

The Migrant VOICE

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Tulare County
Office of Education

Tim A. Hire, County Superintendent of Schools

Wheel-Burro!

By Jose Maldonado, Yovanny Ramirez, Anthony Reyes, Christopher Andrade, Victor Orozco, Juan Quiroz, Faustino Olea, Damian Olea, Ranferly Solorzano

The Central Valley is always changing, and with agriculture at its heart, the valley's agriculture is always changing too. One of the biggest changes is in technology. With the challenges of labor shortages, employee safety, and increasing wages, farmers have to look for intuitive ways to harvest their crops. One answer to these challenges is the Burro.

On February 9, 2022, Jefferson Elementary Journalism Class of Dinuba, had the opportunity to attend the 2022 World Ag Expo in Tulare, California. Our mission was simple: find out, "How is Ag Changing in the Valley?" That's where the Burro comes in. But first, we needed to find it. We had previewed videos of it in ac-

tion but wanted to know more. The Burro is basically an automated trailer that operates like a robot. As we journeyed through the World Ag Expo, our mission began to wane by the exposure to more and more new and exciting farm equipment. After hours of making our way through the exhibits, we finally found the Burro. We were kindly greeted by Angel Robles, an Augean Robotics representative.

We had the opportunity to ask him, "How is ag changing in the valley?" He responded, "Right now there is a labor shortage, specifically in grape vineyards. To help with that, we are helping put these robots into the fields to automate the process." Mr. Robles continued by saying, "Usually you have a picker that goes into the grape fields and picks all the grapes and then has to wheelbarrow them out of there. Instead of doing that, we have this Burro that autonomously goes inside the



Jose Maldonado, Yovanny Ramirez, Victor Orozco, Juan Quiroz, Faustino Olea, and the Burro.

rows so that it can go and help the picker load up all his grapes onto the robot and then send it back out to the pack table, instead of having to wheelbarrow out the grapes."

We went on to learn that the

Burro is an automated cart designed to transport sensitive fruit through an autonomous route. It functions as a small trailer that replaces traditional wheelbarrows. It can carry up to 500 pounds and tow up to 1,500 pounds. The Burro is manufactured by Augean Robotics in Philadelphia, but has most of its business in the Central Valley. As a result, their field operation is based in Kingsburg, California.

The Burro's primary area of operation is in vineyards. Harvesting table grapes is extremely labor intensive and that's where the Burro's benefits can really be seen. Typically, a grape picker will pick the grapes and place them into a tub. Once the tub is filled, he/she will lift the tub and place it into a wheelbarrow. When the wheelbarrow is full, the picker will manually push the wheelbarrow a great distance to the grape packing station. After the grapes have been delivered, the grape picker will push the empty wheelbarrow back into the row of grapes, and continue the process all over again.

However, with the Burro, the grape picker will place the full tubs of grapes onto the Burro. When the Burro is full, it will automatically drive itself through an autonomous route to the grape packing station. Once it's unloaded, it will automatically drive itself back to the grape picker.

One of the many benefits of using the Burro is that it alleviates the amount of time spent walking for pickers. The more challenging task for the picker was pushing the heavy wheelbarrow through rough soil for a long period of time. The Burro eliminates that task. Another benefit is that the Burro is always at work and ready to go. It is estimated that the Burro can save up to 48% in labor yield per robot for a crew of about 10 people. It also increases efficiency and improves safety in the workplace. Not surprisingly, the Burro was a winner in the World Ag Expo's 2022 Top 10 New Products Competition. It has won many other awards, and is also one of the answers to the question, "How is Ag Changing in the Valley?"



Jefferson Elementary Journalism Class of Dinuba at the 2022 World Ag Expo in Tulare, California.

Cow Waterbeds - DCC Dual Chamber Cow Waterbeds

By Emanuel Ferreyra, Melissa Cortez, Yulissa Cortez, Alisson Vargas, Edeline Vargas, Ms. Alvarado

Have you ever seen a cow laying on a waterbed? Well if you haven't, here is your chance to catch a glimpse of what that would look like! DCC Waterbeds manufactures Dual Chamber Cow Waterbeds that helps both the cows and the farmers with the cows' health and the

milking process.

