## *Paenibacillus elgii*


(photo from JPL)

**Where we found it:** On a Mars Exploration Rover before launch (2004) at the Jet Propulsion Laboratory (JPL-NASA, Pasadena, CA)

**Why it's awesome:** This microbe produces (currently unknown) antimicrobials effective against a wide range of fungi and bacteria

**Fun Fact:**

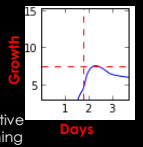
When applied to soil this microbe has been shown to enhance growth of both tobacco and peanut

### Regular Season Stats

**Time to saturation:** 83 hrs

**Time to exponential growth:** 50 hrs

**Growth density:** 52%




**Description:** Gram variable, faculative anaerobe, rod-shaped, spore forming

**Originally isolated from:** Shiso roots in Korea (2004)

## *Kocuria rosea*


(photo by Alex Alexiev)

**Where we found it:** On a Mars Exploration Rover before launch (2004) at the Jet Propulsion Laboratory (JPL-NASA, Pasadena, CA)

**Why it's awesome:** This microbe is being studied for its ability to degrade feathers which would have applications in industrial waste management

**Fun Fact:**

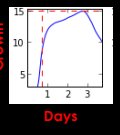
This microbe is so commonly found on microbiology plates at UC Davis that the students have nicknamed it "Henry"

### Regular Season Stats

**Time to saturation:** 67 hrs

**Time to exponential growth:** 9 hrs

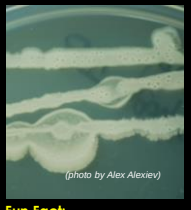
**Growth density:** 100%




**Description:** Gram-positive, coccoid, anaerobic

**Originally isolated:** In Germany as "*Micrococcus roseus*" in 1889

## *Bacillus horikoshii*


(photo by Alex Alexiev)

**Where we found it:** On a football field sample collected by the Pop Warner Saints cheerleaders (Port Reading, NJ)

**Why it's awesome:** This microbe has been isolated from diverse marine organisms where it appears to produce useful enzymes

**Fun Fact:**

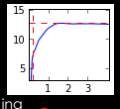
This microbe was found to be one of several that produces tetrodotoxin in pufferfish

### Regular Season Stats

**Time to saturation:** 39 hrs

**Time to exponential growth:** 6 hrs

**Growth density:** 94%




**Description:** Gram-positive, spore-forming aerobic

**Originally isolated from:** Soil in Germany (1995)

## *Curtobacterium pusillum*


(photo by Madison Dunitz)

**Where we found it:** On the outside of Aggie Stadium, UC Davis, CA.

**Why it's awesome:** Several other members of this genus are plant pathogens but this one was isolated hundreds of meters under the surface in an oil brine

**Fun Fact:**

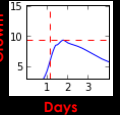
This microbe is often sold as a microbiology "standard" for testing new media and assays

### Regular Season Stats

**Time to saturation:** 44 hrs

**Time to exponential growth:** 27 hrs

**Growth density:** 69%




**Description:** Gram-positive, aerobic, motile, irregular rods

**Originally isolated from:** A deep oil brine in Japan (1965)

## *Micrococcus luteus (3)*


(photo from Wikipedia Commons)

**Where we found it:** On a football field goalpost sample collected by the Lake Brantley Pop Warner cheerleaders (Orlando, FL)

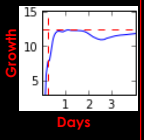
**Why it's awesome:** This microbe can survive under conditions of virtually no water and can withstand massive doses of UV radiation

**Fun Fact:** Because this bacteria is highly resistant to toxic metals it is used in both bioremediation and biotechnology

### Regular Season Stats

**Time to saturation:** 27 hrs
**Time to exponential growth:** 6 hrs
**Growth density:** 92%

**Description:** Gram-positive, spherical, aerobic, non-motile, yellow-pigmented
**Originally isolated from:** Germany in 1872




## *Bacillus flexus*


(photo ©DSMZ)

**Where we found it:** On LP Field (Tennessee Titans)

**Why it's awesome:** This microbe produces a fat-degrading compound that works under very alkaline (basic) conditions, making it of use to the laundry and leather industries

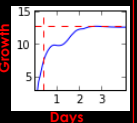
**Fun Fact:**

A strain of this microbe, isolated from a Saudi lake, has been shown to degrade some important freshwater toxins

