

# BIO LIFE

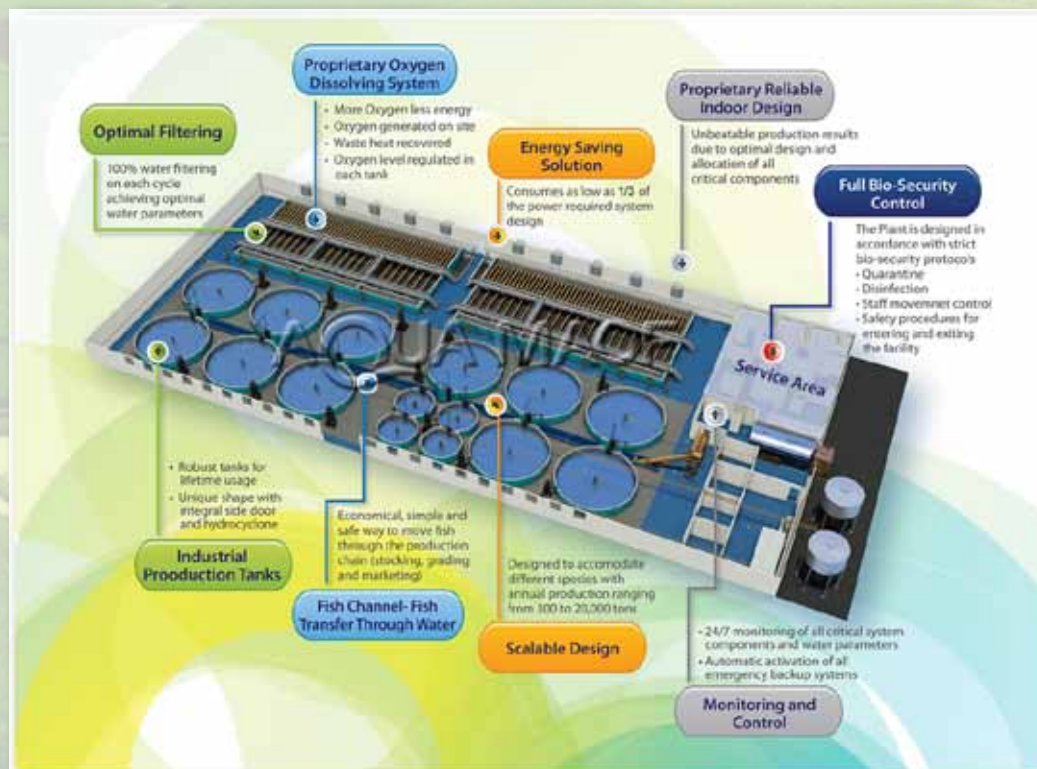
Letter from the Executive Director, Agribusinesses

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## Re-circulating Aquaculture System: A New era of Indoor Aquaculture Facility

Due to recent changes in the natural ecosystem our oceans, seas and rivers are becoming fish less very fast. This is also natural consequence of over fishing, higher demand of fish due to population growth, changes in food habit, limited land for Aquaculture, low productivity, and disease outbreak related to land based Aqua Culture system. While all these are naturally unavoidable, ACI Agribusiness is visioning a unique solution. The Recalculating Aquaculture System (RAS) technology for Aquaculture has the ability to provide extremely high production volume as well as quality of fish. It will also ensure continuous year round supply of fishes in coming days.

The Indoor RAS, a land-based technology will allow fish growers complete year round control over all growing conditions. One of the strength of this system is its ability to allow water quality of the rearing environment will be controlled simultaneously will restrict the entry of pathogens. The fish species grown under this system are almost uniform in sizes, healthier as well as tastes better than other natural systems. In areas where the amount of available water is low or for projects where the cost of warm water is high, this model excels.





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### Department heads of ACI Limited visit laboratories of ASRBC



It was an exciting day for the Advanced Seed Research & Biotech Center (ASRBC) on 26 December 2013 when the Department Heads, Directors & Managers of ACI Limited visited the laboratories, where they were given a tour of the types molecular research being carried out.

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### GM rice delivers antibodies against deadly rotavirus

In a recent study published in the Journal of Clinical Investigation, it has been found that a strain of rice genetically engineered to protect against diarrheal disease could offer a cost-effective way to protect children in developing countries.

