# Walnut Hills Newsletter

A Beautiful Community of Families, Friends and Neighbors for 58 years

## High School Graduates



Send in your Senior Pictures for the June Graduation Issue. Now, more than ever, we want to celebrate your graduation as a community. Every graduate from all schools - send your digital photo to walnuthillsnewsletter@gmail.com

We Are Proud Of You!

#### Spring Dumpster Days 2021

May 8th and 15th - 8AM to 11am (or until trucks are full)

This year's Dumpster Days is scheduled 8AM to 11AM on May 8th and 15th no matter what the weather For your \$30 membership fee not only do you have great events like Easter Egg Hunt, Fourth of July Parade/ Ice Cream Social, Yoga Sundays, National Night Out, and Halloween Party; you have the Spring and Fall Dumpster Days. What a great deal!

"The Garbage Man" trucks and workers will show up and pull off your trash, so you don't have to touch it! And as always Dawd "the metals man" will claim our old treasures to be recycled. They have joined us for several years now and have supported our Dumpster Days.

Please remember no cans of paint, no poisons, no batteries, no brick or concrete, no tree stumps, but bring your mattress, sofa, lawn furniture, bicycles, tree branches, bushes, etc.

Any Questions? Don't hesitate to call Donna - Dumpster Days Chair - Donna Senn - 303-522-8384





#### 2021 Easter Egg Hunt

The WHCA is pleased to announce that we WILL be having the Easter Egg Hunt this year! First, a few covid related items: Masks must be worn, covering the nose and mouth, by all participants over the age of 2. The WHCA reserves the right to enforce the use of masks as we see fit. Please maintain an appropriate social distance from your neighbors.

The hunt will kick off at 11 am sharp on Saturday, April 10 at the Walnut Hills Park (not the school). Unfortunately, no arts or crafts will be provided.

We look forward to seeing the community for the first time in a while!

#### Food Trucks

Starting May 5th we will have Food Trucks in Walnut Hills. They will be running the first and third Wednesday's of each month from May 5th through the end of September. They will be posted near the Walnut Hills Tennis Courts. Start times may vary depending on the trucks, but usually they start about 4:30 pm and will run through around 7:00 pm.

Each time we will have a savory truck and a dessert truck. A few times during the summer we will actually have a Food Truck called Bone Apetreat, which caters to dogs. Since I know we have a lot of furry friends in the neighborhood it should be fun. They serve dog treats made with peanut butter, pumpkin, etc. They have treats with birthday messages, seasonal shapes and playful shapes. They will also be selling Colorado made chews and stuffed bones.

In addition to the Food Trucks we will also be hosting local Walnut Hills artists on some of the Wednesdays.

Please keep an eye out on Nextdoor and the Nextdoor Event page for the Food Truck details. I will post dates, truck names, artists in attendance, etc.

If you have questions please reach out to Myra Garcia at 720-934-5822

#### Honeybee Swarms In Walnut Hills

It's that time of the year again when honeybees are swarming in Walnut Hills. A swarm is vulnerable to weather changes as scout bees search for a new location. Please consider calling a beekeeper to capture the swarm before they find a home indoors! Our very own board member and advertising manager, Donna Senn #303-522-8384, is an experienced beekeeper and can answer questions. If you do keep bees in Walnut Hills or have neighbors that do, let us know!

Brookie, who had been our Metals and Recycle guy, has passed away at the age of 84. We considered him a treasure and a necessary part of Dumpster Days. He will be missed. His son Dawd ,who has helped his Dad for years, will take up the reins. Rest in Peace Brookie.

#### Another Car through the Walnut Hills Fence

#### Andrea Suhaka, 303-770-0058

Another vehicle has torn down some pieces of the Walnut Hills GID fence behind 7322 E. Hinsdale Ct. on S. Quebec St. The Sheriff's Office believe it was a medical emergency that made the driver lose control of his car northbound on Quebec. One complete panel and two posts were demolished.

If this happens in your backyard to the GID fence, please, get a case number from the responding deputy and contact Julie Gamec, our GID Project Manager, at: Neighborhood6@walnuthillscolorado.org. Give her the date and time of the accident and the sheriff's case number. She will make sure the fence gets repaired in a timely manner. If you're not home at the time, we at least need the day it happened; time, if someone else can tell you; and a picture of the damage. Help us keep our neighborhood fence in good repair.





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#### **COVID** Road Trip

#### By Jesse Alcorta

So, you've been in lockdown for a year, well it seems that way, and you want to get out for a bit. What to do, what to do...Let's do a road trip. The Front Range area has several decent drives that can take a couple of hours and include some hiking. The problem is that many of the local drives have probably been done or may be snowy and icy at this time. I can recommend a recent drive that I took if you have a day. Try the Skyline Drive in Canon City...but there is a hitch.



