



# Bioved News Letter



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## Bullock Energy Based Research at BRIAT

Bioved Research Institute of Agriculture & Technology, Allahabad (BRIAT) has developed a very cheap animal driven prime mover commonly called Bullock driven gear box and Bullock driven generator. It has been demonstrated successfully at its centre at Bioved Krishi Prodyogiki Gram Moharab, Sringverpur, Allahabad. It can be effectively utilized for Bullock operated pumping set, flour grinding, chaff cutting, cream separation, oil expelling, compressor to fill in Gobar Gas under pressure in cylinder and electric power generating. About 25000 lit. of water with a head of 100-150 ft. may be pumped per hour through it, which can generate electricity about 0.5 to 1.0 kw/hour. Due to less scope of utilization of bullock for ploughing, which is hardly 30-35 days in a year, most of the farmers' do not want to keep the bullocks for whole year. Thus, the population of bullock is decreasing day by day. In this way small & marginal farmers will be able to meet all their energy requirements in agricultural inputs, such as ploughing, irrigation, manure, food grain processing, domestic fuel and for cottage industries. The bullocks will have utilization for all the days in the year. It has been calculated that a pair of bullocks on an average would produce 4-5 kw electric energy per day. There are about 80 million bullocks in the country and thus 160-200 million units of equivalent electric energy can be produced. Taking the cost of energy in account i.e. @ Rs. 4 per unit, the national earning would be Rs. 64-80 crore per day and Rs. 19200-42800 crore per year. This calculation is on the basis of 300 days utilization in the year. The cost of fabricated machine, cattle power drive/device (gear box, oil filled design) is Rs. 50,000 and cattle driven bore

hole pump model with pipe 2.5 black will be Rs.

30,000-70,000 depending upon suction head length in meter 10-20. The designed machine is available at BRIAT, Prayag Station Road, Allahabad. Also, 40 kg. bullock dung will be available and 1 cubic meter of Gobar Gas will have about 4500 K. Cal. of energy. Since, 860 kg. K. Cal. is equivalent to 1 KW horse power, the equivalent energy per day will be about 16.5 KW, this will be sufficient to meet the domestic energy requirement for cooking and lighting of a family consisting of about 8 members. Thus, the need to have LPG, fire wood and kerosene oil will be eliminated. It has been also observed that replacement will be equivalent to 1.5 liter of kerosene oil per day.



## Exhibition on Agricultural Technology and value added products on the occasion of Rashtriya Ramayan Mela, Sringverpur Dham from 02 Nov, 2014 to 06 Nov, 2014

Bioved Research Institute of Agriculture & Technology organised an exhibition for live demonstration of different Agricultural Technologies developed and standardized for adoption of farming communities on the occasion of Rashtriya Ramayan Mela at Sringverpur Dham, Allahabad. 30-50 thousand persons viewed the exhibition and interacted the Scientists, Technical staffs, extension officers and field staffs of BRIAT they were more excited after



seeing the value added products with joint use of Bioresources & agri waste materials with Lac, Stevia Powders, Tablets and Sugar free sweets, Biscuits etc., Designed God and Goddesses of Pearl, Capsule of Spirulina and other value added products.

### Organisation of Environmental awakening programme including Nirmal and Aviral Ganga

The Ganga is the largest, sacred and Prime River of India with spiritual, cultural and physical influence and provides water about 40% of India's population in 11 states. It is life line of crores of people in our country. Therefore, BRIAT took initiative to Nirmal and Aviral Ganga, Environmental conservation linked with income & employment generation. Environmental awakening programmes were organised among the Students, Guardians, Teachers & Principals. We organized programmes in 50 Colleges/Schools of graduate and under graduates situated in different places of Allahabad district. Rangoli competition, poster making, debate speech, Essay writing were organised among the students of different Colleges. Maximum 5 students from each competition were selected for final competition organized on 4-5 Nov., 2014 at Bioved Krishi Prodyogiki

