**Indian Society of Agricultural Engineers**

G-4, National Societies Block, National Agricultural Science Centre Complex,
Dev Prakash Shastri Marg, Pusa Campus, New Delhi -110012
E-mail: isae2001@yahoo.co.in, Website: www.isae.in

**A Professional non-profit organization established in 1960 aimed to promote and encourage the profession of Agricultural Engineering and to advance the standard of Agricultural Engineering in the areas of Research, Development and Education.**

*Electronic* **News Letter, Month – April, Year- 2013**
Chief Editor: Dr. R. T. Patil, (ISAE F-172)
Email- rtpatil.titbhopal@gmail.com, isae1960@gmail.com, Website: www.isae.in

# Editors Column

Dear All

I am happy to present to you the next issue of electronic newsletter. I appeal through this issue to all chapters to kindly send me the chapter news. I am sure each chapter does something under the banner of Indian Society of Agricultural Engineers to promote the ag engineering technologies or interaction of students and industry, hence they can very easily contribute to the newsletter. We need to present package of agricultural engineering technologies to tackle the emergency situation created by severe drought or flood. The soy milk technology is one such a thing which can provide nutritious food at calamity place with much difficulty. Hence mobile soy milk production units may be made ready by the universities and institutes especially in the cyclone prone areas and also in the drought affected areas as this year in Maharashtra.

The tentative information about 48$^{th}$ ISAE convention has been presented in this issue. The details about the convention along with its brochure will be presented in next issue.

With best regards

**R.T. Patil**

**Message from President**

India is experiencing worst drought in some parts of the country affecting human and animals equally. Drought is a global phenomenon recurring feature of the climate occurs when a region receives consistently below average precipitation. It can have a substantial impact on the ecosystem and agriculture of the affected region. Agricultural Engineer's have designed structures for rain water conservation, ground water recharge, water resource management, water saving techniques, recycling of sewage water for irrigation, designing conservation farming tools, micro-irrigation equipments, mulching techniques and so on which help in capturing rain water and utilizing more efficiently for crop production. However, lack of Agricultural Engineering positions in the respective departments and failure to develop adequate drought mitigation strategies at state level has created a vacuum. The situation in most drought affected regions in the country during current year is grave for human and animal. Supply of drinking water through tankers and opening of animal camps in Maharashtra has become an integral part of planning for drought situation.

There are success stories in Hiware Bazar and Ralegan Sidhi in Ahemadnagar district and Kadwanchi in Jalna district of Maharashtra state where scientific execution of all engineering structures has completely mitigated current drought situation with sufficient water stocks available for irrigation of grapes and orchards apart from water available for human and animal.

Short and long term measures for drought proofing are essential to minimize the impact. There are three types of droughts: (a) Meteorological drought occur due to prolonged period with less than average precipitation (b) Agricultural drought affect the crop production and is caused by an extended period of below average precipitation (c) Hydrological drought is brought about when the water reserves available in sources such as aquifers, lakes and reservoirs fall below the statistical average. Climate change phenomenon is likely to intensify this situation in future and integrated department with Agricultural Engineers in lead role needs to be created to study the drought, plan and execute mitigation strategies in rainfed regions of the country which occupy more that 60% of arable area.

ISAE is instrumental in promoting idea of establishment of Directorates of Agricultural Engineering in all States and Starting Agricultural Engineering Departments in all IIT's, NIT's, Central Universities for creating human resource as well as conducting research on various regional problems including drought. ISAE is organizing 48$^{th}$ Annual Convention at Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan) coinciding with Golden Jubilee of College of Agricultural Engineering and Technology during last week of February 2014 and drought shall be discussed as one of the sub-theme during the convention.

I appeal all members of ISAE to participate in Udaipur convention in large numbers and also appeal all ISAE chapters to organize the state level symposium on 'Role of Agricultural Engineers in Drought Studies and Mitigation' as a part of ISAE activities during current year.

**V. M. Mayande**
**President**

# Member News

### Seminar at MIT Boston by Prof. Gajendra Singh

Professor Gajendra Singh delivered a seminar on “Indian Agriculture and the Grand Challenges Surrounding Technology" on 5th March 2013 in new Sloan School of Management building. Seminar was a part of Tata Pro-Seminar series and was attended by a large number of faculty, staff, post-docs and graduate students, both from MIT and Harvard as well as outsiders. During the two days stay at MIT Prof. Singh had discussions with many faculty, staff, post-docs and graduate students working on projects in India. Some of these projects include: 1. Development of more efficient and a cheaper pump for small farmers in Jharkhand; 2. Identify uses for bagasse from sugar factories in Mujaffarnagar District, U.P.; 3. Use of urban waste water for irrigation; and so on. MIT faculty and staff members are also working with Indian industry to develop new or more efficient techniques and equipment like, 1. Development of low pressure drip system for Jain Irrigation; and 2. Development of small tractor for Mahindra & Mahindra. For the development of our profession and its due recognition the scientists in ICAR institutes and agricultural engineering colleges must work very closely with industry.

