

BIO LIFE

Letter from Executive Director, Agribusiness

Volume 01 Issue 28 September 2014

Quick & Safe Fattening and Stimulation of Metabolism for Livestock

Livestock plays a notable role in our national economy, contributing 11% to agricultural business. The major livestock are cattle, buffalo, goat, sheep, fowl and duck. It's density in Bangladesh is estimated around 48 million cattle and over 150 million poultry. Livestock provides manure, meat and milk to the vast majority of the people. Moreover, hides and skins, bones, offal, feathers, etc. help large population in earning foreign exchange. Population in Bangladesh is rising increasingly, so increases the demand for livestock products. Despite this high demand, the country still suffers from an acute shortage of high quality output from the sector. Since there is a huge supply gap available, it enlarges the horizon for investments and new businesses. The Government of Bangladesh has given top priority to livestock development in recent years to meet the growing demand for milk, meat and egg production, and to create employment and generate income for the rural poor.

One of the big barriers for farmers and cultivators to sustain or prosper in livestock business is the physiological problems regarding cattle and poultry; mostly malnutrition, anemia, low production of milk, meat and eggs etc. Many farmers give up the business when they face these issues and don't find a proper solution. In order to help farmers prevent diseases, perk up production of meat, milk, and

eggs; ACI Animal Health has recently launched a new product named CATOFOCRE. The veterinary medicine has three unique ingredients: Taurine, Nicotinamide and DL-Methionine, which no other competitor products in Bangladesh contain. These ingredients repair nutritional imbalance, help enhancement of erythropoetic process for heifers, cows, chicken and ducks. They work very well to produce milk & milk fat and prevent arthritis. CATOFORCE also contains Butaphosphan and Vitamin B12 that provide the cattle and poultry with extra energy, work as a substitute for glucose, produce direct meat and flesh, , strengthens egg shells and breeding capacity, build up disease resistance ability, work as anti oxidant and removes toxicity etc. In order to fatten the cattle and poultry, it contains ample Vitamin and Amino Acid which are very safe for human also when they consume these meat and flesh and these fattening ingredients are approved by World Health Organization.

These are quite essential aspects in livestock business, using new technology shall bring outstanding results. Since ACI is the technology leader in this sector, we'll keep bringing innovations. It will benefit farmers achieve their goals, help improve their lives and accelerate overall advancement of the sector.



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Innovision recently signed a contract in 21st August with ACI for strengthening the promotion of micronutrients and dissemination of information on balance fertilizer application through distribution channels.



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Boron facilitates stem cell growth, Development in Corn



Scientists at the University of Missouri discovered that boron plays an important part in development and reproduction in corn plants.

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Impact of PGR in the Seed Industries of Bangladesh

Prof. Lutfur Rahman

Advisor, ACI Agribusinesses & Head of Advanced Seed Research & Biotech Centre

Plant Genetic Resources (PGR) holds a unique place in the realm of plant biodiversity and breeding of new plant varieties. With modernization of agriculture and climate change PGR is under threat since natural habitats are being converted to farmland with evolving cropping systems to suit the agro-ecological conditions. This is also in addition to conversion of farm lands to homestead for ever increasing population. The inland river water sources are depleting so is the reduction of rains in many parts of the country and of the seasons the crops were adopted. The new high yielding and hybrid varieties are rapidly being adopted by farming community to get increased yield and quality that has high market price. The quality seeds of which are again being promoted by the seed industry and the government agencies. Thus the pressure on traditional varieties and land races are increasing, replacing the local cultivars leading to loss in PGR. The NARS institutes of Bangladesh and some international organizations have developed gene banks and are maintaining those, but in Bangladesh there is no such centrally planned and regionally operated institutional programs. Here the Bangladesh Seed Association as the apex body of the seed industries and trading/business houses can demand for conserving and allowing more PGR through establishing the National Plant Genetic Resource Institute (NPGRI), which at the moment can just be done by converting the PGR Centre of BARI to act as NPGRI through a government order only. This will add facilitation of the PGR activities as a national organization.

Maintenance of PGR is the sovereign right of the country. Even with modernization of agriculture, the Plant Genetic Resources of a country is the basis of food security. In fact the genetic materials of plant kingdom down to its strains/lines/genes that provides appropriate level of quality food for healthy growth of human individuals in a society of a country are the basis of Nutritional Food Security. Both public and private sector seed organizations /industries thus have the responsibility to not only maintain and use for improvement of the variety for larger production, but also to protect those as per sovereign rights of the country.

