

July - August '06 Issue

ENZYME WORLD

*Nurturing life,
with the element of
nature*

*“With Amusing
Murphy’s Laws”...*

Bi-monthly In-house Newsletter from



ADVANCED
ENZYME TECHNOLOGIES LTD

Where ENZYME is Life
(An ISO 9001 : 2000 Company)

ENZYME^{WORLD}

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Enzyme World Editorial Team

Compiled By:

Jalpa Mehta,

Asst. Manager - Corp. Comm.

Edited By:

Mr. Piyush Rathi,

Head - Business Development

Mr. Dipak Roda,

GM - Marketing

To give your feedback /opinion/queries/information, please write to us on info@enzymeindia.com

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FROM THE DESK OF MANAGING DIRECTOR



Dear Friends,

Jai Gurudev!!

Greetings & Salute to you!

Your response to all 3 previous issues has been truly very encouraging! It alone shows that how concerned we all are about our present life style and related issues of environment and help the whole humanity march forward in search of better quality of LIFE!

The present era - Renowned Philanthropist and Philosopher Gurudev Poojya Sri Sri Ravi Shankarji says that Life is a constant movement from one level of Perfection to another level of Perfection!

He only further clarified that our VEDAs (the Ancient Indian Wisdom) very clearly said that we are all ONE and are totally connected to each other. Enzyme is a Biological Expression of this Life Energy! May it be a Plant or Animal or Human Life. Each one has effect on other. And hence we have to find solutions to our present day problems using this Exciting Science of ENZYMES!

My team of dedicated scientists is precisely doing this day - in and day- out. The number is very rapidly growing - within the company and outside the company through our BUYERS and SUPPLIERS.

This issue of Enzyme World is Focusing on few more segments - Textiles, Human Healthcare, and Animal Healthcare. AETL always strives to make each forth coming Enzyme World more and more enriching and informative for all our valuable readers. Without your overwhelming support, the success of Enzyme World would not have been possible.

Jai Gurudev !

C. L. Rathi

Managing Director

Enzymatic Bleaching of Indigo Denims

Inspired by modern processing technology and driven by the demand for stylish textile designs produced by means of washing, bleaching and dyeing, efforts are ongoing to vary denim garments and produce, for example, a worn look. Denim is a warp and weft weaving technique wherein the warp consists of a cotton yarn dyed with a blue dye and the weft consists of an undyed, substantially white cotton yarn. The weft may be pretreated, for example, by extraction with a caustic solution to remove hemicelluloses and seeds. Blue denim, a fabric often used for producing blue jeans, is a three-leaf warp body (K 2s/1), for example, which has a warp which is dyed blue by means of indigo dye or a combination of indigo dye and sulfur black or sulfur blue dyes mainly on the fabric surface. As examples of sulfur black dyes typically employed mention is made of Ultra Black and Indigo Black. As an example of sulfur blue dyes typically employed mention is made of Indigo Blue. When the combination of indigo and sulfur dyes is employed to produce the blue dyed warp, the sequence of dyeing the yarn is spoken of as sulfur bottom dyed yarn (sulfur dye being applied first) or sulfur top dyed yarn (sulfur dye being applied after the indigo dye). The substantially white weft is visible on the underside of the fabric in contrast to the blue dyed fabric topside. Industrial laundries have heretofore attempted to produce stylish textile designs by employing various techniques including mechanical methods, such as stone-washing, and/or chemical methods, such as chemical and enzyme-washing.



A. Chemical Method:

Finished ready-to-wear garments are turned inside out and pre-washed and/or desized. The garments are then removed from the washing machine, turned right side out and are washed in a suitable machine with calcareous sandstone (pumice stone) in a weight ratio of 1:3, i.e., 1 kg garments: 3 kg stone. The garments are then removed from the machine, the stones are removed, and the garments are bleached with sodium hypochlorite to produce a desired shade of color. This bleaching process is done where the fabric is treated with sodium hypochlorite at 60 °C and pH 11-12 for up to 20 minutes, followed by a neutralisation step and a rinsing. Use of hypochlorite is undesirable, both because chlorite itself is undesirable and because the neutralisation subsequently generates high amounts of salts leading to disposal and pollution problems like increase in BOD and COD level in effluent and subsequent effluent processing cost.

Chlorine Free Bleaching methods / products are also developed and are commercially available. The steps followed for bleaching by this method are:

- Placing denim textile material in water and heating to 75 °C
- Adding to the water a dispersing agent which is effective to retard deposition of dyestuff stripped from the warp yarn during bleaching onto the weft yarn and which is comprised of polymers and
- Bleaching the denim textile material by adding to the water a bleaching solution, typically hydrogen peroxide which is aqueous and alkaline, Alternatively, bleaching agent which is selective for the indigo dye or the indigo derivative dye of the warp yarn and which is selected from the group consisting of formamidine sulfinic acid, at least one reducing carbohydrate, and mixtures thereof is used for bleaching purposes.



Enzymatic Bleaching of Indigo Denims

The typical process here is to treat denims similar to hypochlorite based products with only difference in the product composition.

