

## Letter from the Executive Director, Agribusiness

### Nanotechnology: A revolution in ACI Agribusinesses

It is a great pleasure for us to publish the 11<sup>th</sup> issue of Biolife. With this issue I would like to take the opportunity to introduce you a new era of Nanotechnology that we are embarking on. Nanotechnology is the manipulation of individual atoms, molecules or molecular clusters into structures to create materials and devices with new properties.

Nanotechnology has the potential to revolutionize the agricultural and food industry with new tools for the molecular treatment of diseases, rapid disease detection, enhancing the ability of plants to absorb nutrients etc. Nanotechnology helps agriculture by increasing productivity, reducing postharvest loss, improving product quality, increasing the competitiveness of agricultural producers and improving market access, advances in nanotechnology may present new opportunities to improve the livelihoods of the poor. Nanotechnology has the potential to make agriculture more efficient, increase yields, product quality and thereby increase nutritional benefits. Promising nanotechnology applications address low use efficiency of agricultural production inputs and stress of drought and high soil tempera-

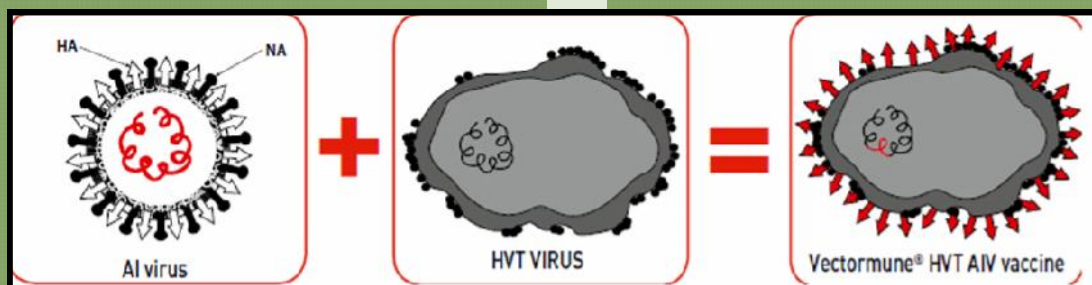
ture.

In ACI we have introduced nanotechnological products to make our products more efficient and to get the best possible results. We have launched Vectormune<sup>®</sup> HVT AIV, which is a genetically engineered live HVT vaccine expressing the HA gene of an H5N1 avian influenza virus and is indicated for use in chickens.

The vaccine is based on live serotype 3 Marek virus vaccine, HVT. The vaccine expresses the HA protein that is the major immunogenic protein for avian influenza protection.

Another product of ACI Fertilizer, NEB Urea in which Nanotechnology is used now on trial in the field. This nanofertilizer could be used to reduce nitrogen loss due to leaching, emissions and long-term incorporation by soil microorganisms. They could allow for selective release linked to time or environmental condition. Slow-controlled release fertilizers may also improve soil by decreasing toxic effects associated with fertilizer over application.

Our product development team along with our researchers and field forces are continuously working on complex technology like nanotechnology and make it friendly to our nearly illiterate farmers so that they can understand and use the revolutionary techniques.



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## Trials for Genetically Modified Corn and Mustard Starts in India

The Genetic Engineering Appraisal Committee of India has approved the experimental field trials for the purpose of bio safety research and event selection in respect of genetically modified (GM) crops such as cotton, rice, tomato, groundnut, potato, corn, sorghum, okra, brinjal, mustard, wheat, watermelon, papaya, sugarcane, rubber, castor, banana, pigeon pea and chickpea.

Out of the 20 crops approved, field trials of only transgenic cotton, corn and mustard were initiated after state government gave a certificate saying they had no objections to the trials. Genetically modified cotton has already made its entry to Indian farms, despite protests from environmental-



## Gene Discovery May Change Paradigm of Lettuce Yield

In the new study, researchers turned to lettuce genetics to better understand the temperature related mechanisms governing seed germination. They identified a region of chromosome six in a wild ancestor of commercial lettuce varieties that enables seeds to germinate in warm temperatures. When that chromosome region was crossed into cultivated lettuce varieties, those varieties gained the ability to germinate in warm temperatures.

