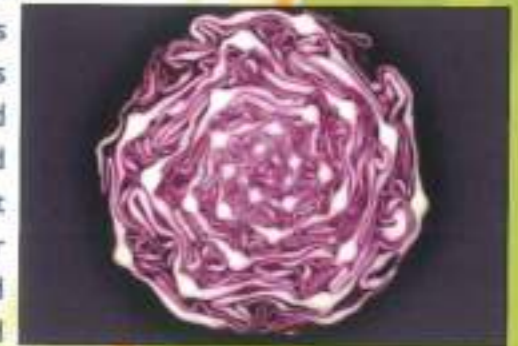




BOTANY DEPARTMENT LAUNCHES A LOGO!

Red cabbage microgreens lower 'bad' cholesterol

Microgreens are tender, immature plants and herbs that take only a week or two to grow before they're ready for harvesting. A growing body of research suggests that microgreens could offer more health benefits than their mature counterparts. And since previous studies have shown that full-grown red cabbage can help guard against excessive cholesterol, Thomas T.Y. Wang and colleagues wanted to see if red cabbage microgreens might have a similar or even greater effect than their larger counterparts. To test their hypothesis, the researchers used mice that were a model for obesity. These animals also tend to develop high cholesterol and other risk factors for cardiovascular disease. The team divided 60 of these mice into different diet groups. They received food low in fat or high in fat, and with or without either red cabbage microgreens or mature red cabbage. Both the microgreens and mature cabbage diets reduced weight gain and levels of liver cholesterol in the mice on high-fat diets. But the study also showed that microgreens contained more potentially cholesterol-lowering polyphenols and glucosinolates than mature cabbage. The baby plants also helped lower LDL, or "bad," cholesterol and liver triglyceride levels in the animals.



-Iavanya S Patil (2nd Year CBM)

I am a beautiful,
am fluffy and
beautiful to look
when I am up in
to school. When
about. Mothers
they do not

all the time. I fear the time the wind will push me over the mountains and seas. Then I will become dark and black and feel odd with all the water in me. I will then burst and water will pour out and I will live no more. - Christina Precilla (3rd CBZ)



white fluffy cloud. I look like cotton wool because I white. I drift past cities, towns and count ries. It is so down on earth. I live in God's great sky. In daytime, the sky I love to watch the children chatter as they go the sun shines brightly I watch, the children run do their shopping and Fathers go to work. One thing know is that I, high up in the sky, am watching them

Look deep into nature and then you will understand
everything better – Albert Einstein



A CREEPY MONSTER OF THE FOREST : THE VAMPIRE REDWOOD TREE

Organisms with albino mutations are pretty weird in general, but albino plants are extra weird.

Ultra-rare albino redwood trees completely lack the green pigment chlorophyll, which they need to live (by photosynthesizing nutrients from light). These plants are literally vampires. They are pale (everwhite instead of evergreen), and they survive by sucking the life from other trees.

These vampires remain attached to the roots of their healthy, normal, parent trees (coastal redwoods can reproduce asexually by sprouting new shoots from roots or stumps), and survive by sucking energy from them. They can keep this up for a century. Historian Sandy Lyndon explained the phenomenon to KQED:

"Albinism is a genetic mutation that prevents cells from producing pigment. In humans and other animals, albinism is not necessarily such a big deal. But albino plants are unable to do the very thing that makes a plant a plant. Without chlorophyll, they can't photosynthesize, meaning they can't convert sunlight into energy. The only reason that albino redwoods survive at all is that they are connected at the root to a parent tree from which they

Parampreet Kaur, I CBM



I think that I shall never see
 A poem lovely as a tree.

A tree whose hungry mouth
 is prest Against the sweet
 earth's flowing breast;

A tree that looks at God all day,
 And lifts her leafy arms to pray;

A tree that may in summer wear
 A nest of robins in her hair;

Upon whose bosom snow has lain;
 who intimately lives with rain.

Poems are made by fools like me,
 But only God can make a tree.

Collected by : Pushpa D V
 (3rd CBZ)

PHYTOPLANKTON

Phytoplankton — miniature photosynthetic organisms that float in the ocean — form the foundation of the marine food web. Collectively, phytoplankton capture large amounts of energy from the sun and convert it into organic matter, which supports all manner of marine life. A survey of global ocean transparency and chlorophyll measurements — spanning 1899 to the present day — revealed that phytoplankton levels have declined by approximately 1% per year over the past century (Nature 466, 591–596; 2010). The decrease was greatest in high-latitude and equatorial waters, and in open ocean areas far removed from the coast. Rising sea surface temperatures may be responsible for the decline, according to an analysis of key climate variables. As the upper ocean warms, surface waters will mix less vigorously with the nutrient-rich deep ocean. This, in turn, could cut off phytoplankton food supplies. Apart from supporting much of marine life, phytoplankton help sequester carbon dioxide from the atmosphere and generate large quantities of oxygen. Thus, the decrease in their abundance does not bode well derived from records of ocean clarity and chlorophyll content alone — it is impossible to say whether the phytoplankton decline can or should be extrapolated into the future.

