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microBYTES™

A Hardy Diagnostics eNewsletter

 **HARDY**
DIAGNOSTICS
a culture of service...

May, 2016

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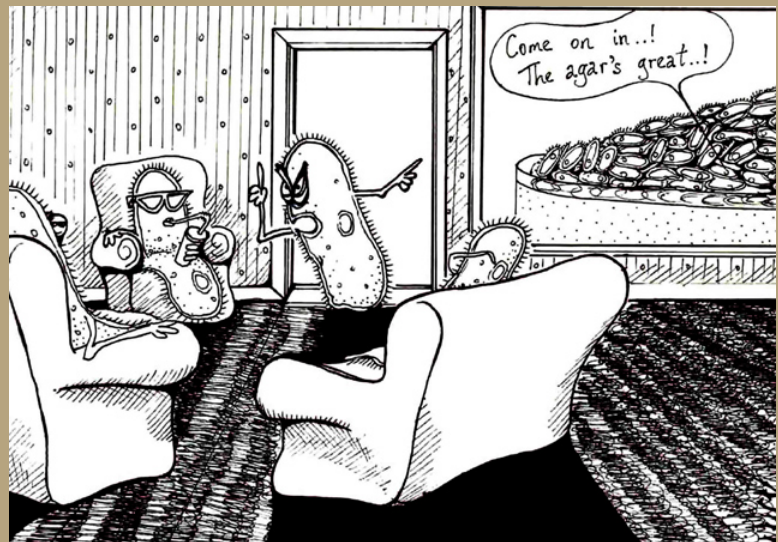
The GramPRO 1

Gram Stains...
Consistent
and Fast



Hardy's GramPRO 1 will rapidly stain your smears and get it right every time!

Micro Musings...



"How many times have I told you to keep the lid on the Petri dish, Harry? We came here with four kids, now it looks like we have 20 million!"

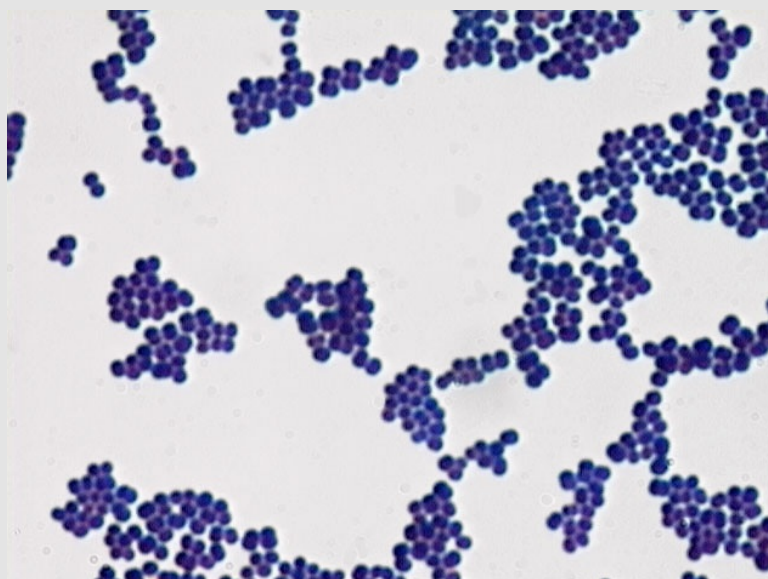
**How well do
you know the
Gram stain?**

Our patented technology judges the thickness of the smear and adjusts the decolorization step to perfection. Not only that, there are no messy clean-up and maintenance procedures.

Find out more about all the QuickSlide instruments.