Amy Thronsen, the owner of DCC Waterbeds, spoke to us at the World Ag Expo in Tulare. She told us more about their invention and how it helps the agricultural industry. "The Waterbed is designed to help reduce heat stress in cows. When warm weather hits, DCC Dual Chamber Cow Waterbeds stay cool and help regulate their body temperatures," said Amy Thronsen. The Waterbeds also help to keep the cows clean for the milking process, so they aren't as dirty after laying in the mud as they normally would be.

DCC Waterbeds has been in business since 1999. Being one of a kind, the waterbeds for cows are manufactured and sold worldwide to help the agricultural industry around the globe. The Waterbed offers comfort to the cows and peace of mind to the farmer that their cow will be in tip-top shape for the milking process. Daily cleaning was explained as being fast and simple, which is less stressful for the cows and less work for the farmer in the barn as well. This means less material in the manure stream along with less wear and tear on all of the



Cow Waterbed at the World Ag Expo in Tulare, California.

expensive equipment for the farmers.

Cows are very heavy! Have you been wondering if the cows can break or rupture one of these waterbeds? We wondered the same thing! So, we asked Amy Thronsen if one of the waterbeds has ever been damaged by a cow. "Typical cow use will not tear down a DCC Waterbed. They can however be damaged by improper use of

equipment," responded Amy Thronsen.

So there you have it. This is the new way to cool down all the cows you see at the dairy farms when you're driving down those country roads. DCC Dual Chamber Cow Waterbeds for cows seems like a great solution for such a big problem the farmers and cows face on those hot days in the withering heat.



COW MAGNETS: How They Help Farmers and Cows

By Julissa Canela, Sixto Mendoza, Destiny Mateos, Joel Mateos, Yuriria Contreras, Brianna Huerta, and Camila Quinteros

On February 9, 2022, we went to the World Ag Expo in Tulare and had the opportunity to interview Michael Cohen, President of SunDown Magnetics located in New York. He talked to us about cow magnets. As most people know, magnets hold papers on metal surfaces such as refrigerators and white boards, but cow magnets hold metals inside a cow's stomach.

So, what exactly are cow magnets? These are magnets that go inside a cow's stomach to protect them from getting sick when they eat metals. For instance, when cows are out in the fields grazing, they might eat such metals as wires and nails — this will hurt their bodies and cause the cows to become sick with an illness called hardware disease.

Mr. Cohen explained that some dairy farms can have hundreds or thousands of cows. When cows get sick, they can die. If they die, it becomes very expensive for



Migratory Journalism students hold up fliers about cow magnets, which they obtained on their study trip to the World Ag Expo in Tulare.

the dairy farmers. This is why the farmers use cow magnets, which saves them money, their cows, and keeps their farms running efficiently.

Most importantly, cow magnets have

been improved over the years to make them more technologically advanced. Mr. Cohen expressed that modern magnets are much better in comparison to the old fashioned ones, which were much simpler. He said,

“Some of the more advanced magnets that we design are very special and we control the direction of the magnetic field.” This means that when they construct the magnets, they make them in such a way that the center of the magnet is very strong. So, when cows eat a wire or a nail, these metals are attracted to the center of the magnet, and cows will not get hurt. As a result, using magnets helps improve how farmers do agriculture.

In conclusion, during our interview we learned what cow magnets are, how they work, and how they help farmers keep their cows safe and healthy. We also learned that magnets are important for farmers and cows. Lastly, we learned that cow magnets are helping improve agriculture in general.



Different types of cow magnets.

Saving Baby Cows: CALF HERO

By Santiago Ramirez Diaz, Guadalupe Francisco Peñaloza

WATCH OUT FOR BABY COWS!! On February 9, 2022, the Dinuba Migratory Journalism students traveled to the World Ag Expo at the International Agri-Center in Tulare, California, to interview and research the technology that has impacted and changed agriculture in the valley. The big theme for Dinuba's Migratory Journalism is “How has technology impacted and changed agriculture in the valley?” Upon entering the dairy pavilion, the students knew that there was

more than enough technology to explore.