The Skyline Drive is a narrow one-way scenic drive on the west side of Canon City. It parallels US 50 West on the west side of Canon City. It is not for those faint of heart or those with a fear of heights. The view to the south and the east are impressive. Skyline Drive was built in 1905 utilizing prison labor from the local territorial prison system. Records from the time state that 60 inmates completed the road in 1905. Only horse carriage or foot traffic were permitted in the initial stages of use, however cars were allowed beginning in 1907. There are a scant few places to pull off to one side and stop for pictures. However, there is a parking area to the south at the end of the drive and visitors can hike back up the road along the small trail.





You can find cacti and fir trees growing out of sedimentary rock. There is a small trail, picnic benches, and informational signage along the asphalt road. I was fortunate during my recent visit as there were no other vehicles that day and I could freely park in a pull out and enjoy a short hike and shoot pictures. If one has a sharp eye you can see dinosaur prints in the rock face.

So what's the hitch you ask? Looking back, it is better to do the drive in the late afternoon. I did the drive in the early morning and the Sun was not high enough in the sky to view the eastern plains looking toward Pueblo to my satisfaction. The view to the south and the north was excellent though. The foothills to the west obscure any view of the Sangre de Cristo Mountain Range so the first half of the compass is what you get to see.



My recommendation – Leave Denver early, maybe 5am. Take a lunch, your camera, and maybe a friend or family and make a day of it. Drive to Pueblo via I-25 and head west on US 50 West toward Canon City. Make Royal Gorge a stop or drive along US 50 West and just enjoy the drive along the Arkansas River. Stop occasionally and take a picture or two. Keep a sharp eye as I saw Rocky Mountain Bighorn Sheep on the steep cliffsides and Bald Eagles soaring over the river. There are numerous places along the Arkansas River to enjoy a lunch. It's a 3 ½ hour drive to Salida if you want to make it a full day. Then enjoy the Skyline Drive on the return trip.

Photos Jesse Alcorta

## The Market Is Hot In Walnut Hills!



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## Pandemic - One Year In

## **I've Had An Almost Good Experience With Covid.** I've been able to attend a lot more meetings because of Zoom and not having to travel to meeting places. I've now gotten both of my vaccine shots (I'm over 70) and feel a bit of relief.

On the not so good side, my father was in a facility in New Jersey and died in May from the loneliness of the lockdown (not covid). He was 99 1/2! He was suffering from dementia and my siblings were visiting him at least 3 times a week and then, nothing. Thank heavens, I did go to Jersey for Thanksgiving in 2019 and my daughter and her husband flew in from England. We did get to see him one last time. We won't be able to have his memorial service until Oct., this year, until the rest of my siblings can get all their shots.

I did inherit a bit of money from which I replaced my 10-year-old Civic with a Tesla Model 3 (the lowest priced one). I have solar panels on my house so, now, the sun runs my car! That's a good feeling.

I also managed to form a 501(c)(3) nonprofit while we were all locked down. I've been more busy in the covid times than I would have been with no plague.

My Covid Experience Has Run The Gamut and I wish I could say it was a modest inconvenience. Looking back, I consider my family lucky. I witnessed a woman in a local big box retail story purchasing mass quantities of toilet bowl cleaners. When she was asked what she was doing she stated that she was going to make hand sanitizer. This was when toilet paper, hand sanitizer, alcohol, and cleansing agents started to disappear from the shelves. We were lucky that we had essential items and never saw shortages that other experienced.

I took a regular job in June. Unfortunately, my employer was struck by COVID. Everyone was wearing masks as far back as May already. I contracted COVID in mid-October. For me personally, I thought I had a seasonal allergy due to lingering smoke from the wildfires. A bit of runny nose and occasional congestion. So, for me it was a minor issue. I continued to get to work every day as normal. My wife was seriously ill in mid-November and was out for 10-14 days. She lost her sense of smell for a few weeks and had to deal with fatigue for many days. For her it was like a major cold that sapped her strength.

I also lost friends due to COVID. I had a close friend, much younger than me, pass away a few days before Christmas. She went from being sick, to developing pneumonia, having a series of strokes in the doctor's office right in front of the doctor, spending several days in ICU, started to do better, then had a massive stroke that killed her. This was all COVID related. Another friend, just recently retired, broke his ankle, became ill with COVID, entered the hospital and passed away, all within 10 days. I also lost coworkers from other jobs during this time.

**Yes, It Has Been A Year.** It doesn't seem possible to us. Maybe it should have been better, but starting last spring, we got some things done in the yard and around the house that we had put off. The summer brought about lots of yard work that needed to be done. It was difficult because we so missed out family, especially our three kids, spouses and eight grandkids, but frequent phone calls and letters helped. Zoom also helped out a little. But our summer family get-together was put on hold.

In the fall and winter, it was time to start pulling together year-end things like taxes, financial information and remembrance of birthdays, anniversaries and special times. It also gave us time to remember 'old' friends with whom we had lost track. Christmas was the worst time of the year. Again, we missed seeing our kids and grandkids. While talking to them and seeing them on Zoom helped. Nothing can take the place of a big hug and kiss. Now it's spring again and we are busy making plans for summer trips and get-to-gathers that we missed.