# Farm Machine for the Month

### Low Cost Paddy/Grain Winnower

The KVK-Khordha under Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar has developed a Low cost Paddy Winnower. This fabricated winnower aims to reduce the cost and drudgery in winnowing paddy and other grains. The winnower is made of composite plastic consisting of a tubular chamber, hopper comprising of an axial flow fan and metal stand. The tubular frame is of 500 mm diameter and 930 mm length with $4 \pm 0.5$ mm wall thickness. The hopper (20 Lts) has a square shape with angle of repose $65^{o}$. The metal stands (750 mm length, 450mm width and height of 500 mm) are made of four 15 mm diameter GI pipes (Medium) in upright position and lateral supports are provided with 10 mm square bars. The tubular frame is placed on the metal stand in aflat position and reinforced with composite plastics. An 85×85 mm hole is made on the top of the tubular chamber at a distance 290 mm from right side. The hopper is placed into the hole and joined with composite plastics. In order to regulate the grain outlet, sliding channels are

provided at the bottom of the hopper to control the output which is operated manually. The paddy or grain collection mouth (Ø 90 mm rigid PVC elbow) is provided at distance from 700 mm from right at the bottom. The axial flow fan (Sweep diameter 305 mm, RPM: 1350, amp: 0.35 Volts: 230 and Watt: 75) is placed inside the chamber with four MS clamp. Four M10 × 25 Nuts and bolts were used to fix the fan. In order to regulate the speed of the fan, a deluxe step regulator (100 W, 240V-50 Hz) is provided for easy operation depending on the requirement of either paddy or locally processed rice. The whole unit weight is 27.2 kg. The system can be used for winnowing and separating 39-47 kg/hr locally processed rice and paddy with a cleaning efficiency of 81.50-88.70%± 4.37. It is a low cost implement meant for rural areas to serve the small, marginal and subsistence farmers. The winnower can be easily transported from place to place due to its less weight. The total cost of this implement is Rs. 9551. This prototype has been developed by the team comprising of staff from KVK-Khordha and CIFA. The team members are P.N.Ananth, Bikash Sarkar, P. Jayasankar, A. K. Dash, S. Singh and Sukanti Behera.

# Farmer Innovator

**Shri Malayya**

A farmer from Alambur Munti, Taluk Nanjangud, District Mysore, Karnataka developed a Cocoon Deflosser having a mesh to glide the cocoons. A rod of 6 mm is fixed and for easy operation of the device a universal joint is fixed. It operates with 0.25 hp motor. It removes outer layer of cocoon called floss is which hides the cocoons beauty that makes it accepted in the cocoon market for premium price. Removal of floss layer is an important process before farmers take cocoons to the market, which is laborious, time consuming and incurs high cost. This innovation by the farmers is simple to operate and portable. The cocoon deflosser could remove floss about 80 kgs per day which is double the capacity of machine introduced by research institute. It saves labour, time and is cost effective. Many sericulture farmers attracted to, this device and lot of demand is there for this device. The farmer could sell 400 such devices. Cost of the device is Rs 5000.

A Cocoon Deflosser

# Upcoming Events

**48th Annual Convention of Indian Society of Agricultural Engineers (ISAE) and Symposium on Engineering Intervention for Conservation Agriculture**
**- February, 21-23, 2014**

**Contact**

Dr. Ghanshyam Tiwari
Professor & Head
Department of Farm Machinery and Power Engineering
College of Technology and Engineering
Maharana Pratap University of Agriculture and Technology
Udaipur- 313001 (Rajasthan)
Tel.: 0294 2470119 (0) Fax: 0294 2471056 Mobile: +91 9413208577

**Tractor and Agricultural Machinery Manufacturers Meet (TAMM -2014) at IISR Lucknow during Feb. 15-16, 2014**

The All India Agricultural Machinery Manufacturers' Association (AMMA-India) and Indian Institute of Sugarcane Research, Lucknow are planning to organize a two-day Tractor & Agricultural Machinery Manufacturers' Meet (TAMM-2014) during February 15-16, 2014 at IISR Lucknow. The purpose of this meet is to discuss the problems faced by the tractor, power tiller, combine and agricultural machinery manufacturers, testing of farm equipment, financing, credit policies and subsidy related issues etc for farm equipment. This Meet would be attended by the Tractors, Power Tillers, Combines and Agricultural Machinery Manufacturers from all over the country, government and semi-government officials from the State and Central Governments, Scientists from Institutions, representative from Banks, NABARD, Insurance Sectors and farmers.

# New Life members

| LM No. | NAME | CITY | STATE |
|---|---|---|---|
| **MARCH** | | | |
| LM – 10846 | Er. Shri Kant | Etawah | Uttar Pradesh |
| LM – 10847 | Er. Pawan Shyamrao Wable | Kharagpur | West Bengal |
| LM – 10848 | Er. Yogesh Pandey | Srinagar | J & K |
| LM – 10849 | Er. Guru Prem Grover | Ambala | Harayana |
| LM – 10850 | Er. P. Ram | Faizabad | Uttar Pradesh |
| **APRIL** | | | |
| LM – 10851 | Er. Jyoti Parasharam Patil | Old Rajinder Nagar | Delhi |

| | | | |
|---|---|---|---|
| LM - 10852 | Er. Devdatta Vviayak Pandit | Ahmednagar | Maharashtra |
| LM – 10853 | Er. Deepak Kumar | Hauz khas | Delhi |
| LM - 10854 | Er. Ajit Bhagwan Nirmale | Aurangabad | Maharashtra |
| **Corporate Member** | | | |
| **MARCH** | | | |
| CM – 128 | College of Agricultural Engineering, JNKVV, Krishi Nagar, Adhartal, Jabalpur | | |

**For further details contact:**
Secretary General: **Prof Anil Kumar** (anil_k_99@yahoo.com) and/or
Secretary: **Dr J P Sinha (**jpsinha@gmail.com)
**INDIAN SOCIETY OF AGRICULTURAL ENGINEERS**
G-4, National Societies Block (Ground floor), National Agricultural Science Centre Complex,
Dev Prakash Shastri Marg, Pusa Campus, New Delhi -110012
Telefax: 011-25849003
E-mail: isae1960@gmail.com, Website: www.isae.in