folk.

Mr. Schutter said he would put out a report seeking an explanation from government agencies and companies as to how could they occupy vast swathe of cultivable lands, thereby depriving the right to food security.

Mr. Schutter underscored the point that he was here to ascertain the views of the people who had owing to industrialisation and not to pass judgement.

The aggrieved persons had strong civil society such as the Food First Information and Action Network, Tamil Nadu (FIAN) and the Consumer Federation Tamil Nadu (CONFET) to take up their cause.

They could also broach the subject with the village leaders and lawyers. He would make similar assessments in some other Asian countries and present the findings to the UN Secretary-General in October.

The two other members of the UN team were Precilla and Kaitlin Codes.

D. Gurusamy, secretary, FIAN; M.Nizamudeen, executive secretary, CONFET; K. Venkatapathi and K. Venkatesan of the Cuddalore District Farmers' Association; C. Vaiyapuri of the United Farmers' Association; T. Manivasagam, district secretary, CPI; and others provided inputs to the team.

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## **Co-operatives to procure 'Tuvarai' from farmers**

*At the prevailing market price*

TIRUCHI: Co-operative societies in Lalgudi, Pullambadi, Manapparai, Vaiyampatti, Musiri and Thottiyam blocks in Tiruchi district will procure the 'Tuvarai' (pulse) from the farmers directly at the prevailing market price on that day, according to a communication from Collector T.Soundiah here on Tuesday.

The Collector said that the Sivagnanam Agricultural Producers' Co-operative Society in Lalgudi would procure the Tuvarai from the farmers of Lalgudi and Pullambadi blocks, the primary agricultural co-operative society at Manapparai would procure the pulse from the farmers in Manapparai block, primary agricultural co-operative society at Vaiyampatti would procure the pulse from farmers in Vaiyampatti block, the agricultural co-operative society at Musiri would procure from the farmers of Musiri and Thottiyam blocks.

Mr Soundiah appealed to the farmers to sell tuvarai and get immediate cash.

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## Yield increasing gene in hybrid tomato found



A gene that pushes hybrid tomato plants to spectacularly increase yield has been identified. The power of this gene, which controls when plants make flowers, works in different varieties of tomato, across a range of environments.

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## Larval production of Cobia fish

The Central Marine Fisheries Research Institute (CMFRI), has claimed to have made a breakthrough in breeding and larval production of Cobia, a huge fish that is rarely netted by fishermen.

“For the first time in the country, we have succeeded in brood stock developing, captive breeding and larval production of Cobia,” CMFRI Principal Scientist and in charge of the regional centre at Mandapam, Dr G. Gopakumar told PTI.

At present, cobia caught in the deep sea does not support major commercial fishery and is generally considered “incidental catch,” he said.

He said broodstock development was obtained in sea cages by feeding the larvae with suitable broodstock diets. “Methods for induced breeding were also developed and successful spawning and larval production was achieved,” he added.

Currently work is in progress to produce fish seeds that would be supplied to the farmers very soon. Gopakumar said fast growth rate, adaptability for captive breeding, lowest cost production, good meat quality and high market demand were some of the attributes that makes Cobia an excellent species for aquaculture.

“Under ideal culture conditions, Cobia can reach 3-4 kg in body weight in one year and 8-10 kg in two years,” he said, adding the number of eggs produced in each spawning by a female weighing 15 kg ranges from two to three million. — PTI

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## **Grain of goodness**

Combine millet and blackbean to make a nutritious salad

You will probably recognise millet as one of the main ingredients in birdseed. Millet is also known as jowar cholam in Tamil. It is a delicious grain whose consistency varies depending upon the cooking method; it can be creamy like mashed potatoes or fluffy like rice. Since millet does not contain gluten, it is a wonderful grain alternative for people who are gluten-sensitive. Millet is tiny in size and round in shape and can vary in

colour from white to grey to yellow to red. The most widely available form found in stores is the pearled, hulled type, although you may often be able to find traditional couscous, which is made from cracked millet.

Millet is a dietary staple in Africa where finely ground millet is used to make a traditional flatbread known as injera. The majority of the world's commercial millet crop is produced by India, China and Nigeria.

Millet is generally available in its hulled and whole grain form. It is available pre-packaged as well as in bulk containers. Just as with any other food that you may purchase in the bulk section, make sure that the bins containing the millet are covered and that the store has a good product turnover so as to ensure its maximal freshness. Whether purchasing millet in bulk or in a packaged container, make sure that there is no of moisture. Store millet in an airtight container in a cool, dry and dark place, where it will keep for several months.

#### Nutritional profile

Millet is a good source of the minerals phosphorus, manganese and magnesium.