All chemical based bleaching processes leads to high processing time, lot of hazardous waste coming out adding to effluent cost.

B. Enzyme Method - BIOTECHNOLOGY:

Modern society expects biotechnology to be the answer for many worldwide problems like depletion of energy sources, incurable illnesses and pollution, among other problems. Industrial use of biotechnology, known as white biotechnology, is bringing about new products and processes aimed at the use of renewable resources, as well as the application of green technologies with low energy consumption and environmentally healthy practices.

Textile processing is a growing industry that traditionally has used a lot of water, energy and harsh chemicals--starting from pesticides for cotton-growing to high amounts of wash waters that result in waste streams causing high environmental burdens. As textile fibers are polymers, the majority being of natural origin, it is reasonable to expect there would be a lot of opportunities for the application of white biotechnology to textile processing. Enzymes--nature's catalysts--are the logical tools for development of new biotechnology-based solutions for textile wet processing.

Using biotechnology as tool, the alternative to chemical based bleaching of Indigo Denim is Enzyme based products. Here also, two categories are available:

1. *Laccase based systems / products*
2. *Ecowash BB Product developed commercially by AETL first worldwide.*

1. Laccase systems:

Laccases (EC. 1.10.3.2 p-benzenediol: oxygen oxidoreductase) belong to a family of multi-copper oxidases. Laccases are widely distributed enzymes in higher plants, fungi, some insects and bacteria. They are characterized by low substrate specificity, oxidizing

various substrates, including diphenols, polyphenols, different substituted phenols, diamines, aromatic amines, and even inorganic compounds like iodine. Laccases oxidize their substrates by a one-electron oxidation mechanism, and they use molecular oxygen as an electron acceptor. Among Laccases the primary sequence, induction mechanism, physico-chemical (e.g. isoelectric point and carbohydrate content) and biochemical characteristics are variable. The copper binding sites of Laccases are, however, strictly conserved.

In order to create a successful biobased pretreatment for denims, Laccase was introduced first for enzymatic bleaching process. The group of enzymes called Laccases, or Phenol Oxidases, possesses the ability to catalyze the oxidation of a wide range of phenolic substances, including indigo. Laccases alone are not effective as bleaching agents, but need to be applied with a mediator molecule, which is the actual substrate of the Laccase and which mediates electron transfer from, for example, indigo to molecular oxygen. Laccase mediator systems have been used to reduce backstaining, enhance abrasion levels and bleach indigo in denim processing. However, it has not been possible to show bleaching effects with a Laccase mediator system on grey cotton.



Enzymatic Bleaching of Indigo Denims

Commerically available Laccase are applied on denims at pH 4.5- 5.0 and temperature 50-60 °C at dose level of 1-4% OWG and MLR of 1: 5 -1:8. Treatment time depends on the amount of fading required. But it may vary anything between 15 - 45 minutes. Laccase has limitations to use. It has to be used after cellulase treatment or pumice stone treatment for effective bleaching effect. Direct use after desizing will lead to non effective fading. Cost to performance ratio is another limiting factor as of now. So there is need for further improvement in Laccase for Indigo Denim bleaching.

2. Ecowash BB:

Driven by more and more demand from our clients for eco friendly process, limitations in above available tools to bleach indigo and with mission to provide ecosafe solutions, AETL has developed enzyme and non mediator based enzyme solution Ecowash BB to bleach indigo denims.

Ecowash BB is unique blend of several enzymes from class of oxidoreductase, works in neutral pH range (6.0-7.0) and temperature 50-55 °C.

A quick comparison of Laccase and Ecowash BB is as follows:

PARAMETER	LACCASE	ECOWASH BB
pH RANGE	4.5-5.0	6.0-7.0
TEMPERATURE	55-60 °C	50-55 °C
DOSE	1-4%	0.5-2.0%
TIME	20-40 MIN	20-40 MIN
INCORPORATION	AFTER ABRASION ON DENIM	AFTER DESIZING OF DENIMS OR AFTER ABRASION OF DENIMS

Advantages of using Ecowash BB are:

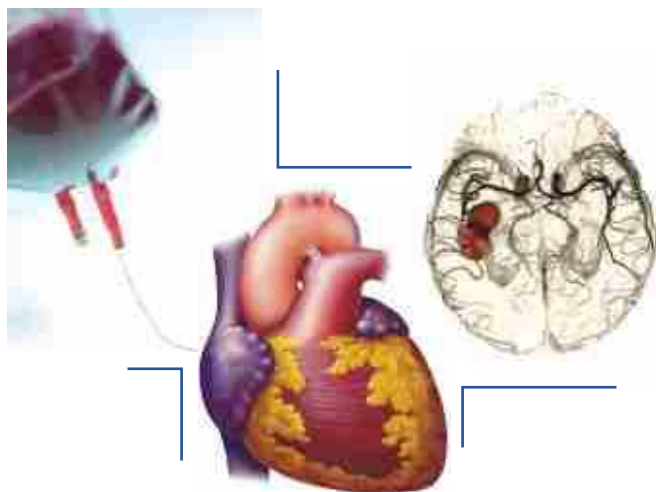
1. Faster action time over Laccase
2. Effective for longer duration in aqueous media over Laccase mediator system
3. Cleaner look and raised grainy effect on denims
4. Reduction in use of acetic acid
5. Low energy cost
6. Increase in production
7. Can be used directly after desizing eliminating need of cellulase use in Selective washes.
8. Less weight loss of denims
9. Grey cast finish
10. Biodegradable



Advanced Enzyme Technologies Ltd. is driven by its own people and technology. Watch for details of new products neutral cellulase for bio-polishing and ambient temperature neutral cellulase for high contrast denim finishing in next issue.