### Regular Season Stats

**Time to saturation:** 66 hrs
**Time to exponential growth:** 10 hrs
**Growth density:** 94%

**Description:** Gram-variable, rod-shaped, aerobic, motile
**Originally isolated from:** Cooked cabbage in Germany (1884)




## *Bacillus amyloliquefaciens (2)*


(photo by Eva Arrebola and Lise Korsten

**Where we found it:** On a stadium seat at Gillette Field (New England Patriots)

**Why it's awesome:** This is an important industrial organism, used for the production of enzymes that degrade protein, such as those used in contact lens cleaner

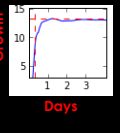
**Fun Fact:**

A strain of this bacteria found on plants has been shown to produce a variety of potential "biocontrol" agents that might be used to battle plant pathogens

### Regular Season Stats

**Time to saturation:** 30 hrs
**Time to exponential growth:** 8 hrs
**Growth density:** 98%

**Description:** Gram-positive, rod-shaped, aerobic, motile
**Originally isolated from:** Japanese soil in 1943




## *Leucobacter chironomi*


(photo from Malka Halpern)

**Where we found it:** In a residential toilet in Davis, CA

**Why it's awesome:** This organism is extremely resistant to chromium

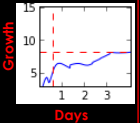
**Fun Fact:**

This microbe recently had its genome sequenced as part of an undergraduate research project at UC Davis.

### Regular Season Stats

**Time to saturation:** 98 hrs
**Time to exponential growth:** 14 hrs
**Growth density:** 60%

**Description:** Gram-positive, rod-shaped, aerobic, non-motile, yellow-pigmented
**Originally isolated from:** Wastewater in Israel (2009)



## *Streptomyces kanamyceticus*


**Where we found it:**
In the kitchen on the set of Kare11 Morning News (Minneapolis/St. Paul, MN)

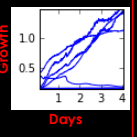
**Why it's awesome:**
One of the earliest antibiotics, kanamycin, was isolated from this microbe in 1957. Plus, it looks cool.

**Fun Fact:**

The antibiotic produced by this microbe is still widely used in industry, research, and medicine

### Regular Season Stats

**Time to saturation:** 98 hrs
**Time to exponential growth:** 48 hrs
**Growth density:** 46%




**Description:** Gram-positive, aerobic, unusual colony morphology
**Originally isolated from:** Japanese soil (1957)

## *Unclassified Spingomonadaceae*


**Where we found it:**
On a stadium seat sample from Niedermeyer Field collected by the Pop Warner Coronado cheerleaders (San Diego, CA)

**Why it's awesome:**
After preliminary examination at UC Davis, this bacteria appears to be an entirely new species, maybe even a new genus!

**Fun Fact:**

No idea… yet! All we know so far is that it's in the Spingomonadaceae family… (that's like saying in plants we don't know if it's a tomato, potato, chili pepper or tobacco)

### Regular Season Stats

NOTE: This microbe doesn't appear to grow in this assay on earth, but it's so cool that we're going to send it to space anyway… maybe it'll grow there!

**Description:** Mostly unknown, appears brown, prefers growth at lower temperatures. Details TBA
**Originally isolated from:** See above (2013)

## *Bacillus aryabhatti (1)*


**Where we found it:**
On a field sample collected by the Pop Warner Broncos cheerleaders (Lauderhill, FL)

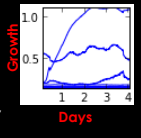
**Why it's awesome:**
This bacteria was first collected from the stratosphere, over 25 miles above the surface of the earth!

**Fun Fact:**

This bacteria has been shown to promote plant growth in barren areas and has been proposed as an aid for re-vegetation projects

### Regular Season Stats

**Time to saturation:** 82 hrs
**Time to exponential growth:** 30 hrs
**Growth density:** 22%




**Description:** Gram-positive, mobile, spore forming,
**Originally isolated from:** Air sampling from a balloon 25 miles above the earth (2009)

## *Bacillus aryabhatti (2)*


**Where we found it:**
On a practice football field used by the Oakland Raiders

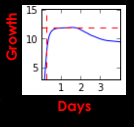
**Why it's awesome:**
This bacteria was first collected from the stratosphere, over 25 miles above the surface of the earth!