Now, for a recipe.

#### Black bean and millet salad

##### Ingredients

Millet: 50 gm

Water: 150 ml

Black bean: 75 gm

Tomatoes, deseeded and chopped: 2 large

Onion, peeled and chopped: 1 medium

Cucumber: 1 medium

Lemon juice: 3 tsp

Balsamic vinegar: 2 tsp

Garlic, chopped: 1 tsp

Salt to taste

Black pepper crushed

Cumin: half tsp

Method: Cook the millet in 3 cups of water till all the water is absorbed (30-45 minutes). Fluff it with a fork and allow it to cool slightly. In a large bowl, combine millet, black beans, tomatoes and onion. Peel several strips from the cucumber (it should look striped) and cut it lengthwise into four pieces. Remove the seedy part from the pieces and cut them into half-inch slices.

Add the cucumber to the salad. Mix all the dressing ingredients until they are well blended. Pour it over the salad and toss to blend. Cover and refrigerate until the salad is well chilled. Serve it on lettuce leaves or stuff it into pita bread.

BHOLANATH JHA *Chef de Partie Taj Connemara*

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# 'Chemical cocktails' affecting humans, environment

ANI Posted online: Tuesday , Mar 30, 2010 at 1655 hrs

**Washington** : Researchers at the University of Gothenburg, Sweden, have looked at the risk of “chemical cocktails” to humans and the environment and have proposed a number of measures that need to be implemented in the current practice of chemical risk assessment.

In 2005, an American study showed that newborn babies have an average of 200 non-natural chemicals in their blood, including pesticides, dioxins, industrial chemicals and flame retardants.

In a Swedish study, the Swedish University of Agricultural Sciences found 57 different pesticides in Swedish rivers and streams, many of them occurring simultaneously.

However, the effects of chemicals on humans and the environment are traditionally evaluated on the basis of single substances, chemical by chemical.

Research has shown that this type of approach is inadequate as the chemicals that we use form a complex cocktail.

The European Union’s (EU’s) environment ministers have therefore urged the European Commission to step up its risk assessments and amend the legislation on the combination effects of chemicals.

In concrete terms, the Commission has been tasked with producing recommendations in 2010 on how combinations of hormone-disrupting substances should be dealt with on the basis of existing legislation, and with assessing suitable legislative changes in 2011.

In order to map out the current situation, researchers from the University of Gothenburg and the University of London carried out a review of the state of the art of mixture toxicology and ecotoxicology.

The study showed that all the relevant research is unambiguous: the combined “cocktail effect” of environmental chemicals is greater and more toxic than the effect of the chemicals individually.

“The number of chemical combinations that the Earth’s living organisms are exposed to is enormous,” said Thomas Backhaus, researcher at the Department of Plant and Environmental Sciences and co-author of the report.

“Assessing every conceivable combination is not therefore realistic, and predictive approaches must be implemented in risk assessment. We need guidelines on how to manage the chemical cocktail effect so that we can assess the risks to both humans and the environment,” he added.

## Forest of branches

**The Indian Express** Posted online: Thursday , Apr 01, 2010 at 0348 hrs

A few weeks ago, during his Budget speech, Finance Minister Pranab Mukherjee announced that the UPA intended to ensure that, in its current term, all places with more than 2,000 residents would have some sort of access to banking facilities. Financial inclusion of that order requires some pretty ambitious plans from individual corporations: and hence the statement by the chairman of the State Bank of India (SBI) to Wednesday’s Financial Express that the SBI is planning to massively increase the number of banking correspondents, or BCs, on its rolls. BCs are individuals or small enterprises that will accept deposits and remit money on behalf of the bank, as well as serving as local providers for the bank’s basic financial schemes — for example, insurance plans.

The SBI plans to add 15,000 new BCs over this financial year. To say that this is a substantial increase is something of an understatement: the number that the SBI currently has on its rolls is negligible. But we could very well be at the threshold of a transformative moment: a sign marking an SBI “franchisee” might become, soon, as ubiquitous in our villages as the yellow sign for an STD/ ISD PCO became in the ’90s. And as revolutionary, too, as were those PCOs. This goes beyond the oft-mentioned hope that increasing the number of accounts will aid in the payment of NREGA wages, or in keeping tabs on the leakage in other social sector schemes; no, the prospect here is that the smallest of enterprises or the poor, self-employed Indian will fundamentally alter the way they manage their risk or pay their creditors.



Most crucially, as the Raghuram Rajan report on financial inclusion pointed out, increasing the size of the formal banking sector will aid in the process of creating a coherent structure within which credit history is built up — meaning that disbursement of credit can become more efficient and targeted. But the state's pushing of its own banks can only go so far. What is needed is for it to aid private banks into the sector: their cost-cutting ethic is precisely what this sort of no-frills expansion will require.