Calf Hero to the rescue. The reporters were able to interview the owners, Andy and Dagmar Beckel. Mrs. Beckel took the time and informed these students about her product. Mrs. Beckel explained that calves gain immunity from drinking colostrum. This pre-milk helps calves gain immunity to different sicknesses.

Colostrum is a pre-milk super food for calves. It is obtained only from the first milking of cows, after that it is called transition milk. Colostrum helps a new-

born calf with a lifetime of immunity. Also, it is a primary source of nutrients and is rich in antibodies. It provides two or three times as many minerals and five times as much protein as whole milk. Finally, it contains various hormones and growth factors that help the digestive tract. Clearly, colostrum is a super food for calves.

Calf Hero is a colostrum management system. Immunity is important to baby calves and this system helps the baby calf get good quality colostrum. Having a colostrum management system provides consis-

tency in the quality of the colostrum. Calf Hero tests the colostrum and provides storage that allows the farmer to feed the calves.

When Mrs. Beckel was asked, “What makes your product important with respect to technology in dairy farming?” She responded, “There is new research on colostrum as coaching cells. Colostrum tells the cells what to do and what to become. A dairy farmer wants to have healthy cows and for this it is Calf Hero.”

Calves need care because a farmer wants to increase milk production. Calf Hero is one way dairy farmers are helping baby calves. Little baby calves need special care and they also need colostrum. Momma cows can't watch them all the time so therefore they need Calf Hero.

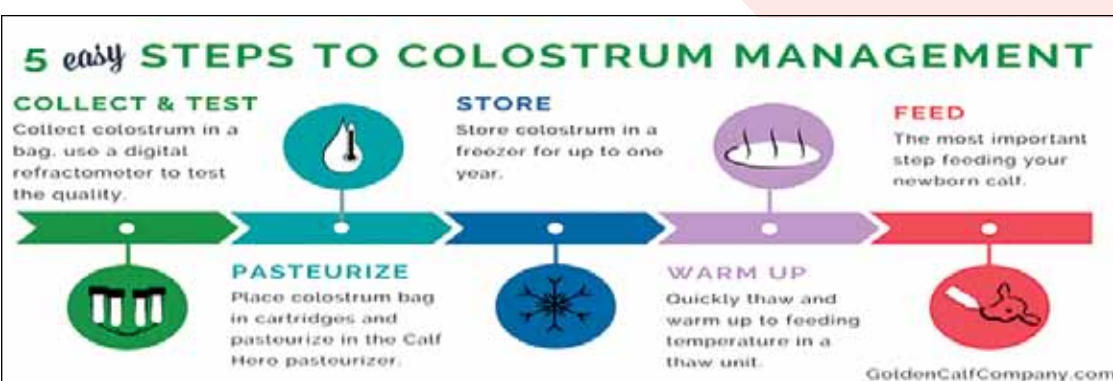
Calf Hero is from Wisconsin and is available throughout the U.S.



Calf Hero colostrum storage at the World Ag Expo.



Lincoln School Migratory Journalism students, Guadalupe Francisco Peñaloza and Santiago Ramirez Diaz with Dagmar Beckel, owner of Calf Hero.



The Calf Hero five-step management system.

A Trip to the WORLD AG EXPO

By Kendra Villarreal and Emmanuel Zepeda

Have you wondered how agriculture is changing in the valley? At the largest annual agriculture show of its kind, World Ag Expo, more than 1,400 exhibitors from 65 countries displayed the latest farm equipment, services, and technology. Our journalism class went to the World Ag Expo in Tulare on Wednesday, February 9, 2022 to learn about how technology is helping agriculture. We conducted

an interview with Mr. Jarrod to find out information about the Roto Grain Grinder. He explained that “the Roto Grinder grinds feed to small pieces so cows can have a well-balanced meal.” A balanced diet improves health and milk production. Milk production increases from four-to-eight pounds per day when using the grain grinder.

