



Soils and the Products We Use

Released: 29-Sep-2015 12:05 PM EDT

Source Newsroom: [American Society of Agronomy \(ASA\)](#), [Crop Science Society of America \(CSSA\)](#), [Soil Science Society of America \(SSSA\)](#)
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Newswise — 29 September 2015 — In celebration of the International Year of Soil 2015 (IYS), the Soil Science Society of America (SSSA) is coordinating a series of activities throughout the year to educate the public about the importance of soil.

October's theme is "Soils and the Products We Use."

Here are some facts about soils and products we use:

- Some growers and restaurants have started a movement, called Farm to Table, to help educate the public about the importance of soils—and farms—to our nutrition. This helps reconnect society to the source of their food.

<http://www.newswise.com/articles/soils-and-the-products-we-use>

Family legacy examined for soil viability

Written by [Lisa Morrison](#)



Mrs Leighton says there is a lack of knowledge about how the trees affect soil fertility. Image: [alan jones](#)

MORE than 20 years after her family planted blue gums (*Eucalyptus globulus*) on their Great Southern property UWA Masters student Sylvia Leighton is trying to determine what effect the trees have had on the region's soil fertility.

The UWA Albany student is examining soil health in Wellstead, 100km northeast of Albany, as part of a two-year \$40,000 federal government-funded project.
<http://www.sciencewa.net.au/topics/agriculture/item/3549-family-legacy-examined-for-soil-viability>

New biofertilizer made from exoskeletons of crustaceans and insects

7 October 2015



Researchers from the Centre for Plant Biotechnology and Genomics (UPM-INIA) have developed a method to obtain a clean organic fertilizer that is able to regenerate degraded soil caused by overharvesting.

Using natural biodegradable biopolymers like organic fertilizers could be a sustainable alternative facing the common usage of inorganic nitrogen fertilizers that result harmful to the environment. This way, researchers from Universidad Politécnica de Madrid (UPM) in collaboration with University of Hamburg, have developed a method to obtain biocompounds made from the chitin of the exoskeletons of crustaceans and insects, and its usage in plant cultivations has proved to be more efficient.

Read more at: <http://phys.org/news/2015-10-biofertilizer-exoskeletons-crustaceans-insects.html#jCp>

Minimize soil compaction while harvesting cotton

2 Oct 2015 Tyson Raper, University of Tennessee | *Delta Farm Press*



Delta Farm Press

September was warmer and drier than normal but rain is in the forecast over the next few days. We should be in full-picking-mode after this rain moves through.

Still, there is more to getting back into the field than just waiting for the bolls to dry and ground to hold up. With the adoption of the new module-building pickers, the weight of our equipment has increased to record levels. <http://deltafarmpress.com/cotton/minimize-soil-compaction-while-harvesting-cotton>

Stubborn soils resist composting and biochar treatments

Written by [Jo Fulwood](#)



The researchers did not find any increase in Mycorrhizas numbers, even in highly mycorrhizal plants such as sorghum (pictured). Image: [Cyndy Sims Parr](#)

- **Esperance soil trials falter on long-term soil fertility influence**
- **Research to test results from previous research into boosting root length (mycorrhiza activity)**
- **Vietnam crops thrived on nutrient-rich biochar**

SOILS on WA's south-east coast, notorious for their non-wetting properties and low nutrient levels, continue to stump agricultural scientists despite being involved in a biochar and composting trial designed to improve their productivity.

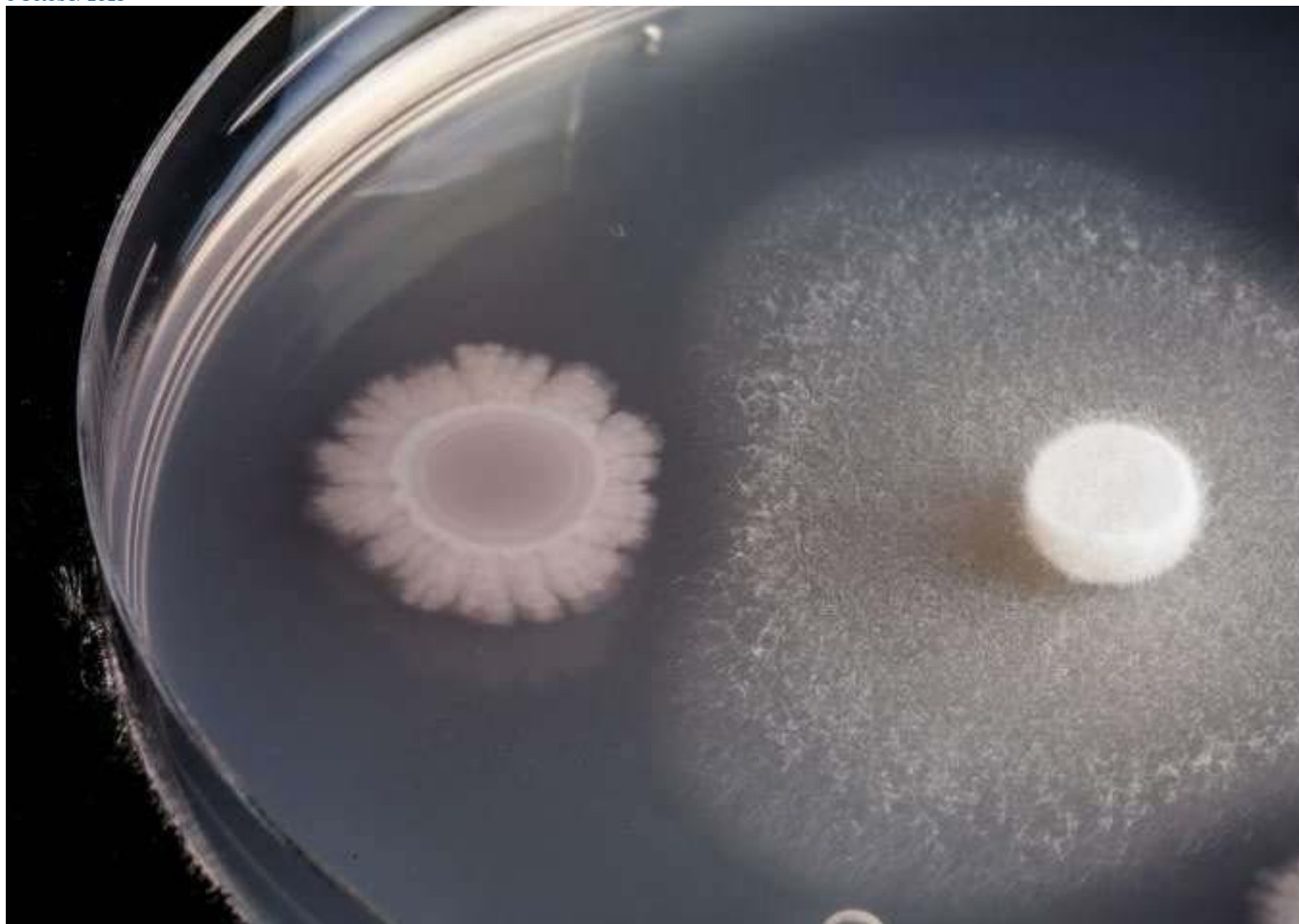
With millions of hectares of this stubborn soil type dominating the south coastal farming regions, solutions to soil infertility could be valuable to local farmers by significantly improving the economic value of WA's commercial crops.

Biochar (charcoal produced from plant matter) and compost were added to the soils over four years to determine if these organic additions could alter the productivity of the soils.