Compiled by:
Mr. Dipak Roda
GM - Marketing

NattoSEB: A Natural Cardiac Management Enzyme



Medicinal Applications of NattoSEB

The **Advanced Enzyme Technologies Ltd.** is coming out with yet another wonder molecule **NattoSEB**. This is a product developed by **AETL** team of professional. The wonder molecule acts on the clots formed in our circulatory system and makes the blood vessels free from clogs and lowers the viscosity of the blood.

Introduction

Doctor Hiroyuki Sumi had long researched thrombolytic enzymes searching for a natural agent that could successfully dissolve thrombus associated with cardiac and cerebral infarction (blood clots associated with heart attacks and stroke).

Dr. Sumi tested over 173 natural foods as potential thrombolytic agents, and found that Natto when added onto artificial thrombus (fibrin) in a Petri dish and allowed it to stand at 37° C (approximately body temperature). The thrombus around the natto dissolved gradually and had completely dissolved within 18 hours. Sumi named the newly discovered enzyme "**Nattokinase (NattoSEB)**", which means "**Enzyme in Natto**". Natto is a traditional food in Japan and this traditional food is consumed by Japanese since a long time. Sumi commented that **Nattokinase (NattoSEB)** showed "**a potency matched by no other enzyme.**"

NattoSEB has a very strong property of dissolving the unwanted clots formed in our body.

How Clot is formed?

A clot (technically known as a "thrombus") forms when platelets and red blood cells clump together. It is the blood protein fibrin that "glues" them together. Fibrin is formed at the site of a clot from the soluble circulating protein fibrinogen. If the clot forms at the site of a broken or cut blood vessel, it is appropriate, even lifesaving.

When unhealthy fibrin formation occurs, there are major changes brought about in the cardiovascular health.

The consequences can include:

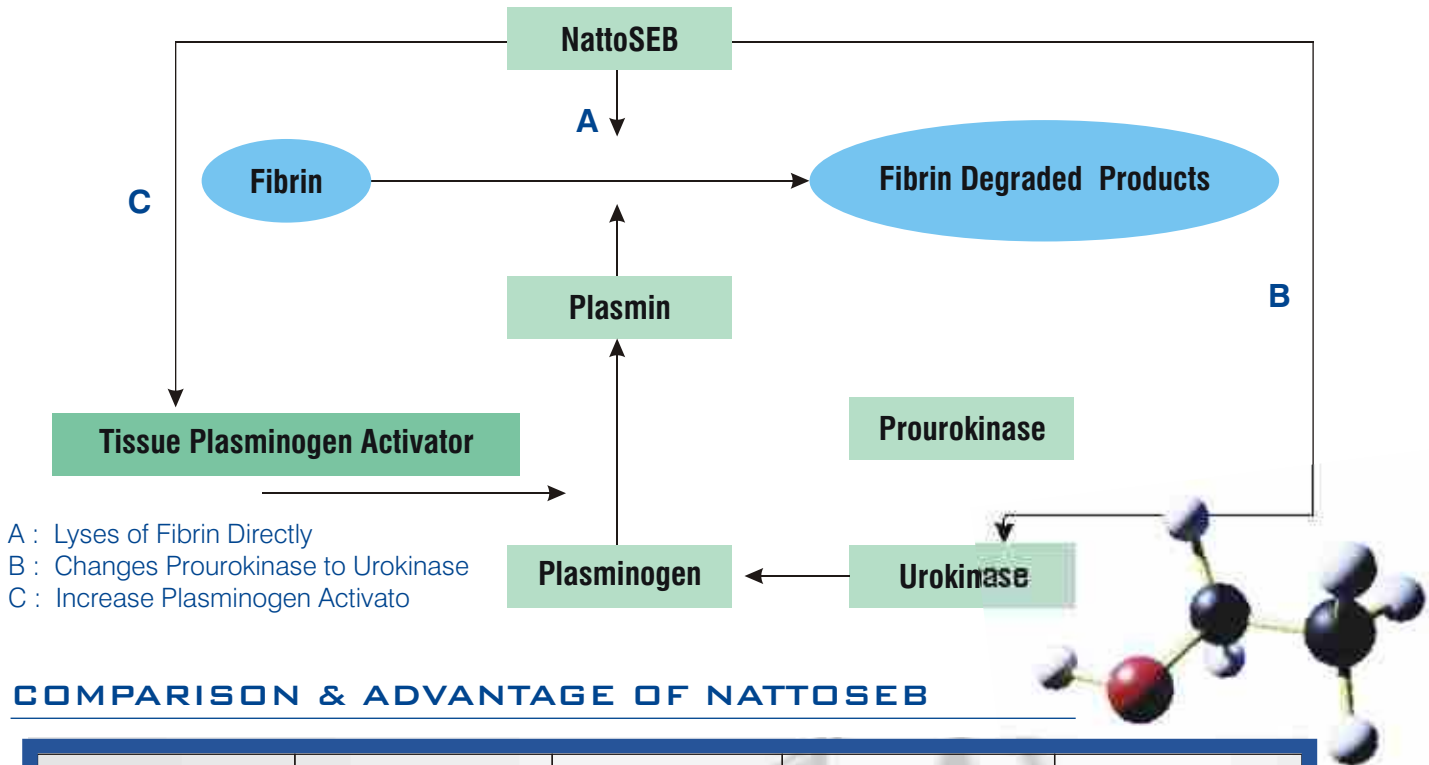
- Formation of unhealthy blood clots
- Increased blood viscosity (thicker)
- Impaired circulation
- Effects on blood pressure
- Blood cells sticking to vessel walls (especially veins, further encouraging the development of unhealthy clots)

