THE HINDU

Date:05/02/2010 URL:
http://www.thehindu.com/2010/02/05/stories/2010020550130200.htm

Water calculator released at TNAU

Special Correspondent

– Photo:S. Siva Saravanan

INNOVATIVE: **Vice-Chancellor of the Tamil Nadu Agricultural University P. Murugesa Boopathy (centre) launching the water calculator at a function organised by the university and International Water Management Institute-TATA Policy Research Program in Coimbatore on Thursday. Consultant of ITP S. Raman (left) and Director of IWMI-TATA Research Program, Hyderabad, K. Palanisami (right) are in the picture.**

COIMBATORE: An Irrigation Water Calculator to enable farmers assess the requirement of water for crops, based on the location, crop geometry and the stage of crop growth was released at the Tamil Nadu Agricultural University here on Thursday by its Vice-Chancellor P. Murugesa Bhoopathi.

Use

Operated with re-chargeable batteries, the gadget helped in saving 30 per cent to 40 per cent of the water that was usually wasted during irrigation. The university said that this was because of the equipment's ability to arrive at the exact quantum of water required. Energy could be saved if irrigation requirements were streamlined.

The water calculator was developed by S. Raman, water management scientist and consultant to IWMI-Tata Water Policy Programme, a press release from the university said.

Speaking at the launch, the Vice-Chancellor pointed out that Tamil Nadu was one of the States where water was scarce. The ground water potential was already over-exploited. With the population rising and industrial use of water also on the rise, its availability for agriculture was expected to decrease from 85 per cent to 73 per cent by 2025.

Efficiency measures

Therefore, water use efficiency measures such as drip and sprinkler irrigation should be adopted.

The Vice-Chancellor added that in the last two decades, the Union and State Governments introduced various subsidy schemes to popularise drip and sprinkler irrigation in India.

As a result, between 1991 and 2009, the area under drip and sprinkler methods had increased to 4.3 million hectares. Out of the 4.3 million hectares, 1.1 million was achieved between 2006 and 2009.

Nearly 75 per cent of the area under drip irrigation was in Andhra Pradesh, Maharashtra, Karnataka, Gujarat and Tamil Nadu.

Subsidy

The Tamil Nadu Government at present is giving 65 per cent subsidy for installing drip irrigation.

The Vice-Chancellor advised farmers to use this opportunity.

The Vice-Chancellor added that by the end of the Eleventh Five Year Plan period, the Union Government proposed to bring 12 million hectares under drip irrigation and five million hectares under sprinkler irrigation.

This was expected to save irrigation water of up to 58.6 billion cubic metres.

Mr. Raman explained the method of using the calculator for different crops and its benefits.

He also demonstrated the use of the calculator in the field for the farmers.

Date:05/02/2010 URL: http://www.thehindu.com/2010/02/05/stories/2010020551050300.htm

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Training to farmers

Special Correspondent

Udhagamandaam: The Farmers Training Centre (FTC) of the Department of Horticulture has drawn up a plan of action to impart training in modern methods of agriculture to farmers in various parts of the district, according to the Joint Director of Horticulture, C. Israil. Farmers would also be taught how to prepare vermicompost.

Date:05/02/2010 URL:
http://www.thehindu.com/2010/02/05/stories/2010020559710300.htm

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Mettur level

The water level in the Mettur dam stood at 77.11 feet on Thursday against its full level of 120 feet.

The inflow was 851 cusecs and the discharge, 2,000 cusecs.

Date:05/02/2010 URL:
http://www.thehindu.com/2010/02/05/stories/2010020550150200.htm

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Turmeric lifts Erode regulated market's income

Karthik Madhavan

Better times: **Erode Regulated Market has achieved its target earnings for the current financial year because of the rise in turmeric price.**

ERODE: Turmeric has made many Erode farmers and traders richer. It has also made the Regulated Market, Erode, earn more, thanks to the sharp rise in prices this year.

Sources in Erode Marketing Committee say earnings from cess on turmeric trade at the market has reached Rs. 2.01 crore and is expected to further go up as new turmeric starts arriving by February end.

In 2008-09, the market earned Rs. 1.28 crore from cess levied on 19,194 metric tonnes turmeric.

But this years Rs. 2.01 crore has come from only 14,720 mt., thanks to a quintal of

turmeric seeing a maximum of about Rs. 16,000.