<http://www.sciencewa.net.au/topics/agriculture/item/3813-stubborn-soils-resist-composting-and-biochar-treatments>

Wheat choice has lasting effect on soil health and yield

6 October 2015

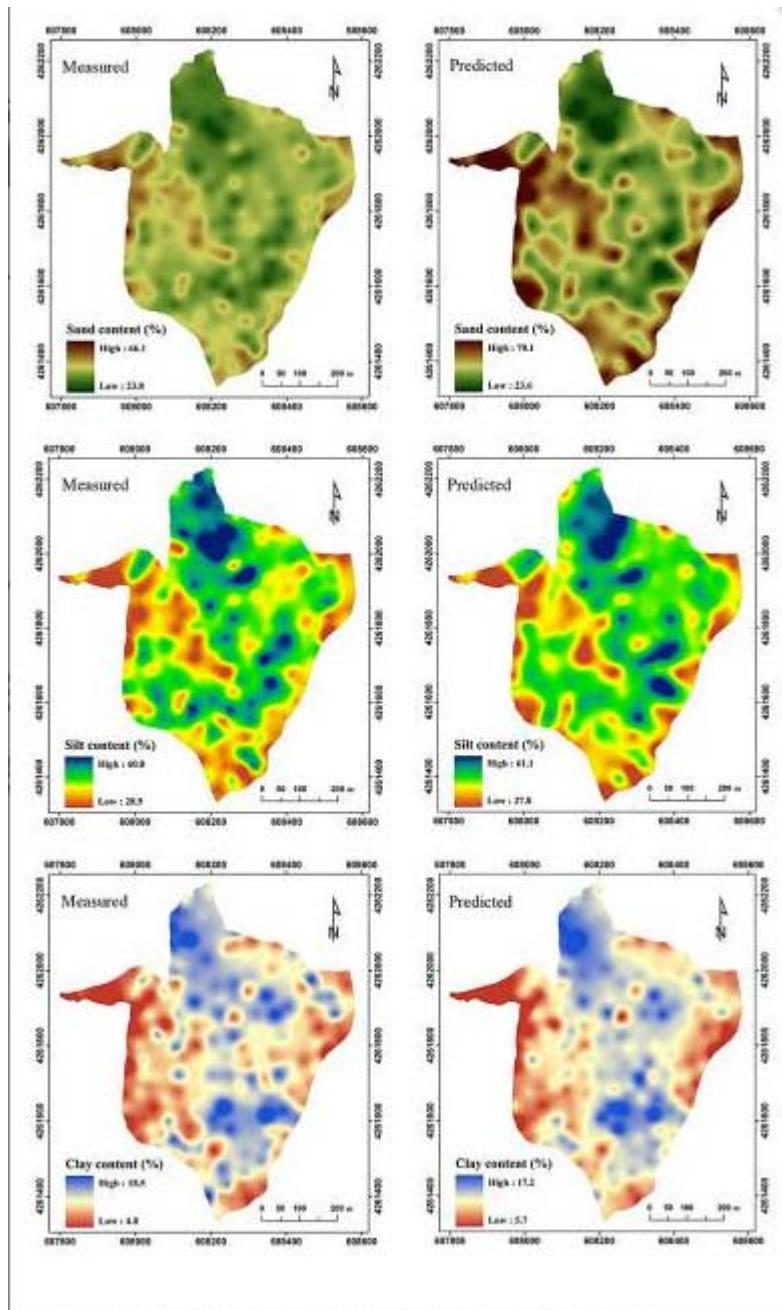


Take-all suppression by *Pseudomonas* wheat field isolates. The spread of the pathogenic fungus responsible for take-all disease is effectively blocked by the surrounding bacterial colonies, which secrete antifungals into their surroundings.

Scientists investigating how to control take-all, a fungus that lives in soil and infects wheat roots to cause disease, have discovered that different varieties of wheat have distinct and lasting impacts on the health of the soil in which they are grown.

Read more at: <http://phys.org/news/2015-10-wheat-choice-effect-soil-health.html#jCp>

Energy Pipeline: Tech Talk — Imagines of Chemical Concentrations in Soils Using Infrared Spectroscopy



Before discussing use of this tool in oilfields, a basic use of this tool is highlighted with a 2012 project conducted in Italy.

Images of Soil Composition in Italian Forest

If you were assigned a project to map the percentages of clay, silt and sand for a large area of forest soils, you would likely collect many soil samples, perform particle size analyses, and use the results to develop percentage contours on a two-dimensional map. Certainly, this would be a time-consuming and tedious effort. What if you could take a special photograph of this forest area and immediately produced the needed contour maps? Would the map based on the photograph be as accurate as the map based on actual soil samples?

<http://www.greeleytribune.com/news/business/17968581-113/energy-pipeline-tech-talk-imagines-of-chemical>

Cluster roots attract phosphorus in nutrient-poor soils

Written by [Teresa Belcher](#)



A Hakea cucullata *Hans Lambers*

- Hakea and Banksia roots modelled
- Carboxylates take the place of phosphorus molecules
- Carboxylates released quickly to avoid microorganisms

SCIENTISTS are one step closer to understanding how plants that naturally occur on soils with very low phosphorus levels manage to acquire this essential nutrient.

University of Western Australia School of Plant Biology and Institute of Agriculture
Professor Hans Lambers and his team modelled the cluster roots of Proteaceae plants like Hakea and Banksia to unravel this mystery.

<http://www.sciencewa.net.au/topics/environment-a-conservation/item/3668-cluster-roots-attract-phosphorus-in-nutrient-poor-soils>

Dirty, crusty meals fit for (long-dormant) microbes



"Soil constraints don't occur in isolation, so we need to understand how individual constraints interact in order to create the best management systems for the long-term," Mr Belford says. *Image:* [Natural Resources Conservation Service Soil Health Campaign](#)

WESTERN Australia has launched *Soil Constraints – West*, a flagship initiative bringing together research on a range of farming problems that limit agricultural production.

Specifically these problems are non-wetting soils, sub-soil constraints, soil compaction and soil acidity, which cost WA growers more than \$1.6 billion annually.

<http://www.sciencewa.net.au/topics/agriculture/item/3489-holistic-soil-to-boost-productivity>



When “Soil” Isn’t Soil

Potting soil options evolve to use less peat

Released: 7-Oct-2015 2:05 PM EDT

Source Newsroom: [American Society of Agronomy \(ASA\)](#), [Crop Science Society of America \(CSSA\)](#), [Soil Science Society of America \(SSSA\)](#)
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Newswise — October 7, 2015 - When you travel down a road, poor infrastructure and maintenance becomes more than a nuisance—it is a hazard. The same is true with indoor potting soils. The right choice with good maintenance makes all the difference. As an horticulture advisor and expert on potting soils, Bill Carlile explains it this way: “A good road surface allows cars and trucks to run well without damage or slowing down. Equally, a good potting ‘soil’ allows good, constant plant growth,” he says. ”Badly structured potting soil is like a road with potholes that can damage cars; it can hinder plant growth. Equally, poorly fertilized potting soils, like inferior gas in trucks and cars, may lead to poor performance and damage.”

<http://www.newswise.com/articles/when-soil-isn-t-soil>

Cropping into kikuyu could benefit livestock, soil carbon

Written by [Lisa Morrison](#)



Ms Powis and Ms Tomita examined the Reddington's pasture experiments by comparing carbon stores in soil under annual pasture, eight-year-old kikuyu pasture, 15-year-old kikuyu pasture, 15-year-old kikuyu pasture converted to canola and 22-year-old kikuyu pasture. Image: [raul.iguitos](#)

- **Kikuyu grass effect considered on Great Southern farm**
- **Fifteen-year-old kikuyu crop retains carbon over annual grazing system**
- **Cropping into kikuyu could make future crops more climate resilient**

A STUDY of grazing systems on a Bremer Bay farm suggests cropping into perennial pasture could increase livestock production without depleting soil carbon levels. <http://www.sciencewa.net.au/topics/agriculture/item/3772-cropping-into-kikuyu-could-benefit-livestock-soil-carbon>

Farms Harvest Cuts in Carbon Dioxide via Soil

Farming to improve crops and store more CO₂ gains traction

ClimateWire

By [Camille von Kaenel](#) and [ClimateWire](#) | September 22, 2015



An aerial view of farmland in Sacramento.