If the clot forms inside a blood vessel in the absence of a wound or trauma, it is unnecessary, even life-threatening, since it may plug up a crucial heart or brain artery. There are more than 3000 enzymes involved in the coagulation cascade that creates clots, but only one enzyme-plasmin-that can dissolve fibrin and thus break up small clots. Unfortunately, the body's protections of fibrinolytic enzymes tend to decline with age. **NattoSEB** not only act on fibrin but also activate pro-urokinase (endogenous).



NattoSEB: A Natural Cardiac Management Enzyme

PHYSIOLOGY OF NATTOSEB



COMPARISON & ADVANTAGE OF NATTOSEB

Name of Product	Urokinase	Streptokinase	Tissue Plasminogen Activator	NattoSEB
Half Life	Short	Short	Short	Long
Molecular Weight	Big 55,000	Big 47,000	Big 90,000	Small 28,500
Time of Action	Short	Short	Short	Long
Hemorrhage Side Effects	Yes	Yes	Yes	Negligible
Dosage Administration	Intravenous Injection	Intravenous Injection	Intravenous Injection	Oral
Cost	High	High	High	Low

From the above comparison, it can be concluded that **NattoSEB** is most potent and low cost product compared to other fibrinolytic enzymes. The administration of **NattoSEB** is patient friendly.

NattoSEB: A Natural Cardiac Management Enzyme

The Prolonged Action of NattoSEB

NattoSEB produces a prolonged action (unlike antithrombin drugs that wear off shortly after IV treatment is discontinued) in two ways: it prevents coagulation of blood and it dissolves existing thrombus. Both the efficacy and the prolonged action of **NattoSEB** can be determined by measuring levels of EFA (euglobulin fibrinolytic activity) and FDP (fibrin degradation products), which both become elevated as fibrin is being dissolved. By measuring EFA & FDP levels, activity of **NattoSEB** has been determined to last from 8 to 12 hours. An additional parameter for confirming the action of **NattoSEB** following oral administration is a rise in blood levels of TPA antigen (tissue plasminogen activator), which indicates a release of TPA from the endothelial cells and/or the liver.

Benefits of Using NattoSEB against Aspirin

Using aspirin for heart disease has been controversial for years, and now aspirin is in the news again. According to a recent study in American Heart Journal, people who are diagnosed with heart failure and follow a treatment regimen that includes blood thinners such as aspirin or coumadin (warfarin) could be putting their health into more danger.

While millions take these medications every day, many suffer from a long list of side effects that include gastrointestinal bleeding and ruptured blood vessels. Worst of all, medications like warfarin and aspirin do little to solve the underlying problem. One only need to look at the facts for proof -- since the introduction of these medicines, there has been no decrease in the number of heart attacks and strokes in the US.

NattoSEB is a much healthier, safer, and effective option than aspirin. **NattoSEB** has been used successfully for circulatory problems.

Unlike aspirin, and other pharmaceutical agents, **NattoSEB** has been used safely for over 20 years, has not been known to produce any negative side effects -- and it is not known to be an allergen.

Other Uses of NattoSEB

Among its many remarkable properties, **NattoSEB** has shown the ability to:

- Increase oxygen deliverability (energy)
- Aid circulation
- Increase availability of other nutrients and supplements
- Support vision

- Augment bone density
- Aid joint pain
- Assist in management of migraine headaches
Alleviate joint and muscles pains from excessive physical exertion

There is no wonder that the people of Japan consume natto food regularly, and live longer. Since there are so many health problems caused by compromised circulation, the number of conditions that might benefit from **NattoSEB** is staggering.

NattoSEB has shown applications in helping chronic health problems, even though those are not generally thought of as circulation problems.

