

# BIO LIFE

Letter from Executive Director, Agribusiness

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## Cattle development program in Bangladesh

As a country with full of agricultural resources, Bangladesh is progressing in multiple agri sectors resulting in 10.04% growth in Agriculture GDP. The vegetable production grew by 20%, Fruits export has grown by 50% and Poultry sector possesses 15% growth over last year. The Food and Agricultural Organization (FAO) declared Bangladesh as 4th largest fish producer country earlier this year. All these achievements show a notion of great agribusiness prospect in this country. The government of Bangladesh has itself been pro-active in developing and implementing appropriate Agricultural policies. The flexible policies in turn encouraged the private sector to move ahead to increase productivity in crop sector and raise the output of non-crop agriculture.

Despite all this achievement, agriculture in this country lags behind many other countries in terms of production and consumption of meat and milk. The total production of meat stands at 4.52 million MT in 2014 against the demand for 6.73 million MT. The standard meat consumption should be 120 gm/ day where as average intake is 80 gm/ day only. Again, standard milk consumption should be 100 ml/ day where as average intake is 80 ml per person/day. There is a clear deficit present in supply side.

There has been a wide range of cattle varieties popular for beef production in different regions of the world; some of them are Angus, Belgian Blue and Brahman etc. The average weight of them are 700 Kg, 800 Kg and 850 Kg respectively. Among the dairy varieties, the world's top most milk production source is the Frisian which has milk capacity of 60 litre/day. So, Bangladesh Cattle development has a huge scope, indeed.

Since 1975, meat and milk production is being developed through production of cross-breed. But till date, only 34% cattle has been developed into cross-breed cattle. To minimize the protein gap, upholding the nutritional status of the nation, the Government should develop flexible and friendly Livestock policies encourage private sector. This will allow Govt. & Private sector work more closely hand to hand in order to improve the future of cattle in Bangladesh.

Data Source: WHO, BBS, WB, Economic Review



Frisian Cow



Belgian Blue Bull

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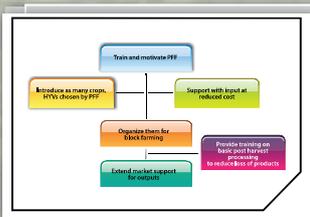
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## Agri-tech & Communication

### Wheat yield sets new UK record

Wheat development in Bangladesh following a record in UK  
 Tim Lamyman, who farms at Lamyman Worlaby Farms, Worlaby, Louth achieved a massive 14.31 MT/Ha of wheat. Mr. Lamyman had set his sights on the world record and said: "It's been very exciting," he said. "We had two independent referees who watched the combining and the weighbridge, so it's an official Guinness Record."

Now, the current scenario of Wheat Demand Vs. Supply in Bangladesh for 2014 is:

Area Harvested	Local Production	Yield	MY Import	Consumption
0.415 Mio Ha	1.3 Mio MT	3.13 MT/Ha	3.3 Mio MT	4.7 Mio MT

The 2014 yield is 3.13 MT/ Ha. Now in 2015, assuming normal weather conditions Wheat production in is estimated same at 1.3 Mio MT in Bangladesh. Wheat import is forecasted at 3.8 Mio MT, up on expectations of competitive international prices and stronger demand from a growing, more affluent population.

If we can increase our yield from 3.13 MT/ha to 14.31 MT/Ha (as of new UK record) then our local production will be 5.93 Mio MT. This will not only meet our local demand (5.1 Mio MT) but also 0.9 Mio MT will remain as surplus. So, Bangladesh will be able to export Wheat conveniently. And this is possible through using and promoting advanced Bio technology. Government shall come forward to facilitate private sector in this regard, and both can work together to the better welfare of the country.



### "Cattle show" in Libramont Fair in Belgium

The Libramont agricultural, forestry and agri-food fair is a huge open-air exhibition. Libramont is held on the last weekend of July every year. This year, it was organized from 24 to 27 July 2015 at Libramont Exhibition & Congress Liege, Belgium. It is an outstanding showcase for the rural world, which it presents from many different angles: livestock breeding, machinery, forestry, the agri-food industry, horticulture, research, education and culture. It's special attraction for the attendees is the Cattle show where cattle of developed varieties are demonstrated. Audience enjoy the show quite a lot and this year a total of 253,835 people visited the fair to see the Show!



## Agri-tech & Communication

### Unlocking the rice immune system

A bacterial signal that when recognized by rice plants enables the plants to resist a devastating blight disease has been identified by a multi-national team of researchers led by scientists with the U.S. Department of Energy (DOE)'s Joint BioEnergy Institute (JBEI) and the University of California (UC) Davis.

The research team discovered that a tyrosine-sulfated bacterial protein called "RaxX," activates the rice immune receptor protein called "XA21." This activation triggers an immune response against *Xanthomonas oryzaepv.oryzae* (Xoo), a pathogen that causes bacterial blight, a serious disease of rice crops.

