

Betsy says HI!!!!

Announcements

The next LABQUEST meeting will be Wednesday, May 14 at 12:30 at the WOMC Board Room.

Science Report Highlights

Betsy and Dan thought all the items in following science report from Charles were interesting but most liked the following:

- Bird Flu
- CDC Measles Update -There are now over 700 confirmed cases nationally
- Advance In Kidney Disease Treatment
- Petrochemical-Based Food Dyes To Be Phased Out
- Safe To Microwave Plastics In Microwave?
- Risk Of Dementia
- Gut Imbalances And Autism
- The Importance Of Vitamin D
- 12 Medications That Can Interact With Coffee
- Extraction Of Rare Earth Materials From Coal Ash

Science Report

Self-Protective Measures –

You should get your medical advice from official sources, your doctor, or your pharmacist ... not from this Report or the internet. Per recommendations by FDA and CDC, everyone should maintain current vaccinations for the three respiratory viruses: Covid, flu and RSV (for RSV, adults [over 60](#) and children [younger than 8 months](#)) - unless your doctor advises against it based on your medical record. Adults over 50 should have had the [Shingrix vaccine for shingles](#) (two doses 2 to 6 months apart, good indefinitely). Adults over 50 should have the [Pneumococcal Vaccine](#).

- [Bird Flu](#) - See a County-specific map of bird flu poultry outbreaks, updated daily by USDA, [here](#).
- [CDC Measles Update](#) - CDC will update information on cases and outbreaks at [this link](#) every Friday. Links to health authorities in Texas, New Mexico, Ohio, Kansas and Indiana are also included. April 29 Texas update: 663 cases in 2025. There are now over 700 confirmed cases nationally in 2025. Unvaccinated children become unvaccinated adults, subject to serious complications. Virginia has confirmed its [first 2025 case](#), an unvaccinated child returning from international travel.
- [FDA Food Traceability Rule \(video\)](#) - The US Food and Drug Administration has [announced](#) an extension of the compliance date for this congressionally mandated rule by 30 months from 2026.
- [14,000+ Pounds Of Ground Turkey Recalled](#) - because the product may contain bits of blue plastic. See the US Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS) announcement, [here](#).

- Lead, Mercury And Arsenic Found In Toothpaste - by an independent testing service, as reported [here](#). They name the 6 that didn't and the 14 that did. Additional background [here](#).
- Recall of Enoki Mushrooms - See the details of a particular company's recall on the [FDA's website](#).
- NIH BMI Calculator - Use the [NIH](#) National Heart, Lung and Blood Institute [calculator](#) to find your Body Mass Index (BMI). Above 25 - overweight. Above 30, check with your doctor, consider better nutrition, and exercise.
- Basal Metabolic Rate (BMR) - Your BMR is how many calories you burn just sitting in your chair. Use the [calculator](#) to get your BMR. Then consult the exercise table to see how many calories you can consume daily with your current exercise plan and still maintain your current weight.
- Body Roundness Index (BRI) - is a new medical screening tool for estimating *visceral* fat, [details](#). Use a calculator to get your BRI [here](#). Additional background from Harvard, [here](#). Results to your doc.