I happen to be born during the early 30's during the depression, and when I read of those times, I find it hard to believe the hardships my parents faced and can't help but be thankful for all that we have now. Going back further into the mid and late 1800's I read about the times of the Spanish Flu when my grandmother was a little girl, and the Flu was the cause of losing her mother and seven of her brothers and sisters to the Flu and her father having to put her in a private school where she was raised. People talk about hardships - those were hardships.

When I was a little boy, my big brother was serving in the Marine Corps in the South Pacific. The stamps we had to have to buy certain items didn't compare to the nights I thought of him and whether or not he would survive WW II. Yes, the past year has had its difficulties, but nothing that compares to the times our parents, grandparents and great

grandparents faced. We are so very fortunate that most of us have the wherewithal to live a comfortable life and most of all have the resources to share with those that are not so fortunate.



#### For Many Homeowners Here In Walnut Hills,

living here meant having a safe, secure base to ride out the pandemic, reasonably comfortable while safer at home. One Walnut Hills family, however, was living thousands of miles away in China when the pandemic started. The Horn family had decided to rent out their home for the 2019-20 school year and spend one year living in Beijing at Tsinghua University.

They had already traveled extensively with their two and six year old children, so their time in China started out great. They settled into their Chinese life, making good use of translation apps, exploring the city, and forming friendships with other homeschooling expat children from around the world. Not long after Santa visited their fifth floor walk up apartment and left gifts under their makeshift Christmas tree, they boarded a plane to Thailand, like many expats do during the weeks surrounding Chinese New Year.

What they didn't know, is that the single email they received from the embassy prior to leaving would turn into a global pandemic that kept them from ever seeing that apartment again. After exploring temples and feeding elephants in Thailand, the Horns continued on to Malaysia, India, and Sri Lanka. The plan for their exotic vacation perfectly arched away from China and known COVID cases. As their kids delighted in the playgrounds behind the Petronas Towers in Kuala Lumpur, Maddy and Paul came to the realization that their return flight to China needed to be cancelled and they needed a plan.

They continued on, grateful to be feeling safe as they tried street food and rode tuktuks through the exciting, crowded streets of Jaipur, Agra, and New Delhi. While the kids played on the beach in Sri Lanka, Paul secured a workplace and guesthouse in Johannesburg, South Africa. When the epic month long 2020 vacation came to an end, the Horns moved to South Africa.

There were no known COVID cases in South Africa, so the Horns enjoyed a new adventure and settled into their new African expat life. They even vacationed to Cape Town and saw wild penguins the weekend after the United States went on lockdown. Before long, the dominos fell and it became clearly unsafe to continue living in South Africa.

The Horns flew back to the United States the day before many of the flights stopped running. In a way, it felt like flying back into the fire, with COVID numbers being so much worse here in the United States, but issues of visa renewal and lack of guaranteed water, electricity, and shelter could not be ignored.

Once back in Colorado, the pandemic has been similar for them as everyone else. Maddy opted not to return to work so she could stay home safely with the kids. Paul worked mostly from home. They get a lot of Asian takeout to remember all the fun adventures they are no longer having, and feel, like the rest of the neighborhood, grateful for the safety of their Walnut Hills home.



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#### Easter is April 4th! Visit Mauzie's to add

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#### Greetings Walnut Hills Neighborhood,



As we continue to navigate this school year, it is encouraging to see that local COVID metrics are stabilizing. I recognize that community transmission is a collective effort and appreciate seeing our community take the steps to get schools and other elements of normal life back. From a school perspective, teachers and staff at Dry Creek were given access to vaccines in February. As of late March, all school staff have completed the two vaccine doses. The vaccination of teachers has been an important step in bringing students back to in-person learning in the middle and high school levels and well as increased enrollment for the 2021-22 school year. To finish out this year, I am hopeful that we will be able to conduct some "normal" end of the year celebrations such as 5th grade continuation, field day and retirement celebrations. I wanted to specifically recognize two outstanding teachers who are going to be retiring from Dry Creek

this year. Mrs. Kristin Goldsberry and Mrs. Kim Sharp are both retiring at the end of the school year. I wanted to recognize these two educators for 46 years of combined service to the Dry Creek community. I also wanted to recognize Mrs. Kati Brinks, our Office Manager and Walnut Hills resident, who was awarded the Cherry Creek Schools All-Star Award. Mrs. Brinks continually goes above and beyond for our school and we are grateful to have her! I wish you all a wonderful start to spring. Thank you for the continued support of Dry Creek Elementary.

My Best,

Kevin Watanabe

Principal, Dry Creek Elementary

#### Walnut Hills Welcome Letter

A welcome letter is sent to recent new residents from the WHCA. A listing of new sales is provided by Tyler Draheim, a resident, a realtor, and member of the WHCA board.