"Our results show that RaxX, a small, previously undescribed bacterial protein, is required for activation of XA21-mediated immunity to Xoo," says Pamela Ronald, a plant geneticist for both JBEI and UC Davis who led this study. "XA21 can detect RaxX and quickly mobilize its defenses to mount a potent immune response against Xoo. Rice plants that do not carry the XA21 immune receptor or other related immune receptors are virtually defenseless against bacterial blight."

Source: Agriculture and Food News, ScienceDaily. [www.sciencedaily.com](http://www.sciencedaily.com)



### Better Chocolate with Microbes

For decades, researchers have worked to improve cacao fermentation by controlling the microbes involved. Now, to their surprise, a team of Belgian researchers has discovered that the same species of yeast used in production of beer, bread, and wine works particularly well in chocolate fermentation. The research was published ahead of print July 6th in *Applied and Environmental Microbiology*, a publication of the American Society for Microbiology.

"Chemical analyses as well as tasting the chocolate showed that the chocolate produced with our best yeasts is much better and more consistent than the chocolate produced through natural fermentation," said Kevin Verstrepen, PhD, professor of genetics and genomics, the University of Leuven, and the Flanders Institute for Biotechnology (VIB), Belgium. "Moreover, different yeasts yielded different chocolate flavors, indicating that it would be possible to create a whole range of specialty chocolates to match everyone's favorite flavor."

After the harvest, cacao beans are collected and placed in large wooden boxes, or even piled on the soil at the farms where they are grown, said Verstrepen. At this point, the beans are surrounded by an unappetizing white, gooey, pulp composed of sugars, proteins, water, pectin, and small amounts of lignin and hemicellulose. Microbes that are present in the farm environment then go to work consuming the pulp through fermentation.

(Source: Agriculture and Food News, ScienceDaily. [www.sciencedaily.com](http://www.sciencedaily.com))



## Agri-tech & Communication

### Software auto corrects disease-causing genes

Alison Testa, a PhD student from Curtin University's Centre for Crop and Disease Management (CCDM) in Western Australia has created CodingQuarry, a gene-prediction software that allows finding fungal genes a lot quicker and more reliable. Miss Testa said that CCDM is interested in finding important genes in fungi that allow fungal pathogens to infect their crops. CodingQuarry uses two techniques, hidden-Markov-model prediction and alignment of RNA-seq transcriptome sequences.

One disease the team has been working on is the Pyrenophora Net Blotch, an important barley disease

caused by the pathogen *Pyrenophora teres f. teres*. Using CodingQuarry, they found 1,000 new genes and made corrections to a few thousands of the known 13,000 genes in *Pyrenophora Net Blotch*. "In terms of time saved, if you were going to manually correct genes based with RNA-seq, it takes months and months and is very labor intensive, whereas using CodingQuarry, the same outcome can be achieved in about 10 minutes," said Miss Testa.

(Source: Crop Biotech Update, International Service for Acquisition of Agri-Biotech Applications. [www.isaaa.org](http://www.isaaa.org))



### Detecting Disease in Beef Cattle Using Ear Tag Units

A smartphone switches its orientation from portrait to landscape depending on how it's tilted. A car's airbags inflate when it senses collision forces. By detecting earth's vibrations, a computer can measure the magnitude and aftershocks of an earthquake. These technologies are made possible by accelerometers—small, electro-mechanical devices that measure acceleration. The devices are able to detect the most sensitive of motions, from the number of steps taken during a morning walk to the number of jaw movements during a heifer's morning meal. In fact, some dairy producers use these devices to measure feed intake, detect heat and notably, identify sick animals.

"We know that rumination and feeding patterns change in diseased animals long before they visually show clinical signs," said Dr. Karin Orsel, Associate Professor at the University of Calgary. Colleagues from University of Calgary's Faculty of Veterinary Medicine and Agriculture and Agri-Food Canada wanted to know if the same accelerometer technology could be implemented in beef systems. Their 13-day study, "Technical note: Accuracy of an ear tag-attached accelerometer to monitor rumination and feeding behavior in feedlot behavior," can be found in June's issue of the *Journal of Animal Science*.

(Source: Agriculture and Food News, ScienceDaily. [www.sciencedaily.com](http://www.sciencedaily.com))



A calf with an in-ear accelerometer unit was used in Calgary's research study. Photo Credit: Barbara Wolfger, University of Calgary

### Reason behind Rose Scent discovered

Rose improvements are focused on its color and storage trait. However, improving these traits make roses less fragrant. With the aim to restore the sweet fragrance produced by roses, the researchers led by Jean-Lois Magnard from Université de Lyon conducted a study to identify the reason behind the rose fragrance..