But the findings are a wake-up call. Global ocean phytoplankton levels and physiology need to be monitored closely over the next few decades if unpleasant surprises are to be avoided. Ocean-colour satellites offer the best and most informative approach for assessing changes in phytoplankton biomass.

-Mrudula (1st CBE)

"The poetry of the earth is never dead." - John Keats

EVENTS GALLERY

DRUM-ROLL!

Here's what the department was
 up to this year!



FRESHER'S WEEK!

Two events were conducted:
 Nature's hunt!
 and Food roulette!

CUL-WEEK!

Two events were conducted: Blow
 your lungs out! And Bounce Pong!

BOTANY ASSOCIATION HOSTED:

**HOPSCOTCH
 FOR FREEDOM DIARIES!**



SCIENCE FEST!

One event was conducted:
CROSSWORD!

CUL-AH!

Two events were conducted:
 Nature's Quiz! And



"Nature is the art of God." - Dante Alighieri

PUZZLE TIME!

ANIMAL	MITOSIS	E P B X W A H G C H L O R O P L A S T S
CELL	NUCLEOLUS	N N L D P S P O Z I C E L L T H E O R Y
CHOLOROPLASTS	NUCLEUS	P U D A N M I C R O S C O P E L E M Q Y
CHROMOSOME	ORGAN	A X O O N A C Z L L C Y T O P L A S M A
CYTOPLASM	OSMOSIS	A J R V P T V G W L Y S O S O M E S N G
DIFFUSION	PLANT	Z D G F G L N A R I B O S O M E Y R L S
DNA	RIBOSOME	V Y A R U D A U C F I Q A X B K L A I S
ENDOPLASMIC	RNA	B A N R V I H S C U N R I B K L M S I O
RETICULUM	TISSUE	C M S T F F V V M L O L W Q E I O S Q R
GOLGI BODY	VACUOLE	E I Y S Z F N R Q I E L V C N T E G U G
LYSOSOMES	ORGANISM	L T S C O U U F N H C U E A I H N L M A
MICROSCOPE	MEMBRANE	L O T H R S C A X L D R S M T M X T R N
MITOCHONDRIA		M C E R G I L C J V N N E N T C W D C I
		E H M O A D E X O J A S Y T U I I H B S
		M O X M N N O A P G I S C C I D S A I M
		B N T O E I L H R S O Z C H S C S S O A
		R D T S L V U O O T S J U W P X U M U J
		A R E O L A S M O I W Y D W F N L L M E
		N I U M E J S H F Y C E L L W A L L U Q
		E A J E S O P G O L G I B O D Y Y B K M

Find as many words as you can!

BOTANY FIELD TRIP

DAY I:

On day one, we went to MSSRF and RARS. MSSRF is the M.S. Swaminathan Research Foundation set up by the scientist M.S. Swaminathan. It is a Community Agro-biodiversity Centre in Wayanad district of Kerala to work on 'community biodiversity management' for the conservation of the genetic wealth of Wayanad and surrounding region. After lunch, we headed to RARS. It stands for Regional Agricultural Research Station. Krishi Vignan Kedra, working with an objective of disseminating the latest technologies to farmers, is attached to RARS and its contribution to the agriculture sector has received wide recognition.



DAY II:

We visited the Elstone Tea Plantation and Tea factory in the morning. In the factory, we saw the processing of tea leaves (*Thea sinensis*). We visited the Soochipara falls in the afternoon. The falls is surrounded by deciduous and evergreen forests that are protected and conserved by Kerala Government.

DAY III:

We visited Pookot Lake in the morning. It is perennial fresh water lake and is only one of its kinds in Kerala. In the afternoon, we visited the Muthanga Wildlife Sanctuary. We headed back to Bangalore on 14th and reached on 15th.



DEPARTMENT CO-ORDINATOR: Dr. Savitha M. Murthy **HEAD OF THE DEPARTMENT:** Dr. Roshni Rao **EDITORIAL TEAM:** Swetha.C (3rd CBZ); Manasa Mahabal Hegde (3rd CBZ); Bhavyashree K.B (3rd CBZ). **PICTURE CREDITS:** Vaishnabi Padhy (3rd CBZ). **THE TEAM:** Saniya Naaz (3rd CBZ); Madhumati M (3rd CBZ); Anusha S (3rd CBZ).