**Fun Fact:**

This bacteria has been shown to promote plant growth in barren areas and has been proposed as an aid for re-vegetation projects

### Regular Season Stats

**Time to saturation:** 39 hrs
**Time to exponential growth:** 6 hrs
**Growth density:** 89%




**Description:** Gram-positive, mobile, spore forming,
**Originally isolated from:** Air sampling from a balloon 25 miles above the earth (2009)

## *Microbacterium arborescens*


**Where we found it:**
On the Viking Mars Orbiter at JPL/NASA before launch in 1975 (Pasadena, CA)

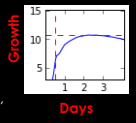
**Why it's awesome:**
This microbe produces an enzyme used in industrial processes to convert glucose to fructose

**Fun Fact:**

This salt-resistant microbe secretes a compound that is though to be important in the stabilization of coastal sand dunes.

### Regular Season Stats

**Time to saturation:** 55 hrs
**Time to exponential growth:** 12 hrs
**Growth density:** 72%




**Description:** Gram-positive, aerobic, non-motile, rod-shaped

**Originally isolated from:** Lake water under the name *Flavobacterium arborescens* (1889)

## *Bacillus safensis*


**Where we found it:**
On a Mars Exploration Rover before launch (2004)at the Jet Propulsion Laboratory (JPL-NASA, Pasadena, CA)

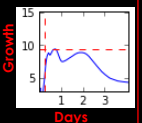
**Why it's awesome:**
This microbe was first discovered and characterized in the "clean" rooms where spacecraft are assembled at JPL.

**Fun Fact:**

This salt-tolerant microbe has been sent into space before, but on a Russian mission that failed during launch.

### Regular Season Stats

**Time to saturation:** 17 hrs
**Time to exponential growth:** 6 hrs
**Growth density:** 63%




**Description:** Gram-positive, spore -forming, aerobic, chemo-heterotrophic

**Originally isolated from:** MARS Odyssey Spacecraft and associated facilities at JPL (1999-2001)

## *Bacillus pumilus (1)*


**Where we found it:**
On a Mars Exploration Rover before launch (2004) at the Jet Propulsion Laboratory (JPL-NASA, Pasadena, CA)

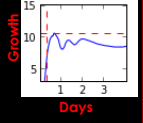
**Why it's awesome:**
This common soil microbe has numerous antibacterial and antifungal properties that naturally help both plants and animals thrive

**Fun Fact:**

Strains of this microbe found at JPL are resistant to desiccation, UV radiation, and hydrogen peroxide… suggesting the possibility of surviving unprotected spaceflight

### Regular Season Stats

**Time to saturation:** 16 hrs
**Time to exponential growth:** 8 hrs
**Growth density:** 71%




**Description:** Gram-positive, spore -forming, aerobic, rod-shaped

**Originally isolated from:** Plant tissues (1901)

## *Bacillus megaterium(3)*


**Where we found it:**
- On Mars Curiosity Rover before launch at the Jet Propulsion Laboratory (JPL-NASA, Pasadena, CA)

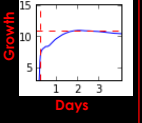
**Why it's awesome:**
This is an important industrial organism, used for the production of penicillin, vitamins, various drugs, and numerous enzymes

**Fun Fact:**

The species name of this microbe means "big beast" and it is among the largest bacteria ever discovered

### Regular Season Stats

**Time to saturation:** 51 hrs
**Time to exponential growth:** 5 hrs
**Growth density:** 73%




**Description:** Gram-positive, rod-shaped, mainly aerobic, spore-forming

**Originally isolated from:** Germany in 1884

## *Bacillus atrophaeus (2)*


**Where we found it:** On a Mars Exploration Rover before launch (2004) at the Jet Propulsion Laboratory (JPL-NASA, Pasadena, CA)

**Why it's awesome:** This hardy organism is commonly used to test the efficiency of biomedical sterilization procedures

**Fun Fact:**

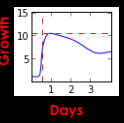
During the 1960's this organism was used in mock biowarfare simulations by the US military as a substitute for harmful bacteria

### Regular Season Stats

**Time to saturation:** 23 hrs

**Time to exponential growth:** 12 hrs

**Growth density:** 81%




**Description:** Gram-positive, rod-shaped, facultative anaerobe, motile

**Originally isolated from:** Soil in Colorado (1946)

## *Bacillus subtilis (2)*


**Where we found it:** On a robotic arm from a future (2017) Mars mission rover (MDA US Systems LLC)

**Why it's awesome:** This organism is extremely well-studied and has been used for the production of laundry detergent and explosives

**Fun Fact:**

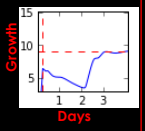
At various times this bacteria has been used to treat dysentery, as an alternative medicine, and recently as a probiotic