Roses contain many volatile oils that may contribute to its sweet odor. In the study, the researchers mainly focused on the geraniol synthesis. Geraniol is a monoterpene alcohol

contributing to rose scent. By examining the pathway, they were able to identify that the protein RNuDX1 is involved in the synthesis. Its presence activates the diphosphohydrolase enzyme that is localized in the cytoplasm of the rose petals and leads to the production of geraniol. This finding will help in the breeding and restoring the sweet fragrance the roses are known for.

(Source: Crop Biotech Update, International Service for Acquisition of Agri-Biotech Applications. [www.isaaa.org](http://www.isaaa.org))



### Yeast responds to the environment by optimizing its genome

A study conducted by researchers from Babraham Institute and Cambridge University revealed that yeast can modify its genome to take advantage of the excess calories in the environment and attain optimal growth. The researchers analyzed the genes encoding ribosomes and the target of rapamycin (TOR) signal through examining the gene amplification occurring in yeast engineered to carry a sub-optimal complement of ribosomal DNA genes.

Findings reveal that the engineered yeast cells perceived the normal environment as containing an excess of calories due to their difficulty in producing enough ribosomes to sustain normal levels of protein synthesis. The TOR signalling responds to caloric excess, initiating the pathway for ribosomal DNA gene amplification. This amplification provides a long term, heritable increase in ribosome synthesis capacity to enable optimum reproduction rate and make best use of available nutrients.

(Source: Crop Biotech Update, International Service for Acquisition of Agri-Biotech Applications. [www.isaaa.org](http://www.isaaa.org))



## Agri-tech & Communication

### IRRI's latest app can help raise farmers' income



The International Rice Research Institute (IRRI) has developed crop manager software to help farmers in Vietnam better manage crops and increase incomes by US\$100 per hectare per crop. The crop manager tool is being run on the trial version on computers and smartphones to support rice and corn farming. The tool, accessible through the web browser, was developed by IRRI in coordination with the regional countries where the majority of people mainly live on agriculture like Bangladesh, India, Indonesia, the Philippines and Vietnam. The tool, currently available in English and Vietnamese, will benefit farmers in the Red River Delta and Mekong Delta regions.

The software instructs farmers to use fertilizers and pesticides effectively to raise the productivity of their crop at low costs. Therefore, IRRI hopes that farmers can earn an additional US\$100 from every hectare of crop. According to the department of crop production under the Ministry of Agriculture and Rural Development, only farmers taking part in the large-scale rice fields developed by enterprises make their farming records to better supervise the farming process while a majority of farmers grow corn and rice based on their experience. With the software, the farmers will get technical guidance given by the tool after they have provided basic information.

(Source: Far Eastern Agriculture, [www.fareasternagriculture.com](http://www.fareasternagriculture.com))



The farming tool is expected to aid farmers located in the Red River Delta and Mekong Delta regions. (Photo Credit: TororoReaction/Shutterstock)

### Seawater greenhouses to bring life to the desert



Greenhouses that will use seawater to grow crops in one of the hottest and driest places on earth will be designed by researchers at Aston University working with industry partners as part of an international project. The installations are to be erected in specially selected sites across the Horn of Africa, a region where temperatures regularly reach 40°C, water is scarce and food insecurity is very high. Due to the climate, conventional agriculture has been severely marginalized and the situation is worsening.

The project aims to overcome the region's inhospitable conditions to help farmers drastically increase their crop yields, providing them with a consistent, sustainable income. Currently in Somalia, only 1.5% of the country's land is cultivated and average annual crop yields per hectare are just 0.5 tons -- compared to 700 tons per hectare in commercial greenhouses.

(Source: Agriculture and Food News, ScienceDaily. [www.sciencedaily.com](http://www.sciencedaily.com))



Computer generated image of possible seawater greenhouse layout. Image Credit: Aston University