Plant Genetic Resources is the backbone of plant breeding both through conventional and molecular methods. They are also the backbone of the seed industry as well, especially for a successful private seed company involved in both marketing and

research related to variety development to suit the needs of the farmers, food product producers and consumers. The traits required attaining food security; especially nutritional food security lies in many of the traditional and indigenous varieties, which has less strength to compete with HYVs or hybrid varieties commercially. The traits especially for biotic as well as abiotic stress tolerance such as diseases and insects or salinity and drought may be found in the indigenous/wild varieties of the families of domesticated species/varieties. At this moment, information of such varieties can be found with the farmers, who apart from new HYVs and hybrid varieties are also cultivating the indigenous ones. Some of the varieties have already been preserved by the public sector crop research organizations and Universities. However, unless we undertake a comprehensive and coordinated effort for genetic resource collection, characterization, documentation storage and sharing of the information for new HYVs and Hybrid varieties of high quality food products; there will be no appropriate varieties of our food and health demand.

Plant Genetic Resources do not only comprise of the indigenous varieties, but also developed and internationally acquired germplasm as well. Due to confidentiality of such materials, sharing within the industry may not be possible. However, a well developed system of Intellectual Property Rights and its effective implementation will enable sharing of such materials less complicated. This will enable the seed industries to use more of the genetic materials having known traits of importance. This is why the long pending Plant Variety and Farmers Right Protection Act under consideration of the government be implemented soonest.

The private sector of the seed industry has realized the importance of PGR and has taken measures for conservation, collection and documentation of the important germplasm. A problem which one may confront is that the information of the documented PGR is not available easily from the public or the private sector organizations, except that of the printed information for the varieties each has developed and being marketed. A remedy to this problem could be a one window processing centre for PGR related activities along with an updated website, where information on the PGR available within the country can be accessed for breeding research.

Continued...

Information may also be circulated to the members. At this moment such services are only provided by international organizations such as International Rice Research Institute, International Centre for Potato and the World Vegetable Centre. In Bangladesh a continuously updated provision of website for SEED Research only can be developed where contribution from both public and private sector organizations and industries/trading/business houses can participate. This is where the BSA can play a vital role in developing and organizing such provisions.

Plant Biodiversity needs to be maintained as well as improved and conserved both in gene banks and under in situ conditions. In recent years there have been attempts to develop an organized DNA banking system of PGR where from necessary genetic materials can be collected for not only gene sequencing but also using in the Plant Breeding system. This can be done through establishing the National Plant Genetics Resource Institute (NPGRI) not only for collection, characterization and conservation but also through developing policies for national level public-private-partnership and extending assistance to regionally well organized nurseries having not only commercially important plant species but also of all others available in the area. It will in fact be planned to help development of the entire seed industry sector. There should be more training and motivation programs among the farming community and the village leaders so that they can select and also help conserving more diverse plant types and genetic resources having direct/indirect links with both public & private organizations for conservation under appropriate agreement system. It is known to almost all who have long been associated with seed trading/business and development of industries that there are gaps in pricing mechanism of the seeds produced and marketed by BADC, the only public sector organization with that of the private sector seed industries or even trading houses. In order to have sustained progress and development of the sub-sector, there should always be somewhat competitive pricing system so that a long term development of government support provisions can be achieved. Such works cannot be done

alone and requires the help of the whole seed industry comprising of both the private and public sectors. The Seed Industries of Bangladesh if and when organized to help maintaining the PGR as the basic valuable products containing genes to support their industrial needs can develop mechanisms/ concepts/ protocols of their own without any difficulty. May be that will include a good number seed materials be released to the natural system for either through direct adoption and selection by the farming community or being mutated as the natural force of mutation continues. The other provisions they can follow is through having organized participatory plant breeding programs where the lead farmers of them may also be allowed to keep a number of third or fourth stage variable materials to be with them for future selection process, as was almost the principle in Chinese breeding system during the time when the controlled economy was the rule of the country.