The Roto Grinder also helps with higher quality mixing, less feed waste, faster feeding, less labor, and less fuel costs. You

can add attachments to the Roto Grinder to allow more moisture in corn, barley, milo, and other grains that are dry. Research and university tests have proven that grinding saves up to 30% in feed waste and cows will gain up to one pound per day.

Overall, the Roto Grinder has a simple design that is versatile and can grind wet material. It is low cost, low maintenance, and high capacity. It is manufactured by Burrows Enterprises in Greeley, Colorado.



Migratory Journalism student, Kendra Villarreal, from Grand View Elementary in Dinuba, California, with Mr. Jarrod, the Roto Grinder representative, at the 2022 World Ag Expo.

Elementary Students Discover the Scientific Innovation of Gut Bacteria at the World Ag Expo

By Francisco Javier Garcia Lopez, Oscar Josue Jimenez, Aaliyah Lopez, Erik Uriel Verdin Torres and Kevin Gonzalez Garcia

The Significance of the World Ag Expo

“Holy moly,” whispers Kevin Gonzalez, as we enter through gate 12. Kevin is a fifth-grade student at

Roosevelt Elementary and it is his first time at the World Ag Expo. His eyes widen, as he sees rows and rows of vendors, exhibitors, heavy machinery, and hundreds of people walking from booth to booth. “Welcome to the World Ag Expo!” exclaims a vendor as we pass his station.

According to the official World Ag Expo website,

there were 93,387 visitors that attended this year’s Expo. The World Ag Expo is a farm equipment show that is open to the public. It is the largest exposition of its kind in the United States. The Expo displays the latest technologies in all agricultural fields, ranging from dairy equipment and products to self-driven robots that are capable of

harvesting fruit from orchards. People from all over the world and country attend and hold exhibitions at the Expo. According to our greeter, every state except the state of South Dakota had an exhibition at the Expo.

The significance of the World Ag Expo is astronomical. Not only does the Expo bring in large amounts of revenue for the city of Tulare and the state of California, but the Expo also grants the public the opportunity to learn about the latest agricultural research, technological advancements and practices in a face-to-face setting. Having the World Ag Expo in Tulare, also places the Central Valley on the map. As a result, the Central Valley has become the spot for students focused in the field of agriculture to come and study.

Micro Basics

Out of all the exhibitions housed at the Expo, Roosevelt Elementary students were drawn to a booth that was about maintaining a dairy cow’s health. The exhibition was ran by a very kind man named Mr. Opperman. Mr. Opperman was very eager to share his

knowledge with the students. The first question, Mr. Opperman asked us was, “What is an immune system?” As the students thought of answers to his question, he enthusiastically began to explain the name of the company he was representing and what they are about.

The name of the company is Micro Basics. Their mission is to provide farmers with nutritional products that boost the immune systems of their dairy cows by focusing on the gut bacteria of the cow. Micro Basics’ products are derived from bacteria gathered from mushrooms. The bacteria then focuses on triggering the appropriate immune response of the cow to fight off any illnesses.

Micro Basics’ Impact

The impressive significance of Micro Basics’ products does not solely lie on its natural mushroom origins. The natural origin of the company’s products, also creates the fantastic ability for Micro Basics to be a socially and environmentally responsible company. Micro Basics’ products are of great importance to farmers because they have the ability to reduce

and potentially eliminate the use of antibiotics. In eliminating antibiotics in dairy cows, Micro Basics is granting the opportunity for dairies to reduce the amount of toxic chemicals that seep into the soil and destroy nearby ecosystems. In reducing the use of antibiotics, Micro Basics is maintaining and preserving a communities’ health for years to come.

Agriculture’s Future in the Central Valley

Here in the Central Valley, agriculture directs the valley’s future and the livelihood of many of its people. As stated by fourth-grade student, Erik Verdin, “While walking through the Ag Expo, I kept thinking of my dad who is a field worker. I know it is a hard job but being able to experience the Expo made me realize the impact my dad’s work has here at home”.

As new technology continues to be invented and implemented into all agriculture fields, the future welfare of animals and the working conditions of agricultural workers looks to be a positive one.