The Regulated Market, which functions under the State Governments Agriculture Marketing department, levies one per cent as cess on notified agriculture commodities. There are 25 such markets in the district, all of which are managed by the Marketing Committee.

This raise in turmeric price and consequent increase in revenue has seen the Committee surpass its target for the current financial year, notwithstanding the fact that two more months remain. The target is Rs. 9.6 crore.

The 25 markets in the district, also including those that are now in Tirupur district, help farmers sell cotton, sunflower seeds, copra, coconut, gingelly and a few other items at a good price.

However, all is not well with the Market Committee, as at the other end it has been losing revenue.

Consequent upon a Government order the Committee wound up the five check posts it had at the district border to check movement of notified agriculture produce without cess.

It removed posts at Bannari, Bhavani, Erode, Dharapuram and Kodumudi and the revenue loss therefrom is around Rs. 4 lakh a year.

The sources say the Committee has formed three squads to check evasion and that from the periodic checking they have collected Rs. 70,000 in cess and fine in this year.

More can be done, they admit and point out that the squads were unable to do more because they do not have vehicle for the purpose.

Staff shortage

Shortage of staff is another area of concern for the Committee. As against the 148 sanctioned posts, only 88 are filled. From watchmen, to office assistants to market superintendents, many posts are vacant.

But that has not deterred the Committee from taking up development works. It has recently provided new transaction sheds and others facilities to markets in Sathyamangalam, Ezhumathur and Kodumudi.

The sources add more work will be taken up in the 2010-11 financial year.

Date:05/02/2010 URL:
http://www.thehindu.com/2010/02/05/stories/2010020559190300.htm

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Water level

MADURAI: The level in the Periyar dam on Thursday stood at 113.50 feet (full level 136 feet) with an inflow of 22 cusecs and a discharge of 400 cusecs. The level in the Vaigai dam was 42.39 feet (71 feet) with no inflow and a discharge of 1,860 cusecs. The combined Periyar credit stood at 1,489 mcft.

Date:05/02/2010 URL:
http://www.thehindu.com/2010/02/05/stories/2010020557300300.htm

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19,000 ha covered under paddy in Tuticorin

Staff Reporter

— Photo: N. Rajesh

Field study: **Collector G. Prakash inspecting a paddy filed at Kootudangadu near Tuticorin on Thursday.**

Tuticorin: Collector G. Prakash, along with a team of officials from the Department of Agriculture, took stock of the agricultural activities being carried out in various blocks of the district here on Thursday.

Demonstrations under the schemes of National Agriculture Development Programme, Integrated Cereals Development Programme and Agricultural Technology Management Agency were held during the process of Collector's visit.

With the cono weeder, marker and fertilizers the demonstrations were made. Paddy crop had been cultivated in over 19,000 ha in the district so far. Of this, 8,230 ha had been covered under the System of Rice Intensification method, the Collector said.

"Almost all paddy fields are pest free and conducive to vegetation. Normally, farmers get about seven tonnes of paddy per hectare, but under the SRI we are able to yield over 10 tonnes," farmers from Kootudangadu, Palayakayal, Arumuganeri,

Angamangalam, Kurukattur and Perur said.

He also inspected the agri plant clinic and mini soil testing laboratory at Mukkani here. The farmers could well utilise the expertise of he technicians in the lab and adopt suitable strategies conducive to the soil to multiply the yield of crops. By availing the soil health cards, the farmers could make use of the labs. “The agric plant clinics are functioning at Mukkani, Sathankulam, Udangudi, Pudukotai and Kayathar and seven more clinics will be in place in other blocks within March 2010. Such labs are being established at a cost of Rs.6 lakh with a subsidy of Rs.3 lakh provided to the Primary Agriculture and Cooperative Bank under the NADP scheme”, he said.

He also inspected adaptive research trial on paddy crop at Arumuganeri and Kootutangadu to select the saline resistant paddy variety. The team also monitored the pest surveillance plot at Kootutangadu. V. Louis Rajarathinam, Joint Director, I. Joseph, Nodal Officer, ATMA, T. Ranjithsingh Dhanraj, Deputy Director (GOI Schemes), K. Gunabalan (State Schemes in -charge) Balasingh, Agriculture Officer, A. Dhanasingh David, PA to Collector (Agriculture) and other officials accompanied.