In conclusion the impact of the need and essentiality of the PGR in the Seed Industry System as its raw materials has to be realized by those who have been engaged in this business over years. The Bangladesh Seed Association in its new status should immediately demand to the government for establishing the long pending National Plant Genetic Resource Institute without any further delay. This will aim among others, at supporting the public and private sector seed industries with information on traits and materials of plant genetic resources that they can use more easily for future development of plant varieties. This information and materials will in fact lead to increased activities in the breeding of new plant varieties for the market addressing the climate change conditions and the nutrient quality of the products. In addition to this the Breeders Right as envisaged in the Plant Variety and Farmers Right Protection Act if enacted soonest then will encourage more positive breeding activities in the country by the private sector seed industries. Such effective participation of the Private Seed Industries using more important trait based identified PGR can lead to increased production, production of diverse crops and quality products leading to Nutritional Food Security of the people of Bangladesh.

Innovations and New Products

Nedo-vet®, an effective Poultry Antibiotic Launched by ACI Animal Health

On 2nd August, ACI Animal Health launched poultry antibiotic for the treatment of Necrotic enteritis and Salmonellosis named, Nedo-vet®. This powder contains Neomycin Sulphate and Doxycycline as Hydrochloride BP which can Prevents and Treats dangerous Poultry diseases like Colibacillosis, Fowl Cholera, Coryza and Bacterial Diarrhea.



Portable pH & DO Meter – New device for ACI Animal Health Field Technical Officers

ACI Animal Health is decided to provide Portable pH and DO meters to the field level Technical officers; works under the Fishery section. EcoMet P15 and EcoMet D35 are very simple to use, fast and able to calculate the accurate measure of pH and DO. The model P15 can effectively measure the pH (range: 0.00 to 14.00), mV (range: 0.00 to +/- 1999.9) and Temperature (range: -10 to 110°C). On the other hand, D35 model can measure Dissolved Oxygen (range: 0.00 to 19.99mg/L), O2 (range: 0 to 60.0%), Temp (range: -10 to 60°C).

We anticipate these testing stuffs will assist our Technical officers along with our field officers to calculate the accurate state of farming ponds and diagnose necessary requirements for secure and better fish production.

Model D35 (Portable DO Meter)



Model P15 (Portable pH Meter)



Events and Activities

Promotion of micronutrients: ACI Fertilizer and Innovision forms Strategic Alliance to Address the Deficit

ACI and Innovision signed contract on 21st August to promote micronutrients and disseminate information. Innovision's project named The Fertilizer Market Development which is funded by KATALYST, mandated to promote balanced application of fertilizers for crop production focused on vegetables, maize and rice sub-sectors to improve soil fertility condition. Under this contract, ACI will conduct field promotional activities for three forthcoming crop seasons covering 27 districts across the country. Thus the partnership with ACI will cover

approximately 3,900 agricultural input dealers and retailers, and around 100,000 small and marginal farmers.

Mr. Rubaiyath Sarwar, the Managing Director of Innovision signed the contract with Mr. Bashir Ahmed, the Business Manager; Mr. Sardar Ali Mortuza, Sales Manager; Mr. Yusuf Alam, Asst. Product Manger from ACI Fertilizer Division. Mr. Ehsanul Karim and Dr. Zinia Rashid, Mr. Sadruzzaman Noor, and Ms. Nabila Nusrat from Innovision were also present at the signing event.



Sesame exported to China – export Expansion by ACI Cropex Team

ACI Cropex is exporting agricultural products to international market besides supplying local consumers. By exporting sesame in China ACI increases its growth of exporting area. This recent expansion is a consequence of our ongoing effort

to open new avenue for Bangladeshi agro-products in home and international markets. We also plan to export fish, vegetable, peanut and rice in near future.



ACI Cropex Products are being Loaded for Export

A Field day on 'Tropical 33: A summer Cabbage' Arranged by ACI Seed Team

ACI Seed arranged a field day on Tropical-33 Cabbage in 17th August 2014 at Abdulpur, Jessore. This Cabbage has such a unique quality which can produce big and superior head at high temperature that prevails during March-July of the year. From the Khulna division 80 dealers, retailers and farmers came to attend the field day and they were pleased to observe the performances of the heat tolerant Tropical 33 cabbage. As Cabbage is one of the most popular vegetable and only available in winter, it's challenging to cultivate in summer season when temperatures are on the rise. In the last year, Farmers

from Jessore belt harvested quality head of 500-800g at that season. This year they transplanted the crop in May and harvested in August as a summer crop. As from demo result of Abdulpur, Jessore, the variety yielded good quality head with average weight 400-500g at 65 days after transplanting. The seedling and young plant can endure the heat and do not get wilted with high temperature. So, its irrigation requirement is low. It is also reported that, in terms of seedling vigor, days to maturity, compactness, head weight, Tropical 33 attracted the attention of the farmers.