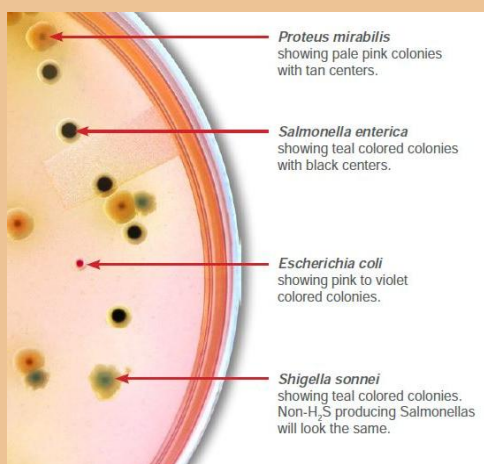
View the brochure on all of Hardy's automated stainers

Please contact me to discuss automated slide stainers.



Interference from Proteus eliminated!...

Spending too much time with stool cultures?



Hardy's unique chromogenic plate will readily differentiate *Proteus* from *Salmonella* and *Shigella*. Get ready for the onslaught of summer stool cultures and stop wasting time working up *Proteus*!

View more information on HardyCHROM SS.

- Which is better: methanol or heat fixation?
- Why will some Gram positives appear to be negative?
- Which bacteria are Gram variable?
- How can you prevent over-decolorization?
- Are there ways other than staining to determine the Gram reaction?

[Find out here.](#)

make **better** stains



anaeroGRO

Send me samples so I can see for myself.

* * *

Hot off the press...

New Culture Media Catalog



Hardy announces its new catalog of all culture media offerings. This 85 page booklet contains descriptions of the 2,700 products that Hardy manufactures for the microbiologist.

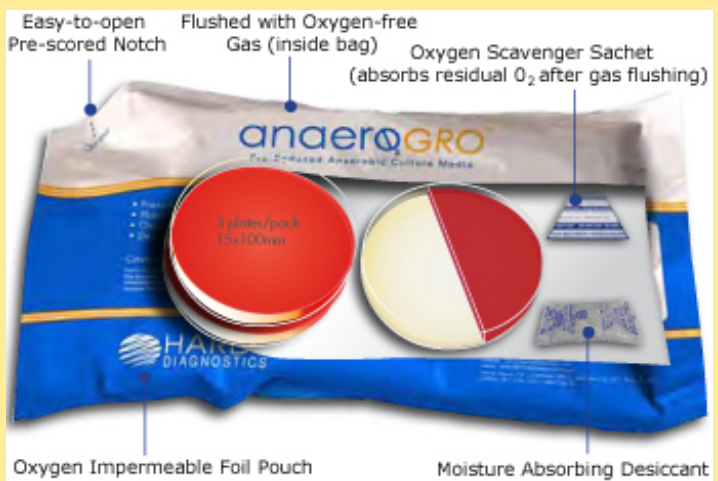
Send me the paper version.

Please have an account rep contact me about a price quote.

* * *

Rapid Strep Grouping

StrepPRO



Could you be missing important anaerobes? Hardy offers pre-reduced culture media in oxygen impermeable bags that are gassed with nitrogen and contain an oxygen scavenger.

[Learn more](#) about anaeroGRO and the many choices of set-up packs.

[Watch](#) a short video explaining the features and benefits of anaeroGRO.

[See](#) our complete catalog of supplies for anaerobes.

[Try a sample](#) pack of anaeroGRO and see how to get better growth of anaerobes.



Anaerobic tubes with Hungate stoppers are available too!

* * *

Online Ordering Made Easy!



Hardy's StrepPRO will quickly type your strep isolates by latex agglutination. It features a clear and distinct read-out without cross reactivity. It will even give you results for Group D.

Watch a short video.

Order the kit now.

See the brochure.

View all our latex kits.