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## Innovations and New Products

### ACI Animal Health Introduces CMT Tester

ACI Animal Health has introduced CMT Tester which is a diagnostic tool used for field diagnosis of Mastitis. Mastitis is the inflammation of the mammary gland and udder tissue, and is a major endemic disease of dairy cattle. ACI Animal Health is the first to launch the Kit First in Bangladesh. This kit is extremely useful in dairy farms because all the dairy farms in our country are frequently affected by mastitis disease which can destroy the udder of a cow and suppress the milk production very quickly. The tester has a reagent of 600ml, containing three bottles, each has 200 ml and a paddle containing 4 cup which can be used any time any condition of a dairy farm. The price of the kit is 2,400 taka. The prescribers can very easily use this for their diagnosis and proper treatment.



### ACI Animal Health Launched Several Dairy and Poultry Products

In December 2013, ACI Animal Health launch several products for dairy and poultry. **CLOSTAT SP Dry** is a Probiotic, launched in December under the Pack size of 1kg. It is an Innovative Product of Kemin Industries Ltd. Poultry Intestinal health management is the Key Objective of this product. It is mainly used :

1. To prevent Necrotic Enteritis.
2. To improves intestinal health.
3. To maintain intestinal integrity.
4. To improves immunity.

**Vitafor Choline Chloride** is a preparation of 60% Choline Chloride which is marketed under the pack size of 25kg. It is a feed additives used in poultry feed to prevent liver from Fatty Liver Syndrome and increase appetite of poultry. The origin of the product is Belgium.

**Acimilk Plus Bolus** : This is an innovative product of herbal nature which is used for increasing milk production and also increase the immunity of that cattle. It can increase milk production instantly by stimulating the Lactiferous tissues of the udder which are used for converting blood to milk currently and also stimulate the anterior pituitary gland to secrete Prolactin hormones used for milk production. Perfect dose for each cow is 2-3 bolus, once daily after parturition. MRP is 200 taka for each box. Each box contains 10 bolus.





## Events and Activities

### Promotion of variety at farmer's door: Field Day activities in 2013

ACI Seed, with the facilities provided by International Finance Corporation (IFC), arranged a total of 205 farmers' field days in 2013. These events play an important role in disseminating information on ACI products to farmers, retailers, dealers, agri-business people and agricultural extension personnel and scientists. Field day is one of the effective group methods used in promotion and communication of agricultural technology. It provides an opportunity for farmers to learn by seeing the performance of the variety adopted by other successful farmers. Farmers also discuss the pros and cons of the field day informally with their fellow farmers, extension workers and the subject matter specialists. This also helps to convince, even the most skeptical type of farmers that cannot read or write. In 2013, the events covered 51 varieties of 17 different crops involving 21,113 participants across the country. The average participants per field day was 103 with average cost per person was BDT 72.02. The field day events were higher in the months of April-May and December-January, as they are the major harvesting months for summer and winter vegetables, respectively. In a post evaluation study undertaken in November 2013 by IRG-IFC found that these field days significantly helped in the promotion of seed business.



Delighted farmers at a field day  
at Fulpur, Mymensingh

Delighted farmers at a field day  
at Uzirpur, Barishal

### ACI Motors Arranges Sonalika Tractor Development Program

ACI Motor's Sonalika tractors have already established a strong brand name in many parts of the country with its best quality products and services. Nevertheless, in some parts, the conspicuous presence of Sonalika tractors is still missing. To let farmers know the superb efficiency of Sonalika tractors, ACI Motors arranged a Farmers' Meeting and Sonalika Tractor Development Program in Chandina Comilla where different stakeholders such as tractor drivers, dealers and owners along with farmers were present. Performances of 50 Horsepower tractors of Sonalika and two other leading brands in the market were demonstrated to display how impressively Sonalika gives 12% deeper cultivation and is 10% speedier and hence more fuel efficient than other remaining brands. The stakeholders present in the meeting were thoroughly impressed by the performance of Sonalika tractors and they will surely refer to Sonalika tractors in future.





## Events and Activities

### Gypsar - No.1 Brand establishing through Integrated Marketing Communication:

Gypsum is widely used all over the world as a soil conditioner – that improves the structure & physical condition of the soil. It also helps to regain the soil fertility by supplying nutrients - Sulphur & Calcium. The farmers of Bangladesh are also using Gypsum, but it is very ordinary Phospho Gypsum. The yearly use of Phospho Gypsum is about 150,000 MT. Considering the market attractiveness of the product, ACI Fertilizer is driving aggressively with Mineral Gypsum as a technology replacement through integrated marketing communication. The Business has conducted more than 200 result demonstrations in different crops, distributed samples to the model farmers, arranged more than 100 retailers & model farmers training program, partnership program with DAE & NGOs, increased market coverage through exploring new market (fish, tea) and customized sales & promotional program by targeting potential crops & customers. ACI Fertilizer is leading the market of Mineral Gypsum by selling 4,500 MT in 2013 with 70% market share & 50% growth.