## **Development Model: Sustainable Agriculture for Nutritional Food Security at Household Level in Bangladesh**

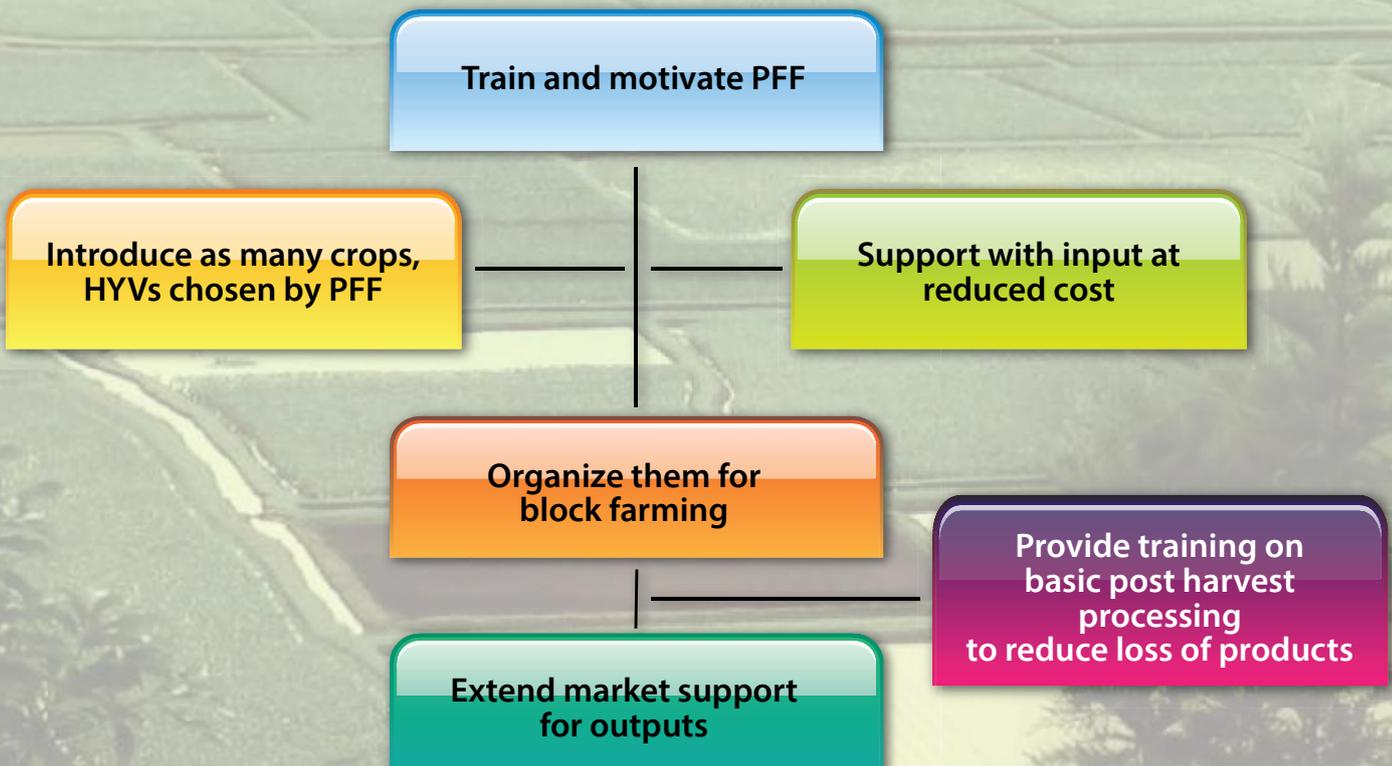
**Prof. Lutfur Rahman**

**Advisor, ACI Agribusiness & Head of Advanced Seed Research & Biotech Centre**

Development is for the human population of any country. It depends on the way the policy makers use to perceive the issues or factors that determines the state of development. In case of Bangladesh, the agriculture is still the mainstay of the food production and supply being produced and making available by a large population of farming community. Our agriculture is transforming from traditional and subsistence level to commercial and value addition level. There are larger needs of food products for processing industries to make the same available through value added forms. This is where the players of production are not well organized to have adequate facilities to market the products at a competitive price. The market force for increased production has strongly organized input market channel, but is lacking any organized market linkage for producers to market their products. Thus, this decreases the chance of increased income from higher and good production rather increases the chance of losing against higher cost of production.

The proposed model has for many years tested in different conditions of farmers/produces and the agro-ecology of production having market linkage and non-linked conditions. The test results of those action researches with farmer groups lead by one Lead Farmer, linked through NGOs, private companies, indicate that the best solution for sustainable agriculture leading to Nutritional Food Security must be as follows:

Use High quality seeds, all inputs of appropriate level, low pesticides and insecticides, use varieties having high nutritional value like double zero rape-seed or canola type, high Zinc rice, high gluten wheat, high lysine maize, high oil soybean, etc. However, having these traits of quality importance the yield and the duration of the crop varieties developed must have good period adjustment within the cropping patterns of the region. Unless the crop varieties fit into the cropping patterns then there will be low adoption.



## Innovations and New Products

### AciGuard WS

On 22 July 2015, ACI Animal Health launched AciGuard WS, an effective replacement of antibiotics to restrict and inhibit the growth of Clostridium perfringens and other pathogenic organisms. AciGuard WS also plays an important role in improving the immune system. AciGuard WS is a formulated preparation of Lysozyme. Each 100 g powder contains Lysozyme 1000 units; Excipient Q.S. Lysozyme is an antimicrobial enzyme that destroys bacterial cell walls by hydrolyzing the polysaccharide component of the cell wall. For poultry, it is used to treat diarrhea and respiratory disease of chickens, to enhance Immunity system, to increase efficacy of

vaccination program, to prevent gram (+) and gram (-) Bacteria like E.coli, & Salmonella, and to prevent necrotic enteritis. AciGuard WS improves the internal environment of the intestine and the survival rate. It repairs the ovaries, improves eggshell color and increases laying rate of layer. In case of cattle, it improves milk yield during, reduces somatic cell count in raw milk and mastitis of Dairy Cattle. It can also be used for fish to improve fish uniformity and immune system while preventing necrotic enteritis & promoting growth. AciGuard WS is manufactured by Anthem Cellutions (India). It is available as 100 g sachet.