©iStock.com

FALLON, Calif. —Fourth-generation rancher Loren Poncia calls himself a soil geek, and California wants to pay him for it.

“If the soil is healthier, everything is better: the grass, the cows and the pocketbook,” said the rancher, gesturing toward the yellow perennial grasses streaked with green that cover Stemple Creek Ranch in the hills of Petaluma in Northern California.

<http://www.scientificamerican.com/article/farms-harvest-cuts-in-carbon-dioxide-via-soil/>

Light reflection pinpoints Pilbara weed invasion

Written by [Hamish Hastie](#)



The researcher hope to determine if it the method is transferrable to another weeds of national significance in the Pilbara, such as Parkinsonia (pictured). Image: [Dinesh Valke](#)

- **Farmers and miners set to benefit from satellite-based weed management plan**

- Satellite sensors pick up infrared light reflection off plants
- Method adaptable to monitor other invasive weeds

REMOTE weed detection is set for major advancement after Curtin University researchers successfully used satellite spectral imagery to pinpoint clusters of one of Australia's most invasive weed species in the Pilbara.

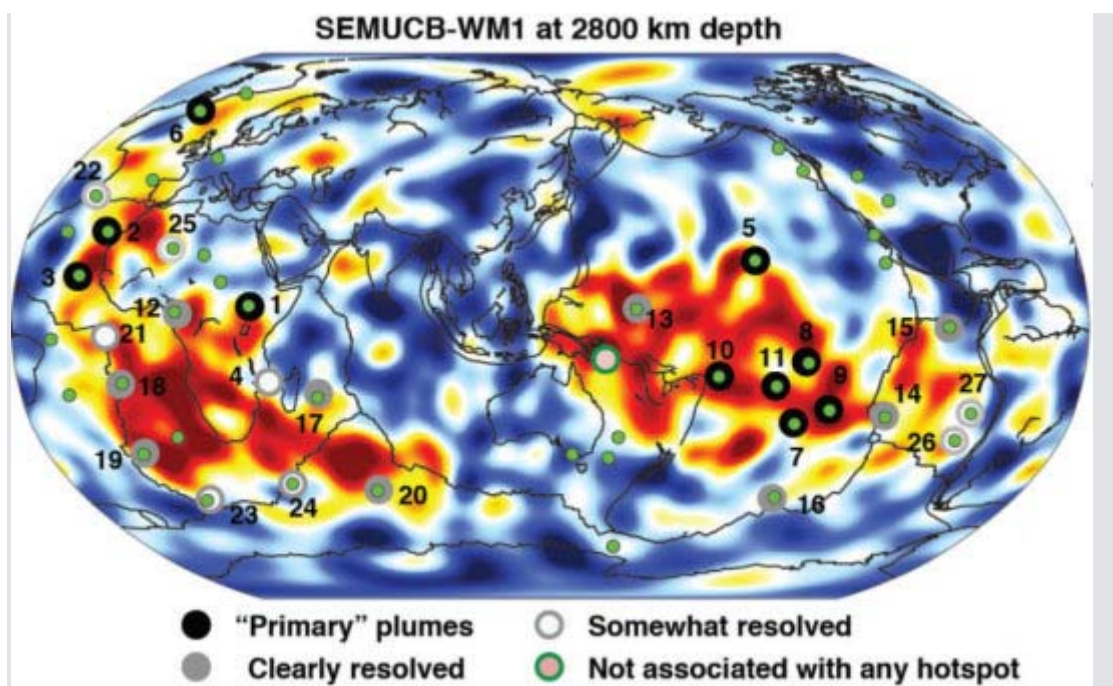
The research could improve weed management plans for farmers and mining companies working on large areas of land. <http://www.sciencewa.net.au/topics/agriculture/item/3792-light-reflection-pinpoints-pilbara-weed-invasion>

CT scan of Earth links deep mantle plumes with volcanic hotspots

Scans prove that plumes of hot rock anchored at core-mantle boundary rise to form island chains

Summary:

Geophysicists have detected plumes of hot rock rising through the mantle from the core-mantle boundary, and hypothesized that they remain stationary for millions of years, generating volcanic island chains as the crust moves over them. Scientists now have proof of this connection, after using seismic waves from large earthquakes to map Earth's interior to obtain a CT scan of the mantle. The plumes are much fatter than expected.



Most of the known volcanic hotspots are linked to plumes of hot rock (red) rising from two spots on the boundary between the metal core and rocky mantle 1,800 miles below Earth's surface.

Credit: Image courtesy of University of California - Berkeley

University of California, Berkeley, seismologists have produced for the first time a sharp, three-dimensional scan of Earth's interior that conclusively connects plumes of hot rock rising through the mantle with surface hotspots that generate volcanic island chains like Hawaii, Samoa and Iceland.

Journal Reference:

1. Scott W. French, Barbara Romanowicz. **Broad plumes rooted at the base of the Earth's mantle beneath major hotspots.** *Nature*, 2015; 525 (7567): 95 DOI: [10.1038/nature14876](https://doi.org/10.1038/nature14876)

<http://www.sciencedaily.com/releases/2015/09/150902134939.htm>

Plant survival under the microscope for mine rehabilitation works

Written by [Samille Mitchell](#)



Laco Mucina with the plant species *Banksia menziesii*. IAVS Excursion 2014

- Kwongan plant “treasure” rehab work needs to factor in million-year-old legacies
- Plant populace “mines” and “enslaves” environment to stay alive
- Research to inform ecosystem plan for mining company rehab work

SCIENTISTS will seek to understand the complex and interconnected processes that enable one of the world's most biodiverse plant communities to survive in some of the planet's poorest soils, in a three-year project conducted in the Mid West's Kwongan shrublands. <http://www.sciencewa.net.au/topics/environment-a-conservation/item/3810-plant-survival-under-the-microscope-for-mine-rehabilitation-works>

Microorganisms point to improving fertiliser efficiency

Written by [Aaron Fernandes](#)



Study co-author Dr Natasha Banning says while archaea were present throughout the soil depth profile analysed, ammonia-oxidising bacteria were dominant in the surface and this is where most of the nitrification activity was occurring. Image: [eutrophication&hypoxia](#)

- Understanding nitrification key to improving fertiliser regimes
- Nitrifying bacteria thought to play a bigger role than archaea microorganism
- Footprint-sized area of WA soil contains 10,000 different bacteria species

WESTERN Australian soils have shed light on a global conundrum by indicating which microorganisms in the soil are responsible for nitrogen transformation, a process which is critical to agricultural production.

Nitrification is the conversion of ammonium to nitrate, involving a complex network of interacting processes driven by microorganisms.

The question facing researchers is, which microorganisms?

<http://www.sciencewa.net.au/topics/agriculture/item/3769-microorganisms-point-to-improving-fertiliser-efficiency>

The hunt for antibiotics in soil heats up

By Erik Ness

Slava Epstein has a reverence for soil.

In January, the Northeastern University microbiologist and his colleagues at NovoBiotics unveiled teixobactin—one of the most promising antibiotics of the last decade. But for Epstein, the key is how they found it, in a soil sample collected from a Maine field. If he's right, teixobactin may mark a renaissance in antibiotic discovery.

The pace of antibiotic discovery in soil has flagged considerably in recent decades. Some believe the field is now poised for a renaissance.