Indications of NattoSEB

NattoSEB as a fibrinolytic agent thins blood and reduces clots and, therefore, encourages neovascularization around occluded arteries. Compounds in natto have been identified as angiotensin-converting enzyme inhibitors, which lower blood pressure.

The following is a list of conditions likely to be ameliorated with use of **NattoSEB**:

- ▶ Atherosclerosis
- ▶ Coronary artery disease via heart attack prevention, morbidity, and recurrence reduction
Hypertension
- ▶ Peripheral vascular disease arterial atherosclerosis, venous thrombi
Strokes prevention, and morbidity and recurrence
- ▶ Thrombus formation including, venous clots, arterial-wall thrombi with atherosclerosis, a trial-chamber thrombi (as in occurs in chronic a trial fibrillation), hemorrhoids, eye thrombosis (vena centralia retinae acresia), and senile dementia associated with cerebral thrombi formation.

Dosage

Suggested Dose is between 2000 to 8000 FU/gm in enteric coated form.

Contra Indications :

NattoSEB should be avoided by those on blood-thinning drugs and those with bleeding disorders.

Authored by -
Dr. Vadiraj Jahagirdar
Head - Technical Services
Pharmaceutical Division

Introducing: EXCLZYME BV

EXCLZYME BV

Eco friendly, natural and clinically proven solution for Inflammation, Pain and Surgical Complications

Enzymes have been in use for the treatment of traumatic injuries, surgical procedures of all kinds and chronic joint disorders, since history

ExclZyme BV consists of Peptizyme SP along with bromelain, bioflavonoids and other enzymes having fibrinolytic and proteolytic activity which helps to reinforce the animal's defence mechanism thereby reducing pain and inflammation without any side effects.

Peptizyme SP

It binds to alpha - 2 -macroglobulin in the blood in a ratio which helps to mask its antigenicity and simultaneously retains its enzymatic activity and is slowly transferred to the site of inflammation.

It hydrolyses bradykinin, histamine and serotonin responsible for oedema. It also reduces swelling, pain and improves microcirculation by blocking the release of pain inducing amines from inflamed area.

Bromelain

This is natural anti inflammatory enzyme, and an extracted of Ananas comosus, also reduces swelling that causes joint pain.

Bioflavonoids

These are plant pigments which act as anti inflammatory, antihistaminic and antiviral agents.

Fortification of such synergistic combination of fibrinolytic and proteolytic enzymes with Ascorbic acid helps as an anti-stress immunostimulant factor.

Unique feature of ExclZyme is that its enterically coated enzymes pass through the stomach unchanged due to which they are fully available for absorption in intestine.

Extracts of the trial conducted

"Exclzyme BV did not show any untoward effect on wound healing from post treatment day, however, a significant anti-inflammatory and analgesic effect was seen when drug was given orally twice a day"

"Wounds did not show oedema around the periphery of wound edges"

"Overall, better wound healing was recorded where Exclzyme BV was administered orally"

"The Exclzyme BV could be used as an anti-inflammatory, analgesic agent specially during the initial 3-5 days of traumatic injury/wound healing"

Dr. L. B. Sarkate, University Head (MAFSU), Department of Veterinary Surgery, Bombay Veterinary Collage, Mumbai



ExclZyme BV

- Helps to relieve inflammation, pain and muscle soreness
- Effective in sprains, fractures, rheumatoid arthritis and osteoarthritis.
- Helps in faster tissue repairing, no exudates formation
- Accelerates healing process and rapid suppression of post surgical oedema.
- No side effect, no allergic reactions
- Acts long acting and can be adopted as a replacement therapy in pathological conditions.
- Enhances penetration of antibiotics- Works on same scientific principles like NSAID's

Storage

Store in cool and dry place. Keep away from direct sunlight.

Dosage

Two boli for two to three times a day for 3-5 days depending upon the condition of inflammation or pain or as directed by Veterinarian.