### VITA-CHOLINE 75%

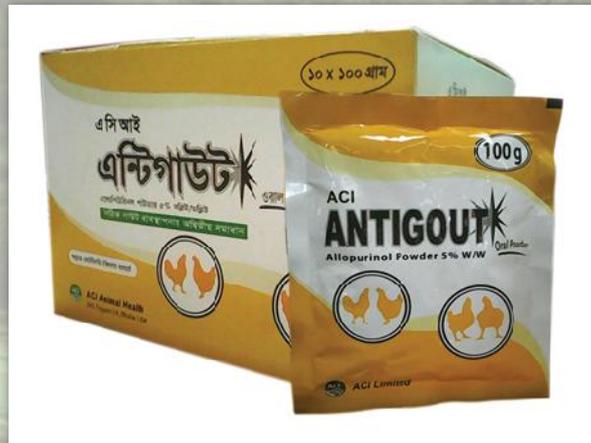
On 12 July 2015, ACI Animal Health launched VITA-CHOLINE 75%. Each ml of VITA-CHOLINE 75% contains Choline Chloride 750 mg. Choline chloride is a water-soluble essential nutrient. It is usually grouped within the B-complex vitamins. It plays an important part in the lipid metabolism in the liver. It prevents abnormal accumulation of fat and increasing the utilization of fatty acids in the liver. Choline is a component of acetylcholine which is responsible for the transmission of nerve impulses. In case of poultry, it can be used to prevent and treat the fatty liver syndrome, to prevent perosis and heat stroke, to increase hatchability and body growth, and to improve egg size and production. For cattle, -CHOLINE 75% prevents body weakness, anorexia and periods of apnoea. It was manufactured by Vitafor (Belgium). VITA-CHOLINE 75% is available in 1-liter pack.



## Innovations and New Products

### ACI Antigout - Oral Powder

On 29 June 2015, ACI Animal Health launched ACI Antigout oral powder which is xanthine oxidase enzyme inhibitors used to inhibit uric acid formation in the body and improve plasma uric acid excretion thus control uric acid production from body. Uric acid is a byproduct from the breakdown of certain proteins (purines) in the body by enzymes called xanthine oxidases. Elevated blood uric acid levels also can cause kidney disease and kidney stones. ACI Antigout prevents the production of uric acid by blocking the activity of the xanthine oxidases enzymes that converts purines to uric acid. It contains Allopurinol Powder 5% W/W. It prevents gout in poultry while playing an important role to remove uric acid from body. ACI Antigout powder is very effective to regularize efficient kidney function, revitalization of kidneys and control of gout. It helps to reduce the toxic effect of antibiotic or other drugs, keeps the urinary tract fresh & dilated by providing necessary nutrients. It also increases performance and decreases the mortality rate of chicken. ACI Antigout is available as 100 g printed sachet.



### ACI Egg Formula - Oral Solution Powder

ACI Egg formula is a highly effective combination of broad-spectrum antibiotics and vitamins. Oxytetracycline acts as a bacteriostatic which works against many Gram-positive and Gram-negative bacteria. Each g powder contains-Oxytetracycline Hydrochloride 60 mg, Vitamin A 2,250 IU, Vitamin D3 450 IU, Vitamin B2 2.9 mg, Calcium pantothenate 4.65 mg, Vitamin B12 22 mcg, Vitamin K3 0.8 mg, Vitamin E 1 g, and Nicotinamide 13.5 mg. The action of oxytetracycline is based on inhibition of bacterial protein synthesis. Vitamins are essential for the proper operation of numerous physiological functions. ACI Egg Formula is especially produced for layers and ensures higher peak egg production level, maintenance of high production level throughout the laying period, increased egg production when there is a drop in performance caused by stress situations, reduced mortality throughout the laying period and increased feed conversion efficiency. ACI Egg Formula is effective in cases of viral infections (e.g. New Castle Disease and Egg Drop Syndrome) and other bacterial infections. It was launched on 29 June 2015 by ACI Animal Health. ACI Egg Formula is available as 100 g sachet.