Events and Activities

'Fish Post Harvest Management' Training arranged by ACI Cropex Team at Trishal, Mymensingh

On 21st August, ACI Cropex arranged a training workshop at Trishal, Mymensingh for the people who are directly involved with fish business and cultivation. Earlier in this year, ACI has introduced the branded mangoes with a great success and this drive us to take

fish as our next branded product. Following the discussion with KATALYST about the Post Harvest Management Process as well as campaign strategies, ACI Cropex team has visited several fish farms which are located in Khulna, Satkhira, Bagerhat, Bhairab, and

Mymensingh. The team discussed and showed the technique to manage post harvesting process, transportation and modern storing procedures. Participants including fish cultivators and traders gave important opinions and highly praised the initiative.



Service Camps Arranged by ACI Motors Team in North Bengal

ACI Motors arranged three service camps in north Bengal throughout August 2014. These camps were arranged at Phulbari, Dinajpur (on 16 August 2014); Debiganj, Panchagarh (on 21 August 2014); and Kurigram (on 24 August 2014). Stakeholders including owners and operators of tractors attended the

camp with their usable vehicles. Our technical team of experts discussed about regular maintenance and trouble shooting of agricultural vehicles. Based on participants query, they also shared practical tips. Later, the tractors were checked by our technical team offering our specialized servicing. The

camp also included interactive discussion and fun games with gifts. These service camps were part of ACI Motor's commitment to its customers for complete mechanized agricultural solutions & after sales service.



ACI Motors Participated in DAE Tree Fair, Rajshahi

Boron facilitates stem cell growth, Development in Corn

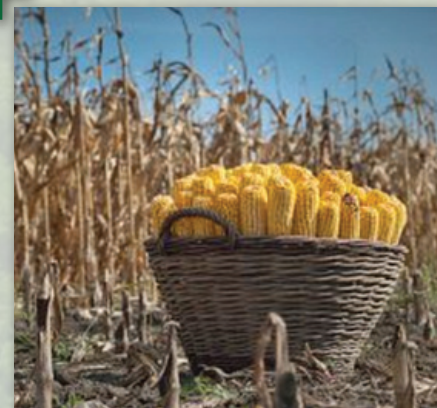
Scientists at the University of Missouri discovered that boron plays an important part in development and reproduction in corn plants.

Boron deficiency is one of the most widespread causes of decreased crop yield. Thus, farmers in boron-deficient areas are required to supplement their soil with boron but little is known about how corn plants use up the essential nutrient.

According to researcher Paula McS-

teen, lack of boron leads to a problem in the meristems or the stem cells of the plant. Meristems include the growing points for each plant, and every organ in the plant is developed from these specialized stem cells. Inadequate levels of boron causes these growing points to disintegrate, significantly affecting corn tassels and kernels. When tassels are stunted, crop yields are reduced.

(source: Agriculture and Food News, Science-Daily. www.sciencedaily.com)



Bangladesh's ERA Guidelines for GE Crops Finalized

A workshop to finalize the Guidelines for the Environmental Risk Assessment of Genetically Engineered (GE) Crops was concluded in Dhaka, Bangladesh on August 20, 2014. The one day-long stakeholders workshop featured experts Dr. Andrew Roberts (Deputy Director of the Center for Environmental

Risk Assessment), Dr. Joseph Huesing (Sr. Biotech Adviser, USAID) and Dr. Imdadul Hoque (country coordinator of ABSP II), who provided insights and led discussions on risk assessment of biotech crops. More than 50 scientists, academicians, policy makers, environmentalists, and nongovern-

ment agencies recommended the approval of the draft Guidelines for Gazette notification. This will be handled by the Ministry of Environment & Forests (MoEF).

(source: Crop Biotech Update, International Service for Acquisition of Agri-Biotech Applications. www.isaaa.org)



(Image & News Courtesy: isaaa.org)

International Consortium Releases Canola Genome Sequence

An international consortium of more than 30 research institutes, have deciphered the complex genome sequence of oilseed rape, *Brassica napus* L. more commonly known as canola, the most important oilseed crop in Europe, Canada, and Australia.