Date:04/02/2010 URL: http://www.thehindu.com/thehindu/seta/2010/02/04/stories/2010020450041400.htm

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Tomatoes that keep longer

N. GOPAL RAJ

— Photo: K.K. Mustafah

Less contentious: **No new gene had being introduced into the transgenic tomato plants.**

A team of scientists at the National Institute of Plant Genome Research in New Delhi has developed a technique to create transgenic tomatoes that do not become squishy even one and a half months after being plucked.

The same method may well be able to extend the shelf life of other fruit too, including banana, mango and papaya.

The technique, which has been patented, could help reduce the country’s post-harvest losses that run to thousands of crores each year, observed Asis Datta.

He is one of the corresponding authors of a paper with details of the research that is

being published this week in the journal *Proceedings of the National Academy of Sciences* of the United States of America.

India is the world's second largest producer of fruits and vegetables, but 35 per cent to 40 per cent of such produce is lost because of softening that accompanies ripening. The softening increases the damage during handling and transportation.

No new gene had being introduced into the plants, he emphasised. Instead, a method known as RNA interference was used to silence genes for two key enzymes.

The two enzymes, á-mannosidase and â-D-N-acetylhexosaminidase, were present at high levels during the ripening of many fruits, noted the scientists.

Genetically engineered tomatoes in which production of either of the two enzymes was blocked retained their texture and firmness for up to 45 days while the ordinary variety started shrivelling after 15 days.

The secret

The team found that suppressing these enzymes slowed the degradation of compounds that make up the cell wall.

The transgenic tomatoes, however, showed normal ripening and colour development while attached to the plant.

Several transgenic lines of tomato had been created using this technique, Prof. Datta told this correspondent. These lines could go into field trials after appropriate clearances were secured.

What about if both enzymes were suppressed in the same plant? "Let us see if we do both what happens," he responded. "That is for the future."

The high levels of the two enzymes in fruits such as banana, mango and papaya suggested their potential involvement in the softening process, the paper noted

It should be possible to extend the technique to such fruits too, he believed.

But even though the genes for the two enzymes would be largely similar to the ones in tomato, it would still be necessary to first clone those genes.

Date:04/02/2010 URL:
http://www.thehindu.com/thehindu/seta/2010/02/04/stories/2010020450131400.htm

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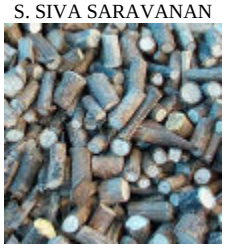
Bio-fuel, direct from biomass, by a microbe

S. SIVA SARAVANAN



Researchers have developed a microbe that can produce an advanced bio-fuel directly from biomass. Deploying the tools of synthetic biology, a strain of *Escherichia coli* was engineered to produce biodiesel fuel.

Date:04/02/2010 URL:
http://www.thehindu.com/thehindu/seta/2010/02/04/stories/2010020450151500.htm

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FARMER'S NOTEBOOK

One-stop machine for bamboo

M.J. PRABU

The novel device is breaking new ground in design and utility

— Photo: Special Arrangement

Multiple uses: **Imli Toshi working with his bamboo processing machinery.**

IN NAGALAND, bamboo based furniture is often made by local carpenters using inadequate hand tools.

Lack of dedicated machines at affordable cost has curbed the efforts of the local woodworker. Even removing the hard green covering on the bamboo has remained a challenge for many.

While more than 50 per cent of the bamboo species grow in North-East India, there are only a very few technologies to add value to bamboo.

An enterprising person by nature Mr. Imli Toshi, from Nagaland realized the need to build a user friendly machine that would handle different tasks in bamboo processing.

He developed a machinery/lathe for the removal of nodes and outer surface. When the design idea first crystallised in his mind, he built a simple prototype.

Next, he approached the National Innovation Foundation (NIF), Ahmedabad for funding and submitted his proposal and drawings.

Prototype

The prototype, named Arulepsa, developed with the help of the National Mission on Bamboo Application (NMBA) funding and NIF support, processes bamboo, removes the outer knots, smoothens' the surface, while enabling wood carvings and final surfaces.

It can remove knots, do the planing and polishing of the surface and facilitate inner and outer contouring of the job.