### Regular Season Stats

**Time to saturation:** 99 hrs

**Time to exponential growth:** 5 hrs

**Growth density:** 60%




**Description:** Gram-positive, rod-shaped, mostly aerobic, motile

**Originally isolated from:** Germany in 1835

## *Micrococcus luteus (1)*


**Where we found it:** On a sweat mop at a Sacramento Kings basketball game

**Why it's awesome:** This microbe can survive under conditions of virtually no water and can withstand massive doses of UV radiation

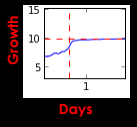
**Fun Fact:** Because this bacteria is highly resistant to toxic metals it is used in both bioremediation and biotechnology

### Regular Season Stats

**Time to saturation:** 42 hrs

**Time to exponential growth:** 14 hrs

**Growth density:** 76%




**Description:** Gram-positive, spherical, aerobic, non-motile, yellow-pigmented

**Originally isolated from:** Germany in 1872

## *Kocuria kristinae*


**Where we found it:** On the court after a San Antonio Spurs game

**Why it's awesome:** This microbe is very common on normal human skin and in the mouth

**Fun Fact:**

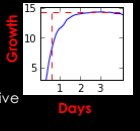
This species was named after the person from whom the microbe was originally isolated (immortality comes in many forms)

### Regular Season Stats

**Time to saturation:** 73 hrs

**Time to exponential growth:** 14 hrs

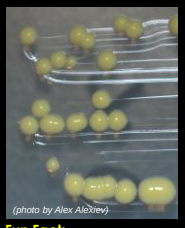
**Growth density:** 96%




**Description:** Gram-positive, facultative anaerobe, often orange or pink

**Originally isolated from:** Healthy human skin under the name "Micrococcus kristinae" (1974)

## *Kocuria rhizophila*




**Where we found it:**
On a camera at a Yuri's Night Party with Buzz Aldrin in Los Angeles, CA

**Why it's awesome:**
This microbe grows rapidly, to high densities, and is resistant to organic solvents… making it a candidate for industrial applications.

**Fun Fact:**

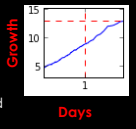
This bacteria is used throughout the world to test the effectiveness of new antimicrobials.

### Regular Season Stats

**Time to saturation:** 46 hrs
**Time to exponential growth:** 24 hrs
**Growth density:** 100%

**Description:** Gram-positive, coccoid

**Originally isolated from:** Narrowleaf cattail roots (1999)




## *Bacillus methylotrophicus*


**Where we found it:**
On a doorknob at a Yuri's Night party in New York

**Why it's awesome:**
This microbe appears to be important in promoting plant growth in the soil

**Fun Fact:**

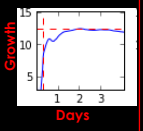
As described in the name, this microbe is capable of using methanol as a carbon source

### Regular Season Stats

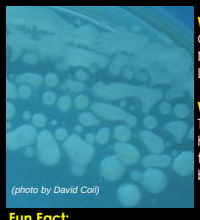
**Time to saturation:** 51 hrs
**Time to exponential growth:** 8 hrs
**Growth density:** 83%

**Description:** Gram-positive, rod-shaped, aerobic, motile

**Originally isolated from:** Rice plant roots in Korea (2010)




## *Kocuria marina*




**Where we found it:**
On a water fountain at a Yuri's Night party in the Museum of Life and Science (Durham, NC)

**Why it's awesome:**
This microbe can tolerate very high levels of salt (up to 15%) that would kill most other bacteria

**Fun Fact:**

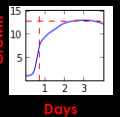
This was the first Kocuria species to be found in the ocean, though they are very common on land (and on people)

### Regular Season Stats

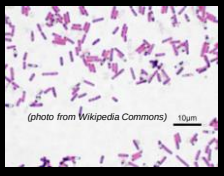
**Time to saturation:** 76 hrs
**Time to exponential growth:** 17 hrs
**Growth density:** 100%

**Description:** Gram-positive, aerobic, non-motile, coccoid

**Originally isolated from:** Marine sediment in the Siberian Sea (2004)




## *Bacillus subtilis*




**Where we found it:**
On the game ball at an Orlando Magic basketball game

**Why it's awesome:**
This organism is extremely well-studied and has been used for the production of laundry detergent and explosives

**Fun Fact:**

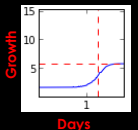
At various times this bacteria has been used to treat dysentery, as an alternative medicine, and recently as a probiotic

### Regular Season Stats

**Time to saturation:** 41 hrs
**Time to exponential growth:** 30 hrs
**Growth density:** 100%

**Description:** Gram-positive, rod-shaped, mostly aerobic, motile

**Originally isolated from:** Germany in 1835



## *Bacillus stratosphericus*


**Where we found it:** In a butterfly water dish at the Academy of Natural Sciences in Philadelphia, PA

**Why it's awesome:** This organism is found at high concentrations in the stratosphere (up to 25 miles high!)

**Fun Fact:**

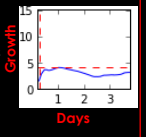
This organism has been engineered into colonies of cells that produce electricity.