The study showed that apart from the post-Neolithic hybridization that led to its formation, oilseed rape has one of the most highly duplicated genome of all flowering plants,

because of numerous older polyploidizations that occurred during its evolution. This phenomenon led to the accumulation of a great number of genes, 101,000 in total, the highest gene densities of any previously sequenced organism, four times more than the 20,000-25,000 genes of humans.

(source: Crop Biotech Update, International Service for Acquisition of Agri-Biotech Applications. www.isaaa.org)



Statistical Model Predicts Performance of Hybrid Rice

Genomic prediction, a new field of quantitative genetics, is a statistical approach to predicting the value of an economically important trait in a plant, such as yield or disease resistance. The method works if the trait is heritable, as many traits tend to be, and can be performed early in the life cycle of the plant, helping reduce costs.

Now a research team led by plant

geneticists at the University of California, Riverside and Huazhong Agricultural University, China, has used the method to predict the performance of hybrid rice (for example, the yield, growth-rate and disease resistance). The new technology could potentially revolutionize hybrid breeding in agriculture

(source: Crop Biotech Update, International Service for Acquisition of Agri-Biotech Applications. www.isaaa.org)



Coming soon: Genetically Edited 'Super Bananas' and other Fruit?

Recent advances that allow the precise editing of genomes now raise the possibility that fruit and other crops might be genetically improved without the need to introduce foreign genes, according to researchers writing in the Cell Press publication Trends in Biotechnology in August.

With awareness of what makes these biotechnologies new and different, genetically edited fruits might be met with greater accept-

ance by society at large than genetically modified organisms (GMOs) so far have been, especially in Europe, they say. This could mean that genetically edited versions of GMOs such as "super bananas" that produce more vitamin A and apples that don't brown when cut, among other novelties, could be making an appearance on grocery shelves.

(source: Agriculture and Food News, Science-Daily. www.sciencedaily.com)



Photo credit: egorxfi / Fotolia

GE Fruit flies can Protect Crops against Pests, Study finds

Releasing genetically engineered (GE) fruit flies into the wild is an effective and environmentally friendly way to control pests, a new study has found.

The research by scientists at UK's University of East Anglia and Oxitec shows the release of genetically engineered male flies could be used as an effective population suppression method. It can be controlled by

a combination of insecticides, baited traps, biological control and releasing sterilized insects to produce non-viable mating, known as the sterile insect technique (SIT).

(source: Far Eastern Agriculture, www.fareasternagriculture.com)



Report Serves as Key tool to help Improve Dairy Feeding System

International Dairy Federation (IDF), Food and Agriculture Organization (FAO) and IFCN Dairy Research Network (IFCN) have collaborated to map world dairy feeding systems with an aim to reduce carbon footprint.

According to the organizations, animal feeding is the first step in the

production of milk and, therefore, affects the rest of the production chain. Gathering information from more than 65 countries across six continents and a number of production systems, a new report IDF/FAO/IFCN World Mapping of Animal Feeding Systems in the Dairy Sector compiles a large set of

data on dairy animal feeding systems that will serve as a valuable resource for dairy processors, animal feed professionals, dairy farmers and their advisers and policy makers.

(source: Far Eastern Agriculture, www.fareasternagriculture.com)





Did you know???



Lettuce is a member of the **Sunflower** family



Eggs age more in one day at room temperature than in one week in the **Refrigerator**.



A hive of bees flies over 55,000 miles to bring you one pound of **Honey**.



Bananas are about 99.5% fat free.

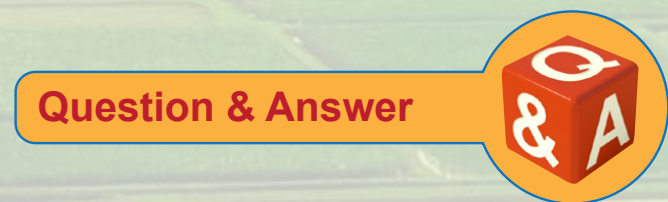
There are more than 7,000 Varieties of **Apples** grown in the world.