The pace of antibiotic discovery in soil has flagged considerably in recent decades. Some believe the field is now poised for a renaissance.

At Northeastern, Epstein's work ranges from identifying the microbes that live on human teeth to deciphering the microbial ecology of a lake in Greenland. He's also deeply intrigued by the mystery of why so few microbes can be grown in the lab. Almost as soon as biologists began trying to grow bacteria on purpose, they realized that only a small percentage of apparently available microorganisms would thrive in their fermentation flasks and petri dishes.

<https://dl.sciencesocieties.org/story/2015/jul/tue/the-hunt-for-antibiotics-in-soil-heats-up>

Impatient Optimists

— Bill & Melinda Gates Foundation —



SEPTEMBER 22, 2015

FONT SIZE PRINT

10 farmers on how to put the Sustainable Development Goals into action

FARMING FIRST
September 22, 2015

It's official. We now have a framework for solving some of the most pressing challenges we face as a global population. The Sustainable Development Goals (SDGs) will shape development programmes from now until 2030, and we believe one group of people stands at the cross-section of achieving several of these 17 goals.

11
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http://www.impatientoptimists.org/Posts/2015/09/10-farmers-on-how-to-put-the-Sustainable-Development-Goalss-into-action#.VhYZaz_otaR

AUTHOR

Farming First

Farming First is coalition for sustainable agricultural development

DETAILS

Category P

Topics A

Stations reverse degradation



Improved landscape condition has enabled cattle to be re-introduced onto Wyndham Station. It was formerly only capable of carrying sheep.

Without the development and success of this model we would have remained financially static

HOW are farmers restoring and conserving their soils? That's the question that Soils for Life seeks to answer by collating outstanding land management practices from around Australia.

Soils for Life was developed by the former governor-general, Major General the Hon. Michael Jeffery, out of his concern that Australia's productive soils are not being universally well managed.

<http://www.theland.com.au/news/agriculture/livestock/general-news/stations-reverse-degradation/2743105.aspx>

Soils protect the natural environment

[Soils protect the natural environment](#) from K-State Research and Extension

MANHATTAN, Kan. – Managing the health of the world's largest filter – soil – means protecting the larger environment and the other resources it contains. Clean water and clean air are dependent on having a healthy soil for a particular environment, whether that environment is rural or urban.

“Having a healthy soil is important to the environment from a number of aspects,” said Peter Tomlinson, assistant professor of agronomy at Kansas State University. “We need a healthy soil so we can efficiently grow our food crops. Healthy soil has good water-holding capacity, so when we have large rain events, water is able to rapidly infiltrate into the soil, and we minimize the amount of runoff.” http://www.agrinews.com/news/iowa_news/soils-protect-the-natural-environment/article_6c394468-65fc-11e5-9a79-230994bd40ec.html

Coal, CSG poised to grow in NSW

MIKE FOLEY

08 Oct, 2015 12:00 AM



Anybody that says renewables don't deliver jobs is quite frankly incorrect

Resources and Energy Minister Anthony Roberts.

RESOURCES and Energy Minister Anthony Roberts, the man responsible for NSW's mining and gas development, said the industries would continue to develop under his leadership.

He told an industry gathering last week that despite the recent rise of renewables, with \$13 billion worth of projects in the pipeline in NSW, gas and coal would be essential to the state's energy needs, employment and revenue.

<http://www.theland.com.au/news/agriculture/general/news/coal-csg-poised-to-grow-in-nsw/2745275.aspx>

SA's last coal-fired power plant to close next month

Natalie Whiting reported this story on Wednesday, October 7, 2015 17:20:29



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In June, Alinta Energy announced the impending closure of the state's last coal fired power stations and the associated mine.

It was expected the power stations would close as early as next year - but today it was announced the mine will instead shut next month forcing hundreds of people out of their jobs.

The closure will most likely mean not only the end of the coal mine, but also the town built to support it.

<http://www.abc.net.au/pm/content/2015/s4327045.htm>

Craik to lead climate authority

PETER HANNAM

08 Oct, 2015 10:34 AM



The new chair Wendy Craik is broadly respected

Wendy Craik, the new chair of the Climate Change Authority, when she was head of the National Farmers Federation in 2000. Photo: Michael Clayton Jones

THE Turnbull government has appointed former National Farmers Federation head Wendy Craik and four others to the board of the Climate Change Authority for five-year terms, indicating the agency may yet be spared the axe.

The five new board members, including Ms Craik as chair, are understood to accept climate change is a serious issue to be dealt with. The Greens, though, say the board has been "stacked" with Coalition-leaning members.

<http://www.theland.com.au/news/agriculture/agribusiness/general-news/craik-to-lead-climate-authority/2745300.aspx>

CAT scans consider non-wetting soils

Written by Jo Fulwood



"Water should flow through the soil, but in a large percentage of our soils, particularly in Western Australia, the soils are hydrophobic, and water can't enter the plant roots," Prof Young says. *Image: Kevin Dooley*

- **Water fearing-soils a major profitability barrier**
- **CAT scans optically slice the soil too see inside the particles**
- **Medical CAT scan pinpoints anomalies while soil scan seeks the unknown**

AUSTRALIAN soils which seem to fear water are now receiving hospital-grade attention through the use of three-dimensional CAT scan medical imaging.

With 30 per cent of Australia's cropping soils considered hydrophobic (excluding water molecules), the issue has been identified by WA farmers as one of the most significant profitability barriers across the grain belt.

<http://www.sciencewa.net.au/topics/agriculture/item/3766-cat-scans-consider-non-wetting-soils>

Monsanto gift helps create state-of-the-art soils lab



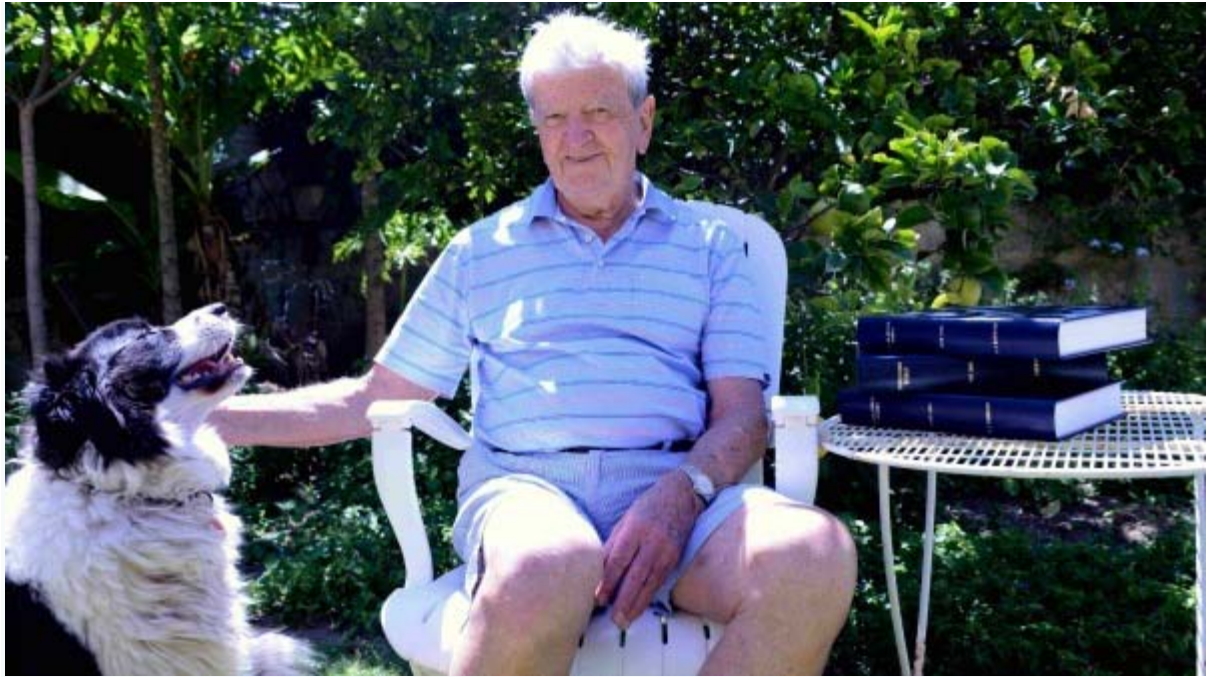
23 2015-09-23T01:00:00Z Monsanto gift helps create state-of-the-art soils lab
JG-TC.com