Vaccine and Therapeutic News -

- HPV Vaccine More Effective Than Expected - The Human Papilloma Virus (HPV) vaccine prevents cervical cancer and also anal, penile, and some head-and-neck cancers. A [4.5 year clinical trial](#) sponsored by the US National Institutes of Health (NIH) of 20,000 girls between ages 12 and 16 in Costa Rica showed an estimated [efficacy of 97% with a single dose](#), rather than the usual two. Experts called the result phenomenal! Scotland said in 2024 that, of girls in the country who were born between 1988-1996 and had been vaccinated in time, *none* had been diagnosed with cervical cancer. Australia believes it can eliminate cervical cancer through vaccination and screening.
- Pakistan Polio Vaccination Campaign - Pakistan and Afghanistan are the only two remaining countries in the world where polio is still endemic. Pakistan is just completing its [second polio vaccination campaign of the year](#), aimed at protecting its 45 million children. Travelers note: because polio is highly infectious, evidence of polio vaccination is required for all international travelers from Pakistan, regardless of age. [Details](#).
- Advance In Kidney Disease Treatment - Autosomal Dominant Polycystic Kidney Disease (ADPKD) is among the most common human monogenic disorders, and a leading cause of end-stage renal disease. 160,000 individuals are diagnosed with the disease annually in the US alone. [Regulus Pharmaceuticals](#) (San Diego CA) has recently concluded a 4-cohort Phase 1a human trial of its candidate treatment 'farabursen', with favorable safety data and encouraging preliminary efficacy data. Stay tuned for the initiation of Phase 3 human trials. Long overdue hope for a deadly disease.
- 5% Increased Cancer Risk From X-Ray Tomography Scans - A recently [published study](#) led by an epidemiologist at the University of California San Francisco concluded that [current X-ray tomography practices increase cancer risk unnecessarily in some cases](#), and recommends considering lower dose versions of the procedure when medically permissible.
- New Technology For X-Ray Tomography - was cleared for general use in April by the US Food and Drug Administration. See the company's announcement [here](#). Faster, more flexible, easier to install (plug and play), smaller footprint, lighter, no gigantic high voltage transformers and cables, no x-ray tube, cooler, automatic software updates, cheaper. [Nano-X Imaging](#) (Petach Tikva Israel).

- [12 Symptoms Endocrinologists Say Never Ignore](#) - [here](#). Early detection of conditions like diabetes, thyroid disease, polycystic ovary syndrome, and even osteoporosis can make a big difference.
- [IgG4 Is An Immune System Disorder](#) - most often found in middle-age and older patients. It is frequently mistaken for other conditions. See description [here](#). There's a blood test to confirm it.
- [Petrochemical-Based Food Dyes To Be Phased Out](#) - See the April announcement by the US Food and Drug Administration (FDA), [here](#).
- [Plastic Chemicals Found Widespread In Packaged/Processed Food](#) - A 2024 Consumer Reports (CR) [study](#) found them not just in the usual suspect fast-food products, but in a wide variety of packaged foods offered in groceries - particularly bisphenols such as BHA, and phthalates (plasticizers). See the *long* list of familiar brand name foods, and the corresponding concentrations of phthalates CR found in each, [here](#). Action: FDA, USDA and EPA should review permitted levels of bisphenols and phthalates, based on [current science for a broader set of health end-points](#) than just their effect on male reproductive development (basis of current US standards). FDA labs are equipped with the same analytical tools used in the CR study: Liquid Chromatography Mass Spectrometry (LC-MS/MS), Gas Chromatography Mass Spectrometry (GC-MS/MS). [C.C.]

Other Health Science News -

- [Chewing Gum And Microplastics](#) - Researchers at UCLA have estimated the number of microplastic shards shed when chewing 6 gram sticks of gum - about 600 per gram, [unwelcome details](#). For comparison, a typical one-liter plastic bottle of water contains about 240,000. Surprisingly, it didn't matter whether the gum was natural or synthetic. We're only beginning to piece together the impact of ingesting microplastics on human health, but it won't be good news. [C.C.]
- [Safe To Microwave Plastics In Microwave?](#) - No! And never mind manufacturers' claims of 'microwave safe'. [Glass or ceramic only](#), including tops that aren't in contact with food. [Barbara R.]
- [Early Detection Of Prostate Cancer](#) - Researchers in the UK are conducting human trials of a saliva test for the [130 genetic mutations in men's DNA that predispose for prostate cancer](#). Of the 745 men with a high score, 468 went on to take the biopsy and MRI confirming tests. Of those, 187 were found to have prostate cancer, and 103 were high risk requiring treatment ... 74 would not have been discovered at this early stage with current methods. Still a [lab experiment](#), but promising. [Details](#).
- [Risk Of Dementia](#) - A study [published](#) in January by researchers at NYU Langone Health estimated the [lifetime risk of dementia in the US after age 55 to be 42%](#) ... 35% for men, 48% for women (due to longer life expectancy). This is twice the rate predicted by earlier studies: attributed to improvements in health record documentation, and more accurate reporting of data for minorities at greater risk - no epidemic of dementia, but more focus. After age 75, the risk rises to 50%.
- [Gut Imbalances And Autism](#) - A recent [study](#) suggests that one cause of autism in children may be [gut imbalances](#) that disrupt the production of certain neurotransmitters, generating autistic behavioral symptoms. There are more neurons in the gut than in the spinal cord. 90% of gut/brain neural signals are gut-to-brain ... only 10% are brain-to-gut. Some have described the gut as a second brain.