* * *

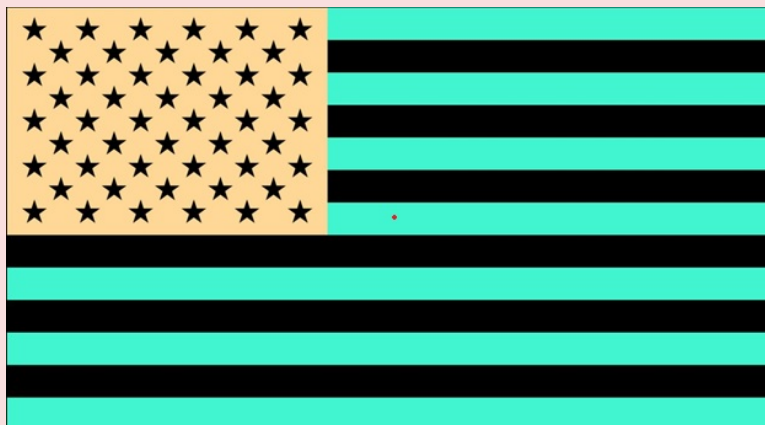


Watch a short video
to learn how easy it is
to order from Hardy on-line!

Pick. Click. You're Done!

* * *

Optical oddities...



Memorial Day Illusion

Get up close and stare at the red dot on the flag
for about 45 seconds without moving.
Then stare at a white piece of paper.

What just happened?

Scroll down to the bottom of this column to learn
the physiology of what happened within your retina.

*"Believe half of what you see
and none of what you hear."
~ Benjamin Franklin ~*

Surface Monitoring



- View the brochure.
- Watch a short demo video.
- Place your order.
- Request a sample.

*The solution to
bacterial resistance?*



*"Well done
is better than
well said."*

~Benjamin Franklin

Dehydrated Culture
Media...

CRITERION



Do you make your own media?
Then you will want to explore the
features and benefits of Hardy's
CRITERION.

- Minimize dust when weighing
- Four different sizes/containers



Phage Therapy

Is it time to take a fresh new look at antimicrobial therapy?

Since the discovery of penicillin in 1928 by Alexander Fleming, antibiotics have become the standard for treatment of bacterial infections. Through the many different mechanisms that antibiotics use, we have been able to fend off deadly infections for almost a century.

Because of the misuse of antibiotics and the innate plasticity of bacteria, antibiotic resistance is now a major concern as pathogenic strains are adapting to protect themselves from our previously effective treatments. Modern medicine has been trying to keep up in the battle against bacteria; we are falling behind and are struggling to find an answer to this potentially catastrophic threat.

One possible answer predates the discovery of antibiotics. Phage therapy was discovered in 1915 by Frederick Twort. His work involved using viruses called bacteriophages that target specific bacteria and effectively kill them. After the discovery of phage therapy, the Eliava Institute in the country of Georgia was created and was the first lab devoted to the research of this new technology. Although it was somewhat unreliable in its early stages, phage therapy has been used successfully in treating infections such as gangrene and dysentery since World War II.

One example of the use bacteriophages that is currently under investigation is in wound dressings for topical treatments of skin pathogens such as MRSA. Special bandages are impregnated with specific viruses for the attachment and lysis of target pathogens. For oral administration, lyophilized phages are often turned into pills. Intravenous administration is also possible. A newer form of this procedure is the administration of nasal sprays that contain bacteriophage associated lytic enzymes targeted towards bacteria such as *Streptococcus pneumoniae*.

- Complete selection of formulas
- Competitive pricing available
- Pre-weighed mylar envelopes

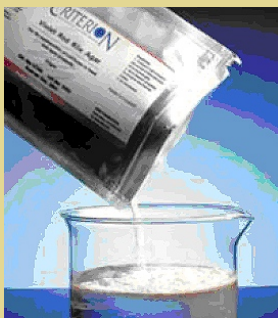
[Watch](#) the short video.

[Learn](#) about the many benefits.

[See](#) the digital catalog.

[Request](#) a paper catalog.

[Request](#) for a price quote.