September 2015 1:00 am

URBANA -- This fall at the University of Illinois, students studying plant and soil sciences are the first to experience a state-of-the-art laboratory in Turner Hall. Transforming the lab originally built for students in 1963 into a 21st century learning environment has been accomplished through a recently announced \$1 million pledge from the Monsanto Company. http://jg-tc.com/features/monsanto-gift-helps-create-state-of-the-art-soils-lab/article_80462277-a9d5-572e-b0b7-338cd0210d49.html

Honoured soil scientist unearths finite phosphate absorption

Written by [Kerry Faulkner](#)



Professor Jim Barrow *Kerry Faulkner*

Through a series of profile stories, ScienceNetwork WA takes a look at the people behind the science in Western Australia and what inspires them.

AT THE age of 82 UWA Professor Jim Barrow is showing no signs of slowing down, with his most recent research showing farmers may be wasting valuable resources by applying too much phosphate fertiliser.

He says supply needs to be kept up regularly in the early stages of cultivation but soil's ability to absorb it is finite.

At that point there is no need to supply more than was removed the previous year.

<http://www.sciencewa.net.au/topics/agriculture/item/3460-honoured-soil-scientist-unearths-finite-phosphate-absorption>

Team USA brings home the gold at international soil judging contest



Team USA

Team USA at the International Soil Judging Contest in Hungary (left to right): Adrienne Nottingham, West Virginia University; Kristen Pegues, Auburn University; Erin Bush, Kansas State University; Stephen Geib, Delaware Valley University; and Joey Shaw, coach, Auburn University. (Photo courtesy of K-State Research and Extension.)

Team USA brings home the gold at international soil judging contest By Steve Watson, K-State

Team USA took first place overall at the International Soil Judging Contest in Gödöllő, Hungary, held Sept 1 through 5. The contest, now in its second year, was one of the highlighted activities in 2015 to celebrate the International Year of Soils. http://www.hpi.com/general/team-usa-brings-home-the-gold-at-international-soil-judging/article_5c1c1540-2b37-59e9-bdb6-a4bocef41345.html

Biomass seen to help boost soil efficiency

THE use of biomass on rice fields can help maintain soil productivity, according to a recent study by the Philippine Rice Research Institute (PhilRice).

The study titled “Soil properties of major irrigated rice areas in the Philippines” identified the factors that can affect soil properties. It also revealed the importance of biomass and biochar in the restoration of the lost soil nutrients caused by farm-management practices.

Lead researcher Jehru Magahud explained in a statement that continuous high-yield cropping affects soil pH (measure of alkalinity or acidity). He added that soil nutrients are removed during crop uptake. <http://www.businessmirror.com.ph/biomass-seen-to-help-boost-soil-efficiency/>

Soil erosion by water (RUSLE2015)



Title: Soil Loss by Water Erosion in Europe

Description: At a resolution of 100m, this is the most detailed assessment yet of soil erosion by water for the EU. The study applied a modified version of the Revised Universal Soil Loss Equation (RUSLE) model, RUSLE 2015, which delivers improved estimates based on higher

resolution (100 m compared to 1 km) peer-reviewed inputs of rainfall, soil, topography, land use and management from the year 2010 (the latest year for which most of the input factors are estimated). The model can be used to predict the effect of a range of policy scenarios. It is also replicable, comparable and can be extended to model other regions. All the input layers (Rainfall erosivity, Soil Erodibility, Cover-Management, Topography and Support Practices) have been peer reviewed and published as well.

<http://esdac.jrc.ec.europa.eu/content/soil-erosion-water-rusle2015>

THE LAND | Thursday, September 17, 2015



Reconnect paddock and

THE secret of getting people involved in recycling organics, and understanding the plight of farmers, is to get them to re-engage with what is on their plates, according to Gerry Gillespie, an organics consultant for Resource Recovery Australia.

Speaking at the NSW Landcare and Local Land Services Conference in Orange recently, Mr Gillespie (pictured) said people had lost that connection.

"People will talk about food being the new rock and roll, and you see all these things on television where people cook weird and wondrous things, but there is very little mention made in the great scheme of things about where that food comes from and how it relates back to the soil or what you do as farmers," Mr Gillespie said.

"Agriculture as a percentage of the gross domestic product of this country is variously quoted as being about 12.5 per cent or 15pc, but it is important to remember that oxygen is only about 20pc of the air we breathe, but you wouldn't do too well without it."

Mr Gillespie quoted a former Nuffield scholar who stated the political influence of farmers had fallen from 15 per cent in 1949 to 5pc now.

"If you are a farmer your ability to influence political argument is falling when indeed it should be rising," Mr Gillespie said.

He said small

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Cover crops: helping soils and farmers

Cover crops: helping soils and farmers

MIDDLEBURG — As farmers harvest their corn silage, the Snyder County Conservation Districts reminds farmers that they should not forget about cover crops.

Cover crops help farmers do many things. They keep the soil in place from the autumn rains, winter snows and spring showers. Cover crops trap manure and fertilizer nutrients from leaching away and entering our surface and ground waters. Cover crops improve soil health and soil structure. Legume cover crops can supply nitrogen for the next crop. Other advantages include: reduce soil compaction; build soil organic matter; and improve weed control of winter annual weeds.

http://www.dailyitem.com/news/local_news/cover-crops-helping-soils-and-farmers/article_e5639e56-606b-11e5-a37f-efec50f537e8.html

Save our soils

[Save our soils](#) By SARA KAPLANIAK Bay Journal News Service

We are in the midst of the International Year of Soils. Who knew? Most will overlook the global event, but that would be a mistake. Soils deserve our attention.

More familiar environmental issues — water quality, air pollution, endangered species and climate change — command a headline now and then. That is not the case with soil, unless you count scientific journals.

Yet, taking notice of what lies beneath our feet is important to human health and economic prosperity. For example, the journal *Nature* has published remarkable findings about what soils have yielded to the medical field. Most notable includes the fungus used to create penicillin and, more recently, bacteria capable of killing MRSA and a multi-resistant strain of tuberculosis.

http://www.myeasternshoremid.com/opinion/article_636d2f61-857a-50d8-b137-12ab244749dc.html

Don't waste soil

By KIM
CHAPPELL

A PROJECT that has been rolling out across the country aims to turn some of Australia's 59 million tonnes of waste into usable, nutrient-rich compost for farmers.

Gerry Gillespie, an organics consultant for Resource Recovery Australia, works with councils across the country on City to Soil, an initiative to encourage local communities to separate their rubbish so it can be reused for compost.

Six councils have embraced the process including Orange, Armidale, Queanbeyan, and Goulburn, and Mr Gillespie said it was also being used around the globe, including places in Scotland and America.

Mr Gillespie said the focus of Resource Recovery Australia was on returning organic materials to soil.

"But that has been a political hot potato in this country for many years because there is always some company out there that is wanting you to take their waste fodder and that is not what this is about," Mr Gillespie said.