The scientists further identified that a specific gene that governs production of plant hormone called abscisic acid - known to inhibit seed ger-

mination. The newly identified gene "turns on" in most lettuce seeds when the seed is exposed to moisture at warm temperatures, increasing production of abscisic acid. In the wild ancestor that the researchers were studying, however, this gene does not turn on at high temperatures. As a result, abscisic acid is not produced and the seeds can still germinate.

The researchers then demonstrated that they could either "silence" or mutate the germination-inhibiting gene in cultivated lettuce varieties, thus enabling those varieties to germinate and grow even in high temperatures.

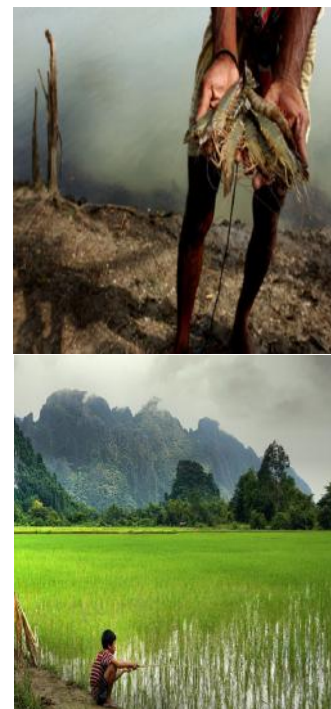


## Rice Paddy Synergizing With Fish Farming: A Path To Attain Autarky

Bangladesh has got the potential to meet food sufficiency by combining aquaculture with wet paddy farming in the coastal areas. This approach promises to bring about more nutritious food without causing any environmental damage, and thus can be dubbed as “blue green revolution” on Bangladesh’s existing crop areas extending to about 10.14 million hectares and an additional 2.83 million hectares that remain waterlogged for about 4-6 months.

Aquaculture enhances soil fertility from fish waste discharge and con-

tributes to pest control as several fish varieties feed on insects that harm crops. If prawn farming is expanded to 2.83 million hectares of seasonally inundated crop land, Bangladesh would earn an additional US\$ 9.4 billion annually. If rice farming is extended to entire seasonally-inundated crop land, an additional 1.58 million tons of rice could be produced annually.



## Micro hydros can power rural Afghanistan, Nepal

Micro hydro-electric plants linked to a mini-grid offer a cost-effective and renewable option for rural electrification in the hilly and mountainous terrain of Afghanistan and Nepal, say researchers.

For communities located more than ten kilometres away from the nearest grid substation, micro hydro mini-grid technology was found to be cheaper than extending central grid networks or investing in household solar units.

The researchers compared availability, reliability, efficiency and lifecycle costs — together called levelised cost of electricity — of different technological pathways to electricity access, while taking into account environmental impact.





## Accentuating creativity through product variety

ACI Animal Health constantly strives to introduce new kinds of products in the market through innovation in order to solve persisting problems of poultry, cattle & aqua sectors.

In March 2013, the business launched three new products named **Agal-Pro**, **Acicef-3**, **Nutri Fish & Nutri Shrimp**.

**Agal -pro** can replace 25-30 kgs of full Soy meal or equivalent Soy Oil with the right dosage of 150 ml in 1 MT feed formulation.

**Acicef-3 (Ceftriaxone)** is the most effective cephalosporin against antibiotic-resistant, gram-negative bacteria which induces Clinical Mastitis.

**Nutri Fish & Nutri Shrimp** is a Growth Promoter & Probiotics. It increases growth rate of fry/ fingerling rapidly, Immunity as it is enriched with all kinds of essential amino acids. It decrease mortality rate, develop FCR and has no harmful ef-

effect on water ecology for Aqua culture.



## Bolstering Brand Image At 120 Upazillas by Supplying Foot Pump Sprayer Through NATP Project



Recently, in an open tender, ACI Motors got a work order for supplying 1440 Foot Pump Sprayer through National Agricultural Technology Project (NATP), DAE .

The foot pump sprayer is widely used to apply pesticide in mango trees. Under this project, we will supply 1440 Foot Pump Sprayer to 1440 farmers in 120 Upazillas. Through this, ACI Motors plans to reach farmers and help society.