* * *

Brainteasers

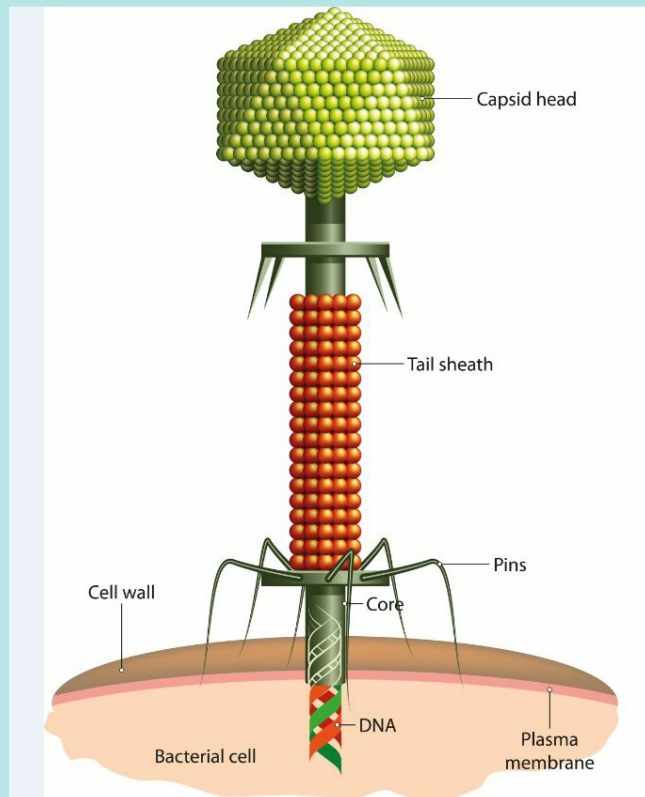


Ready to flex some
cranial muscle?

[Enter here!](#)

Need to Confirm GC?

or *S. pyogenes*.



One of the biggest benefits of phage therapy is the specificity to specific harmful bacteria and not the beneficial bacteria that normally inhabit the human body. The well-known effects of opportunistic pathogenic bacteria such as *Clostridium difficile* to take over the gut microbiome after antibiotic use is a good example of why a more specific form of treatment is sometimes needed. However, this higher specificity is also the treatment's biggest downfall; many infections need a broader spectrum of treatments. As a means to increase effectiveness, a phage cocktail can be administered to enable a higher spectrum of targets.

When antibiotics were discovered and put into use, phage therapy became a less popular treatment, as it was no longer necessary. Now, with the rising epidemic of antibiotic resistant bacteria, scientists have now been prompted to investigate alternative solutions such as using phage therapy that has for most part been lying dormant for over 100 years.

by Trevor Thorsen
Microbiologist, Tech Support
Hardy Diagnostics

Environmental Monitoring...



Try out Hardy's CarboFerm.

See the video demo.
Place your order.

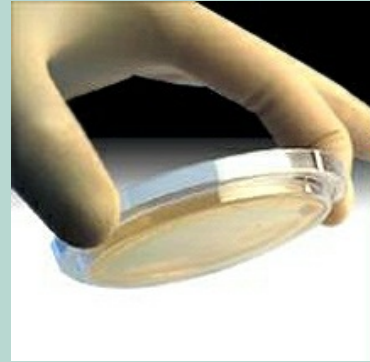
All formats available...

Control Organisms



Hardy offers a complete selection of microorganisms for your QC program. These MBL organisms are licensed derivatives from ATCC. They are available in the swab or pellet format; qualitative or quantitative. Order from Hardy for immediate service and delivery.

Contact Plates



Hardy offers a complete line of contact plates for your surface monitoring. The Tap-Tight feature assures that the lids will stay securely in place!



View the brochure.

Request samples for evaluation.