## Land gone for power plant, money yet to come, farmers protest

**Express News Service** Posted online: Thursday , Apr 01, 2010 at 0237 hrs

**Allahabad** : Hundreds of farmers held a massive protest on Wednesday at Lohgara (Shankargarh) in trans-Yamuna area where a 2,500 MW power plant is being set by the J P Group. On Wednesday, the protesters stopped levelling work and fencing of the land in protest against the alleged delay in disbursement of monetary and other compensation for the land acquired by the UPPCL on behalf of the J P Group.

The issue also came up before the Allahabad High Court which issued a contempt notice to the district authorities, asking the Sub-Divisional Magistrate of Bara Vandana Tripathi to file a reply within a week, explaining the delay in disbursement of compensation in spite of a court order.

Justice Vikram Nath, who heard the matter, fixed the next hearing on April 6. Later, District Magistrate Sanjay Prashad said compensation cheques will be disbursed within two days. "We are now ready to record the protest of the farmers. 80 per cent of the compensation will be disbursed immediately and the final payment would be made after the rate is finally decided in the court," said the DM.

Of the 99 farmers whose land was acquired, 58 had moved the Allahabad High Court against the delay in payment of compensation, anomalies in compensation rate and seeking benefits like service to a family member and compensation for houses.

In December 2009, the court had ordered the district authorities to pay 80 per cent of the compensation and register the protest of the farmers, but the order was not implemented. The farmers then moved a contempt petition, said M A Khan, counsel of the farmers. "The UPPCL acquired the land in 2007 under the Land Acquisition Act and took possession of the land in 2008. Since then the farmers have not been able to cultivate, nor have they been given the compensation," said Khan. The district administration did

not even comply with the December 2009 order of the Allahabad High Court, forcing them to move a contempt petition in January.

“We stopped levelling work of the company yesterday and today we continued with our protest and stopped the fencing work. The rate of Rs 1.25 lakh per bigha is fixed for fertile as well as barren land. This is very low in comparison to the compensation given in other power projects,” said Subodh Singh, a farmer. “The government has also not agreed to provide service to one person from each family whose land was acquired,” he added.

The state has decided to set up a power plant at Lohgara and the JP Group had made a successful bid for the project. The UPPCL acquired around 1,500 bigha for the project. ens

**hindustantimes**



**Indo-Asian News Service**

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## Toads can sense impending natural disasters

Toads have a sixth sense about natural disasters and can predict when an earthquake is about to strike, a new study has found.

According to the researchers from the Open University, male toads would normally remain at the breeding site from the start of the mating season until spawning is complete.

They believe the toads were able to detect environmental changes missed by people, such as the release of gases or charged particles from the ground, before seismic

events, and use these as a form of earthquake early warning system, reports [dailymail.co.uk](http://dailymail.co.uk)

"Our study is the first to document animal behaviour before, during and after an earthquake. Our findings suggest that toads are able to detect pre-seismic cues such as the release of gases and charged particles, and use these as a form of earthquake early warning system," said Rachel Grant, who was studying the impact of the lunar cycle on the toads when the earthquake struck.

She believes the amphibians could have evolved to evacuate an area when they sensed the changes associated with a quake.

"An earthquake could wipe out a population in that area. This particular species are very dispersed and can live up to a mile or two from their breeding site. A landslide or flood could wipe out virtually 100 percent of the males, and quite a lot of the females," she said.

"A day after the earthquake, they all started coming back. The numbers were still lower than normal and remained low until after the last aftershock," she added.

While earthquakes are a rare phenomenon, toads have been around on the planet for four hundred fifty million years - long enough to evolve a response to such potentially catastrophic events.

<http://www.hindustantimes.com/StoryPage/Print/525657.aspx>

Chennai - INDIA

#### Today's Weather



Clear

**Thursday, Apr 1**

Max    Min

37.7° | 27.8°

#### Tomorrow's Forecast



Tstorm






**Friday, Apr 2**

Max    Min

37° | 28°

Rain: 00mm in24hrs    Sunrise: 06:07  
Humidity: 89%        Sunset: 18:20  
Wind: Normal         Barometer: 1008.1mb

Extended Forecast for a week

Saturday	Sunday	Monday	Tuesday	Wednesday
Apr 3	Apr 4	Apr 5	Apr 6	Apr 7
				
37°   28°	36°   27°	36°   27°	36°   25°	37°   28°
Sunny	Partly Cloudy	Cloudy	Cloudy	Sunny