"This is about how you create the situation where you have clean soil-separated product that goes into agricultural soils with the highest possible standards and the highest possible nutrient value and most importantly the highest possible humus and biological value.

"If you engage the individuals in the community in recycling their organic waste it gives them a point for buying in that costs them nothing more... but will give huge benefits back to agriculture because the community begins to understand where their food comes from."

Mr Gillespie said 70 per cent

of Australia's waste stream was organic in origin and could be turned into a valuable resource rather than left in a "toxic" dump.

Speaking at the NSW Landcare and Local Land Services Conference in Orange recently Mr Gillespie said nationally Australia spent \$11 billion a year, according to federal Department of Environment figures, in waste management contracts.

"If you are out in Condobolin why would you want to recycle your cardboard back to Sydney, to put it on a ship to send it to China to be made into cardboard boxes and then sent back to Condobolin?"

"When you have a big pile of human faeces sitting down opposite the dump and you've got a dump of cardboard, what you really have is a nitrogen source and a carbon source, you put them together and put them in the soil and that makes much more sense than recycling.

"Recycling only makes sense if you can make it economical

Mr Gillespie said it would be great if an Australian-wide organics collection system could be implemented.

He stressed it would need to be nationally legislated to ensure that organic material wasn't just banned from landfill, but turned into high-quality product and put back into soils.

"People in Sydney are paying more than \$300 a tonne to dispose of waste, but we know we can collect clean soil-separated organic material in the middle of Sydney and turn it into a high quality composted product take it 200 kilometres and drop it at the farm gate, all inclusive, for a price of about \$200/t or probably a lot less."

He suggested farmers could be put on a rational ballot system where once a year they get 200t of free compost.

The collection of the organic material could work in a number of ways, but one way was with householders placing their organic waste into a compostable bag, which was made of polymer which

(We can take compost) 200 kilometres and drop it at the farm gate, all inclusive, for a price of about \$200/t or probably a lot less

— Gerry Gillespie

and viable and functional for the local community, and the best function for organic material in your local community is back into your soil as a high quality source separated product."

Mr Gillespie said it was critical this organic material be put to use, especially as 75 per cent of Australian soils had less than one per cent organic material.

"Overall we have a very low level of organic material in this country, yet 75pc of the 59m tonnes of stuff we put into landfill is organic material."

breathed and broke down into nothing.

Because the bag breathed its contents didn't become anaerobic and so didn't become smelly.

He said Armidale Dumaresq Council used the process and were offering the organic material back at the cost of production.

"Every tonne of organic material that's diverted and totally cost recovered saves the community and the council \$70/t for not putting it into landfill," he said.

Asteroid impact may have boosted volcanic eruptions in double-whammy dinosaur extinction disaster

ABC Science

By [Stuart Gary](#)

Posted 2 Oct 2015, 5:00amFri 2 Oct 2015, 5:00am



Photo: The sharp layered strata of the volcanic mountains in India's Deccan Trap province. ([Mark Richards UC Berkeley](#))

Map: [India](#)

The asteroid impact that triggered the mass extinction event that killed off the dinosaurs accelerated one of the planet's largest volcanic eruptions, further compounding the disaster, a new study suggests.

The research, published in the journal [Science](#), concluded that earthquakes generated by the impact into Mexico's Yucatan Peninsula 66 million years ago changed India's Deccan Traps volcanic field from a series of small eruptions to dramatically more massive events lasting hundreds of thousands of years.

<http://www.abc.net.au/news/2015-10-02/asteroid-impact-and-deccan-volcano-eruption-mass-extinction/6783018?site=science/news>

Mars Panorama from Curiosity Shows Petrified Sand Dunes

The next rock target to be drilled by NASA's Curiosity Mars rover may be sandstone that was deposited by wind, unlike previous rock targets deposited by water.



Vista from Curiosity Shows Crossbedded Martian Sandstone

Large-scale crossbedding in the sandstone of this ridge on a lower slope of Mars' Mount Sharp is typical of windblown sand dunes that have petrified. NASA's Curiosity Mars rover used its Mastcam to capture this vista on Aug. 27, 2015. Similarly textured sandstone is common in the U.S. Southwest.

Credit: NASA/JPL-Caltech/MSSS

<http://mars.jpl.nasa.gov/msl/news/whatsnew/index.cfm?FuseAction=ShowNews&NewsID=1853>

Curiosity's Drill Hole and Location are Picture Perfect



Mount Sharp Comes In Sharply

This composite image looking toward the higher regions of Mount Sharp was taken on September 9, 2015, by NASA's Curiosity rover. Credit: NASA/JPL-Caltech/MSSS

On Tuesday, 29 Sept. NASA's Curiosity Mars rover drilled its eighth hole on Mars, and its fifth since reaching Mount Sharp one year ago. The drilling of the hole 2.6-inches (65 millimeters) deep in a rock the team labeled "Big Sky" is part of a multi-day, multi-step sequence that will result in the analysis of the Martian rock's ingredients in the rover's two onboard laboratories – the Chemistry and Mineralogy X-Ray diffractometer (CheMin) and the Sample Analysis at Mars (SAM) instrument suite.

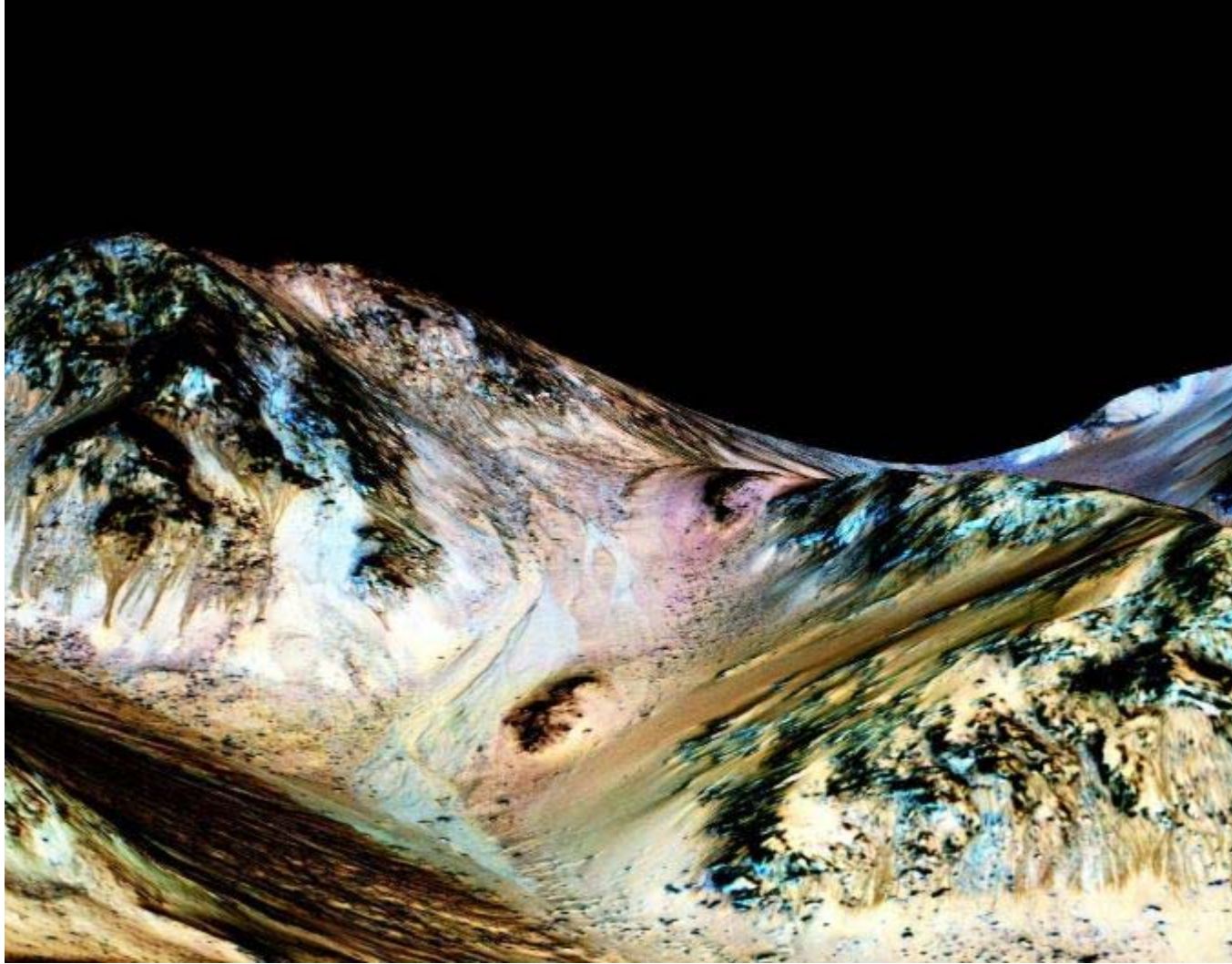
<http://mars.jpl.nasa.gov/msl/news/whatsnew/index.cfm?FuseAction=ShowNews&NewsID=1860>