- The Importance Of Vitamin D - A [new study](#) indicates that [Vitamin D can lower the risk of colorectal cancer by as much as 58%](#) - colorectal cancer is the [leading cause of death among men under 50, and second for women](#). Get tested for D during winter, when your skin makes little or no D from sun.
- Balance And Longevity - Dynamically, we're all balls balancing on a stick. It takes a range of systems, all working together in real time, to keep our upside down bowling pin from falling over - brain, inner ear fluid, nervous system, proprioception, counter-rotating eye motion to stabilize vision, and more. [Details](#), and simple exercises to help retain balance ... and extend longevity. [Falls are the #1 cause of death](#) for those over 65.
- Don't Think Of It As Exercise - but *do* keep moving. [Here](#) are 17 ideas. Tune-up: take transit to a new part of town, and explore (briskly) on foot. [Barbara R.]
- 6 Things To Do After 5 PM To Promote Healthy Aging - [here](#).
- Are Your Stools Healthy? - Check the Bristol Stool Chart [here](#). Ideally you should be a Type 3 or 4 This simple check, that you can routinely do yourself in a few seconds, may help catch a problem early, and could provide important information for your doctor. [Details](#).
- 12 Medications That Can Interact With Coffee - [Here](#). Coffee (or other foods like chocolate that contain caffeine) *may* either interfere with the medication, reduce its effectiveness, or generate/amplify side effects. Note on [blood thinners](#) (anticoagulants) like Eliquis - the caffeine in coffee can *amplify* their effect, and may increase the risk of bleeding events. Coffee can also complicate diabetes management. Your doctor should be informed of your coffee routine. [Sam J.]

Practical Nutrition -

- Dietary Guide For Americans - The US Department of Agriculture and the US Department of Health and Human Services have released the 2020-2025 Guide. See a brief overview video [here](#). The 4 shortfall nutrients of greatest public health concern are: Fiber, Calcium, Vitamin D and Potassium. [Details](#). The most effective way to receive nutrients is from whole natural foods that contain them.
- 6 'Bad' Between-Meals Snacks That Still Allow Weight Loss - according to registered dietitians, [here](#). Tune-up: For the chips in snack #3 also consider 'Siete Maiz Blue Corn Tortilla Chips' made with avocado oil and [nixtamalized](#) (improves nutrition) organic blue corn. The bananas in #5 should be eaten while they are still slightly green. For the cheese in #6 consider Jarlsberg Lite.
- 9 Greek Yogurt Choices - recommended by registered dietitians, [here](#). The main goal is to get enough protein to satisfy hunger, without taking in too much saturated fat or sugar. Pick the one that suits your dietary goals. Other brands: Good Culture, Nancy's, yogurts based on A2A2 milk.
- Best Fruit For Lowering High Blood Pressure - According to the US Centers for Disease Control and Prevention (CDC), 48% of US adults have high blood pressure (hypertension). The [DASH diet](#) (Dietary Approach to Stop Hypertension) is a comprehensive approach to dealing with that, and one of its top recommendations is eating more fruit - [only 12.8% of adults get enough](#). Not complicated - more fruits and vegetables means lower blood pressure ([publication](#)). The best of the best choice of fruit for lowering blood pressure is [blueberries](#), especially wild blueberries, most especially frozen wild blueberries ... [polyphenols, anthocyanins](#) (antioxidants) and fiber. [Sam J.]
- Olipop Vs Poppi, New Wave Prebiotic Sodas - A [registered dietitian offers advice](#) on which of these new fizzy soda lines is best for your health, and why, [here](#). There's any flavor you want, including cola: some with/without a caffeine hit, one with 160% of your daily Vitamin C, all with **big fiber**, low Sodium, little to no added sugar, no fat. The old, big-name, sugar heavy,

preservative-dosed, unhealthy sodas are gut-abusing dinosaurs with the comet coming. [Harvey+Dyane, Mack+Karen]