Calorie Chart

Fresh Fruits		
Type	Quantity	Calories
Pineapple	Slice, 82 g	42
Plum	One, 60 g	36
Watermelon	Piece, 100 g	26
Melon	Piece, 100 g	33
Strawberries	Half a cup	23
Blueberry	One cup	122

Source: <http://www.moh.gov.sa/>



Question & Answer

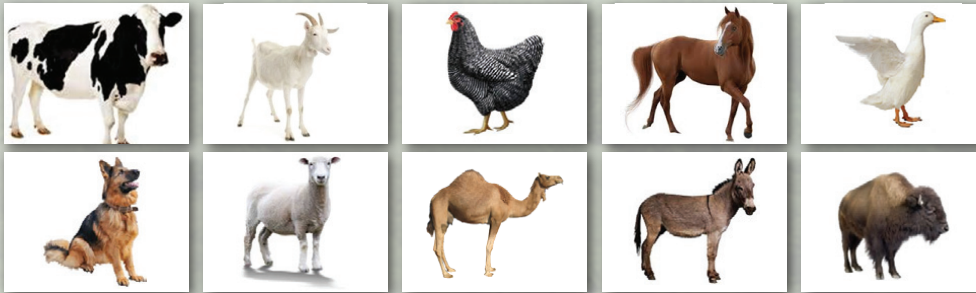
Question: Hello, I am farmer from Natore. I am interested to know about Organic Farming. I want to know the benefits of Organic fertilizers. What is the procedure to use & required fertilizer per acre?

Md. Atahar Ali, Natore

Dear Md. Atahar Ali, the main benefits of organic fertilizers are - easy to produce from available animal matter or vegetable matter, chemical free, better for environment etc. They also provide adequate nutrients for the soil & can save 15-20% chemical fertilizers, if applied together. You can apply it to the soil while preparing for farming or in between the growth phase of crops/plants. Based on the nature of your crops & soil, you may use 150-180 Kg organic fertilizer per acre.

WORD Game

Figure out the Animals from the box!



B	X	H	M	Y	S	D	T	A	X	C	C	A	M	N
K	P	A	H	Q	E	O	T	H	E	M	L	O	Y	R
D	S	H	E	E	P	G	P	W	K	Y	I	M	W	H
O	W	P	Y	U	I	S	V	F	V	V	R	I	G	O
N	G	J	N	X	N	G	F	R	T	Q	Q	L	F	R
K	M	V	D	U	I	A	K	D	H	B	U	S	Z	S
E	G	P	X	U	L	P	D	U	R	U	W	M	F	E
Y	O	T	A	C	M	Y	R	C	F	F	P	I	R	U
U	A	N	Y	P	H	V	Y	K	Z	F	C	T	S	C
I	T	P	X	U	F	I	B	M	B	A	O	R	V	O
D	U	F	J	K	O	A	C	E	I	L	O	D	Y	J
C	A	M	E	L	C	X	M	K	V	O	P	P	E	F
M	Y	L	N	K	N	C	C	J	E	Q	G	E	W	P
O	K	Q	T	S	F	W	Q	O	Z	N	O	B	V	E
Q	Z	K	D	Y	W	R	J	J	T	L	S	J	R	W

*** To win exciting prizes, take a picture of this page with marked answers and send the picture to biolife@aci-bd.com by 30 September 2014

Winner & Answer of the previous Word Game!!!

Kazi Mahbubal Haque, ACI Cropex

Wheat	P	N	R	W	D	L	K	Q	P	O	F	L	V	J	P
	S	J	A	H	R	L	X	U	W	H	L	L	W	Q	X
Mesugarcan	R	Z	M	E	S	U	G	A	R	C	A	N	E	N	K
	J	N	A	I	T	U	Z	Y	S	U	U	A	F	G	W
Maize	D	N	Z	V	R	Y	E	F	X	R	A	M	S	U	O
	D	D	E	S	W	X	L	U	T	C	A	T	X	H	Q
Potato	P	O	U	I	J	I	M	U	S	T	A	R	D	M	N
	B	J	T	K	C	S	C	D	Z	M	Y	B	X	A	J
Tea	E	X	U	A	Y	R	X	R	P	F	I	E	A	R	O
	J	D	B	K	T	N	L	M	F	O	R	I	C	E	Q
Mustard	F	B	P	G	Y	O	P	Q	D	N	K	B	E	I	T
	T	O	B	Y	O	S	M	X	W	A	O	I	K	Z	V
Rice	Q	O	L	V	P	A	C	O	Q	U	S	R	D	D	T
	I	M	N	B	B	P	Z	P	H	T	M	N	E	A	W
	P	A	R	F	O	C	B	E	D	E	E	S	T	X	K
Jute	X	A	E	F	N	R	G	O	G	E	O	S	S	T	P
	T	O	I	T	F	N	I	I	O	M	L	S	F	E	P

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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.