### Regular Season Stats

**Time to saturation:** 25 hours

**Time to exponential growth:** 7 hours

**Growth density:** 27%




**Description:** Gram-positive, rod-shaped, motile

**Originally isolated from:** Air sampling 25 miles high (2001)

## *Bacillus megaterium(2)*


**Where we found it:** -On an antique pressure vessel at the Chemical Heritage Foundation in Philadelphia, PA

**Why it's awesome:** This is an important industrial organism, used for the production of penicillin, vitamins, various drugs, and numerous enzymes

**Fun Fact:**

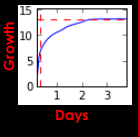
The species name of this microbe means "big beast" and it is among the largest bacteria ever discovered

### Regular Season Stats

**Time to saturation:** 89 hrs

**Time to exponential growth:** 8 hrs

**Growth density:** 88%




**Description:** Gram-positive, rod-shaped, mainly aerobic, spore-forming

**Originally isolated from:** Germany in 1884

## *Bacillus atrophaeus*


**Where we found it:** On an antique microscope at the Denver Museum of Nature & Science

**Why it's awesome:** This hardy organism is commonly used to test the efficiency of biomedical sterilization procedures

**Fun Fact:**

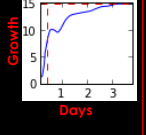
During the 1960's this organism was used in mock biowarfare simulations by the US military as a substitute for harmful bacteria

### Regular Season Stats

**Time to saturation:** 79 hrs

**Time to exponential growth:** 10 hrs

**Growth density:** 100%




**Description:** Gram-positive, rod-shaped, facultative anaerobe, motile

**Originally isolated from:** Soil in Colorado (1946)

## *Bacillus amyloliquefaciens (1)*


**Where we found it:** On the statue of Benjamin Franklin at the Franklin Institute in Philadelphia, PA

**Why it's awesome:** This is an important industrial organism, used for the production of enzymes that degrade protein, such as those used in contact lens cleaner

**Fun Fact:**

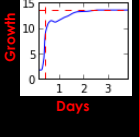
A strain of this bacteria found on plants has been shown to produce a variety of potential "biocontrol" agents that might be used to battle plant pathogens

### Regular Season Stats

**Time to saturation:** 79 hrs

**Time to exponential growth:** 10 hrs

**Growth density:** 91%




**Description:** Gram-positive, rod-shaped, aerobic, motile

**Originally isolated from:** Japanese soil in 1943

## *Bacillus megaterium(1)*


**Where we found it:**
-On the Liberty Bell (Philadelphia, PA)

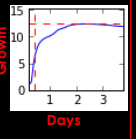
**Why it's awesome:**
This is an important industrial organism, used for the production of penicillin, vitamins, various drugs, and numerous enzymes

**Fun Fact:**

The species name of this microbe means "big beast" and it is among the largest bacteria ever discovered

### Regular Season Stats

**Time to saturation:** 56 hrs
**Time to exponential growth:** 10 hrs
**Growth density:** 83%




**Description:** Gram-positive, rod-shaped, mainly aerobic, spore-forming
**Originally isolated from:** Germany in 1884

## *Bacillus tequilensis (1)*


**Where we found it:**
- In the home dugout of the Philadelphia Phillies

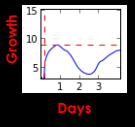
**Why it's awesome:**
This microbe produces a compound that has been shown to inhibit the growth of pathogenic bacteria

**Fun Fact:**

This microbe also produces a protein-digesting compound that has been shown to be effective in removing blood stains and dehairing hides

### Regular Season Stats

**Time to saturation:** 21 hrs
**Time to exponential growth:** 5 hrs
**Growth density:** 59%




**Description:** Gram-positive, rod-shaped, aerobic, spore-forming
**Originally isolated from:** A 2000-year old tomb shaft near Tequila, Mexico

## *Bacillus licheniformis*


**Where we found it:**
On the practice court for the Philadelphia 76ers

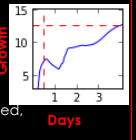
**Why it's awesome:**
This widespread bacteria is used in a variety of industries including leather production, paper production, and laundry detergent.