### Promoting ACI Fertilizer Solution through Partnership Program:

ACI Fertilizer is promoting their business of plant nutrition especially micro nutrient fertilizers and soil health solution through developing awareness among the farmers. As a part of development, ACI Fertilizer is working with different partners; like - DAE (Department of Agriculture Extension) through IAPP project, SwissContact through M4C project, BADC through contact growers. The partnership programs include result demonstration of ACI solution, educating farmers & retailers about new technology and ensuring the product availability in programmed area. The Business have already got success in last six months working on vegetables, maize, mustard, chili, onion and potato. The major activity areas are Bogra, Sirajgonj, Gaibandha, Rangpur, Kurigram, Lalmonirhat, Nilphamari & Jamalpur.





### Spreading Good Quality Local Fishes: ACI Cropex Takes another Step

ACI Cropex, known for providing hygienic food for its consumers, has already diversified its business by entering into the fish market with a fish wholesale point at Kawran Bazaar Dhaka. After the successful launch, ACI Cropex has gained trust of many consumers. Based on it, several reputed organizations have shown interest on taking local fish from ACI Cropex for their regular lunch items in their canteens. Already around 300 kilograms of local fishes like Rui and Katol have been delivered to Brac & Aarong Center. ACI Cropex hopes that it can reach many people with hygienic and healthy foods through its business.



### Department heads of ACI Limited visit laboratories of ASRBC

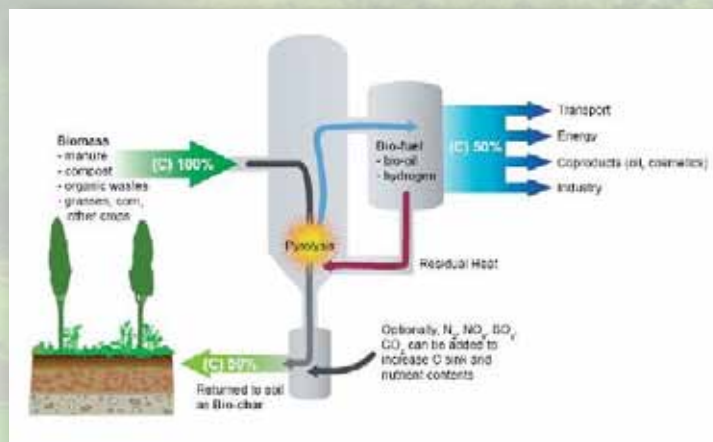
It was an exciting day for the Advanced Seed Research & Biotech Center (ASRBC) on 26 December 2013 when the Department Heads, Directors & Managers of ACI Limited visited the laboratories, where they were given a tour of the types molecular research being carried out. Some of the businesses & departments such as ACI Seed, Commercial, Finance, Admin, HR have been assisting directly or indirectly in the development of ASRBC and this was an opportunity for them to finally see the output of their joint efforts. The scientists demonstrated use of the equipments and the different stages of research from the plant genetic level till multiplication in the greenhouse. Prof. Lutfur Rahman, Advisor of ACI Agribusinesses and currently leading the ASRBC gave a presentation on the types of research, which the ASRBC is currently undertaking and is capable of carrying out in the future. The honorable guests found the tour extremely intriguing, which was evident from the abundant interesting questions during the tour. Everyone wished the ASRBC all the best for the future and promised to extend the necessary support.





### Carbon Cycle: Biochar's amazing role

A research group of Resource Exploitation of the Technical University of Madrid (UPM) has developed a carbonaceous material called "Biochar" from sewage sludge that, when applied to soil can help to improve its quality. The generation of sewage sludge is increasing and its management and treatment have been studied over the last years. Among the different usages of the sludge in countries such as Spain, where soil has a low content of organic material, we should stress its direct benefits to soil. Biochar can be used for enhancing the quality of soil and crop yields and at the same time it can prove to be beneficial for the environment. However, there might be some factors such as high level of salts, metals and toxic organic compound that can threaten this practice. After working on the biochar from sewage sludge and also the effect of physical, chemical and biological properties of the soil, researchers at the group of Resource Exploitation of the UPM, so far have obtained results that are quite positive. The result shows that the addition of biochar to soil can enhance its quality (for example, its ability for moisture retention, pH or biological activity) and therefore, to enhance crop yields. Other benefits include the reduction of the solubility of the existing metals in sewage sludge, soil carbon sequestration due to the higher stability of the biochar which reduces its degradation and contribution in reducing emissions of greenhouse gases. The researchers of the UPM are currently extending these studies for its application in the field of biochar from sewage sludge and other types of organic residues susceptible to be changed into biochar.