Evidence of liquid water found on Mars; scientists say 'long way to go' to say whether Red Planet could support life

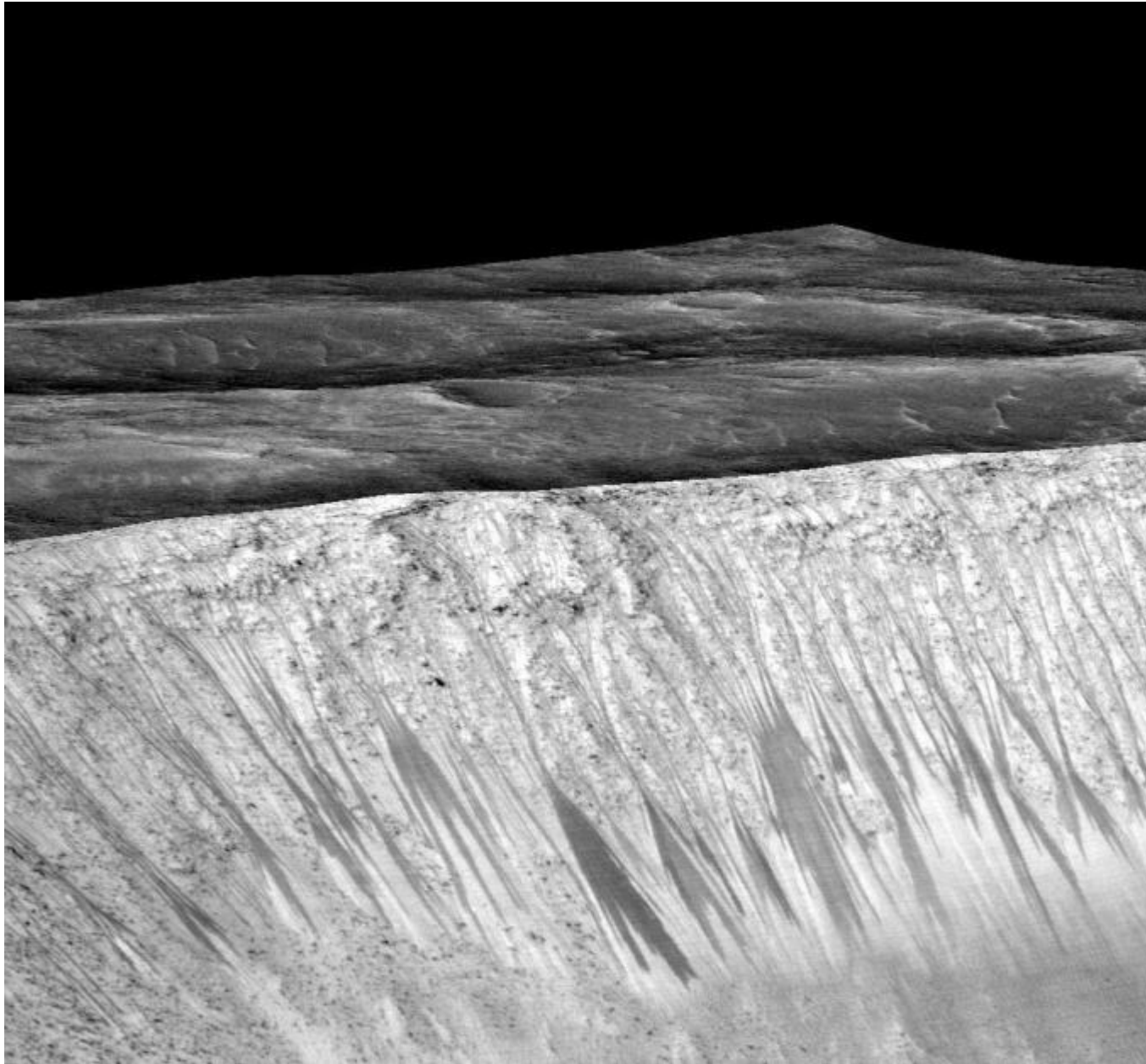
ABC Science

By [Stuart Gary](#)

Updated 30 Sep 2015, 12:00am Wed 30 Sep 2015, 12:00am



Dark, narrow, 100-metre-long streaks flowing on slopes at Hale crater. The blue colour seen upslope of the dark streaks are not thought to be related to their formation, but instead are from the presence of the mineral pyroxene. ([NASA/JPL/University of Arizona](#))



[Dark narrow streaks coming out of the walls of Garni crater on Mars a few hundred metres in length. \(NASA/JPL/University of Arizona\)](#)

Scientists analysing NASA data say they have found evidence of flowing water on the surface of Mars, but caution there is a "long way to go" before they can say if the Red Planet could support life.

Chemical analysis of dark streaks on the surface of the planet has identified the presence of hydrated salts that are the signature of liquid salty water. <http://www.abc.net.au/news/2015-09-29/evidence-for-liquid-water-found-on-mars/6810080?site=science/news>

New Horizons: Charon moon seen in super detail

By Jonathan Amos BBC Science Correspondent

- 1 October 2015
- From the section [Science & Environment](#)