Gram Moharab, Sringerverpur, Allahabad. About 1000 students participated in final competition, out of which 12 students were selected by selection committee and honoured with Certificate, memento and cash prize. Consolidated prize and certificates were given to participants. Principals, Teachers and noted environmentalist/ educationist/ social workers were also honoured with different name of Bioved Awards constituted for each year i.e. Bioved Raghuvanshi Bharat Seva aur Tyag Samman, Bioved Nago Ji Bhatt Sahitya Gaurav Samman, Bioved Prof. Sangam Lal Pandey Medha Samman, Bioved Sringerverpur Gram Ganga Samman, Bioved Sringerverpur Kshetra Parmarth Chikitsa Samman, Bioved Rishi Vibhandak Nidhi Vyas Samman, Bioved Shanta Devi Nari Shakti Samman, Bioved Shiringi Rishi Lok Seva Samman, Bioved Sringerverpur Srijan Shiromani Samman, Bioved Nishad Raj Gaurav Prasasnik Seva Samman, Bioved Sringerverpur Kshetra Gram Gaurav samman, Bioved Kshetra Sadbhawana Samman, Bioved Gramin Utkrist Patrakarita Samman, Bioved Desh Seva Samman, Bioved Samaj Seva Samman, Bioved Shiksha Vid Samman.



### National Seminar and General Awakening for Environment Protection on “Nirmal Evam Aviral Ganga : Paryavaran Sanrakshan”

A two days National Seminar was organized at Sringerverpur during Silver Jubilee celebration of Rashtriya Ramayan Mela by Bioved Research Institute of Agriculture and Technology, Allahabad at Rashtriya Ramayan Mela ground, Sringerverpur Dham on 04.11.2014 and at Bioved Krishi Prodyogiki Gram, Moharab, Sringerverpur, Allahabad on 05.11.2014. It was inaugurated on 4<sup>th</sup> Nov. 2014. The main theme of this Seminar was to create general awakening about environmental protection among the people, keeping in view the importance of Ganga in making her pure and pollution free through the views of learned personalities Dr. S. D. Mishra ,Chairman, Bioved Research Institute of Agriculture & Technology (BRIAT), Allahabad and Ex. Principal Scientist, ICAR, New Delhi, in his presidential address expressed that 80% problems of health and about 1/3 death are observed in India due to water polluted diseases. The diseases like typhoid, Hepatitis, Jaundice, Amoebic Dysentery etc. occur only due to polluted water. Water is life and Ganga is life sustaining saving river. Human life is safe only when the water of Ganga is free from all germs of diseases. Dr. B.K. Dwivedi, Director, BRIAT expressed that plant conservation and plant protection are essential both for self employment and





additional income generation by cultivation of Lac. Single tree may provide upto Rs. 8- 10 thousand within 4 months. Therefore, cutting of the trees should be banned and plantation of the trees should be encouraged for the saving of life not only of human beings but also of animals and birds. Dr. Dwivedi appealed to use bus and cycles for transportation and stressed upon self walking, trees protection from cutting, transplantation of trees, Use of local and seasonal products for saving of energy, fuels, water, paper and stop their wastage. Dr. Dwivedi also suggested not to leave T.V., Computer and music systems on standby mode, more and more use of pressure cooker, solar energy, CFL and Led etc. & use cotton bags in place of plastic bags to avoid bad effect of polythene. Dr S. S. Mishra, Ex. Principal Scientist, CPRI, Shimla, said that more than one fourth part of land of India is being irrigated by river Ganga and last ceremony of about 40 thousand dead bodies per year is being performed on the bank of river Ganga. At present 70 power plants are utilizing its water for the electrical production and 69 Alaknanda hydropower plants have been proposed on Bhagirathi. The Holy River Ganga along with other rivers (Yamuna, Ram Ganga, Gomti, Ghaghara, Tapti, Gandak, Damodar, Kosi, Kakshi, Chambal, Son , Betawa, Ken, Southern Tons etc.) are the source of irrigation round the year. It plays a major role on production of crops and increasing fish production. Dr. Deena Nath Shukla, Prof. University of Allahabad expressed that the purity and positivity of Ganga is becoming its enemy. Due to increasing pollution sometimes it becomes the source of death due to water pollution. Religious ceremony, release of waste materials, industrial wastes and release of sewage water of cities in river Ganga have spoiled the purity of this most holy river of the world. According to one estimate about two million liter waste materials are being thrown in Ganga per day. The sewage water of 100 cities are being released in river Ganga without any treatment, which results adverse effect on the health of 40 crore people living in the Ganga basin. Dr. Kamla Dubey, Principal, Jagat Taran Degree College told that Ganga is the symbol of India .Its water is being used in all the religious ceremonies of Hindus. It has been scientifically proved that the water of Ganga has the capacity of killing microbes of diseases because while coming down from Himalaya it brings soil, minerals and medicinal materials. Dr. Mohd. Arif, Ex. Principal Scientist, DRDO, while expressing his opinion stressed upon the bad effect of climate change and said that polluted air and polluted water have disturbed the life style of human being. Dr. Shanti Sundram, Prof., University of Allahabad expressed about the problem of climate change and environmental pollution. She stressed upon the protection of environment as well as vegetations. Dr. R.N. Seth, Ex. Principal Scientist, CIFRI, Allahabad suggested for the protection of trees and forest for providing better environment required for human beings. In this seminar Dr. Bal Krishan Pandey and Shri Umesh Chandra Dwivedi gave their opinion regarding the protection of environment. Research scientists and technical staffs of BRIAT viz. Namrata Jaiswal, Shubham Srivastava, Indra Kant Pandey, Jay Shanker Dwivedi, Deepanshu, Rama Kant Pandey, Anil Mishra, Rajmani Shastri, Sangam, Mohit, Ashish Upadhyay, Ved Prakash Chaurasia, R. P. Singh, Maneesh Mishra, Hari Om, Manoj etc. also actively participated in this seminar.