**Fun Fact:**

Because this bacteria is often found on feathers it is being studied for its ability to convert feather waste into livestock feed

### Regular Season Stats

**Time to saturation:** 99 hrs
**Time to exponential growth:** 12 hrs
**Growth density:** 85%




**Description:** Gram-positive, rod-shaped, sporulating,
**Originally isolated from:** Cheese (1898)

## *Exiguobacterium acetylicum*


**Where we found it:**
- On the 50-yard line at Candlestick Park (San Francisco 49ers)

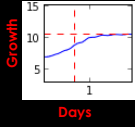
**Why it's awesome:**
This soil microbe helps plants to grow by inhibiting the spread of pathogenic fungi

**Fun Fact:**

A cold-tolerant strain of this microbe from the Himalayas was found to help wheat seeds germinate at very low soil temperatures

### Regular Season Stats

**Time to saturation:** 44 hrs
**Time to exponential growth:** 16 hrs
**Growth density:** 81%




**Description:** Gram-positive, yellow-pigmented, rod-shaped, non-spore forming
**Originally isolated from:** Creamery waste (1926)

## *Bacillus horikoshii*

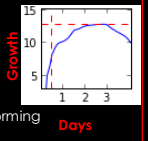

**Where we found it:**
On a lobby banister at Parkway Middle School as part of a Broward County STEM teachers event (Lauderdale, FL)

**Why it's awesome:**
This microbe has been isolated from diverse marine organisms where it appears to produce useful enzymes

**Fun Fact:**
This microbe was found to be one of several that produces tetrodotoxin in pufferfish

### Regular Season Stats

**Time to saturation:** 69 hrs
**Time to exponential growth:** 11 hrs
**Growth density:** 85%




**Description:** Gram-positive, spore-forming aerobic
**Originally isolated from:** Soil in Germany (1995)

## *Micrococcus luteus (2)*

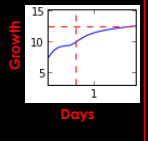

**Where we found it:**
On a practice mat sample taken by the Pop Warner Apopka cheerleaders (Apopka, FL)

**Why it's awesome:**
This microbe can survive under conditions of virtually no water and can withstand massive doses of UV radiation

**Fun Fact:** Because this bacteria is highly resistant to toxic metals it is used in both bioremediation and biotechnology

### Regular Season Stats

**Time to saturation:** 46 hrs
**Time to exponential growth:** 15 hrs
**Growth density:** 91%




**Description:** Gram-positive, spherical, aerobic, non-motile, yellow-pigmented
**Originally isolated from:** Germany in 1872

## *Bacillus pumilus (2)*

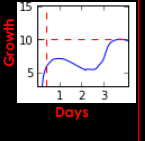

**Where we found it:**
Porta-Potty handle sample collected by Pop Warner Chittenango Bears cheerleaders (Chittenango, NY)

**Why it's awesome:**
This common soil microbe has numerous antibacterial and antifungal properties that naturally help both plants and animals thrive

**Fun Fact:**
Strains of this microbe found at JPL-NASA are resistant to desiccation, UV radiation, and hydrogen peroxide… suggesting the possibility of surviving unprotected spaceflight

### Regular Season Stats

**Time to saturation:** 90 hrs
**Time to exponential growth:** 10 hrs
**Growth density:** 67%




**Description:** Gram-positive, spore -forming, aerobic, rod-shaped
**Originally isolated from:** Plant tissues (1901)

## *Bacillus marisflavi*

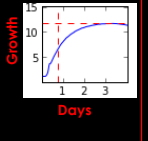

**Where we found it:**
- On grass field sample collected by the Pop Warner Pee Wee Bengals cheerleaders (Wilmington, NC)

**Why it's awesome:**
This microbe has been induced to form silver nanoparticles that show antibacterial activity

**Fun Fact:**
This bacteria has been isolated from both seawater and agricultural waste

### Regular Season Stats

**Time to saturation:** 82 hrs
**Time to exponential growth:** 18 hrs
**Growth density:** 91%




**Description:** Gram positive, rod shaped, spore forming
**Originally isolated from:** Seawater in a tidal flat in Korea (2003)

## *Pantoea eucrina*


**Where we found it:**
- On the Mercury Orbiter at the Smithsonian Museum of Air and Space

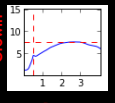
**Why it's awesome:**
Because Project MERCCURI is sending a sample from Project Mercury!