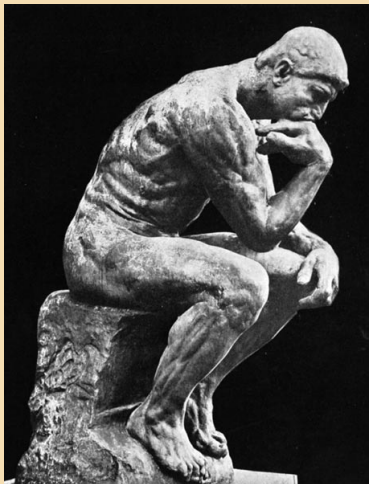
Request a price quote.

View the entire microorganism catalog online.

Request a paper catalog.



Think about it...



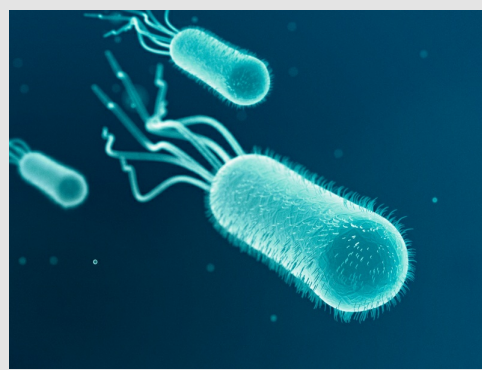
* Should you trust a stockbroker who's married to a travel agent?

* Is boneless chicken considered to be an invertebrate?

* Do married people live longer than single people, or does it just SEEM longer?

* If all those psychics know the winning lottery numbers, why are they all still working?

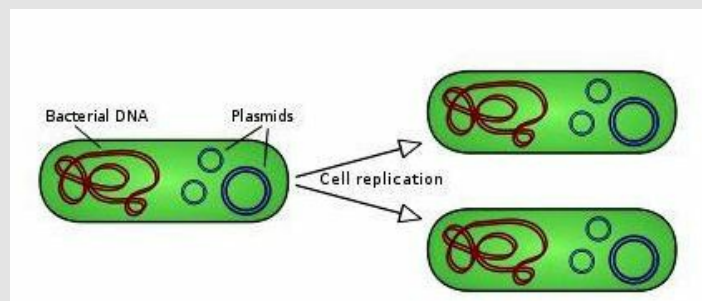
* Tell a man that there are 400 billion stars, and he'll believe you. Tell him a bench has wet paint, and he has to touch it.



Another Superbug Emerges

In April of this year, the first U.S. case of colistin resistant *E. coli* was isolated from a woman in Pennsylvania. This is significant because colistin is considered to be one of the last lines of defense against highly resistant bacteria, such as CREs (carbapenem-resistant enterobacteriaceae).

The 49 year old woman, who had not been traveling, was suffering from a urinary tract infection when the organism was isolated. The gene for this colistin resistance is *mcr-1* and is located on a plasmid. This is particularly worrisome, since plasmids have the ability to hop from one bacterial population to another.



"The recent discovery of a plasmid-borne colistin-resistance gene, *mcr-1*, heralds the emergence of truly pan-drug resistant bacteria," write the researchers associated with Walter Reed National Military Medical Center in Maryland.

Fortunately, it turns out that the Pennsylvania woman's infection was not resistant to carbapenem antibiotics. However, Christopher Braden, MD, deputy director of the agency's National Center for Emerging and Zoonotic Infectious Diseases, warned that the plasmid-borne colistin-resistance gene could transfer to CRE or any other superbug, making them deadlier.

RUBES

Wisdom to Ponder...



C.S. Lewis

1898 ~ 1963

British novelist and professor of medieval history at Oxford and Cambridge. Best known for writing The Chronicles of Narnia.

"You are never too old to set another goal or to dream a new dream. "

"Friendship is unnecessary, like philosophy, like art...It has no survival value; rather it is one of those things that give value to survival."

"Humility is not thinking less of yourself; it's thinking of yourself less."