Roosevelt Elementary students, Aaliyah Lopez, Kevin Gonzalez Garcia, Francisco Javier Garcia Lopez, and Erik Uriel Verdin, along with their Migrant teacher Ms. Santana, arriving at the World Ag Expo in Tulare.



Mr. Opperman and students posing in front Micro Basics’ exhibition.



Students posing with a statue of a cow for their final picture at the World Ag Expo in Tulare.

BURRO: The Autonomous Vehicle

By Brianna Huerta Diaz and Yuriria Contreras Garcia

On February 9, 2022, our journalism class went to the World Ag Expo in Tulare to interview a sales representative named Daniel Villadoli about an autonomous vehicle called Burro. We found out that Burro helps change agriculture in many ways.

To begin with, Burro helps by having people not walk back and forth in the heat. Mr. Villadoli told us that it prevents workers from having to work in 90-degree weather. This shows that Burro protects workers from having to work in extreme weather conditions.

Also, farmers are looking for better ways to harvest their crops, and technology such as Burro is assisting them in this area. For

example, farmers can use Burro to harvest their table grapes and berries by just pressing a button. This is important because farmers have to pay lots of money to workers, and technology is also helping them in this way.

Another way Burro is aiding change in agriculture is by attracting a higher number of field workers. By using Burro, more workers can work in the fields because they know Burro will do the heavy lifting for them. Mr. Villadoli said, “There have been studies saying there is a decrease of workers in agriculture in the past five years.” Burro can be one way to help keep the shortage of labor down.

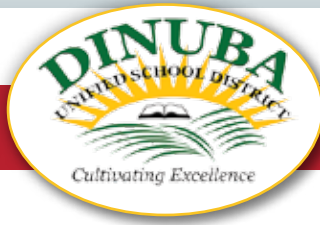
In conclusion, we found out that Burro is helping agriculture by preventing field workers from carrying heavy loads in the heat,

harvesting crops more efficiently, and by attracting field workers since it does most of the heavy labor. This simply happens by just pressing a button. Therefore, Burro is an autonomous vehicle that is helping agriculture change in the valley in many ways.



Brianna Huerta and Yuriria Contreras holding up brochures about Burro, which they obtained on their study trip to the World Ag Expo in Tulare.

Picture of Burro, an autonomous vehicle, at the World Ag Expo in Tulare.



Meet Our Journalists

Grand View Elementary



Elvia Alvarado
Teacher



Emmanuel Zepeda
Grade 5



Kendra Villarreal
Grade 4

Kennedy Elementary



RubyAnn Alvarado
Teacher



Melissa Cortez
Grade 4



Yulissa Cortez
Grade 4



Emanuel Ferreyra
Grade 4

Lincoln Elementary



Jose Perez
Teacher



Guadalupe Francisco
Grade 6



Santiago Ramirez
Grade 6

Roosevelt Elementary



Gabriela Santana
Teacher



Kevin Garcia Gonzalez
Grade 5



Roberto Duran
Grade 4



Samantha Duran
Grade 4



Oscar Jimenez Espitia
Grade 4



Aaliyah Lopez
Grade 4



Francisco Garcia Lopez
Grade 4



Erik Verdin Torres
Grade 4



Issac Garcia
Grade 3



Eduardo Medina Lupian
Grade 3



Edeline Vargas
Grade 4



Allison Vargas
Grade 3

Wilson Elementary



Doris Guzman
Teacher



Yuriria Contreras
Grade 5



Brianna Huerta
Grade 5



Sixto Mendoza
Grade 5



Alyssa Juarez
Grade 4



Julissa Canela
Grade 3

NOT PICTURED
Destiny Mateos
Grade 5
Joel Mateos
Grade 4
Camila Quintero
Grade 3

Jefferson Elementary



Severo Romo
Teacher



Juan Quiroz
Grade 6



Jose Maldonado
Grade 4



Damian Olea
Grade 4



Victor Orozco
Grade 4



Yovanny Ramirez
Grade 4



Anthony Reyes
Grade 4



Christopher Andrade
Grade 3



Faustino Olea
Grade 3



Ranfery Solorzano
Grade 3

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