The most recent welcome letter includes information on dues and that a letter regarding how to pay the dues will be in your mailbox soon, as well as information on donating to the WH neighborhood scholarship fund. New residents are encouraged to pay the nominal dues to help support the activities and events that the WHCA provides. Also in the letter on dues is information on the activities and traditional events planned by the WHCA for 2021 such as the Easter egg hunt, 4th of July parade and ice cream social, Dumpster Days in May and October, Halloween party in the park, National Night Out and yoga in the park. These events are subject to restrictions of Covid guidelines.

Contact information for the WHCA and the neighborhood newsletter is also provided.

Welcome To The Neighborhood To Our Newest Neighbors! Grant and Kathryn E. Briarwood Blvd Mark and Stephanie S. Tamarac St. Gunnar and Tracee S. Syracuse Court Jacob and Rachel S. Tamarac St. Janet and Ajay S. Roslyn Circle Kelsey Wolpert E. Easter Ave. Trevor and Leah S. Uinta St.

#### June Yard Sales

We have all had over a year now to clean up, clean out, organize and decide what items in our homes we can really live with. Sell those things at the Walnut Hills Community Garage Sale! Friday and Saturday, June 4th and 5th, the WHCA will provide advertisements and banners at our entrances for a community garage sale.

#### It's Time to Clean Your Dirty Dryer Ducts

By Einar Jensen, Risk Reduction Specialist- South Metro Fire Rescue

### Dear Walnut Hills Community,

Although this school has had many different experiences, the year has flown by for us at Walnut Hills. We continue to be grateful for in-person learning and our children continue to thrive. Our staff has worked hard to continue to develop engaging, creative, and rigorous lessons in all content areas while following the safety protocols and routines to keep us all safe in school.

In February, we celebrated Black History Month, President's Day, Lunar New Year, and Valentine's Day. We had a virtual assembly with the Denver Dumb Friends League that taught our children dog safety. They enjoyed the new learning! On February 17th kindergarten and first grade



celebrated the 100th day of school. They did many fun activities and even dressed up as if they were a hundred years old. So funny! We also had school spirit days every Friday which was super fun. I loved seeing all the hats, socks, and crazy hair!

We completed parent-teacher conferences the week of March 1st. Teachers shared progress and information virtually. Families had the opportunity to share and ask about their children. The week was a huge success! On March 12, we headed out to spring break! We are looking forward to a wonderful last nine weeks of school.

Many teachers and staff are receiving covid vaccinations with a huge celebration. We are grateful to the district and state for making us a priority. We will continue to work to stay healthy to stay in school.

Being the principal of Walnut Hills over the past five years has been an incredible journey. Our experience together has been inspiring, uplifting, and unforgettable. We have experienced such growth and achievement as a community, and I could not be more happy or proud of our accomplishments. I am writing this letter to share with you that at the end of the school year, I will begin a new chapter in my life and transition into a new role as the principal of our newest elementary school, Elementary 45. I will always hold you close to my heart and never forget the gift of being the principal of Walnut Hills Elementary.

I know with all my heart that a new outstanding principal will join you and keep the amazing work for our students moving forward. We have an exciting future at Walnut Hills!

Much love and gratitude,

Teolyn Bourbonnie

Principal



#### Walnut Hills Elementary School

Run4Fund\$ - April 30, 2021\*

- The Run4Funds Event will be an ALL Student Participation Activity during School hours that will be Fun, Promote Fitness and Drive School Spirit.
- Students are provided a Spirit Shirt and each student participates in a 30 minute fun run at school.

For many of us, spring cleaning begins in earnest in April. Targeting clutter in the garage and closets makes sense after a long winter and our global pandemic. It's also a great time to target fire hazards.

When was the last time you cleaned the lint screen in your clothes dryer? Most people clean the screen after every load. That's the best practice, especially if your clothes shed as much as mine.

When was the last time you cleaned the duct work that vents air from your dryer? Lint, hair, and dust that collect in that ductwork is flammable. Worse, it collects along a channel for superheated air.

Remember, only three components are needed for a fire: oxygen, heat, and fuel. The fuel absorbs heat. Initially that heat causes any water content to evaporate, and then it causes solid fuels to disintegrate into their gaseous form. With adequate heat, those gaseous particles can ignite.

The ductwork from your dryer isn't strong enough to prevent flames from escaping into walls. Fires in dirty duct work can grow into the dryer and laundry room, ignite the exterior wall, and spread fire within wall spaces.

A duct full of lint, also reduces the efficiency of your dryer, which means you spend more money on energy.

This spring, save money and prevent fires by cleaning the lint from inside and outside your dryer.

For information on other safety issues, visit www.southmetro.org or contact us at ReducingRisk@southmetro.org.

#### Here is how you can help:

We are looking for sponsors to help reach our school's donation goal. If you are interested in sponsoring a student, an entire class or placing a flat donation, please contact Jennifer Bomgaars for more information at 303-257-4597 or at <a href="https://whytco.fundraising@gmail.com">whytco.fundraising@gmail.com</a>.