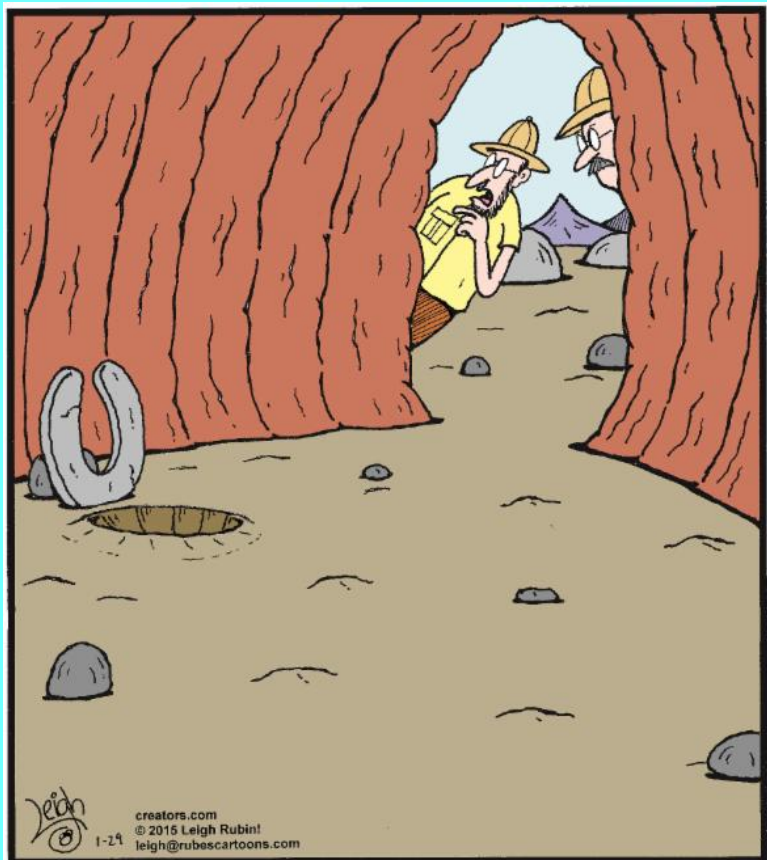
"Integrity is doing the right thing, even when no one is watching."

"Aim at heaven and you will get earth thrown in. Aim at earth and you get neither."

"You can't get a cup of tea big enough or a book long enough to suit me. Reason is the natural order of truth; but imagination is the organ of meaning."

"Education without values, as useful as it is, seems rather to make man a more clever devil."

"Experience: that most brutal of

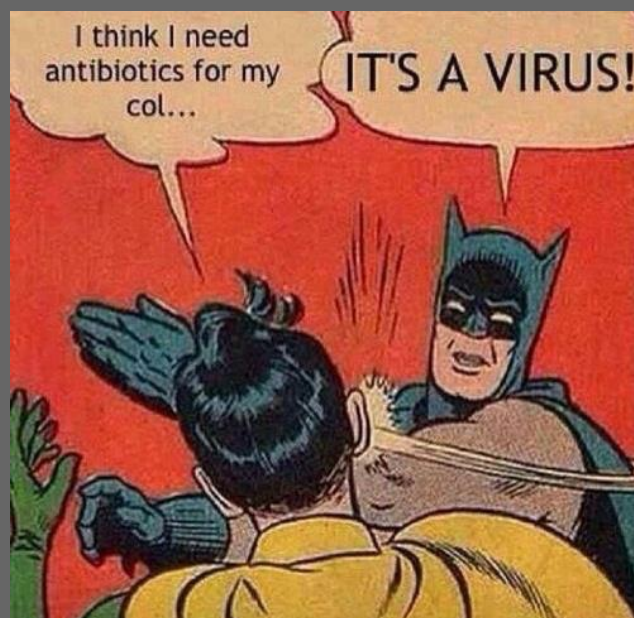


"Call it an educated guess, but as the archeological evidence suggests, we may have inadvertently stumbled upon a prehistoric man cave."

[Find more](#)

of Leigh Rubin's cartoon humor.