It comes in pack of 10 strips of 1 bolus each



COMPANY NEWS

WELCOME TO THE AETL FAMILY



Mr. Viren Sabarwal
Area Sales Exe-Baking
DOJ- 15/06/2006



Mr. Alok Kumar
Management Trainee
DOJ- 2/5/2006



Mr. Tejesh Dande
Manager - IPR & Legal
DOJ- 4/5/2006



Mr. Nainesh Koli
Management Trainee
DOJ- 2/5/2006



Mr. Razi Ahmed
Regional Sales Manager - Baking
DOJ- 2/5/2006

OOTY HORSE RACE SHOW



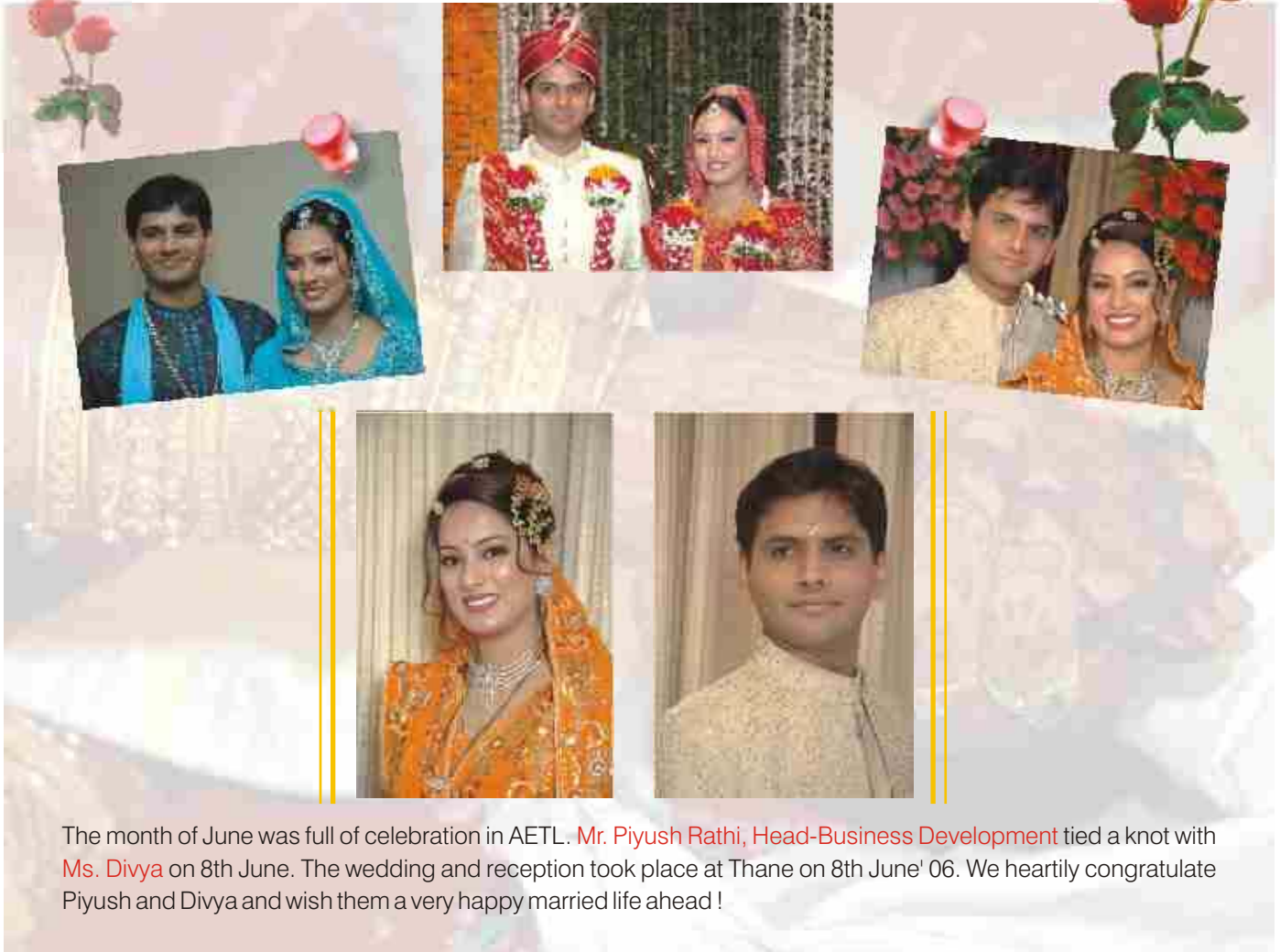
Equines Show was organized by Ooty Race Club, Udagamandlam on 3-4 June 06. Equine specialists attended the show from all over India. Lot of veterinary doctors has shown lot of interest in ExclZyme EQ as exhibited. Mr. Guru Kulkarni (Regional Manager-South-II) explained application, benefit of ExclZyme EN and solved the queries of all the veterinarians. Near about 60-70 experienced as well as young veterinary doctors had attended he 2 days show.

Ooty race show:

1. Exhibit of the product aids
2. Mr. Guru Kulkarni at AETL stall displaying the products of Equines
3. Mr. Kulkarni explaining Exclzyme EQ to the young veterinarians Dr. Suresh, Dr. Satish and Dr. G. Bogaram



BEST WISHES TO PIYUSH-DIVYA



The month of June was full of celebration in AETL. **Mr. Piyush Rathi, Head-Business Development** tied a knot with **Ms. Divya** on 8th June. The wedding and reception took place at Thane on 8th June' 06. We heartily congratulate Piyush and Divya and wish them a very happy married life ahead !

DELHI SEMINAR

AETL organized a seminar on biotechnology and its applications on Animal Nutrition and Healthcare in Delhi on 19th May, 2006. In the seminar, Dr. K. L. Khurana, Honorable Director of Animal Husbandry of Delhi NCT; Dr. Rakesh Singh, C.V.O.; Dr. S. S. Chauhan, AHO; Dr. Vinod Jamini, Secretary; Dr. Nain, Member of Purchase committee and all the 42 veterinarians of Delhi had participated in this seminar.