- Is A Sprouted Onion Safe To Eat? - [Yes](#), it's just a bulb spending some of its stored sugar to put out greenery. As the sprouting progresses the spent sugar leaves the bulb increasingly bitter and mushy, and when it begins to show mold it should be discarded. Store in a dark/cool/vented place.
- Misleading Words For Sugar - High-fructose corn syrup, sucrose, barley malt, dextrose, maltose and rice syrup are all [forms of sugar](#). Certain blood alcohols sometimes used as sweeteners, such as Erythritol and Xylitol, are made by the body and occur naturally in certain foods - but in very small amounts. They have recently been [linked to heart disease and stroke by Cleveland Clinic researchers](#), and should be avoided as food additives. Chemical sugar substitutes to be avoided: acesulfame potassium, advantame, allulose, aspartame, brazzein, lactitol, maltitol, mannitol, neotame, rebaudioside A (reb-A), saccharin, sorbitol, thaumatin and trehalose.
- Is Your Favorite Food Ultra-Processed? - and if so, what's a good substitute. View the Northeastern University [TrueFood Dashboard](#).
- Most Nutritious Vegetables and Fruits Rank-Ordered by CDC - See the list [here](#). Chinese cabbage = bok choy.

Environmental Science News -

- Nature's Way To Deal With Garden Pests - Aphids, mites, scale, mealybugs and leafhoppers, along with insect eggs, don't have a chance against [ladybugs](#). You can order them on-line by the thousand, no poisons needed. They don't bother people or pets, birds don't eat them, they don't eat plants, they come in a variety of colors, and they're cute. Win win. [Background](#)
- Expansion Of US Lithium Reserves - A [study](#) commissioned by the US Department of Energy has upgraded an earlier estimate of Lithium bearing brines under the Salton Sea in California - now 18 million tons worth \$540 billion, enough to build batteries for 382 EVs. That's enough to make the US independent of foreign suppliers of Lithium. There are a few extraction/refining [details](#).
- Lithium Mining In Nevada - [American Battery Technology](#) (Reno NV) has [announced](#) receipt of a \$900 million letter of interest from the US Export Import Bank to potentially advance its [claystone Lithium mining and refining](#) activities in Tonopah Flats NV. Other types of Lithium mining are hard rock, and Lithium bearing brines.
- Slow Release Fertilizers And Microplastic Pollution - [Details](#). A study [published](#) by researchers at the University of Missouri in the Journal of Hazardous Materials indicates that the polymer (plastic) coatings used fragment into plastic microparticles. Try natural compost instead.
- Blue Moon Metals (Toronto Canada) - has received permission from the [US Bureau of Land Management](#) for the next step in developing its critical metals mine in Mariposa County California.
- 1.9 GW Coal-Fired Power Plant Closing In Utah - Intermountain Power Agency will be closing its [coal-fired power plant in Delta UT](#) this year, which might have been the end for the small town of 3,800 residents ... but the company has decided to replace the old plant with two natural-gas-fired turbines, combined capacity of 840 MW. The [new turbines are also designed to run on green Hydrogen](#) - the plan by 2045. So from very bad .. to bad .. to three-star, and the town is saved! Win!
- Extraction Of Rare Earth Materials From Coal Ash - [Researchers](#) at the University of Texas are [investigating this possibility](#), which could solve two problems at once. Stay tuned.

- Mining For Rare Earths In Discarded Electronic Devices - A [pilot test](#) has successfully recovered the rare earths Neodymium, Praseodymium, and Dysprosium, along with gold, copper, aluminum and steel using a new acid-free method - recovery rate 90%. Well done!
- Staying Cool In India - Palava City is a 5,000 acre experimental community NorthEast of Mumbai, designed from the ground up to keep its residents cool with minimal air conditioning. See how they are doing it, [here](#). Summary: lush plantings, walking and bike use rather than polluting vehicles, buildings angled to make use of prevailing Westerly winds, solar powered water heaters, sun reflective construction surfaces, inset windows with heat-rejecting film. They are already making 10% of their own power with solar, and have plans to raise that percentage substantially. They treat and recycle their own gray water. Promising. [Raga A.]
- Plug-In Construction Cranes (video) - See the new [Manitowoc](#) plug-in hybrid battery/electric construction crane. Big!
- Love-Starved Cougars In California - California freeway 101 has 12 lanes, carries 600,000 cars daily, and makes a formidable barrier for star-crossed cougars looking for a mate in their bisected habitat in the Santa Monica Mountains. Caltrans is coming to the rescue by building the world's largest wildlife crossing to help them with their social life - covered with 6,000 cubic yards of soil and 5,000 native plants. Details, and a photo of the progress, [here](#). Completion 2026. Love!