**Fun Fact:**

Most members of the Pantoea genus are plant pathogens

### Regular Season Stats

**Time to saturation:** 63 hrs
**Time to exponential growth:** 12 hrs
**Growth density:** 59%




**Description:** Gram negative, non spore-forming, rod shaped, motile, faculative anaerobe

**Originally isolated from:** Human trachea (1971)

## *Paenibacillus mucilaginosus*


**Where we found it:**
On "SUE" the *T. rex* fossil skeleton at the Field Museum in Chicago, IL

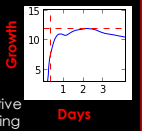
**Why it's awesome:**
This microbe is very widely used in "microbial fertilizer" for agriculture

**Fun Fact:**

This microbe secrets compounds that precipitate metals, suggesting applications in both mining and wastewater remediation

### Regular Season Stats

**Time to saturation:** 54 hrs
**Time to exponential growth:** 8 hrs
**Growth density:** 79%




**Description:** Gram variable, faculative anaerobe, rod-shaped, spore forming

**Originally isolated from:** Russia in 1998

## *Arthrobacter nitroguajacolicus*


**Where we found it:**
On the 50-yard line of McCulloch Stadium in Salem OR, collected by Chapman Hill Elementary School students

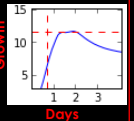
**Why it's awesome:**
This microbe was found in a screen for organisms who could degrade compounds in contaminated soil

**Fun Fact:**

Enzymes from this microbe may be useful in degrading excess pesticide residues in soil

### Regular Season Stats

**Time to saturation:** 46 hrs
**Time to exponential growth:** 18 hrs
**Growth density:** 78%




**Description:** Gram-positive, irregular rods, motile, aerobic

**Originally isolated from:** Forest soil in the Czech Republic (2004)

## *Bacillus altitudinis*


**Where we found it:**
- At Jim Smith Field, Deerfield Academy, Deerfield, MA

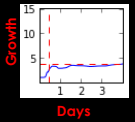
**Why it's awesome:**
This microbe was originally collected from sampling the upper atmosphere up to 25 miles high!

**Fun Fact:**

This microbe has been shown to be effective in promoting plant growth and inhibiting plant pathogens in the field

### Regular Season Stats

**Time to saturation:** 98hrs
**Time to exponential growth:** 11 hrs
**Growth density:** 29%




**Description:** Gram-positive, rod shaped, motile

**Originally isolated from:** Balloon sampling of the upper atmosphere (2001)

## *Curtobacterium herbarum*


**Where we found it:** On a stadium seat cushion at Georgia Tech University

**Why it's awesome:** While not well-studied, this microbe has shown up in several studies looking at bacteria resistant to heavy metals

**Fun Fact:**

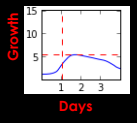
Other members of this genus are plant pathogens but it is not yet known whether this microbe is problematic as well

### Regular Season Stats

**Time to saturation:** 42 hrs

**Time to exponential growth:** 26 hrs

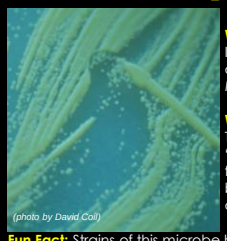
**Growth density:** 41%




**Description:** Gram-positive, aerobic, motile, irregular rods

**Originally isolated from:** Grasses in Germany (2002)

## *Micrococcus yunnanensis*




**Where we found it:** In a dictionary at the offices of Discover Magazine

**Why it's awesome:** This microbe produces a "restriction enzyme" used for cutting DNA in biotechnology applications

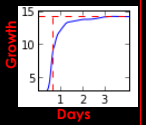
**Fun Fact:** Strains of this microbe have been re-classified numerous times. Previous names include *Micrococcus luteus* and *Sarcina subflava*

### Regular Season Stats

**Time to saturation:** 82 hrs

**Time to exponential growth:** 15 hrs

**Growth density:** 95%




**Description:** Gram-positive, aerobic, non spore forming, coccoid

**Originally isolated from:** Inside plant roots (*Polyspora axillaris*) in China (2009)

## *Macrococcus equipercicus*


**Where we found it:** On the floor under a couch at the Catholic Montessori School in Kirtland, OH

**Why it's awesome:** For reasons unknown, this microbe grows to large (non-harmful) populations on horses and ponies but not many other places