Mr. Bunty Sharma (Sr. Biz Manager), introduced AETL to the audience. Mr. Puneet Taplu (Biz Head-ANH) gave a brief speech of AETL's vision and mission. Mr. Dipak Roda (GM-AETL) delivered an informative speech on biotechnology and its applications in Animal Nutrition and Healthcare industry. Dr. Durape (Sr. Technical Manager-ANH) introduced the product list and threw light on advantages of cattle and poultry products offered by AETL.

Dr. K. L. Khurana concluded the session by giving comments on the tremendous scope of Biotechnology in Animal Nutrition and Healthcare in India. He appreciated AETL products and its applications on Animal Healthcare for the betterment.



Donkey's Wisdom

There was an old dhobi' donkey. He was growing old and weak by the day. So it happened one day that the dhobi was forced to take the painful decision of disposing off him.

So he led the donkey to a dried up and abandoned well to dump him there. As he lowered the donkey down and began to fill it up with sand to kill him, the animal sensed this and started braying wildly.

But after some time the donkey' frantic braying stopped. Now this surprised the dhobi. And as the well was filling up, the donkey remained very calm and composed, shaking off and dodging the sand thrown on him, from above. Later as the sand level neared the top rim of the well, the donkey just leaped out of the well and bounded off happily in the woods.

Moral: In life we should not keep on fearing/crying on our plight, but should try and use it to our own advantage.

Mr. Nainesh Koli
Management Trainee



Two Days We Should Not Worry

There are two days in every week, about which we should not worry, two days which should be kept free from fear and apprehension.

One of these days is **Yesterday** with all its mistakes and cares, its faults and blunders, its aches and pains.

Yesterday has passed forever beyond our control.

All the money in the world cannot bring back **yesterday**.

We cannot undo a single act we performed;
we cannot erase a single word we said.

Yesterday is gone forever.

The other day we should not worry about is **Tomorrow** with all its possible adversities, its burdens, its large promise and its poor performance;

Tomorrow is also beyond our immediate control.

Tomorrow's sun will rise, either in splendor or behind a mask of clouds, but it will rise. Until it does, we have no stake in **Tomorrow**, for it is yet to be born.

This leaves only one day, **Today**.

Any person can fight the battle of just one day. It is when you and I add the burdens of those two awful eternities **Yesterday** and **Tomorrow** that we break down.

It is not the experience of **Today** that drives a person mad, it is the remorse or bitterness of something which happened **Yesterday** and the dread of what **Tomorrow** may bring.

**Let us, therefore,
Live but one day at a time.**

Ms. Kamal Chandran
Executive - HR

Spices to spice up Ur health!!!!!!!!!!!!!!!!!!!!!!

Ginger

Ginger speeds metabolic rate, plus it inhibits nausea and vomiting often caused by morning sickness or motion sickness.

Peppermint

Peppermint is used to treat gastric and digestive disorders, as well as tension and insomnia.

Mustard

Mustard is a stimulant that can be used to relieve respiratory complaints.

Cinnamon

Cinnamon is often used as an antidote for diarrhea and stomach upset as well as a metabolism booster.

Garlic

Regular consumption of garlic can decrease blood pressure and cholesterol levels. It also aids digestion and prevents flatulence. Recent research shows garlic to be beneficial in the treatment of diabetes.

Turmeric

Turmeric is an antioxidant that neutralizes free radicals and therefore protects against cancer.

Clove

Clove is an anti-inflammatory, anti-bacterial and antioxidant properties It gives relief from respiratory ailments such as asthma and bronchitis It eliminates intestinal parasites, fungi and bacteria. It may encourage creativity and mental focus

Ms. Ahila Sriram
Executive-Appl. Dev.-Bakery Div

AETL EMPLOYEES BIRTHDAYS

Name	DOB
July	
Mr. Sunil Gujaran	July 1
Mr. V. D. Rajput	July 1
Mr. Rajendra R. Rathod	July 1
Mr. B. P. Andhale	July 3
Ms. Kamal Chandran	July 4
Mr. N.Y. Patil	July 7
Ms. Shalaka Gadkar	July 8
Mr. Deepak Kanjwani	July 8
Ms. Purnima Iyengar	July 9
Mr. Mukund Kabra	July 9
Mr. R. R. Mogal	July 11
Mr. Dipak Roda	July 12
Mr. Y. Sivasrinivasa Ba	July 15
Mr. S. D. Kapile	July 15
Mr. P. R. Gaval	July 15
Mrs. Jalpa Mehta	July 20
Mrs. M. M. Kabra	July 25
Mr. Piyush Rathi	July 28

Name	DOB
August	
Mr. M.R. Bhosale	Aug 4
Mrs. Jyoti	Aug 9
Mr. S. R. Shinde	Aug 12
Mr. S. N. Surude	Aug 13
Mr. Vilas Achrekar	Aug 13
Mr. Sachin Matkar	Aug 17
Mr. Nilesh P. Nirmal	Aug 21
Mr. Sachin Patil	Aug 23
Mr. M. P. Khare	Aug 24
Dr. Vadiraj Jahagirdar	Aug 31



Why do we blink our eyes?

To oil, lube, and filter the eyes.