Precision control

Precision control is achieved with a soft touch, four-way joystick linked to a robust electro-mechanical control logic kernel. The machine weighs 75 kg and is electrically operated using a one HP motor running on 230 volts AC supply.

Machine design

"It has been built with dedicated and independent sub-systems including the two stage planer, the bamboo feeder assembly, the self adjusting gripper assembly and two sets of fixtures for inner and outer contouring (carving).

"The planer assembly is the heart of machine and consists of a two-stage planer unit. The first stage achieves removal of the outer green covering and knots and the second stage makes the surface smooth.

Separate machines are provided for internal and external knot removal, slicing, making slivers, square bamboo sticks and a tool post accessory fitment for polishing them," explains Mr. Toshi.

"The highlight of Mr. Imli Toshi's equipment lies in using a single versatile wood processing platform that facilitates seamless removal of knots, planing, polishing and carving of bamboo.

The precision in work is achieved by deploying the dedicated control centre and a user friendly four way joystick," says Prof Anil Gupta, Vice Chairman, NIF.

While conducting trials of his Arulepsa, Mr. Toshi noticed that there was a lot of bamboo dust/powder produced as waste material.

Water lifting device

Having an innovative temperament he made a composite material by mixing this powder with locally available resin to power a water pumping device.

Field trials were done using this the device in a small stream. A 20 feet long, 8 inch diameter feed pipe was fitted to the inlet channel of the device.

When the water flow hits the impeller, it rotates and the change of flux in the field coil induces the desired current. The arrangement of the magnets and the field coil was configured to produce 1 kW of electricity.

Breaking new ground

The Nagaland Bamboo Mission, purchased one unit of the machine while five units were also purchased by the Garo hills unit of the North East Region Community Resource Management Project.

Incorporating several improvements, the novel machines is breaking new ground in design, utility, elegance and social relevance in the field of bamboo.

For more details contact Mr. Imli Toshi Namo, Arkong Ward,1st floor, opp new market, Mokochung 798 601, Nagaland, mobiles: 094360-16086 and 098564-47485.

Date:04/02/2010 URL: http://www.thehindu.com/thehindu/seta/2010/02/04/stories/2010020450181500.htm

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Extruded floating fish feed a boon for farmers

The coastal districts of Andra Pradesh are now witnessing a new method in fish feeding.

Fishes are being fed with the extruded floating feeds replacing the traditional method of feeding with the raw materials .

Bhimavaram, Gudivada, Kaikaluru, Akivedu are now experiencing a renewed activity as farmers are experiencing the benefits of extruded floating fish feed.

Good response

"There is a lot of optimism among the farmers and they are willing to try the new methods of fish farming for fishes such as Rohu, Catla, Pangasius and also new

varieties such as Tilapia and sea bass," says Mr. S. Amalraaj, Indian Representative for Muyang company in Chennai.

Aquatic animals cannot digest starch effectively resulting in excessive excrement which causes physiological problems such as excessive gas, bloating diarrhoea and these apart, from affecting the growth of the fish also lead to water pollution.

Easy digestion

The extrusion which is a high temperature and short duration process cooks the materials killing the germs and pathogens and makes the feed easily digestible.

The response from farmers is encouraging as the use of extruded floating fish feed comes with a host of advantages in terms of digestion ,growth, water protection, zero water pollution , optimized labour usage and zero wastage of raw materials

In the traditional method of fish farming, a mixture of de-oiled cakes/ or rice bran is used for feeding the fishes.

The mixture normally settles down at the pond bottom causes water pollution. There is also a lot of wastage which otherwise could have been used for other applications

Since the raw materials are not formulated well, the growth of the fish takes longer duration of time involving higher feed conversion ratio.

Traditional feeding

For traditional feeding about 4-5 kgs of raw materials is required to produce 1 kg of fish. Whereas through extruded feed one requires about 1.2 kg to produce 1 ktg of fish

Extruded feed is much more safe, because fed ingredients can be pasteurized or sterilized during feed extrusion operation, thus reducing the effects of feed on the health of aquatic animals and water quality.

For details contact Mr. S. Amalraaj, email: trustamal@gmail.com, Phone 23622694, cell:94441 79730.