## Innovations and New Products

### FRA® Alpha Calf Liquid

FRA® Alpha Calf liquid provides a concentrated blend of nutrients known to scientists as 1-monoglycerides. In laboratory studies, these special compounds demonstrate inactivation of fat enveloped viruses, such as, Bovine Herpes Virus, Respiratory Syncytial Virus (RSV), Parainfluenza Virus, Bovine Corona Virus (BCV) and others. It also dramatically reduces the growth of a wide range of bacteria including strains of streptococcus, staphylococcus, E.coli, clostridia, chlamydia, salmonella and many more bacteria. Each 100 ml FRA® Alpha Calf contains 1- monopropanoin 20 ml, 1- monobutyryn 20 ml, Lactic acid 6 ml, Complex blend of herbs and essential oils q.s. to 100 ml. It is manufactured by FRAMELCO (Netherlands). On 1 July 2015, ACI Animal Health launched FRA® Alpha Calf. It is available as 100 gm sachet.



### Bumper Fertimix

On 14 July 2015, ACI Fertilizer launched a new product with the brand name 'Bumper Fertimix'. The main ingredient of this product is Zn-EDTA-10%, Magnesium-2%, Potassium-1.5%, Manganese-0.18%, Iron-0.17% and Copper-0.07%. Bumper Fertimix is very effective at growing, flowering and fruiting stage of the plants to fulfill the nutrient deficiency as well as the expected crop production. The product can be used at any stage of the plants. It is 100% soluble in water and useful for foliar application. The pack size of Bumper Fertimix is 20 gm.



## Events and Activities

### 253 Effective Demonstrations by ACI Seed in July 2015

In July 2015, a total of 253 effective field demonstrations took place in 10 territories of ACI Seed. There are almost 40 varieties of 15 different Crops in demonstrations. These varieties include Munia in Bitter Gourd, Marshal Super, Moina in Bottle Gourd, Beguni in Brinjal, Super Ea in Cabbage, Maradona and Advanta-403 in Cauliflower, Tikki and Biddut in Chili, Elin in Cucumber, MS-888 and Profit in Maize etc. These demonstrations are located in 25 different districts. The districts are Barisal, Bogra, Bhola, Borguna, Chittagong, Chuadanga, Dinajpur, Faridpur, Gazipur, Gaibanda, Khagrachori, Kurigram, Lalmonirhat, Magura, Meherpur, Narsingdi, Narayngonj, Natore, Pabna, Panchagarh, Rajbari, Rajshahi, Rangpur, Rangamati and Thakurgaon.

Farmers, dealers, retailers and other stakeholders of these areas are highly encouraged and motivated to cultivate and deal with these varieties. These demonstrations are playing a very effective role in the massive promotion of these varieties while bringing prosperity for farmers in all over the country.



Cabbage: Super Early at Chuadanga



Brinjal: Beguni at Rajshahi



Bitter Gourd: Papiya at Thakurgaon



Okra: Komol at Chittagong

### On Job Coaching: Help staff learn new knowledge and skill

ACI Seed PDS team arranged an effective "On Job Coaching" on 8 July 2015 at ACI-IBSc, RU Innovation Center, Rajshahi for the team members of the unit to help them capitalize on experiences by reflecting with them on what they have learned and how they can apply new knowledge to their job. Two of the coaching sessions were on "Seed Health" and "Experimental Design". Seeds are the primary input for crop production. When seeds are used for sowing, seed-borne pathogens may cause disease or death of plants, resulting in loss of crops. From this participatory coaching, they learned about seed-borne diseases and their controls and its application in establishing a successful demonstration. A very simple five-question evaluation was used at the end of the training course.

PDS team is using their 50% time for conducting trials in a scientific way

as their regular job. From this point of view, a coaching was conducted on understanding "field layout, unit plot, randomization, replication and setting up a good trial." All the participating PDSOs were asked to use the blackboard to describe how much they had learned about the layout design for trials from the coaching session. The whole program was facilitated by Dr. Akter Hossain, PDS Manager. Mr. S M Abdul Mukit, Marketing Manager was also present there to accelerate the program. Dr. Mohammad Muhebbullah Ibne Hoque, Asst. PDS Manger assisted to make the program successful. The participants were Md. Samiul Islam (PDSO-Rajshahi), Tanvir Ahmed (MO-Rajshahi), Md. Nurun Nabi (PDSO-Rangpur), Md. Jahangir Ali (PDSO-Chuadanga), Shapon Chandra Roy (PDSO-Thakurgaon), Md. Zillur Rahman (PDSO-Bogra) and Md. Babul Hossain (PDSO-Faridpur).



## Events and Activities

### ACI Seed Field Days held in July

In July 2015, a total of 5 field days were organized by ACI Seed on 2 varieties of a Crop. These varieties are Eva and Elin in Cucumber. These field days were held in 3 different districts. The districts are Gazipur, Chuadanga and Bhola. In total, near about 230 farmers, as well as dealers, retailers and other stakeholders, were present in these field days. Among them, about 187 farmers are highly encouraged and motivated to cultivate these varieties. These field days are playing a very effective role in the massive promotion of these varieties.