Blinking, as opposed to batting, our eyes automatically supplies two forms of moisture to our eyes, to keep them from drying out, and to keep foreign matter from entering and irritating our eyes. Eyelids themselves, our built-in "wind-shield wipers," are merely folds of skin, controlled by muscles capable of expanding and contracting so rapidly, that blinking does not impair our vision. Mother Nature lined the rims of our eyelids with 20-30 sebaceous, oil-producing glands, which are located between our eyelashes, and are invisible to the naked eye. Blinking automatically coats the eyelid and eyelashes with the lubricant it secretes, to prevent them from drying out.

Blinking also protects the eye from dryness by irrigating, not by irritating, the eye, The eyelid, through suction, automatically draws the fluid we cry with from the well we refer to as the tear duct over the eyeball, to irrigate, and to moisturize the eye. The process is similar to the manner in which the farmer uses water to irrigate his crops during a dry spell.

Yet another benefit of blinking, is to shield the eye from foreign bodies. Our eyelashes, short, curved, hairs, attached to the eyelids, serve as dust-catchers, as the blinking reflex causes them automatically to lower, when exposed to harsh elements. Nature endowed the camel with extraordinarily long, curly, eyelashes, to protect his eyes from sudden sandstorms in the desert. Incidentally, the "camel eyelash" look is one many women attempt to duplicate by using an eyelash curler! Eyebrows, by the way, also serve their purpose, as they catch the run-off perspiration produces.

GENERAL KNOWLEDGE QUIZ

1 In which country is the world's highest waterfall?

- a Venezuela
- b Phillipines
- c Brazil
- d Germany

2 What is the smallest japanese currency ?

- a 20 yen
- b 5 yen
- c 10 yen
- d 1 yen

3 What is the Tokyo international airport called?

- a Kansai Airport
- b Narita Airport
- c Tokyo Airport
- d Karina Airport

4 The Dalai Lama of Tibet, along with many of his followers, has been living in exile protesting the Chinese invasion of Tibet. Where does he live now?

- a Dharamsala, India
- b New Delhi, India
- c Kathmandu, Nepal
- d Pokhara, Nepal

5 Which pass in Ladakh, India was reported to have been used by the infamous Chenghiz Khan ?

- a Zoji La Pass
- b Rohtang Pass
- c Baralacha pass
- d none of the above

6 Which canal shortened the distance between India and Europe?

- a Buckingham Canal
- b Suez Canal
- c Indira Gandhi Canal
- d Panama canal

7 How many years are celebrated by a ruby anniversary?

- a 25
- b 40
- c 50
- d 55

8 Which planet is fourth from the sun?

- a Saturn
- b Mars
- c Mercury
- d Earth

9 What on your body would a trichologist be concerned with?

- a Brain
- b Bones
- c Muscles
- d Hair

10 From what do we get saccharine?

- a Sugar Beet
- b Sugar Cane
- c Coal
- d Potato

Correct Answers Of Last Issue Quiz

1	c	Lord Curzon
2	d	A flat spiral
3	a	Bones
4	b	Is a liquid in room temperature
5	d	A meteorite impact

6	c	Energy of movement
7	b	Pacific Ocean-Atlantic Ocean
8	b	Scotland
9	d	Piano
10	b	The Andes

Last Quiz Winner:

Name: **Ms. Archana Bajaj**

Designation: **Sr. Executive - HR**

Dear Readers, Win exciting prize by giving answers to 10 easy questions ! Please, submit your answers to jmehta@enzymeindia.com. Winner is chosen by lucky draw randomly from the correct entries.

A l l t h e b e s t !



Emergency!

The boss who was on the 25th floor of the building called up the clerk on the ground floor for an important file. Since it was rather urgent the boss told the clerk it was an emergency and that he should hurry with the file.

After more than 30 minutes the clerk appears all tired and panting for breath.

The Boss asks him why he was panting and what caused the huge delay.

The clerk replies, 'Boss when I went to the lift it said 'during an emergency please use the staircase'!!!



Windows !

There are three engineers in a car; an electrical engineer, a chemical engineer and a Microsoft engineer. Suddenly the car just stops by the side of the road, and the three engineers look at each other wondering what could be wrong.

The electrical engineer suggests stripping down the electronics of the car and trying to trace where a fault might have occurred. The chemical engineer, not knowing much about cars, suggests that maybe the fuel is becoming emulsified and getting blocked somewhere.

Then, the Microsoft engineer, not knowing much about anything, comes up with a suggestion, "Why don't we close all the windows, get out, get back in, open the windows again, and maybe it'll work !?"



"When the boss isn't around to watch us, he loads up this screen saver."



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Speciality Enzymes and Biochemicals Co.

13591, Yorba Ave, Chino, California 91710, USA.
Phone : +1-909-613-1660 Fax : + 1-909-613-1663
E-mail : info@4enzymes.com Website : www.4enzymes.com



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Tel.: 91-22-25344011/12, 25331325 • Fax: 91-22-25343445 / 0243 • Email: info@enzymeindia.com • URL: http://www.enzymeindia.com