Other Science News -

- Taiwan's First USV Unveiled - Uncrewed Surface Vehicle (USV). See a photo, and details, [here](#). Specs: 28x12 feet, 5 tons, fiber-reinforced plastic, 1 ton payload, 40 mph, several communication systems, AI-driven targeting, anti-hijacking features, autonomous navigation trimaran hull for stability, can carry torpedoes. Looks like they've learned a few things from the Ukrainians about asymmetric warfare.
- Czech Republic Ends Dependence On Russian Oil - Prime Minister Petr Fiala recently announced that Czechia is now independent of Russian oil for the first time in history, details and map [here](#). Use of Russian natural gas ended in 2022. Great example to others in Central Europe.
- EV Sea Gliders For The US Marines - [Regent Craft](#) (North Kingstown Rhode Island) was awarded an initial \$4.75 million contract from the US Marine Corps to build and test a prototype and full scale model of its Viceroy Seaglider - test flights now underway in Rhode Island's Narragansett Bay. Specs [here](#) - Summary: all battery/electric, hydrofoil start-up, surface effect flight, no runway required, low maintenance, affordable, low radar signature, 12 passengers, 180 mile range, 180 mph max speed. Details, photos, and two spectacular videos [here](#). A new \$10 million contract will now take the project to Phase 2. [Julian G., Harvey B., Mike C., Peter P., Phil J.]
- US Marines Create Competitive Attack Drone Teams - to make use of the lessons being learned from Ukraine/Russia first-person drone battles. The first contest will take place from June 30 to July 3 at the US National Drone Association's Military Drone Crucible Championship in Florida. [Mike M.]
- Mach 1.6 Airliner Design From China - The Commercial Aircraft Corporation of China (Comac, Shanghai China) has released the initial plans for a [supersonic passenger aircraft](#) (C-949) with a 4,500 mile range (50% > Concord), maximum speed of Mach 1.6, and the expected noise level of a hairdryer. "The journey of a thousand miles begins with a single step." Lao Tzu, 6th century BCE.

- NASA Discovers Diamonds On Mercury - NASA's Spacecraft [MESSENGER](#) has orbited Mercury for about 4 years, and has been producing detailed maps that reveal a very high Carbon content - including surface traces of Graphite. Researchers modeling the crystalline forms that Carbon would take under subsurface conditions on Mercury concluded that there may be a [sphere of diamonds 10 miles thick](#) starting just under the crust. Graphite and diamond are both allotropes (crystallographic forms) of Carbon. A new probe, [BepiColumbo](#), going into Mercury orbit in 2030, will tell us more.
- LUCY Examines A Second Asteroid (video) - in a dress rehearsal for the NASA probe's main assignment: exploring Jupiter's Trojan asteroid belt ... asteroids that lead and trail Jupiter in its orbit around the Sun. Lucy's instruments - high-resolution grayscale imager, color imager and infrared spectrometer (designed and built at NASA Goddard Space Flight Center in Greenbelt MD), far infrared spectrometer - will give us a much better idea of conditions in Jupiter orbit. LUCY is presently 12.5 light minutes away from Earth. [Wade S.]

Nice Thing -

Mood Indigo - Made famous in a [radio broadcast in 1930](#) by American pianist, composer and jazz orchestra leader Duke Ellington. Note the pitch inversion from the usual high-to-low pitch order (clarinet/trumpet(muted)/trombone) to the opposite, led by trombones at the top of their register.

- Mood Indigo - Original orchestration performed in 1952 by Duke Ellington and his band, [here](#).
- Mood Indigo - Reperformed by Duke Ellington himself later in life, piano accompanied by Bass - [here](#). [wait and skip ad]
- Mood Indigo - Sung by Sarah Vaughn, [here](#). [Jenna D.]
- Mood Indigo - Sung by Nina Simone, 1958, [here](#).
- Mood Indigo - Sung by Frank Sinatra, [here](#).