Field day-Elin, Gazipur  
(9 July 15)



Field day-Eva, Meherpur  
(5 July 15)

### M4C Review & Planning Workshop held at RDA-Bogra

On 8 July 2015, ACI Fertilizer organized a review and planning workshop under M4C Project at Rural Development Academy (RDA), Bogra. The main objective of the workshop was to evaluate the activities of M4C project during 2014-2015 and to make a plan of project activities for 2015-2016. 30 participants from ACI Fertilizer, ACI Seed, and SwissContact attended the workshop. Mr. Zakaria, Project Coordinator, Project Director gave the opening speech of the workshop. Mr. Firoj Hossain, ZSM, ACI Fertilizer; Mr. Rahen Julfikar, AM, ACI Fertilizer and Mr. Nuruzzaman, AE, ACI Fertilizer presented the activities' report of 2014-15 of their area and a plan for 2015-16. Mr. Sarder Ali Mortuza, GM, Sales; Mr. Yusuf Alam, Product Manager; Mr. Khairul Islam, RSM-Rajshahi; Mr. Mustafizur Rahman, RSM-Dhaka of ACI Fertilizer gave their valuable opinion regarding the project activities and gave guidelines for future plan. Mr. Mukit, Marketing Manager, ACI Seed actively participated in the program. Mr. Nazrul Islam, AE, Nilpahamari; Mr. Abdul Jabber, AE, Rangpur and the Marketing Officers of the project area were present in the program from ACI Fertilizer. Mr. Subrata Kumar, Director Operation-M4C Project and Officers of the field operation of M4C Project were also present in the workshop.

In a nutshell, total 16 Retailer Training Program, 634 Farmers Training Program, 418 demonstrations of ACI Fertilizer & ACI Seed, 99 Field Day were conducted in 2014-15 season under the project and the targeted crops were rice, maize, chili, onion, mustard, ground nut, and vegetables.



## Events and Activities

### Balanced Nutrition promoted at Dinajpur Agri Fair

ACI Fertilizer participated in a 4 day-long Agri-Tech and Fruits Tree Fair 2015 at Upazilla Complex Chatter, Chiribandar, Dinajpur. It was held on 11-14 July 2015 and was organized by Department of Agriculture Extension (DAE), Chiribandar, Dinajpur. The fair was inaugurated by Md. Mahmudul Hasan, Honorable Minister, Ministry of Foreign Affairs and the special guest was Mr. Biplob Kumar, Upazilla Agriculture Officer, Chiribandhar, Dinajpur. ACI Fertilizer was the only participating company from the private sector in the fair with their products. ACI Fertilizer showcased their new technology products to the visiting guests focusing on balanced Fertilization and its impact on crops, human being, and animal body.



### Training on New Product NEB held at Kishorgonj

ACI Fertilizer conducted a training program on their new product NEB on 6 July 2015 at the Conference Room of Hotel Ujan Bhati, Kishorgonj. Mr. Mustafizur Rahman Khan, Regional Sales Manager, Dhaka; Mr. Azharul Islam Fakir, Area Manager, Kishorgonj and all team members of Kishorgonj area, as well as few media professionals,

were present in the program. RSM, Dhaka introduced the product and explained the feature, benefits and application method of NEB. All participants were trained up regarding NEB function which reduces 50% Urea utilization and saves up to 30% of the farmers cost. As a result, farmers can enjoy more cost benefit.



### Power Tiller Free Servicing Camp in Mymensingh

On 5 July 2015, ACI Motors arranged a power tiller free servicing camp at Shombhuganj, Mymensingh. 40 people participated in the camp including 3 visiting Chinese Power tiller principal. Free service was given to 30 valued customers of power tiller. Unlike most other servicing camps, ACI Motors had also provided spare parts free of cost while servicing. After the servicing program, valued customers, as well as other participants, attended an Iftar party. ACI Motors is committed to ensuring highest quality after sales service, repairs, and maintenance through highly efficient and experienced servicing team. As a pioneer in the industry, ACI Motors first introduced free service campaign for power tiller.



## Events and Activities

### ACI Motors: Sharing the spirit of Ramadan in Iftar

ACI Motors had the privilege to arrange Iftars for its customers, team members and stakeholders at different places of the country during the holy month of Ramadan. These events gave the ACI Motors community an opportunity to share the spirit of Ramadan during Iftar. Such arrangements were made in different places of Dhaka, Gazipur, Manikganj, Narsingdi, Kishoreganj, Comilla, Feni, Jessore, Rangpur, Kurigram, Munshiganj etc.