#### Sponsorship Benefits:

- Inclusion on our dedicated Run4Fund\$ website where students collect online pledges
- Inclusion on the Walnut Hills PTCO website:
  <u>https://sites.google.com/view/whptco/home</u>
- Inclusion as a PTCO Sponsor on the Walnut Hills Elementary School Marquee
- Name Inclusion in all Social Media posts

\*Date is subject to change

#### **Easters** Past

The Easter Egg Hunt is back on for April 10th at 11:00 am at the Walnut Hills Park (not the school), masks are required. In the meantime, please enjoy these photos of Easter Egg Hunts of the past (2015-2019). Better days are ahead and we look forward to more events coming back this year. Happy Easter!









1994

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# AP Images

Jesse J Alcorta Photographer alcortje@pcisys.net





#### Breeders Toughen Up Bees To Resist Deadly Mites

By Erik Stokstad

The death of his favorite queens in 2013 was the final straw for BartJan Fernhout, an amateur beekeeper in Boxmeer, the Netherlands. Fernhout's queens, which he had purchased from a specialty breeder, produced workers with prized traits: They were calm and made plenty of honey. Then, Fernhout's hives became infested with a parasitic mite named Varroa destructor, which has become a major contributor to the demise of bee colonies worldwide.

Chemicals and other methods can control the parasites. But the mites are developing resistance, and the treatments sometimes don't work—or even backfire. The chemical Fernhout used to fight his mites, for example, stopped his queens from laying eggs. That caused the workers to kill the barren queens and begin to raise new royalty, a ruthless reaction the bees evolved long ago to ensure the future of their hives.

Frustrated, Fernhout decided there had to be a better way to combat the mites. The next year, he took a buyout from his research job at a veterinary firm to found Arista Bee Research, a nonprofit that has joined a growing global quest to breed honey bees able to resist Varroa mites on their own.

It's been slow, laborious work. Since the mite jumped from Asian honey bees (Apis cerana) to the common domesticated European honey bee (A. mellifera) more than a half-century ago, researchers have discovered some bees can keep the mite in check through behaviors such as fastidious grooming and removing mite-infested larvae. But identifying bees able to mount these responses is tedious. A standard way to evaluate grooming, for example, is to count how many mite legs have been chewed off by vigilant bees. And the complexities of bee reproduction make it cumbersome to combine mite-resistance traits with others valued by apiarists. Although researchers and breeders have created bees that require fewer pesticides, even these colonies can be overrun by mites—and very few lines can yet survive without any treatment. "There is progress, but not very significant," says Benjamin Dainat, a bee researcher and breeder at the Swiss Bee Research Centre in Bern.

New molecular tools promise to accelerate those efforts. A new protein-based test, for example, would allow beekeepers to simply send a laboratory a few dozen antennae, plucked from their bees, to learn whether the insects have mite-detecting powers. Other scientists are sequencing the genomes of huge numbers of bees, hoping to create a relatively cheap and easy way to identify bees that carry genes for the protective behaviors. Such a test "is almost the Holy Grail" of anti-Varroa research, Fernhout says.

A success would help secure the future of the multibillion-dollar honey bee industry, which supplies honey and enables the largescale pollination of highvalue crops, such as almonds. If breeders can spread resistant bees, then "the long term is looking good" for controlling the mite and stemming the bee die-offs, says John Harbo, a retired biologist and bee breeder in Baton Rouge.

Like other ruinous pests, Varroa started to cause trouble after it moved to a new host. One species, V. jacobsoni, is a long-standing parasite of Asian honey bees throughout their home range of southern Asia. It reproduces in the bees' brood cells, where it feeds on the larvae, but it typically doesn't destroy colonies. One reason is that the mite lays its eggs only on larvae that will become drones—the males that mate with queens—and hives produce only a few drones. If the mite does target the more numerous larvae of worker bees, they commit suicide (a process called social apoptosis), preventing the mite from reproducing. The natural process of starting a new colony, called swarming, also gives colonies a fresh start; when a queen and a swarm of workers abandon their old hive, they leave behind the reproducing mites as well.

In the mid–20th century, after apiarists brought European colonies to Asia, the mite found its new host. The European bee, which beekeepers prefer for its large colonies and docile workers, generally lacked the Asian variety's defenses. Breeders had selected against swarming behavior, for example, because keepers don't like queens to abandon their hives. The mite quickly adapted to its new host, and it routinely infests the larvae of European worker bees. The result was a new strain of Varroa—defined as the new destructor species in 2000—which ran amok. It now afflicts European bees everywhere except Australia and a few islands.