Want to [book Leigh](#) as a speaker at your next event?



teachers. But you learn; my God do you learn."

"To love at all, is to be vulnerable"

"We do not want merely to see beauty
... We want something else which can
hardly be put into words - to be united
with the beauty we see, to pass into it,
to receive it into ourselves, to bathe in it,
to become part of it."

* * *

microBYTES™
A Hardy Diagnostics eNewsletter

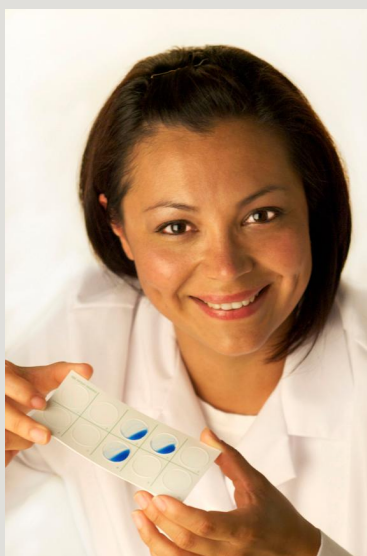
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of MicroBytes?

[CLICK HERE](#)

Did you know?



Hardy Diagnostics...

- Manufactures over 2,700
microbiology products for you to
choose from.

Batman combats antimicrobial abuse.

Warning: PUN ZONE ahead



Hear about the guy that quit his job at the doughnut
factory? He was fed up with the hole business.

Did you hear about the cross-eyed teacher who was
fired? Seems he couldn't control his pupils.

The guy that invented the door knocker got a No-
bell prize.

I did a theatrical performance about puns. It was
actually just a play on words.

Yesterday, I held the door open for a clown. Why?
Because I just thought it was a nice jester.

Do you do Growth Promotion Studies?

- Stocks over 13,000 laboratory products for your "one stop shop" experience.
- Is celebrating its 36th year of serving microbiologists.
- Manufactures from two ISO certified factories in California and Ohio.
- Maintains nine distribution centers in the U.S. for faster turn around time to your lab.
- Is ISO 13485 certified for the manufacture of medical devices to give you confidence in our products.
- Services over 10,000 labs and maintains a worldwide network of over 65 distributors.
- Is a 100% Employee-Owned company. *"If we act like we own the place...it's because we do!"*

View a [Corporate Profile](#).
See the [Company Video](#).
Send a [message to the president](#).



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As Hardy Diagnostics enters its 36th year of serving microbiologists in the laboratory, I would like to thank each of our customers for their

Accuracy & Traceability
have never been **easier**
or more **affordable**.



Hardy has the answer to simplified growth promotion studies. MBL's EZ Accushot provides you with quantified lyophilized organisms that you can count on!

[View the brochure.](#)

Clorox killed my friends...



I am the 1%!

Whenever you feel sad and lonely,
just remember
there are trillions of bacterial cells
in and on your body...

support and loyalty. It truly has been a pleasure to serve you!

If there is any way that we can improve or expand upon our service, would you please let me know?

[Send Jay a message...](#)



Jay Hardy, CLS, SM(NRCM)
President
HARDY DIAGNOSTICS



...and all they care about is you!

Optical Oddities From Above.

*What you just experienced
is called "Negative Afterimage."*

In 1878, the German physiologist, Ewald Hering explained how the brain sees afterimages in terms of three pairs of primary colors. This opponent process theory states that the human visual system interprets color information by processing signals from cones and rods in an antagonistic manner.

Hering's opponent color theory suggests that there are three opponent channels: red versus green, blue versus yellow, and black versus white. Responses to one color of an opponent channel are antagonistic to those to the other color. Therefore, for example, a green image will produce a magenta afterimage. The green color fatigues the green photo-receptors in the retina, so they produce a weaker signal for green. Anything resulting in less green, is interpreted as its paired primary color, which is magenta.