### ACI Cropex: Export & Domestic Market Survey

In July 2015, ACI Cropex exported 156 MT Black Sesame to China. At the same time, it had conducted two market surveys to find out more possibilities in the domestic market. The market surveys were on Myanmar Atop rice and Indian wheat and took place at Sylhet and Narayanganj respectively. Now the ACI Cropex team is exploring the opportunities of introducing these two products in our local markets.



## Success Story

### Bottle gourd farming makes her transition from a day laborer to a prosperous farmer

Story of Nargis Begum, Thakurgaon



"In this sugarcane cultivating region, our income is not enough to meet the basic demands of a five-member family. I had to work as laborer during planting & harvest time", said Nargis Begum.

Living at Kahorpara, Sadar, Thakurgaon in northern Bangladesh she worked as a day laborer for 13 years during sugarcane cultivation season, earning Tk. 100 a day. Her husband also worked as a day laborer. They worked in other vegetable fields as well. They were landless but hard worker.

In 2014, ACI Seed arranged a farmers' meeting on hybrid bottle gourd at Kahorpara. Afterward, Mr. Shapon Chandra Roy, PDS Officer built Nargis's capacity and confidence for the cultivation of bottle gourd: Marshal Super and linked her with the local market to become a successful farmer. In 2015, he encouraged Nargis to lease some land and start her own cultivation. Shapon gave Nargis sample seed of Marshal Super for planting in about 3 bighas of land. Nargis raised seedlings and transplanted those on 12 April 2015. She harvested 14 times and sold 12635 pieces of fruit at Tk.98,700.00 with net profit Tk 58,700. Yields and profit were high. So, Nargis was also delighted. ACI area field forces, marketing team including Product Manager, PDS Manager, Marketing Manager and ACI Seed dealers visited the field time to time at different growth stages and gave valuable suggestions on fertilizer and pesticide, hand pollination along with appropriate cultivation techniques. To share the success of Marshal Super a field demonstration day with 120 participants was arranged on 17 June 2015. The participants opined that this high yield was due to the proper selection of variety and timely use of quality inputs, appropriate and accurate knowledge, and cultivation techniques.

"I'll spend the money on food, shelter, education, and marriage of my children", said Nargis. Anticipating that her income will continue to increase, she has already made plans to expand her lease farming area to 6 bighas with other varieties of ACI Seed.

ACI Seed has already started on job coaching for PDS Officers to scale up their crop production knowledge and to positively impact thousand farmers like Nargis Begum in the coming days.



## Readers' Corner



### Believe it or not!



A hive of bees will fly **90,000** miles, the equivalent of **three orbits** around the earth to collect **1 kg** of honey.



The average worker bee produces about **1/12th** teaspoon of honey in her lifetime.



The honey bee's wings stroke incredibly fast, about **200** beats per second.

A colony of bees consists of **20,000-60,000** honeybees and one queen.

Larger than the worker bees, the **male honey bees** (also called drones), have no stinger and do no work at all!



### Calorie Chart

Fresh Fruits		
Food Type	Quantity	Calories (Kcals.)
Roast Chicken	100 gm	99
Chicken Drumsticks	100 gm	80
Duck	100 gm	192
Goose	100 gm	227
Turkey	100 gm	122

Source: [www.novafeel.com](http://www.novafeel.com)

### Agro Tips

You can practice sustainable agriculture as it provides high yields without undermining the natural systems and resources that productivity depends on. Usually farmers who take a sustainable approach work efficiently with natural processes rather than ignoring or struggling against them – and use the best of current knowledge and technology to avoid the unintended consequences of industrial, chemical-based agriculture. One important result is that you are able to minimize their use of pesticides and fertilizers, thereby saving money and protecting future productivity, as well as the environment.

Some of the most common sustainable agriculture techniques employed by farmers today are Crop Rotation, Cover Crops, Soil Enrichment, Natural Pest Predators, and Biointensive Integrated Pest Management. All these techniques are used to achieve the key goals of weed control, pest control, disease control, erosion control and high soil quality in the long run.

## Readers' Corner

### Sharing is Caring!

Have you ever wanted to create interesting tools using or reusing ordinary materials available at your household? Were you inspired by the pictures of plastic bottles used as bird feeder which we shared few months back? Did you want to find out how it was made? If yes, then you can follow the following step-by-step photo guide to create your very first own bird feeder! Simply using a plastic bottle, few wooden spoons and a plastic cutter, you will be able to make it with your own hands!



### ACI Agribusiness

ACI Centre  
245 Tejgaon Industrial Area  
Tejgaon, Dhaka, Bangladesh  
Phone: + 88 02 887-8603  
E-mail: [biolife@aci-bd.com](mailto:biolife@aci-bd.com)  
[sectoedab@aci-bd.com](mailto:sectoedab@aci-bd.com)

[www.aciagribusinesses.com](http://www.aciagribusinesses.com)



**ACI Agribusiness**

*Creating Wealth for Farmers*

*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.*