### GM rice delivers antibodies against deadly rotavirus

In a recent study published in the Journal of Clinical Investigation, it has been found that a strain of rice genetically engineered to protect against diarrheal disease could offer a cost-effective way to protect children in developing countries. Researchers engineered the rice, called MucoRice-ARP1, by adding an antibody to fight rotavirus originally found in llamas in the rice genome. Rotavirus is the leading cause of severe diarrhea in young children and infants, killing more than 520,000 people each year, according to the WHO. More than 85% of those deaths occur in impoverished countries in Africa and Asia. The research team fed MucoRice-ARP1 to mice they subsequently infected with rotavirus, and found these mice had significantly less virus than mice fed normal rice. The rice could be used to complement vaccinations to protect children when they are at their most vulnerable to rotavirus, say the researchers. However, since it had not yet been tested on humans, it could take a decade before a final product is ready for distribution.



## Readers' Corner



### Did you know???

More people are allergic to **cow's milk** than any other food

**8%** of people have an extra rib

All the blinking in **1** day equates to having your eyes closed for **30 minutes**

You burn more calories **sleeping** than watching TV

**Enamel** is the hardest substance in your body

The average human brain contains around **78%** water



### Calorie Chart

Fresh Fruits (Half Cup)	Calories	Fat (g)	Carbohydrates (g)	Protein (g)
Black Beans	341	1	62	22
Beans Navy	337	1	61	22
Corn	86	1	19	3
Bananas	89	0	23	1
Soybeans	446	20	30	36
Sweet Potato	86	0	20	2
Yams	118	0	28	2
Almonds	575	49	22	21
Garlic	149	0	33	6
Sunflower Seeds	584	51	20	21
Pumpkin seeds	541	46	18	25
Mushrooms, shiitake	296	1	75	10

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

### Question & Answer



Q1. I am a farmer. My cultivation is mainly based on rice. Recently I am facing a problem, that is rice seedling is longer weaker than the natural seedlings. Leaf color have become fade green. I have also noticed that the lower part of the seedling became black and rotten. And it is also seen that, in the field the bottom side of the seedling has some unusual roots. I am not sure what this disease is. Can you tell me the name of diseases and how can I save seedlings from this disease?

Shahed Alamin, Kushtia

Answer: The name of this disease is pathogen. And the scientific name of this disease is *Fusarium moniliforme*. At first, you should collect the seedling from the dry field by sinking the seedling for 3 to 4 days under water for saving the roots properly. Then you must remove the affected seedling to select the best and healthy ones for cultivating rice. To destroy the rejected portion of the crops from the affected field you should not repeat the same place of cultivation. If see the symptom you can draw out the seedling and burn it properly. If possible, then you can complete the irrigation after drying the field for 5 to 7 days.

\*\*\*In order to get answer to any of your agriculture related queries, please email us at [biolife@aci-bd.com](mailto:biolife@aci-bd.com) or visit our Facebook page [www.facebook.com/aciagribusinesses](http://www.facebook.com/aciagribusinesses).



## WORD Game

Figure out the vegetables from the box!



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

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

### Winner & Answer of the previous Word Game!!!

Rehnuma Tarannum  
Sr. Executive, TSD  
ACI Pharmaceuticals

Papaya	S	P	I	Q	P	A	P	A	Y	A	E	X	F	E	T	F
Guava	U	R	T	G	R	F	O	Z	D	W	L	N	Q	T	U	M
Pineapple	Y	B	A	N	G	U	A	V	A	B	P	W	T	A	P	S
Tamarind	J	J	M	G	N	E	J	W	D	E	P	Y	I	N	Y	C
Jujube	S	E	A	D	R	S	L	F	I	F	A	G	G	A	V	K
Star fruit	T	T	R	V	G	I	W	S	J	N	E	M	P	R	N	X
Jackfruit	A	X	I	F	G	M	M	L	H	A	N	S	L	G	X	S
Pomegranate	R	T	N	W	S	A	G	W	A	T	I	M	L	E	K	F
	F	R	D	N	R	V	B	A	T	V	P	P	W	M	J	H
	R	Z	N	W	K	B	I	R	T	D	F	C	Y	O	X	Y
	U	E	B	U	J	U	J	Q	D	D	B	V	N	P	T	W
	I	C	P	O	L	T	I	U	R	F	K	C	A	J	X	S
	T	I	W	H	Q	W	V	S	Q	T	Y	Y	R	W	P	L

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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.