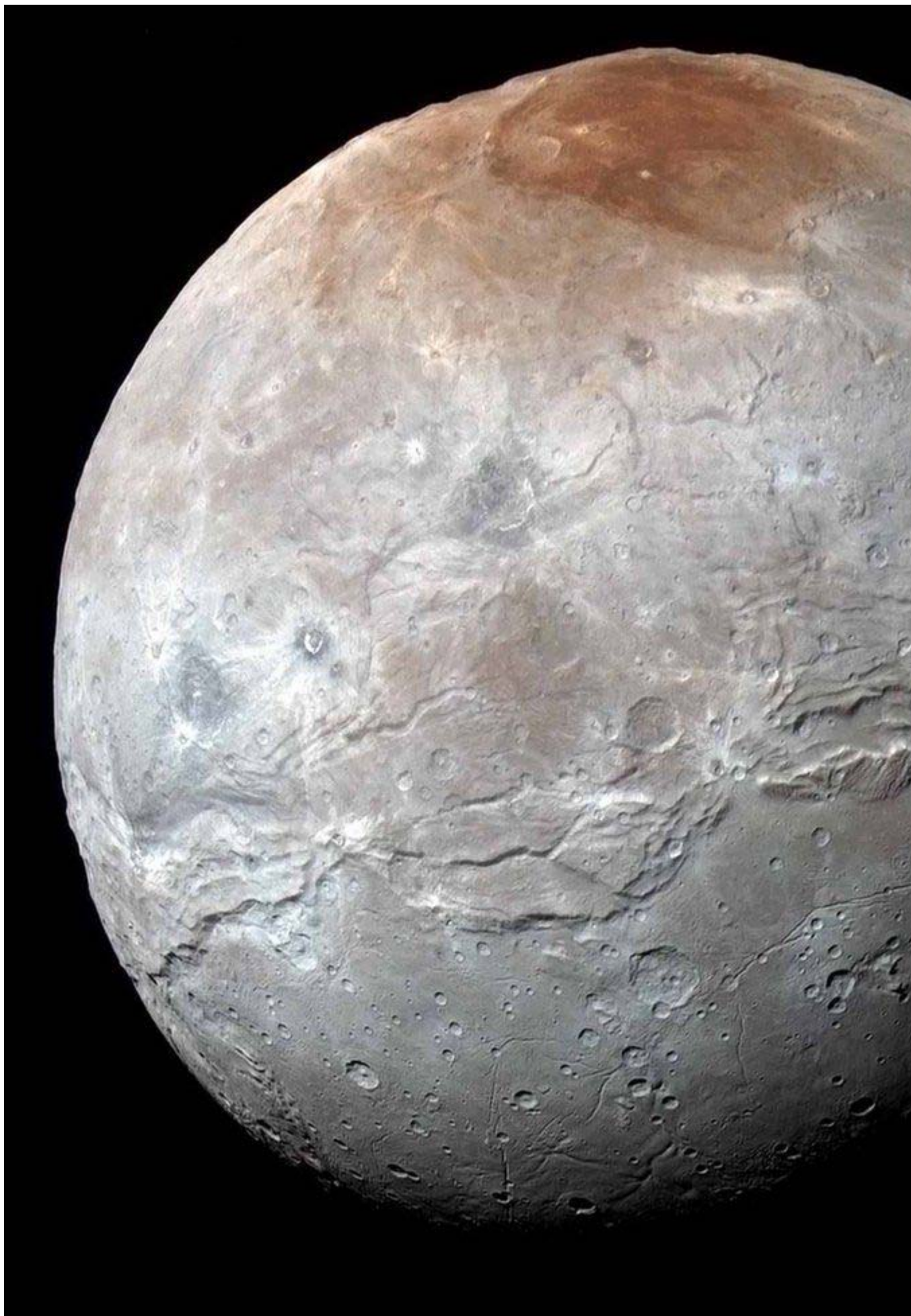


Image copyright **NASA/JPL-JHU/SWRI** Image caption "False colour": The image combines blue, red and infrared views to best highlight surface features

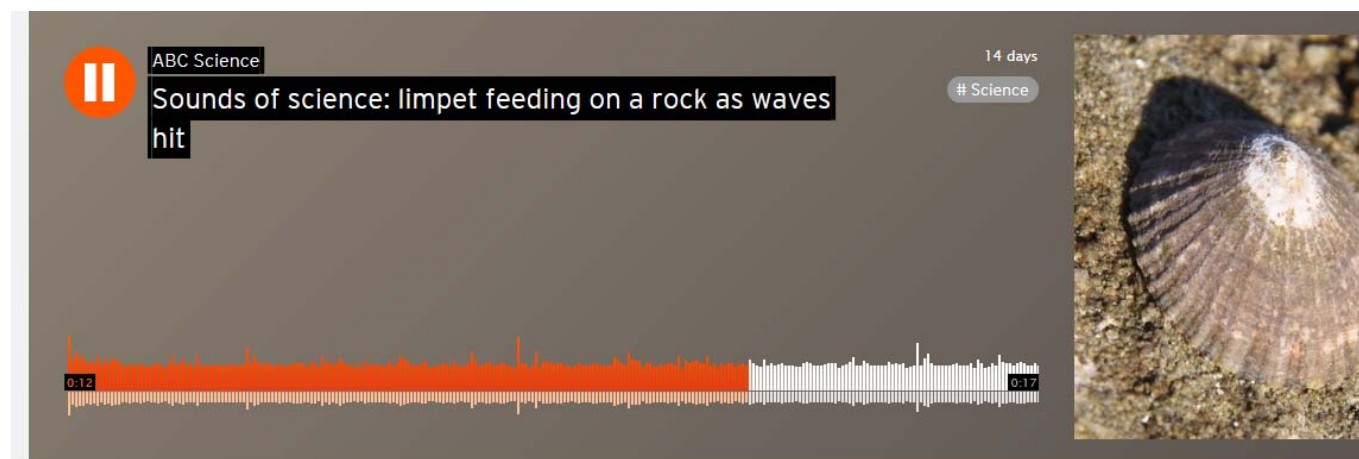
Pluto's major moon, Charon, takes centre stage in this week's release of new pictures from the New Horizons mission.

The latest images are both the most highly resolved and the best colour views that we have seen so far. <http://www.bbc.com/news/science-environment-34420062>

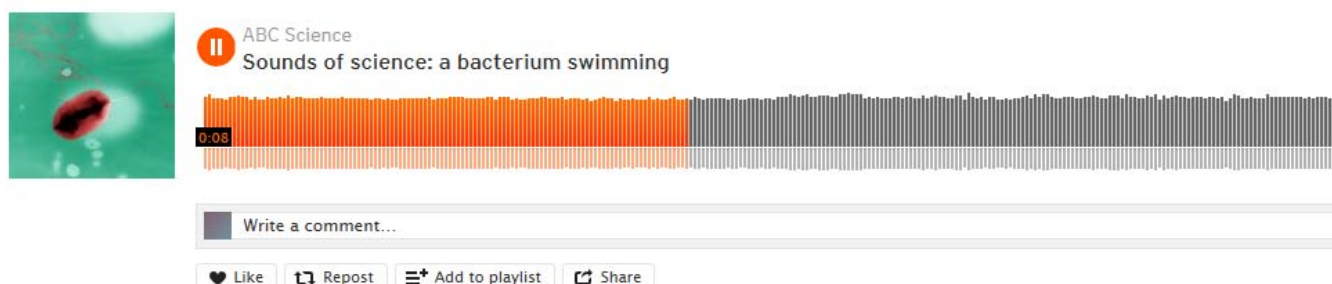
Colombia to produce fresh pineapple in acid soils of Cauca

A total of 13 farmers in Santander de Quilichao (Cauca) will be venturing into the tropical fruit market after having optimized the production of honey gold pineapple grown in acid soils of that area. The members of the Association of Fruits from Santander de Quilichao (Frupasa) sought advice from the UN in order to deepen the study of the nutritional requirements of honey or golden pineapple gold (known as MD2), which has a great marketing potential.

The golden sweet pineapple is the third most-produced crop in Cauca and growing it gives producers the possibility of effectively participating in a market that generates around 3,000 million dollars a year, as evidenced by the data of Pacific Invest regarding May 2015. In face of this, researcher Jennifer Lopez Montoya decided to pursue her masters in Agricultural Science by determining the appropriate dose of fertilizer needed for this pineapple variety in acid soils. <http://www.freshplaza.com/article/145815/Colombia-to-produce-fresh-pineapple-in-acid-soils-of-Cauca>



<https://soundcloud.com/abc-science/limpet-short>



<https://soundcloud.com/abc-science/limpet-short/recommended>

In science it often happens that scientists say, 'You know that's a really good argument; my position is mistaken,' and then they would actually change their minds and you never hear that old view from them again. They really do it. It doesn't happen as often as it should, because scientists are human and change is sometimes painful. But it happens every day. I cannot recall the last time something like that happened in politics or religion. -- [Carl Sagan](#) (1987)