The role of pesticides such as neonicotinoids in honey bee die-offs is debated. But there is no question that the mites have been a major factor. V. destructor weakens both adult and larval bees by consuming their fat stores. The mite also spreads viruses, including a lethal one that deforms wings, preventing bees from flying. Parasitized colonies lose workers, make less honey, and often fail within a year if not treated. Modern beekeeping, which involves keeping hives in close proximity, appears to have accelerated the mite's spread. When one colony is collapsing, bees from others come to rob honey and also pick up mites and viruses. "If you are commercial beekeeper and you stop treating, basically you lose your operation," says Fanny Mondet, a bee researcher at the French National Institute for Agricultural Research in Avignon. The rise of V. destructor in the late 1980s and '90s made other beekeeping problems look "like child's play," says Robert Danka, a bee biologist with the U.S. Department of Agriculture's (USDA's) Agricultural Research Service in Baton Rouge. In theory, there is a simple solution: Don't do anything and let natural selection eliminate bees that can't resist the mite. It's brutal, but it works. Populations of feral honey bees crashed after Varroa arrived, for example. Then, in a few places they began to recover, suggesting some colonies had defenses. Beekeepers who let their hives fend for themselves also saw results. In the early 1990s, Daniel Weaver, a bee breeder in Navasota, Texas, let the mite run wild in 1000 of his colonies. Just nine survived the first year, and from these he bred mite-resistant bees. "It was a painfully expensive experience," he recalls, and costly enough to put many beekeepers out of business. Such natural culling could also mean losing valuable bee strains produced by decades of breeding.

trade-offs. For example, mimicking swarming by transferring a queen and some workers to a new hive means a smaller colony and less honey for a while.

Breeding mite-resistant bees is an increasingly appealing alternative. "You can reduce the use of treatments, increase your survival, and reduce the number of colonies that you need to replace every year," says Greg Hunt, a bee biologist who recently retired from Purdue University in West Lafayette, Indiana. One source of inspiration



for breeders is Karl Kehrle, a Benedictine monk known as Brother Adam, who worked at Buckfast Abbey in the United Kingdom. In the early 1900s, U.K. honey bees were dying from a different mite, which infested their airways. Brother Adam traveled the globe, collecting resistant bees. Over 70 years, he bred a robust strain known as the Buckfast bee.

To replicate Brother Adam's success with the new threat, bee breeders hope to enhance mite-fighting behaviors such as grooming. Some bees vigorously shake off mites, or bite the parasites until they drop off—a behavior whose effect can be measured. Three times a year, researchers at Purdue University enlist students to visit 100 to 150 bee colonies and collect mites that have dropped to the bottom of the hive. Then, they put the parasites under a microscope and count how many legs are missing or partially chewed off. By breeding queens from colonies where mites showed high levels of damage, they have developed relatively resistant colonies. But not everyone has the time and patience for laborious limb counts.

In a lab in a suburb of Berlin, technician Karla Rausch stares intently at a video of bees scurrying inside a hive. She replays one short clip several times, tracking a single bee that has a tiny number glued to its back. A hexagonal brood cell holding a larva has caught its attention—and for good reason. Researchers at the Institute for Bee Research (LIB) here have placed a Varroa mite inside this cell and many others. Rausch is documenting how bees respond as part of an effort to identify genetic markers for mite resistance, which could be a shortcut to breeding better bees.

The worker taps its antennae on several cells, checking for chemical cues. Then it nibbles a hole in the mite-infested cell. Other bees, responsible for cleaning, will remove the larva from the hive, preventing the mite from reproducing. This behavior, called Varroa sensitive hygiene (VSH), is heritable and a key target for breeders.

In the 1990s, however, the idea of breeding Varroa-resistant bees was considered a long shot, recalls Harbo, who worked at USDA's bee lab in Baton Rouge, where VSH was first observed. "People were saying [that would be] like breeding sheep for resistance to wolves," he says.

Harbo and his colleagues proved them wrong. By breeding bees from colonies with a lower proportion of reproducing mites, they were able to create colonies that had improved Varroa resistance. But the new strains never caught on with beekeepers. One weakness was that they were inbred, lacking the genetic diversity that helps create vigorous hives.

Since then, Danka and other breeders have continued to improve these bees. The newest group to follow in Harbo's footsteps is Arista Bee Research. One of its principal efforts has been to create a network of more than 100 bee breeders in Europe, mostly amateurs. (Some teams wear T-shirts boasting they are "Varroabusters!") Together, they have experimentally infested more than 1500 colonies with mites, then selected queens from the colonies that were good at VSH. In the best hives, the bees were able to detect and remove every reproducing mite. "The first time I saw this, I didn't believe my own eyes," Fernhout says.

At LIB, researchers hope that identifying genetic markers for VSH will help in breeding resistant bees without sacrificing other valuable traits. They are looking for individual bees that are hygiene superstars, with the help of videos like those Rausch is studying. Then, the researchers sequence these bees to identify markers. That will help refine a prototype DNA chip, recently developed at LIB, that could quickly tell breeders whether a bee carries those genes. Its queen could then be bred with bee strains that already perform well in their regions. The use of genetic markers for breeding has "been very successful in cattle and chicken, and I think it will be even more successful in the honey bee," says Kaspar Bienefeld, director of LIB. He hopes a genetic test will be available to breeders starting next year, at a cost of about \$60 per test. Other groups have launched similar campaigns. Leonard Foster, a molecular biologist at the University of British Columbia in Vancouver, Canada; genomicist Amro Zayed of York University in Toronto, Canada; and their colleagues are now completing a sequencing study of bees from about 1400 colonies across Canada. And the French National Institute for Agricultural Research and Arista Bee Research are sequencing other colonies. Geneticist Brock Harpur, who now leads the Purdue effort, is using his startup funding to sequence the genomes of mite-biting bees. The rising activity, Zayed says, suggests "we're ready for the breakthrough." In Canada, one research team has been pursuing a different approach to quickly identifying bees with good mite hygiene. It is led by Foster, who grew up around bees; his parents were amateur beekeepers. Foster notes that past efforts to identify genetic markers for mite resistance have tended to fail because honey bees have one of the highest rates of genetic