Date:04/02/2010 URL: http://www.thehindu.com/thehindu/seta/2010/02/04/stories/2010020450171500.htm

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FARM QUERY
Navara rice variety
Is there any rice variety called as Navara in India?
Edith George
California, U.S.
Navara rice variety is used as a nutritional rice and health food and contains medicinal properties. The cultivation of this rice variety is almost extinct. You can contact Mr. P.Narayanan Unny, Navara Eco Farm, Karukamani Kalam, Chittur College P.O.,

Palakkad Dist, Kerala, India, Pin: 678 104, Phone: 04923-221177, 222277, mobile: 9447277749, email: unnysfarm@gmail.com, website: www.navara.in for your details.

By Express News Service
05 Feb 2010 03:21:00 AM IST

Rice transplanters introduced in Kanchi

KANCHEEPURAM: For the first time in the predominantly agricultural district of Kancheepuram rice transplanter machines were introduced on Thursday. After participating in the farmers' grievances day at Chengalpattu, district collector Santhosh K Mishra handed over two Japan-made Kubota rice transplaters costing Rs 9.95 lakh each to two farmers. The government has also announced subsidy of 50 per cent to encourage mechanical rice transplanting. The transplanters are petrol-driven vehicles and could avoid vibration.

Mishra said the government was encouraging mechanical rice transplanters to avoid excessive dependence on human labour that is becoming scarce. and expensive. Also this 24 HP machine would reduce the time required for transplanting seeding from 145 days for 2.47 acre to eight acres in a single day. The petrol consumption is also very low. A Kubota company representative said though the machine is costly despite the 50 per cent subsidy, the expense could be recovered by renting it out to farmers. Mishra also said the introduction was primarily to create awareness and to ascertain its viability.

By P S Sundar
05 Feb 2010 03:05:00 AM IST

Neelakkurinji blossoms at Sim's Park in Coonoor

COONOOR: Kurinji, more aptly called, Neelakkurinji, which normally blossoms once in 12 years, has blossomed in the 136-year-old Government Sim's Park here.

According to some records, Nilgiris, meaning Blue Mountains, got its name from the purplish blue Neelakkurinji (Strobilanthes kunthiana) that used to blossom gregariously — almost like a carpet. Over the years, the shrub has been confined to select regions and seeing them is a tourists' delight. Neelakkurinji is a well-known shrub of a genus of over 500 species whose flowering cycle varies from one to 16 years.

Some 56 species are found in India.

Neelakkurinji is abundant in the Western Ghats covering Nilgiri Mountains.

"What has now blossomed in our Park is a wild variety. Its blossoming cycle is once in few years. The Strobilanthes sessilis variety here blossoms annually. In some cases, stray flowering does occur annually, mostly towards the end of 12-year flowering season," Assistant Director of Horticulture B Ramakrishnan told Express showing the bell-shaped Kurinji flowers at Sim's Park on Wednesday. Tourists evince enormous interest to see the rare flower. "We have planted different varieties of Kurinji to enable tourists see the variance in flowering cycle," he added. In Tamil history, the country is divided into five geographical zones of which the hill region is Kurinji.

THE TIMES OF INDIA

Global warming helping trees grow faster
PTI, 4 February 2010, 09:32pm IST

WASHINGTON: Global warming is helping trees to grow at a faster rate now than they have done in the past 200 years due to higher temperatures and more carbon dioxide into the atmosphere, American researchers have claimed.

After studying the growth of 55 forests in the eastern United States for over 20 years, the scientists from the Smithsonian Environmental Research Center in Maryland found that the recent tree growth "greatly exceeded the expected growth".

They suggested that global warming is helping trees to grow faster as it brings higher temperatures, longer growing seasons and more carbon dioxide into the atmosphere.

In one forest, studied by the researchers, an extra 1.8 tonnes of timber per acre is appearing each year. "The trees, in Maryland, are sprouting up more quickly than at any time in the past 225 years," the scientists said.

Lead researcher Geoffrey Parker said: "We made a list of reasons why these forests could be growing faster and then ruled half of them out".

"The best explanation was a response to climate change, he was quotes as saying by the journal Proceedings of the National Academy of Sciences.

In the past 22 years, carbon dioxide levels where the study was conducted had risen 12 per cent, the average temperature had increased by nearly three tenths of a degree, and the growing season had lengthened by 7.8 days.