### **Training Programme on Lac, Pearl, Spirulina Cultivation and its value addition for Students of Ruchi's Institute of creative Arts : organised during 3 to 7 November, 2014**

A five days training was organised at Bioved Research Institute of Agriculture & Technology, Allahabad in its auditorium. 65 Students participated in this training programme. They were trained about how to make Lac based value added



products with joint use of Lac and bioresources and agri waste materials available in each & every places free of cost.

The Lac craft master trainer of Bioved viz. Mrs. Kiran, Mrs. Manju, Mrs. Suman, Mrs. Anjali, Mrs. Pramila & Mrs. Seema provided training to the students of Ruchi's Institute. All the students also visited to Bioved Krishi Prodyogiki Gram, Moharab, Shringverpur and obtained information from research scientists/technical staff about Lac, Pearl, Spirulina Cultivation and its value addition and different technologies present in a Single Window Centre.

### **World Fisheries Day Celebration on 21<sup>st</sup> November, 2014**

Dr. B.K. Dwivedi, Director Bioved Research Institute of Agriculture & Technology, Allahabad participated and delivered an invited talk on "Integrated Fish, Duck, Poultry & Pearl Culture" on the occasion of World Fisheries Day organised by Riverine Division, CIFRI (ICAR) Allahabad. Dr. I.C. Agrawal, Prof. MNNIT, Allahabad inaugurated the Seminar and more than 50 Senior Research Scientists including Dr. K.D. Joshi, Principal Scientist, Dr. R.N. Seth, Dr. Anita Gopesh, Dr. R.C. Srivastava & 150 Fish Farmers participated in this seminar.



### **Director, BRIAT attended workshop on "Distance Education and concept of Community College" in UPRTOU, ALLAHABAD**

Dr. B.K. Dwivedi, Director, BRIAT participated in the workshop on "Distance Education and concept of community College" organised by Uttar Pradesh Rajarshi Tandon Open University, Allahabad on 24 Nov., 2014 inaugurated by Hon'ble Shri Ram Naik, Governor U.P. & Justice High Court Shri Girdhar Malviya presided over the function. Dr. M.P. Dubey, V.C., UPRTOU & Dr. Nageshwar Rao, Pro. V.C., Indira Gandhi National Open University and over 150 Principals, Teachers and Scientists participated in this programme. The main objective for organising this workshop was to provide a better opportunity to dropouts, rural and urban youths and other interested persons for obtaining higher, practical and applied educations in very easy methods. The main concept of community college to educate the students in practical manner in different fields for creating more employment in a sustainable manner.



### **Exhibition organized by BRIAT at Lucknow Mahotsav sponsored by NABARD from 25 Nov. to 07 Dec., 2014**

An exhibition was organised by BRIAT, Allahabad at Lucknow Mahotsav sponsored by NABARD, R.O. Lucknow from 25 Nov. to 07 Dec. 2014. It was inaugurated by Chief Minister, U.P., Hon'ble Mr. Akhilesh Yadav, Mr. K.K. Gupta CGM, NABARD, Lucknow. They appreciated the value added products made by the artigenes trained by Bioved Research Institute of Agriculture & Technology. Lac artigenes Mr. Anshu, Mr. Karan & Vibhav Mishra participated in Lucknow Mahotsav actively. More than 5 thousand people visited the exhibited stall of Bioved during 25-30 Nov., 2014. our value added products costing approximately Rs. 15,000/- were sold and received order of Rs. 50,000/- for further supply. Most of the visitors were very much impressed by viewing eco-friendly bio-resource based value added products.



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