As a result, many beekeepers treat their hives with pesticides. Others add in

or substitute nonchemical methods, although they are more work and can pose

recombination in the animal kingdom.

The constant gene shuffling means that a DNA sequence used as a marker of a desired trait, such as VSH, can drift away from the gene or genes that actually control that trait, rendering useless any test that looks for the marker. (Whole genome sequencing promises to minimize this problem by finding markers close to the genes and thus less at risk of drift.)

To address the problem, 12 years ago Foster decided to search instead for proteins associated with desired traits, such as the ability to detect diseased larvae. The massive effort involved snipping and analyzing antennae from tens of thousands of bees taken from some 600 colonies across western Canada. Then, the researchers compared the proteins expressed in antennae from bees with good hive hygiene with those in the antennae of less finicky bees. (Researchers assess hygiene with what is called the freeze kill test. They place a bottomless tin can on the wax comb and pour in liquid nitrogen, killing the brood underneath. After 24 hours, the researchers count how many dead larvae the worker bees have removed.)

Foster's team found that certain levels of 13 antennae proteins correlate with good hygiene. When they used those markers to guide breeding, they found it could identify bees with promising traits just as well as the freeze kill test, the group reported in Scientific Reports in 2017. "They're demonstrating that it's feasible to use marker-assisted selection," says bee biologist and breeder Marla Spivak of the University of Minnesota in St. Paul. "It's superexciting."

Foster hopes to eventually commercialize the test, which requires antennae from about 25 bees and costs roughly \$100. His group is now wrapping up the project, which also has identified protein markers for a dozen other desirable traits, such as honey production and disease resistance. "My hope is to see this used in a wide fraction of the industry," Foster says. "The dream is a gene pool so strong we won't have to worry about disease."

Even if new approaches make it faster and easier to create new, mite-resistant bee strains, getting beekeepers to use the insects could be a challenge. Creating a well-rounded bee that satisfies all the demands of beekeepers remains "really a tricky task," says biologist and bee breeder Ralph Büchler of the Kirchhain Bee Institute in Germany.

And getting a resistance trait into a queen is just half the battle. Keeping it in her offspring is also a challenge. That's because queens mate with multiple drones while flying up to 10 kilometers from their hive. The behavior provides beneficial genetic diversity to the colony but can undo a breeder's efforts if a resistant queen mates with drones that lack mite-fighting genetics.

Breeders can overcome this problem by artificially inseminating queens. It's a tricky technique that requires collecting semen from drones, anaesthetizing the queen with carbon dioxide, and then inseminating her under a microscope. Research institutes and amateur breeding groups help train beekeepers in the necessary skills, and there is increasing interest. LIB, for instance, has a 2-year waiting list for its course.

Another approach is to send queens to isolated mating stations, where the only drones available for mating are ones brought there by beekeepers. Many islands in the Netherlands, Germany, and Denmark host such stations, run by amateur beekeeping associations. One of these stations, operated by the Association of Tolerance Breeding, a group of about 150 German breeders, tries to provide miteresistant drones by not treating their colonies with pesticides for at least one season—relying on natural selection to weaken or eliminate drones vulnerable to the parasite.

Economics may also slow the adoption of resistant strains. The cost of treating and living with mites is low enough that many commercial beekeepers don't see an advantage to buying improved, resistant queens. And many breeders—who can already sell every queen they produce—don't have an incentive to invest in selecting for Varroa resistance. Researchers predict that will change if the mite continues to develop resistance to amitraz, now the pesticide of choice in many countries. "If amitraz fails," Danka says, "the landscape changes overnight." Fernhout and other breeders want to be ready for the eventuality. They are close,

they believe, to creating a world in which mite-resistance genes are widespread in honey bee populations, and beekeepers can set aside their failing pesticides. Fernhout, now 55, has a timeline in mind: "I just want to have resistant bees when I retire."

From "Breeders toughen up bees to resist deadly mites" by Erik Stokstad SCIENCE, July 25, 2019 (doi:10.1126/science.aay8677) Reprinted with permission from AAAS.

#### South Suburban April 2021

#### Dreaming of Warmer Weather?

Despite the snow, summer is right around the corner. South Suburban hosts nearly 100 summer camps for youth ranging from arts and science, to sports and nature. Reserve your spot now for a summer of fun in a safe environment!