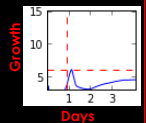
**Fun Fact:** The microbes in this genus are closely related to the much more famous Staphylococcus (e.g. MRSA) genus but have not been shown to cause disease

### Regular Season Stats

**Time to saturation:** 27 hrs

**Time to exponential growth:** 22 hrs

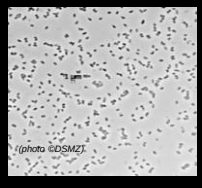
**Growth density:** 40%




**Description:** Gram-positive, non spore forming, non motile,

**Originally isolated from:** Skin of an Irish thoroughbred horse (1998)

## *Microbacterium oleivorans*




**Where we found it:** On the school mascot at St. Joseph's Preparatory School in Philadelphia, PA

**Why it's awesome:** This microbe has been shown to grow on and to degrade crude oil, suggesting applications in bioremediation

**Fun Fact:**

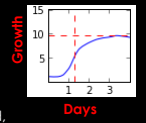
This microbe was discovered by mixing seawater and crude oil, incubating for weeks in the dark, and seeing what could grow

### Regular Season Stats

**Time to saturation:** 82 hrs

**Time to exponential growth:** 32 hrs

**Growth density:** 74%




**Description:** Gram positive, non spore forming, irregular rod shaped, non motile

**Originally isolated from:** An oil storage cavern in Germany (2005)

## *Macrococcus brunensis*

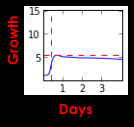

**Where we found it:** On the central keyboard at the WHYY-FM radio studio in Philadelphia, PA

**Why it's awesome:** Almost nothing is known about this microbe, but hey… isolated from llamas!

**Fun Fact:** The microbes in this genus are closely related to the much more famous Staphylococcus (e.g. MRSA) genus but have not been shown to cause disease

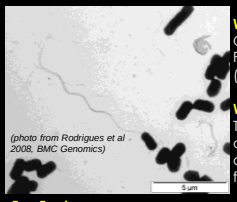
### Regular Season Stats

**Time to saturation:** 16 hrs
**Time to exponential growth:** 10 hrs
**Growth density:** 42%




**Description:** Gram positive, coccoid, faculative anaerobe
**Originally isolated from:** Llama skin in the Czech Republic (2003)

## *Exiguobacterium sibiricum*




**Where we found it:** On second base at AT&T Park in San Francisco (Giants stadium)

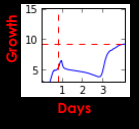
**Why it's awesome:** This microbe is so cold-adapted that it can grow at temperatures below freezing!

**Fun Fact:**

Scientist claim (controversially) to have originally discovered this microbe in 3 million year old permafrost in Siberia

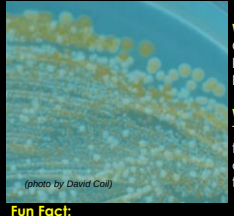
### Regular Season Stats

**Time to saturation:** 99 hrs
**Time to exponential growth:** 20 hrs
**Growth density:** 61%




**Description:** Gram-positive, non spore forming, rod-shaped, motile, faculative anaerobe
**Originally isolated from:** 3 million year old permafrost in Siberia (2006)

## *Exiguobacterium indicum*




**Where we found it:** On the center field logo at FedEx Field (Washington NFL team) in Maryland

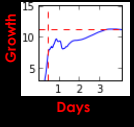
**Why it's awesome:** This microbe was isolated from glacial meltwater at an elevation of over 14,000 feet in the Himalayas

**Fun Fact:**

This microbe is "psychrophilic" meaning it can grow at very low temperatures… even in a fridge!

### Regular Season Stats

**Time to saturation:** 90 hrs
**Time to exponential growth:** 11 hrs
**Growth density:** 75%




**Description:** Gram-positive, motile, rod-shaped, non spore-forming
**Originally isolated from:** A glacier in the Himalayas (2006)

## *Bacillus tequilensis (2)*


**Where we found it:** - In the candy jar on the set of the Today Show

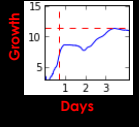
**Why it's awesome:** This microbe produces a compound that has been shown to inhibit the growth of pathogenic bacteria

**Fun Fact:**

This microbe also produces a protein-digesting compound that has been shown to be effective in removing blood stains and dehairing hides

### Regular Season Stats

**Time to saturation:** 83 hrs
**Time to exponential growth:** 16 hrs
**Growth density:** 76%




**Description:** Gram-positive, rod-shaped, aerobic, spore-forming
**Originally isolated from:** A 2000-year old tomb shaft near Tequila, Mexico