## Newly Launched Maize Varieties Found Promising in The field

ACI seed has successfully launched two maize varieties (Profit and 3110) in kharif-1 season. Farmers found both the varieties promising at cob forming stage. Both the varieties, Profit and 3110, showed their growth in unison. The cobs of the varieties were covered in husk and the positioning was excellent. Again, we are expecting that both the varieties will perform well since

the crop is in maturing stage. ACI Seed is planning to arrange adequate field works from 10 April 2013 onwards, with a view to capitalizing the opportunities in Kharif-2 and Robi season.

In other news, ACI seed executed 34 field days in 9 crops on 12 hybrid vegetable varieties involving 5318 farmers. Out of this 16 were through IFC coopera-

Elin, Green Express, Green Soft, Biddut and Papiya.

Horticultural performances of these varieties were demonstrated very well for several economic traits in various agro-environments and cropping patterns of the country.



## ACI Fertilizer stands out in Innovation

**Enlarging the Opportunity of Organic Fertilizer in Tea:** ACI Fertilizer has got a remarkable achievement of Organic Fertilizer in tea gardens in Srimongal. We have been able to give product to more than 15 tea gardens through our stockiest M/S Shayla Enterprise. The response from the gardens is very positive due to satisfactory result of organic fertilizer on tea plant growth and tea production through the trial and use in last season. We hope that we will be able to sell more than 500 MT Organic Fertilizer in the current season.

**New Opportunity of Power (GA3-80%):** The market coverage of Power (GA3-80%) is increasing rapidly due to its satisfactory result on various crops. Gibberallic Acid is a plant growth regulator which is

mainly used in hybrid seed production in Bangladesh. After launching the product, ACI Fertilizer aggressively promoted the product in various crops through result demonstration and training program of farmers and retailers. The sales growth is about 200% over last year. The key benefits of GA-3 are to increase the seed production, to help to prevent fruit dropping, to improve fruit setting, to control fruit maturity, to increase fruit size, to produce uniform seedling growth etc. of different crops.

**Innovative Strategy of Business during Strike:** ACI Fertilizer has taken new initiative to make the product availability at all customers' point through master stockiest during the

strike. The product will be stored in Master stockiest point through challan from the factory or central warehouse or depot. From the master stockiest point, product will be delivered to the other stockiest within short time. The stock of master stockiest will be monitored by Depot with the help of Field Force of the Business. The key benefit of the system is to deliver the product smoothly as per customer demand.



### ACI Animal Health Participates at The 1st Livestock Award Presentation , Annual Conference, Livestock & Poultry Fair



ACI Animal Health participated at the 1<sup>st</sup> Livestock award presentation & Annual Conference of Livestock & Poultry Fair – 2012 at Shilpokola Academy Auditorium, Rajshahi. The conference was organized by the Bangladesh Livestock Society

A large number of scientists, specialists, practitioners, consultants, breeders, farmers, entrepreneurs and traders from home as well as abroad participated in the program. This delightful event contained two major components– **Livestock Award Presentation, annual conference and seminar & Livestock and poultry fair.** The Poultry Fair & Seminar was inaugurated by the Chief Guest **Md. Abdul Hai**, MP, Deputy Minister of Fisheries & Livestock. Distinguished guests like **A H M Khairuzzaman Liton**, Honorable Mayor, Rajshahi City Corporation, **Dr. Musaddique Hossain**, Director General of Department of Livestock Services enlightened the occasion. The minister & all other guests visited the ACI Animal Health stall and surveyed the products.

The key note on “The role of Livestock related individual/ institute to prevent the lethal epidemic Bird Flu of Bangladesh poultry industry”, was presented by Prof. Dr. A S Mahfuzul Bari, VC of Chittagong Veterinary & Animal Sciences University. Honorable Executive Director of ACI Agribusinesses Dr. F H Ansarey was awarded the most Valuable person of Bangladesh Poultry industry for the year 2012.

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*Prosperity through Food  
Security*

*ACI Agribusinesses, the leading agriculture integrator in Bangladesh, is dedicated to gaining prosperity of Bangladesh through food security. ACI Agribusinesses offers complete solutions to farmers and also educates them about the technical know-how.*

<http://www.aci-bd.com>