Our outdoor recreation swim teams are excited for the 2021 season. Improve all four competitive strokes in a friendly team environment. Meets are held on Saturday mornings throughout the metro Denver area. Find the team closest to you - spots available at Cook Creek, Franklin and Holly pools. Sign up today!

#### **Rockin' on the River 5K**

Dust off your well-loved t-shirts and show 'em off at the Rockin' on the River 5K! Pre and post race music and entertainment for all. Race course starts and finishes in front of The Hudson Gardens and Events Center.

Who: Runners of all ages and abilities When: April 18, 2021 Where: Mary Carter Greenway, along the Platte River. Price: Registration \$20 for adults, \$10 for 14 & younger

#### Dine "Out" for a Good Cause

Support South Suburban's Youth Commission by dining "out" on April 8 at Volcano Asian Cuisine. A portion of the proceeds will be donated back to the youth commission to pay for supplies for future service projects.

When: April 8, 2021 from 5-8 pm

Where: Volcano Asian Cuisine

#### Join Our Team!

South Suburban is hiring for part-time and seasonal positions. There are various opportunities available in forestry, athletics, nature, arts, golf and more! To learn more and apply, visit careers. ssprd.org.

For a list of current openings and regulations for all South Suburban facilities, visit ssprd.org/Safe-Return.







Walnut Hills Association Special Discount



## Next Deadline May 15th walnuthillsnewsletter@gmail.com

#### CLASSIFIED ADS

HOME REPAIRS & REMODELING Small jobs welcome. Tile work, baths, kitchens, and general carpentry. WH resident Jim #303-880-8830.

PRIVATE MUSIC LESSONS - Beginning Piano, Violin, Viola, Bass, Electric Bass, Beginning/ Intermediate Guitar, Voice - Long time Walnut Hills Resident - 34 Years Music Teaching Experience! 303-908-3322 dharroldchristian@gmail.com

## Stop the Speeding in Walnut Hills

Help bring needed attention to dangerous driving in the neighborhood. Consistent reporting by everyone who sees dangerous driving and speeding is the only way to get the help we need. Report every incident!

Thank You!

**Recorded Traffic** Complaint Line 720-874-3825



#### Check it out! Walnut Hills Civic Association Has A New Website!

The WHCA is pleased to announce that we have a new and improved website up and running! This will continue to be expanded, but we are so excited to have a more user friendly, updated website! Please visit us at www.walnuthillscolorado.org

#### Walnut Hills Civic Association Membership

If you are a resident of Walnut Hills, whether you're a home owner or rent a house, you're a member of the Walnut Hills Civic Association. When you pay your \$30 annual dues to support the WHCA, you become an active member. Our active members' support, together with the time and efforts of so many neighbors who have volunteered over the years to advocate for improvements to our neighborhood and bring our community together with fun family events, is a big part of what makes Walnut Hills such a special place. If you haven't already done so, please consider becoming an active member today. It's easy to pay your annual dues and become an active member. You can pay online at walnuthillscolorado.org/ dues or clip the form below to send a check by mail

#### Walnut Hills Newsletter

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WALNUT HILLS		<b>s online via PayPal.</b> hutHillsColorado.org
2021 Activities	Date/Time	Location
Easter Egg Hunt	Sat. April 10 11 am	Walnut Hills Park
Spring Dumpster Days	Sat. May 8 and 15 8 – 11 am or full	Walnut Hills School Parking Lot
Community Garage Sale	Fri. and Sat. June 4 and 5	Your homes
4 <sup>th</sup> of July Parade and	Sun. July 4	9:30 am at Dry Creek School; 10:30
Ice Cream Social	10 am – noon	am Ice Cream at Walnut Hills Park
Walnut Hills Night Out	Tues. August 3	Walnut Hills School – includes free
5	6 – 8 pm	supper!
Yoga in the Park	Sun. June 13 and 27	9 am
	Sun. July 11 and 25	Walnut Hills Park
	Sun. Aug. 8 and 22	Bring a mat / towel
Beer Night	Tue. Sept. 28	Resolute Brewing Company
-	6 pm – 8 pm	
Fall Dumpster Day	Sat. October 9	Walnut Hills School Parking Lot
and E-Recycle	8 – 11 am or full	
Halloween Party	Sat. October 30, 2 – 4 pm	Walnut Hills Park
Holiday Lighting Contest	Week of Dec. 20	
WHCA Board of Directors	Monthly - every 2 <sup>nd</sup> Thursday	Metrum Credit Union
Meeting, Annual Meeting	at 7 pm, March 10, 2022	Open to all residents

### Sex Offender Information

For up to date information on sex offenders in the area see the Sheriff's Office Sex Offender website and the Colorado Bureau of Investigation's Sex Offender Websites:

https://www.sotar.us/sotar-public/initPublicIndexRedirect.do

https://apps.colorado.gov/apps/dps/sor/

## https://Rent.Report/dtcmetro

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Eng	lewood CO 80155-3436		
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7777 East Arapahoe Road Centennial, Colorado 80112

# Are your valuables protected?

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